

Related catalogs

Industrial Controls

SIRIUS

IC 10



PDF (E86060-K1010-A101-B6-7600)

Low-Voltage Power Distribution and Electrical Installation Technology SENTRON • SIVACON • ALPHA

LV 10

ST 70

KT 10.1



PDF (E86060-K8280-A101-B8-7600)

SIMATIC

Products for **Totally Integrated Automation**

PDF (E86060-K4670-A101-C0-7600)

Motion Control Drives D 31.2

SINAMICS Converters for Single-Axis Drives Distributed Converters

PDF (E86060-K5531-A121-A3-7600)

SIMATIC Ident

Industrial Identification Systems



E86060-K8310-A101-B1-7600

SITOP SITOP

Power Supply

PDF (E86060-D4001-A510-E0)

SITRAIN

Digital Industry Academy

www.siemens.com/sitrain

Miscellaneous

SiePortal

Information and Ordering Platform on the Internet:



sieportal.siemens.com

Siemens TIA Selection Tool

for the selection, configuration and ordering of TIA products and devices



www.siemens.com/tst

Contact

Your personal contact can be found in our Contacts Database at:



www.siemens.com/automation-contact

Trademarks

All product designations may be registered trademarks or product names of Siemens AG or other supplying companies. Third parties using these trademarks or product names for their own purposes may infringe upon the rights of the trademark

Further information about industrial controls: www.siemens.com/sirius

Technical Support

Expert technical support for Industrial controls:



Support Request:



Industrial Controls

SIRIUS



Catalog IC 10 · 2024

Supersedes: Catalog IC 10 · 2023

Refer to SiePortal for regular updates of this catalog: www.siemens.com/sieportal

© Siemens 2024

The catalog PDF contains click-on article numbers, graphics and videos.





The products and systems described in this catalog are manufactured/distributed under application of a certified quality management system in accordance with EN ISO 9001 (for the Certified Registration Nos., see www.siemens.com/system-certificates/ep). The certificate is recognized by all IQNet countries.

1 Introduction

2 Industrial communication



Switching devices –
 Contactors and contactor assemblies –
 for switching motors



4 Switching devices – Contactors and contactor assemblies – Special applications



Switching devices –
 Contactors and contactor assemblies –
 Contactor relays and relays



6 Switching devices –
Soft starters and solid-state switching devices



7 Protection equipment



8 Load feeders and motor starters for use in the control cabinet



9 Motor starters for use in the field, high degree of protection



10 Monitoring and control devices



11 Safety technology



12 Position and safety switches



13 Commanding and signaling devices



14 Parameterization, configuration and visualization with SIRIUS



15 Power supply



16 Appendix

Ordering notes

Catalog IC 10 contains all selection and order-relevant data.



Ordering notes

Ordering special versions

For ordering products that differ from the versions listed in the catalog, the article number specified in the catalog must be supplemented with "-Z"; the required features must be specified by means of the alphanumeric order codes or in plain text.

Small orders

When small orders are placed, the costs associated with order processing are greater than the order value. We recommend therefore that you combine several small orders. Where this is not possible, we unfortunately have to charge a processing supplement of $20.00 \in$ to cover our costs for order processing and invoicing for all orders with a net goods value of less than $250.00 \in$.

Price units (PU)

The price unit defines the number of units, sets or meters to which the specified price applies.

Price groups (PG)

Each product is assigned to a price group.

Dimensions

All dimensions in mm.

Standard delivery time (SD)

Due to the current tight delivery situation on the market, no standard delivery times are listed for our articles in this edition of the catalog.

Current information can be found in SiePortal under the respective article number, see www.siemens.com/sirius-sieportal.

Packaging sizes (PS)

The packaging size defines the number, e.g. of units, sets or meters, contained in an outer packaging. Only the quantity defined by the packaging size or a multiple thereof can be ordered. For multi-unit packing and reusable packaging, see page 16/5 onwards.

Example

3RA2110-0FA15-1AP0

PG: 410

Order quantity 1 unit or a multiple thereof 3RA1921-1D

PG: 41B

Order quantity 10 units or a multiple thereof

3SU1900-0AB71-0AB0

PG: 41J

Order quantity 10 units or a multiple thereof

 Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
 3RA2110-0FA15-1AP0		1	1 unit	41D
 3RA1921-1D		1	10 units	41B
3SU1900-0AB71-0AB0		100	10 units	41J



SIRIUS in the World Wide Web

The most important online services at a glance.



SiePortal

- Information and ordering platform www.siemens.com/sieportal
- Configurators www.siemens.com/sirius-configurators
- Product Support www.siemens.com/online-support
- Online Support App www.siemens.com/support-app



Industrial controls

Homepage www.siemens.com/sirius



Device selection and configuration

TIA Selection Tool www.siemens.com/tst



SIRIUS Explained

Explanatory video series www.siemens.com/sirius-explained





SIRIUS 3RW soft starters

As diverse as your tasks.

The strong, harmonized portfolio of soft starters is suited to a wide range of standard – and also Failsafe and ATEX – applications thanks to comprehensive and specific functions. Benefit from intelligent functions such as condition monitoring, automatic parameterization, pump cleaning and integrated braking functions, regardless of the industry you are in.



Strong portfolio

Comprehensive, coordinated soft starter portfolio for simple to demanding starting: Basic, General, High Performance

Efficient switching

Energy-efficient switching and mechanical protection of the drive train thanks to soft starter with hybrid switching technology

Intelligent use

Concentrated, application-specific functionality thanks to intelligent features such as automatic parameterization, pump cleaning and condition monitoring

Ready for the digital future

Support for digital engineering processes with tools and data. Data provision for local visualization or cloud-based analysis





SIRIUS 3RW

Strong, comprehensive portfolio with a wide range of possibilities thanks to a flexible design.

For more information, see www.siemens.com/ softstarters

Digitalization

The 3RW soft starters help you to realize the full potential of digitalization. This is particularly beneficial when it comes to economic efficiency.

Your application in focus



Pump cleaning and pump stopping mode

The pump cleaning function prevents pumps from blocking and therefore increases your productivity and system availability. The pump stopping mode avoids mechanical stress in the piping system and extends the service life of the equipment.



Electrical ruggedness

Due to the wide control voltage range from 110 to 250 V AC, soft starters have a high degree of electrical ruggedness.
This guarantees reliable operation even in the event of falling voltages.



Condition monitoring

The condition monitoring function supports optimal planning of maintenance work on bearings or seals, thereby maximizing availability.



Automatic parameterization

Automatic parameterization simplifies the commissioning and operation of critical applications considerably, even in the case of highly dynamic load characteristics.



Integrated braking functions

Intelligent functions such as soft starter braking ensure a fast and reliable stop without engineering and configuration work.

SIRIUS modular system

Efficiently combined.





For more information, see www.siemens.com/sirius-control

Modular design

Optimally matched and dimensioned products expandable with uniform accessories

Save space

Highest performance on the market based on installation size

Order preassembled

Ready-made and tested combinations with short-circuit strength up to 150 kA/400 V

Quick wiring

Comprehensive portfolio for spring-loaded terminals, function blocks for contactor assemblies for reversing and star-delta (wyedelta) starting as well as connectors

Efficient configuration

Configuration data and macros for integration into your CAE systems

Use anywhere

Fulfills all relevant standards worldwide and requirements of many applications even under extreme operating conditions (safety applications, rail and shipbuilding, etc.)

Sustainable switching and protecting AC-3e

Is IE3/IE4ready and has the new utilization category AC-3e. Ideal partner for switching and protecting highly efficient motors, see www.siemens.com/sirius-energy-efficiency



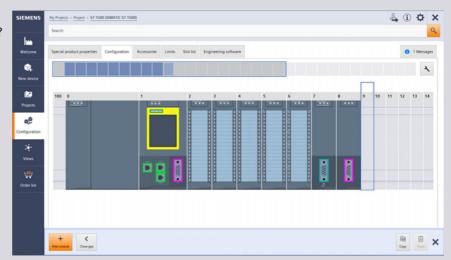
TIA Selection Tool

quick, easy, smart configuration

For you to get the most out of our portfolio quickly and easily.

Do you always need the optimal configuration for planning your project? For your application we offer the TIA Selection Tool to support all project planners, beginners and experts alike. No detailed portfolio knowledge is necessary.

TIA Selection Tool is available for download as a free desktop version or a cloud variant.



Ouick

- Configure a complete project with just a few entries – without a manual, without special knowledge
- Import and export of hardware configuration to TIA Portal or other systems
- Ideal visualization of the projects to be configured

Easy

- Tool download either as desktop version or web-based cloud version
- Technically always up-to-date about product portfolio and innovative approaches
- Highly flexible, secure, cross-team work in the cloud
- · Direct ordering in SiePortal

Smart

- Smart selection wizard for error-free configuration and ordering
- Configuration options can be tested and simulated in advance
- Library for archiving sample configurations

The TIA Selection Tool is a completely paperless solution. Download it now:

www.siemens.com/tst

For more information, scan the QR code



Smart Control Panel Design

This is how easy electrical engineering for the control cabinet is in the TIA Selection Tool.

Are you an electrical engineer looking for a software solution to relieve you of time-consuming routine tasks?

With Control Panel Design in the TIA Selection Tool, the electrical equipment of a machine can be designed and dimensioned in compliance with standards - from the suitable switchgear to the correctly dimensioned cables.

Complex calculations are no longer necessary. This significantly reduces the workload for all electrical engineers.

Electrical engineering in ONE tool. This makes configuring more enjoyable!

1.

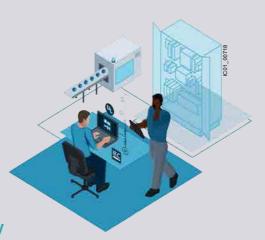
Digital expertise on standards

Standard conformity with no worries

3.

Consistent workflow

Electrical engineering
with unlimited creativity



2.

Easy dimensioning

A new dimension
of dimensioning

4.

Supported portfolio
Intelligent devices for versatile solutions

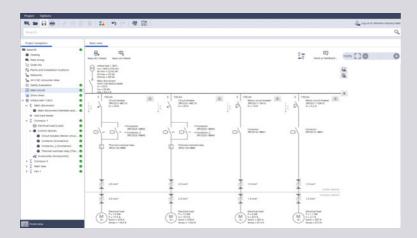
Highlights

- Automatic short-circuit calculation and cable dimensioning
- Automatic dimensioning of fuseless and fused load feeders up to 250 hp according to UL 508A or up to 250 kW according to IEC 60204-1
- Selection of the appropriate switching and protection devices for the motor
- Visual planning of the main circuit in the single-line diagram
- Simple accessory selection
- Complete PDF documentation of technical specifications and calculation results (e.g. for the short-circuit verification)
- · Simple main switch dimensioning for IEC and UL infeeds



For more information, tool download and videos, see www.siemens.com/ cpd

Are you looking for a clear and easy way to dimension your circuits?



Or do you need suitable accessories for your switching devices?



The main circuit view with single-line display and the automatic display of accessories are two of the many new functions in the TIA Selection Tool.

Integrated Control Panels

With Integrated Control Panels from Siemens, it is easy to optimize all aspects of control panel building: from planning and engineering, through to service and commissioning. Our support for you includes technical know-how, application knowledge and tools for basic engineering.



Working together for simple and stress-free control panel design

Comprehensive support for all control panel applications

Want to save time and costs? With Integrated Control Panels, it's easy to optimize all aspects of control panel building for your machines and industrial plants. From preparation and dimensioning, design and construction, through to service and support – for greater competitiveness and long-term success.

Expert know-how

The faster route to the ideal control panel with practice-oriented expertise

We support you with exactly the right know-how to give you a competitive edge – both now and in the future. This includes applying standards and guidelines in day-to-day operations (e.g. UL 508A, IEC 60204-1) as well as efficient engineering and configuration.

- Webinars, online trainings and individual consulting on product and application topics
- Literature with practical tips and tricks, including: guidelines, product manuals, white papers



For more nformation, see www.siemens.com/ panelbuilding

Tools & data for digitalization in engineering

Maximum efficiency for control panel design

With a range of tools and data-based services, we support you with the digitalization of your business and enable the leverage of all the advantages this offers for control panel design: greater efficiency, flexibility and quality – in every process phase!

- flexibility and quality in every process phase!
 Intelligent selection, dimensioning and design www.siemens.com/cpd
- Control panel engineering www.siemens.com/controlpanel/engineering

Harmonized product and system portfolio

Effective savings in control cabinet design

Harmonized product and system portfolio saves construction time. With our coordinated, integrated portfolio of products that includes automation technology, drive train components, industrial controls and matching control panel enclosures, we can reduce your engineering overhead and ensure the harmonious interaction of all devices. These are extensively tested, and are all certified and available for use worldwide – enabling you to remain flexible within the global business environment.

Benefit also from our expert tips concerning control panels. www.siemens.com/controlpanel/tips

Product highlights





SIRIUS 3RW5 soft starters Can be flexibly deployed in many applications

Type: 3RW5

Pages 6/15, 6/39, 6/55 and 6/73 onwards



3RW55 system redundancy S2 For PROFINET High-Feature module

Type: 3RW5950-0CH00 Page 6/10 onwards



Devices with protective coating on printed circuit board

Type: 3RQ1...-....-0AX0, 3RQ3...-....-0AX0, 3UF7...--0AX0, 3RP25..-....-0AX0 Pages 5/26, 5/39, 10/12, 10/34



SIRIUS 3UG5 line monitoring relays for stand-alone installation

Type: 3UG551, 3UG561., 3UG581.

Page 10/62 onwards



3RV2 COM wireless auxiliary and signaling switches For 3RV2 motor starter protectors

Type: 3RV2921-5M Page 7/47



3SE64 RFID safety switches with tumbler

Type: 3SE6415-1... Page 12/128 onwards



Electronically configurable 8WD46 signaling columns

Type: 8WD4613, 8WD4615 Page 13/164 onwards

information, see



Sustainability @Siemens

Transforming the everyday to create a better tomorrow.



For more information, see www.siemens.com/sustainability

As a company, Siemens considers environmental, social and governance (ESG) criteria from all angles with its DEGREE framework (decarbonization, ethics, governance, resource efficiency, equity and employability). We are not only committed to reducing the carbon footprint in our own operations to net zero by 2030, but also helping our customers achieve their decarbonization and sustainability goals.

Mission & strategy

As a focused technology company, Siemens is committed to addressing the world's most profound challenges by leveraging the synergies between digitalization and sustainability.

Technology with aim and purpose

We develop technologies that connect the real and digital worlds and enable our customers to positively transform the industries that form the backbone of our economy: industry, infrastructure, transportation and healthcare.

Our contribution

Siemens makes an impact every day by providing innovative solutions in response to challenges relating to environmental protection, decarbonization, health and safety. Innovative solutions that have a clear goal: to make the world more sustainable, more integrative and a better place to live.

Sustainability facts

For almost 175 years, Siemens has been driven by the desire to improve the lives of people around the world with our technologies.

Technical Support

One click – and you have all the information you need.





Product Support – get fast and up-to-date information online

www.siemens.com/online-support

In SiePortal Product Support you will find FAQs, manuals, certificates, applications & tools, and much more



Support Request – the fast track to the experts

www.siemens.com/support-request

Using the Support Request form in SiePortal Product Support, you can send your query directly to Technical Support.



Conversion tool – the easy and efficient way to find successor products

www.siemens.com/conversion-tool



Competent and fast technical advice regarding:

- Product selection
- Conversion from old to new
- Competitor conversion
- Special versions
- Particular requirements
- Commissioning
- Maintenance

Further input channel for other topics:

- Returned goods
- Field Service assignments
- Corrective maintenance needs
- Quality cases

Ç

Introduction



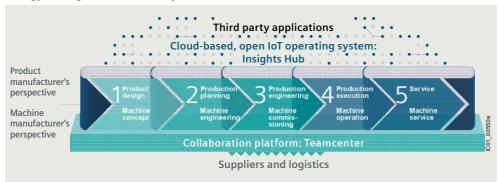
1/2	Energy-efficient controls SIRIUS brings down energy costs
1/3	Energy management with SIRIUS Integration into energy management software
1/4	Systematic industrial safety technology SIRIUS Safety Integrated
1/8	IE3/IE4 ready SIRIUS controls for reliable switching and protection of highly efficient IE3 and IE4 motors
1/9	Innovative technology for saving energy Electronic starting with hybrid switching technology

Energy-efficient controls

SIRIUS brings down energy costs

Overview

Energy management in industry



Whether you are a plant operator, planner or machine manufacturer: Energy-efficient production is a challenge and an opportunity in equal measure.

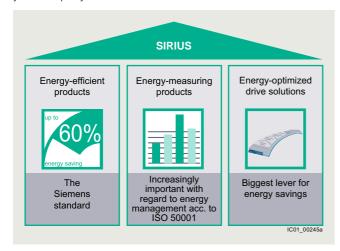
Product development and production process

Energy-efficient production as a success factor

In order to harness energy potential, with our vast portfolio, we always maintain a clear view of the overall product development and production process. Because maximum energy efficiency in production can only be achieved through perfect interaction of all components.

That is why it is important to first create an awareness for existing energy-saving potential, recognize (identify) and assess (evaluate) opportunities for optimization through precise analysis. Finally, appropriate measures must be implemented (realized).

With our full-range portfolio of energy-efficient drive solutions, automation and services, you too will reach maximum energy efficiency, higher productivity and lasting competitiveness in your company.



Three columns of energy efficiency with products from the SIRIUS modular system

Energy-efficient products – SIRIUS reduces power loss

SIRIUS controls (3RM motor starter, 3RR2 monitoring relay, 3RB3 overload relay, 3RT2 contactor, 3RW soft starter and 3RV2 motor starter protector/circuit breaker) as well as the ET 200SP motor starters are characterized by extremely low intrinsic power loss. This not only lowers energy costs, but also reduces the amount of waste heat in the control cabinet. This then translates to a higher packing density and a reduction in the required cooling performance.

Energy-measuring products

Energy management can be instrumental in increasing plant productivity to bring about a significant improvement to the competitive ability of a company – in all industries.

Energy data acquisition represents an important component of the overall energy data management process here. Through transparency right down to the loads, it is possible to identify and utilize potential energy savings.

With communication-capable SIRIUS switching devices you can acquire energy data from the drive train without any additional effort.

In addition to SIRIUS controls, SENTRON measuring devices help you make energy flows visible.

Best drive solutions in terms of energy

In order to design processes for optimal energy efficiency, it is not enough to simply measure the energy flow and deploy energy-efficient products. The greatest lever for saving energy can be derived from closely examining the application.

SinaSave energy efficiency tool



Amortization calculator for energy-efficient drive systems

The SinaSave energy efficiency tool determines energy saving potential and amortization times based on your individual conditions of use and therefore offers practical assistance in making decisions about investments in energy-efficient technologies.

In SinaSave, the drive systems to be compared and the relevant drive component parameters are displayed graphically. The various control types and comprehensive product combinations for drive solutions for pump and fan applications can be adapted in your application.

The product portfolio comprises not just SIRIUS controls, but also motors and SINAMICS converters, thus offering a comprehensive range of comparison possibilities – according to your individual requirements.

SinaSave, the free amortization calculator for energy-efficient drives, see www.siemens.com/sinasave.

Integration into energy management software

Overview

SIMATIC Energy Suite

High energy consumption and automated production processes are typical for many industries.

If you want to keep your energy costs under control in the long term and you are already focusing on the digital future, it's a good idea to equip your plant with integrated energy measuring technology, thus anchoring energy management into the automation of your production processes – which is where most energy is consumed.

SIMATIC Energy Suite as an integrated option for the TIA Portal efficiently links energy management with automation, thus creating energy transparency in the production system.

The considerably simplified configuration of energy measuring components from the product families SIMATIC, SENTRON, SINAMICS, SIRIUS and SIMOCODE significantly reduces the configuration costs.

Thanks to the end-to-end connection to SIMATIC Energy Manager PRO (innovative successor to SIMATIC B.Data) or cloud-based Service Energy Analytics, you can seamlessly expand the recorded energy data to create a cross-site energy management system.

This also enables companies to fulfill all economic and energy management requirements – from purchasing of energy through planning to energy controlling.

The advantages at a glance:

- Simple and intuitive configuration instead of programming
- Automatic generation of the PLC energy program
- Convenient integration of measuring components from the Siemens portfolio and from the portfolios of other manufacturers
- Integrated in the TIA Portal and automation
- · Archiving on WinCC Professional or PLC
- Seamless connection to Energy Manager PRO and Energy Analytics

For more information on SIMATIC Energy Suite, see www.siemens.com/energysuite.

SENTRON Powermanager



SENTRON Powermanager

The SENTRON Powermanager energy monitoring software displays important characteristic quantities for individual devices and the entire system on a clearly organized dashboard and thus analyzes the energy consumption.

The advantages at a glance:

- Analyzing energy flows: Cost-saving measures can be derived directly and faults can be localized rapidly – for greater awareness regarding energy consumption and lower costs
- Easy to get started: Can be added to existing hardware and available infrastructure.
- Fast savings: Analyzes power curve and detects load peaks.
- High plant availability: Continuous monitoring of power distribution ensures that critical system states are detected at an early stage.

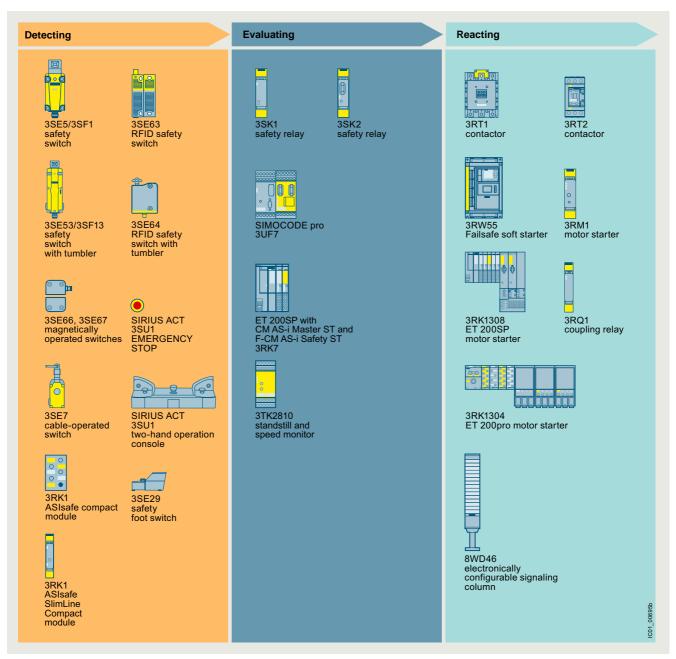
The SIRIUS 3RW55 soft starter is integrated into SENTRON Powermanager by simple installation of an XML file, see https://support.industry.siemens.com/cs/ww/en/view/109798105.

For more information on SENTRON Powermanager, see www.siemens.com/powermanager.

Systematic industrial safety technology

SIRIUS Safety Integrated

Overview



SIRIUS Safety Integrated

Manufacturers and operators of machines must fulfill numerous requirements: reducing costs, improving productivity, and ensuring the safety of machines. The industrial safety technology from Siemens offers innovative, economical solutions for the functional safety of machinery.

Machine safety - compliance with legal requirements

Before any machines or plants can be supplied or operated, they must comply with the legal requirements. The Machinery Directive applies in the EU. Similar requirements apply in many other countries and markets.

To guarantee conformity with these requirements, it is recommended that the correspondingly harmonized standards IEC 62061 or ISO 13849-1 are applied. This gives manufacturers and operators legal certainty regarding compliance with both national regulations and directives, which are confirmed by the manufacturer of a machine.

The aim of safety technology is therefore to protect people, machines and the environment and to enable statutory safety requirements to be satisfied.

Systematic industrial safety technology

SIRIUS Safety Integrated

The quick and easy way to safe machinery

In addition to the statutory regulations governing the protection of people there are also economic reasons for avoiding personal injury and the resulting downtimes, and for protecting both machinery and equipment from damage.

Safety Integrated benefits machine manufacturers and plant operators in many ways:

- Lower costs for hardware, assembly and engineering
- Higher availability thanks to faster diagnostics and fewer downtimes

At the same time, using modular safety concepts allows them to modernize their plants more easily and at lower cost.

Smart controls ensure the functional safety of machinery

Our SIRIUS Safety Integrated controls are a central element of the overall Siemens Safety Integrated concept, based on Totally Integrated Automation.

SIRIUS Safety Integrated, see www.siemens.com/safety-integrated.

Whether for reliable detecting, evaluating and reacting, our SIRIUS Safety Integrated controls (page 1/6 onwards) provide cost-effective solutions for the safety of your machine or plant. Take the SIRIUS 3SK safety relays for example: They are modularly expandable, and can integrate compact motor starters such as the fail-safe SIRIUS 3RM1 very simply via the device connector (parameterization is performed easily with a screwdriver on the DIP switches or by drag and drop in the engineering software).

The SIMOCODE pro modular motor management system combines all required protection, monitoring, safety and control functions for motor feeders. It can be connected to fail-safe controllers via PROFIBUS or PROFINET and shut down motors in emergency situations.

SIRIUS Safety Integrated uses fail-safe communication via standard fieldbus systems, such as ASIsafe via AS-Interface and PROFIsafe via PROFIBUS and PROFINET, to solve even networked safety tasks of greater complexity. This opens the door to flexible safety solutions for compact machines or large-scale plants – naturally compliant with current standards up to SIL 3/PL e.

The first integrated ASIsafe connection to the distributed I/O system ensures even more consistency. With the SIMATIC AS-i F-Links, AS-i networks can be connected quite simply to safety controls via PROFIsafe via the SIMATIC ET 200SP.

Particular highlights are the 3RT contactors of sizes S2 to S12 with fail-safe control input, the SIRIUS ACT 3SU1 EMERGENCY STOP with PROFINET or PROFIsafe interface, and the fail-safe motor starters for ET 200SP (page 8/94 onwards) and the 3RW55 fail-safe soft starters (page 6/39 onwards). With these products, seamless integration into fail-safe control systems is possible.

The Application Manual SIRIUS Safety Integrated (SIAM Safety Integrated Application Manual) provides users with comprehensive application examples for SIRIUS Safety Integrated products, see

https://support.industry.siemens.com/cs/ww/en/view/81366718.

Your partner for machine and plant safety

With Safety Integrated, Siemens has provided the smart answer to constantly increasing requirements for the functional safety of a machine and for its cost-effectiveness and flexibility. Our comprehensive portfolio of safe controls, control technology and drive technology provides scalable solutions for precisely tailored safety concepts for protecting people, machines and the environment. Our products meet the current safety standards in the industry, including IEC, ISO, NFPA and UL.

As a partner for machine and plant safety, Siemens also supports users with examples of functions and up-to-date know-how concerning international standards and directives.

The Safety Selector (www.siemens.com/safety-selector) thus guides the user to the appropriate application example based on selection criteria to be assigned.

The free safety evaluation for evaluating safety functions according to IEC 62061 and ISO 13849-1 is integrated in the TIA Selection Tool, see

www.siemens.com/safety-evaluation-tool.

Thus, the selection of components and their safety-related assessment are implemented in a coherent workflow.

Requirements-based training on CE marking, functional safety, risk assessment, and on our Safety Integrated products rounds off our portfolio, see

www.siemens.com/sitrain.

1/5

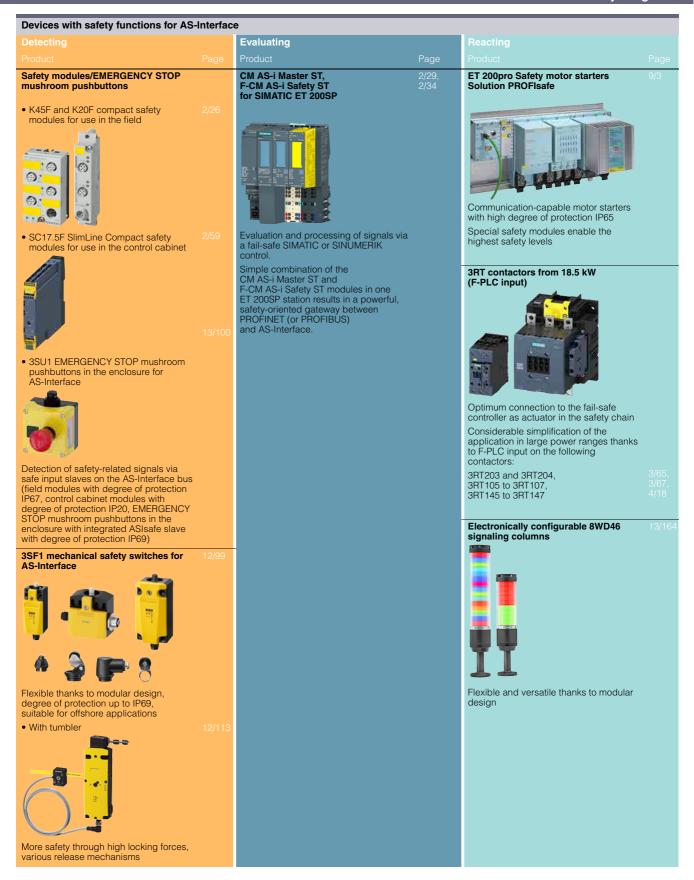
Systematic industrial safety technology

SIRIUS Safety Integrated

Devices with safety functions					
Detecting		Evaluating		Reacting	
Product		Product	Page		
3SE position and safety switches	12/2	SIMOCODE pro 3UF7	10/5	3RQ1 coupling relays	5/21
Flexible thanks to modular design, suitable for offshore applications		Fail-safe expansion modules DM-F Local and DM-F PROFIsafe, safe shutdown of motors up to SIL 3/PL e		SIRIUS 3RQ1 force-guided coupling relays, fail-safe up to SIL 3/PL e	
Magnetically operated switches (IP67) and RFID safety switches (IP69)	12/4	SK safety relays Key modules of a consistent and cost- effective safety chain. Flexible thanks to input and output expansion units	11/13	3RW55 Failsafe soft starters 3RW55 Failsafe High Performance soft starters with STO	
3SU11 EMERGENCY STOP mushroom pushbuttons, 3SU18 two-hand operation console	13/28, 13/51, 13/106	3TK2810 safety relays	11/33	SIRIUS 3RM1 motor starters	8/83
SIRIUS ACT two-hand operation console with user-friendly capacitive sensor keys High level of flexibility due to direct integration of the SIRIUS ACT EMERGENCY STOP via standardized, fail-safe communication protocols (PROFIsafe, ASIsafe)		Further modules of a consistent and cost- effective safety chain for fail-safe detection of standstill or speed		Compact, narrow and fail-safe hybrid motor starters in IP20 Easy configuration and low outlay for storage thanks to wide setting range of the overload release	
3SE7 cable-operated switches, 3SE29 safety foot switches	13/156, 13/162			ET 200SP fail-safe motor starters	8/94
Foot switches with cover, metal enclosure with degree of protection IP65 Cable-operated switches with latching and positive-opening NC contacts, in degree of protection IP65 or IP67				Compact, fail-safe hybrid motor starters for the ET 200SP system	

Systematic industrial safety technology

SIRIUS Safety Integrated

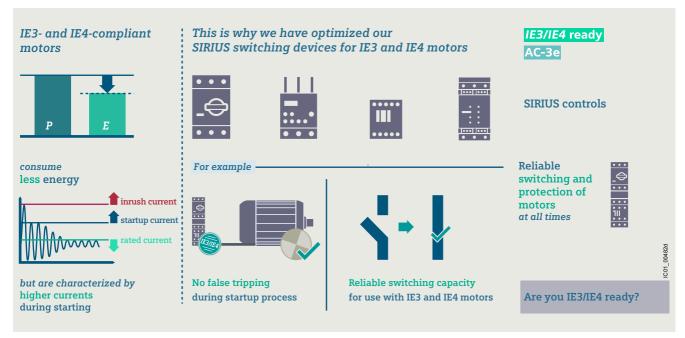


1/7

Introduction IE3/IE4 readv

SIRIUS controls for reliable switching and protection of highly efficient IE3 and IE4 motors

Overview



IE3/IE4 ready with SIRIUS controls

We are IE3/IE4 ready and have AC-3e values

On July 1, 2021, the EU Regulation (EU) 2019/1781 on electric motors and speed controls came into force. This regulation requires:

 Compliance with the legally required minimum efficiency levels IE3 for outputs from 0.75 to 1 000 kW

In the next stage as of July 1, 2023:

 Compliance with the legally required minimum efficiency levels IE4 for outputs between 75 and 200 kW.

From an electrical viewpoint, IE3 and IE4 motors behave differently than less energy-efficient models – they are characterized by higher startup currents and modified dynamic behavior. This entails certain challenges for our controls.

The SIRIUS switching and protection devices are ideally suited for use with Premium High Efficiency motors (IE3) or Super Premium Efficiency motors (IE4). This is further underlined by the new utilization category AC-3e for contactors, circuit breakers, motor starters and other devices.

They avoid false tripping due to higher inrush currents of IE3 and IE4 motors, offer optimized setting ranges for rated currents, and ensure reliable switching and protection in any situation – the best prerequisites for the use of modern IE3 and IE4 motors.

Highlights

- Comprehensive range of IE3 and IE4 motors for every application
- Siemens offers expertise through extensive analysis of IE3 and IE4 motors
- Optimized SIRIUS controls for use with IE3 and IE4 motors
- Easy selection thanks to consistently identical rated values of utilization categories AC-3 and AC-3e

Introduction of utilization category AC-3e



Video: What is the purpose of the utilization category AC-3e?

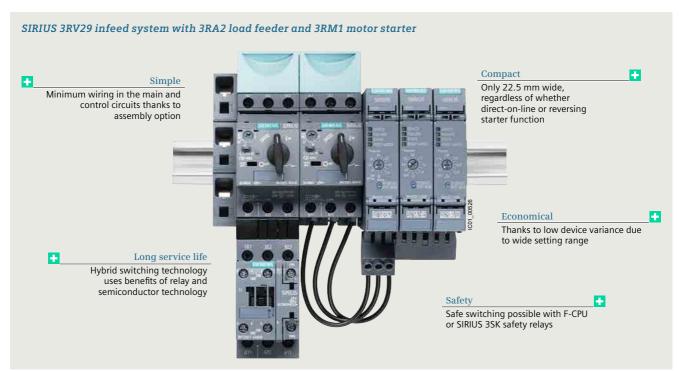
More information

Application Manual for controls with IE3 and IE4 motors, see https://support.industry.siemens.com/cs/ww/en/view/94770820.

All IE3/IE4 ready products are marked in the catalog with the symbol IE3/IE4 ready

All products with the utilization category AC-3e are marked in the catalog with the symbol AC-3e.

Overview



The hybrid switching technology uses low-wear semiconductor technology for switching the motor on and off, and in the operating phase it relies on energy-saving relay technology.

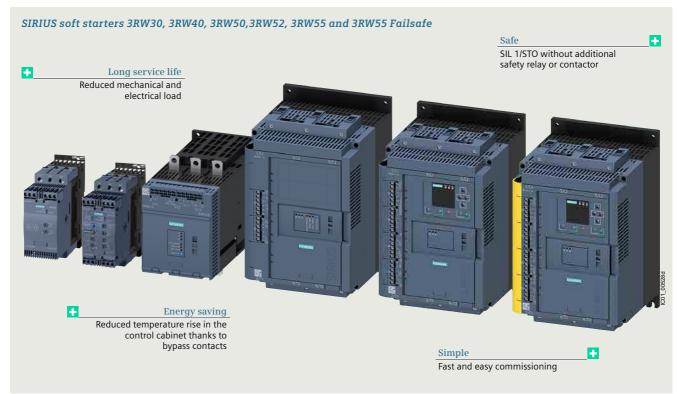
This ensures durability, especially with high switching frequency, and thus significantly reduces maintenance costs and extends the life of the motor starters.

In addition, due to the hybrid switching technology, motor starters have lower electromagnetic interference emissions, enabling you to increase your plant availability.

Further energy savings are provided by the integrated electronic overload protection.

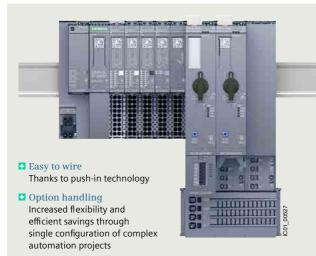
This causes a lower intrinsic power loss than comparable motor feeders with thermal overload protection.

In this way, you benefit from reduced heat generation and therefore lower cooling power. And that saves energy.



Innovative technology for saving energy

Electronic starting with hybrid switching technology



■ Reduced space requirements

50% slimmer than other distributed I/O systems

■ Hybrid switching technology

Durable and energy saving, since relay contacts are not subject to loading when switched

Power bus

Supply with power only once, then automatic setup with side-by-side mounting of multiple modules

- Quick stop and end position disconnection Load switch off even at high
 - speed independent of central controller
- Quick installation

Hook in, slide into place and engage

Once it is installed and wired, you simply connect the ET 200SP motor starter to the controller in the TIA Portal ready for parameterization.

Highlights

Use of hybrid switching technology for:

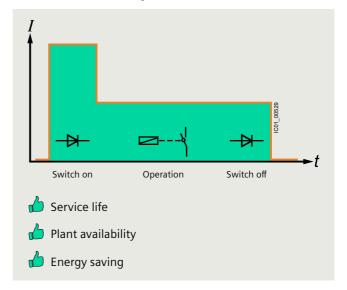
- SIRIUS 3RM1 motor starters
- ET 200SP motor starters
- SIRIUS soft starters

Failsafe functionality for SIRIUS 3RW55 soft starters, SIRIUS 3RM1 motor starters and ET 200SP:

 Maximum safety: Safety function up to SIL 3/PL e

Additional benefits for SIRIUS 3RM1 motor starters:

- Using device connectors safety-related group shutdown with reduced wiring is possible
- Direct connection to the 3SK safety relay, without additional wiring



Industrial communication

Price groups



	PG 212, 219, 230, 250, 254, 255, 256, 257, 41B, 41L, 42C, 42D, 5K1, 5K2		I/O modules for use in the field, high degree of protection
	Introduction	2/44 2/45	- Digital I/O modules, IP67 - Introduction - Digital I/O modules, IP67 - K60
2/3	AS-Interface	2/43	- Digital I/O modules, IP68/IP69 - K60R
2/13	IO-Link	2/50	- Digital I/O modules, IP67 - K45
	AS-Interface	2/52 2/54	- Digital I/O modules, IP67 - K20 - Analog I/O modules, IP67 - K60
	<u>Introduction</u>	_, -, -	I/O modules for use in the control
2/19	Communication overview		cabinet
2/21	System components	2/57	- Introduction
	AS-Interface specification	2/58	- SlimLine Compact
2/22	- Specification V3.0	2/62	- F90 module
2/23	- AS-i Power24V	2/63	- Flat module
	ASIsafe		Modules with special functions
2/24	Introduction	2/64	- Counter modules
2/25	AS-i safety solution with F-CPU and	2/65	- Ground-fault detection modules
2/0.4	AS-i in ET 200SP	2/66	- Overvoltage protection modules
2/34	F-CM AS-i Safety ST for SIMATIC ET 200SP	3/18	Contactors and contactor assemblies - SIRIUS 3RT contactors, 3-pole up to
2/26	AS-Interface safety modules	3/10	250 kW
12/99	SIRIUS 3SF1 mechanical safety	3/143	- SIRIUS 3RA23 reversing contactor
12/00	switches for AS-Interface		assemblies, up to 55 kW
	SIRIUS ACT pushbuttons and indicator	3/159	- SIRIUS 3RA24 contactor assemblies
	lights		for star-delta (wye-delta) starting, up to
13/88	- Modules: AS-Interface modules for	3/106	90 kW - SIRIUS 3RA27 function modules
	mounting on the front plate or in the	3/100	Motor starters for use in the control
13/100	enclosure - Pushbuttons and indicator lights in the		cabinet
13/100	enclosure for AS-Interface	8/57	- SIRIUS 3RA6 compact starters:
	Masters		3RA61 direct-on-line starters,
	Masters for SIMATIC ET 200		3RA62 reversing starters
2/29	- CM AS-i Master ST for	9/21	Motor starters for use in the field,
	SIMATIC ET 200SP		high degree of protection
2/34	- F-CM AS-i Safety ST for		- SIRIUS M200D motor starters for AS-Interface
	SIMATIC ET 200SP	D31.2 ¹⁾	
=	Masters for SIMATIC S7	001.2	SIRIUS ACT pushbuttons and indicator
2/37	- CM 1243-2		lights
2/39	- CP 343-2P/CP 343-2	13/88	- Modules: AS-Interface modules for
2/44	Routers		mounting on the front plate or in the
2/41	DP/AS-Interface Link 20E	40/40	enclosure
		13/100	 Pushbuttons and indicator lights in the enclosure for AS-Interface
		13/171	SIRIUS 8WD42 and 8WD44 signaling columns
		13/179	- 8WD44 AS-interface adapter element

Slaves

See Catalog D 31.2.

2

Industrial communication

		Power supply units and data		Contactors and contactor assemblies
		decoupling modules	3/18	- SIRIUS 3RT contactors, 3-pole up to
	/67	AS-Interface power supply units	0/140	250 kW
	/69	30 V power supply units	3/143	- SIRIUS 3RA23 reversing contactor assemblies, up to 55 kW
	5/1 ¹⁾	24 V power supply units	3/159	- SIRIUS 3RA24 contactor assemblies
2/	/71	S22.5 data decoupling modules	-, ·	for star-delta (wye-delta) starting, up to
		Data decoupling modules		90 kW
	170	for S7-1200	3/106	- SIRIUS 3RA27 function modules
2/	/73	- DCM 1271 data decoupling module		Motor starters for use in the control
	/ 7 0	Transmission media		cabinet
2/	/76	AS-Interface shaped cable		SIRIUS 3RA6 compact starters for IO-Link
	,	System components and accessories	8/67	- 3RA64 direct-on-line starters
	/77	Repeaters	8/68	- 3RA65 reversing starters
	/79	Extension plugs	0,00	Monitoring relays
	/80	Addressing units	10/55	SIRIUS 3RR24 monitoring relays
	/82	Analyzer	10,00	for mounting on 3RT2 contactors
	/86	Miscellaneous accessories		for IO-Link
2/	/12	Diagnostics	10/62	SIRIUS 3UG58 monitoring relays
		Software		for stand-alone installation for
14	4/20	AS-Interface block library for		IO-Link NEW
		SIMATIC PCS 7	10/101	SIRIUS 3UG48 monitoring relays for stand-alone installation for IO-Link
		IO-Link		
			10/121	SIRIUS 3RS28 temperature monitoring
		Introduction	10/121	SIRIUS 3RS28 temperature monitoring relays for IO-Link
	/88	Introduction Communication overview	10/121	relays for IO-Link SIRIUS ACT pushbuttons and indicator
2/	/90	Introduction Communication overview System components		relays for IO-Link SIRIUS ACT pushbuttons and indicator lights
2/		Introduction Communication overview System components IO-Link specification	10/121 13/12	relays for IO-Link SIRIUS ACT pushbuttons and indicator lights SIRIUS ACT 3SU1 ID key-operated
2/	/90	Introduction Communication overview System components IO-Link specification Masters	13/12	relays for IO-Link SIRIUS ACT pushbuttons and indicator lights SIRIUS ACT 3SU1 ID key-operated switches for IO-Link
2/ 2/	/90 /96	Introduction Communication overview System components IO-Link specification Masters IO-Link master module for S7-1500		relays for IO-Link SIRIUS ACT pushbuttons and indicator lights SIRIUS ACT 3SU1 ID key-operated
2/ 2/	/90	Introduction Communication overview System components IO-Link specification Masters IO-Link master module for S7-1500 - CM 8xIO-Link	13/12	relays for IO-Link SIRIUS ACT pushbuttons and indicator lights SIRIUS ACT 3SU1 ID key-operated switches for IO-Link SIRIUS ACT 3SU1 electronic modules for IO-Link
2/ 2/ 2/	/90 /96 /97	Introduction Communication overview System components IO-Link specification Masters IO-Link master module for S7-1500 - CM 8xIO-Link IO-Link master module for S7-1200	13/12 13/89	relays for IO-Link SIRIUS ACT pushbuttons and indicator lights SIRIUS ACT 3SU1 ID key-operated switches for IO-Link SIRIUS ACT 3SU1 electronic modules for IO-Link SIRIUS 8WD4 signaling columns
2/ 2/ 2/	/90 /96	Introduction Communication overview System components IO-Link specification Masters IO-Link master module for S7-1500 - CM 8xIO-Link IO-Link master module for S7-1200 - SM 1278 4xIO-Link master	13/12	relays for IO-Link SIRIUS ACT pushbuttons and indicator lights SIRIUS ACT 3SU1 ID key-operated switches for IO-Link SIRIUS ACT 3SU1 electronic modules for IO-Link SIRIUS 8WD4 signaling columns Electronically configurable 8WD46 signaling columns,
2/ 2/ 2/ 2/	/90 /96 /97 /98	Introduction Communication overview System components IO-Link specification Masters IO-Link master module for S7-1500 - CM 8xIO-Link IO-Link master module for S7-1200 - SM 1278 4xIO-Link master IO-Link master module for ET 200SP	13/12 13/89	relays for IO-Link SIRIUS ACT pushbuttons and indicator lights SIRIUS ACT 3SU1 ID key-operated switches for IO-Link SIRIUS ACT 3SU1 electronic modules for IO-Link SIRIUS 8WD4 signaling columns Electronically configurable
2/ 2/ 2/ 2/	/90 /96 /97	Introduction Communication overview System components IO-Link specification Masters IO-Link master module for S7-1500 - CM 8xIO-Link IO-Link master module for S7-1200 - SM 1278 4xIO-Link master IO-Link master module for ET 200SP - CM 4xIO-Link V1.1 Standard	13/12 13/89	relays for IO-Link SIRIUS ACT pushbuttons and indicator lights SIRIUS ACT 3SU1 ID key-operated switches for IO-Link SIRIUS ACT 3SU1 electronic modules for IO-Link SIRIUS 8WD4 signaling columns Electronically configurable 8WD46 signaling columns, 70 mm diameter MAZA 8WD44 signaling columns,
2/ 2/ 2/ 2/	/90 /96 /97 /98 /99	Introduction Communication overview System components IO-Link specification Masters IO-Link master module for S7-1500 - CM 8xIO-Link IO-Link master module for S7-1200 - SM 1278 4xIO-Link master IO-Link master module for ET 200SP - CM 4xIO-Link V1.1 Standard IO-Link master module for ET 200pro	13/12 13/89 13/164 13/171	relays for IO-Link SIRIUS ACT pushbuttons and indicator lights SIRIUS ACT 3SU1 ID key-operated switches for IO-Link SIRIUS ACT 3SU1 electronic modules for IO-Link SIRIUS 8WD4 signaling columns Electronically configurable 8WD46 signaling columns, 70 mm diameter MAX 8WD44 signaling columns, 70 mm diameter MAX
2/ 2/ 2/ 2/	/90 /96 /97 /98	Introduction Communication overview System components IO-Link specification Masters IO-Link master module for S7-1500 - CM 8xIO-Link IO-Link master module for S7-1200 - SM 1278 4xIO-Link master IO-Link master module for ET 200SP - CM 4xIO-Link V1.1 Standard IO-Link master module for ET 200pro - 4 IO-Link HF	13/12 13/89 13/164 13/171 13/179	relays for IO-Link SIRIUS ACT pushbuttons and indicator lights SIRIUS ACT 3SU1 ID key-operated switches for IO-Link SIRIUS ACT 3SU1 electronic modules for IO-Link SIRIUS 8WD4 signaling columns Electronically configurable 8WD46 signaling columns, 70 mm diameter MAY 8WD44 signaling columns, 70 mm diameter - 8WD44 IO-Link adapter element
2/ 2/ 2/ 2/	/90 /96 /97 /98 /99	Introduction Communication overview System components IO-Link specification Masters IO-Link master module for S7-1500 - CM 8xIO-Link IO-Link master module for S7-1200 - SM 1278 4xIO-Link master IO-Link master module for ET 200SP - CM 4xIO-Link V1.1 Standard IO-Link master module for ET 200pro - 4 IO-Link HF IO-Link master module for	13/12 13/89 13/164 13/171 13/179 ID 10 ²⁾	relays for IO-Link SIRIUS ACT pushbuttons and indicator lights SIRIUS ACT 3SU1 ID key-operated switches for IO-Link SIRIUS ACT 3SU1 electronic modules for IO-Link SIRIUS 8WD4 signaling columns Electronically configurable 8WD46 signaling columns, 70 mm diameter [Nat] 8WD44 signaling columns, 70 mm diameter [Nat] 8WD44 IO-Link adapter element RFID systems
2/ 2/ 2/ 2/ 2/	/90 /96 /97 /98 /99	Introduction Communication overview System components IO-Link specification Masters IO-Link master module for S7-1500 - CM 8xIO-Link IO-Link master module for S7-1200 - SM 1278 4xIO-Link master IO-Link master module for ET 200SP - CM 4xIO-Link V1.1 Standard IO-Link master module for ET 200pro - 4 IO-Link HF IO-Link master module for ET 200eco PN	13/12 13/89 13/164 13/171 13/179 ID 10 ²⁾ FI 01 ³⁾	relays for IO-Link SIRIUS ACT pushbuttons and indicator lights SIRIUS ACT 3SU1 ID key-operated switches for IO-Link SIRIUS ACT 3SU1 electronic modules for IO-Link SIRIUS 8WD4 signaling columns Electronically configurable 8WD46 signaling columns, 70 mm diameter May 8WD44 signaling columns, 70 mm diameter - 8WD44 IO-Link adapter element RFID systems SITRANS
2/ 2/ 2/ 2/ 2/	/90 /96 /97 /98 /99	Introduction Communication overview System components IO-Link specification Masters IO-Link master module for S7-1500 - CM 8xIO-Link IO-Link master module for S7-1200 - SM 1278 4xIO-Link master IO-Link master module for ET 200SP - CM 4xIO-Link V1.1 Standard IO-Link master module for ET 200pro - 4 IO-Link HF IO-Link master module for ET 200eco PN - IO-Link master	13/12 13/89 13/164 13/171 13/179 ID 10 ²⁾ FI 01 ³⁾ 2/95	relays for IO-Link SIRIUS ACT pushbuttons and indicator lights SIRIUS ACT 3SU1 ID key-operated switches for IO-Link SIRIUS ACT 3SU1 electronic modules for IO-Link SIRIUS 8WD4 signaling columns Electronically configurable 8WD46 signaling columns, 70 mm diameter MAZA 8WD44 signaling columns, 70 mm diameter LAGA 8WD44 IO-Link adapter element RFID systems SITRANS IO-Link Device Description (IODD)
21 21 21 21 21 21	/90 /96 /97 /98 /99 /100	Introduction Communication overview System components IO-Link specification Masters IO-Link master module for S7-1500 - CM 8xIO-Link IO-Link master module for S7-1200 - SM 1278 4xIO-Link master IO-Link master module for ET 200SP - CM 4xIO-Link V1.1 Standard IO-Link master module for ET 200pro - 4 IO-Link HF IO-Link master module for ET 200eco PN - IO-Link master	13/12 13/89 13/164 13/171 13/179 ID 10 ²⁾ FI 01 ³⁾	relays for IO-Link SIRIUS ACT pushbuttons and indicator lights SIRIUS ACT 3SU1 ID key-operated switches for IO-Link SIRIUS ACT 3SU1 electronic modules for IO-Link SIRIUS 8WD4 signaling columns Electronically configurable 8WD46 signaling columns, 70 mm diameter May 8WD44 signaling columns, 70 mm diameter - 8WD44 IO-Link adapter element RFID systems SITRANS
21 21 21 21 21 21	/90 /96 /97 /98 /99	Introduction Communication overview System components IO-Link specification Masters IO-Link master module for S7-1500 - CM 8xIO-Link IO-Link master module for S7-1200 - SM 1278 4xIO-Link master IO-Link master module for ET 200SP - CM 4xIO-Link V1.1 Standard IO-Link master module for ET 200pro - 4 IO-Link HF IO-Link master module for ET 200eco PN - IO-Link master IO-Link master module for ET 200AL - CM IO-Link	13/12 13/89 13/164 13/171 13/179 ID 10 ²⁾ FI 01 ³⁾ 2/95	relays for IO-Link SIRIUS ACT pushbuttons and indicator lights SIRIUS ACT 3SU1 ID key-operated switches for IO-Link SIRIUS ACT 3SU1 electronic modules for IO-Link SIRIUS 8WD4 signaling columns Electronically configurable 8WD46 signaling columns, 70 mm diameter MAZA 8WD44 signaling columns, 70 mm diameter LAGA 8WD44 IO-Link adapter element RFID systems SITRANS IO-Link Device Description (IODD)
21 21 21 21 21 21 21	/90 /96 /97 /98 /99 /100 /101	Introduction Communication overview System components IO-Link specification Masters IO-Link master module for S7-1500 - CM 8xIO-Link IO-Link master module for S7-1200 - SM 1278 4xIO-Link master IO-Link master module for ET 200SP - CM 4xIO-Link V1.1 Standard IO-Link master module for ET 200pro - 4 IO-Link HF IO-Link master module for ET 200eco PN - IO-Link master IO-Link master IO-Link master IO-Link master IO-Link master IO-Link master	13/12 13/89 13/164 13/171 13/179 ID 10 ²⁾ FI 01 ³⁾ 2/95 2/95	relays for IO-Link SIRIUS ACT pushbuttons and indicator lights SIRIUS ACT 3SU1 ID key-operated switches for IO-Link SIRIUS ACT 3SU1 electronic modules for IO-Link SIRIUS 8WD4 signaling columns Electronically configurable 8WD46 signaling columns, 70 mm diameter [Naw] 8WD44 signaling columns, 70 mm diameter element RFID systems SITRANS IO-Link Device Description (IODD) IO-Link software
21 21 21 21 21 21 21	/90 /96 /97 /98 /99 /100	Introduction Communication overview System components IO-Link specification Masters IO-Link master module for S7-1500 - CM 8xIO-Link IO-Link master module for S7-1200 - SM 1278 4xIO-Link master IO-Link master module for ET 200SP - CM 4xIO-Link V1.1 Standard IO-Link master module for ET 200pro - 4 IO-Link HF IO-Link master module for ET 200eco PN - IO-Link master IO-Link master module for ET 200AL - CM IO-Link	13/12 13/89 13/164 13/171 13/179 ID 10 ²⁾ FI 01 ³⁾ 2/95 2/95	relays for IO-Link SIRIUS ACT pushbuttons and indicator lights SIRIUS ACT 3SU1 ID key-operated switches for IO-Link SIRIUS ACT 3SU1 electronic modules for IO-Link SIRIUS 8WD4 signaling columns Electronically configurable 8WD46 signaling columns, 70 mm diameter May 8WD44 signaling columns, 70 mm diameter - 8WD44 IO-Link adapter element RFID systems SITRANS IO-Link Device Description (IODD) IO-Link software See Catalog KT 10.1.

Industrial communication Introduction

AS-Interface

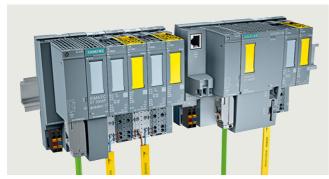
Overview

More information

Homepage, see www.siemens.com/as-interface SiePortal, see www.siemens.com/product?as-interface TIA Selection Tool Cloud (TST Cloud), see www.siemens.com/tstcloud/?node=AsInterface

System Manual for AS-Interface, see

https://support.industry.siemens.com/cs/ww/en/view/26250840



AS-Interface

AS-Interface – the smart communication standard for universal connection of the field level to the control system

The AS-Interface (AS-i) – the Actuator-Sensor-Interface, to be more precise – is a smart bus system for the field level that connects all the sensors and actuators in the field to the higher-level control system more simply, flexibly and efficiently than any other

The structure of a complex automation system is not always clear at first glance. The field level in particular, with its large numbers of devices with real-time requirements, needs a clear structure

That is exactly what the AS-i fieldbus delivers: Via a simple twisted pair – the yellow AS-i cable – in an AS-i network up to 62 bus nodes can be connected to the AS-i master and simultaneously supplied with power. The standard here is robust data transmission in a rugged environment with a high degree of protection for the AS-Interface.

AS-i = simple!	AS-i = flexible!	AS-i = efficient!
 Only one cable for data and energy Time-saving assembly/installation Engineering in the TIA Portal User-friendly maintenance 	Flexible topologiesOpen standardExpandabilitySafety technology	User-friendly addressing Fast device replacement Ruggedness and stability Device and network diagnostics
		IC01_00210

AS-i from Siemens has everything in its favor

- Complete AS-i product range for bus-based standard and safety technology from a single source
- System-wide integration of the AS-i devices into SIMATIC, SINUMERIK and the TIA Portal engineering framework
- Integration of ASIsafe applications into SIMATIC F controller safety programming
- Central configuration of standard and safety technology in the TIA Portal and in STEP 7 (Classic) – just one engineering framework for controller, AS-i master and safety
- Quick diagnostics of master and slave components via web browser, HMI or TIA Portal
- Planning, calculation and verification of the whole safety chain based on AS-i Safety via Safety Evaluation with the TIA Selection Tool, see www.siemens.com/safety-evaluation-tool
- Integration of lower-level AS-i networks into the PCS 7 process control system
- Global spare parts logistics, consulting and service

		Article No.	Page
ASIsafe			90
	ASIsafe enables integration of safety-related components in an AS-Interface network, for example:		
	EMERGENCY STOP pushbuttons		
	Protective door switches		
	Cable-operated switches		
	Other AS-i safety sensors		
	Your advantage: The simple wiring of AS-Interface is maintained.		
Control of the latest and the latest	AS-i Master and AS-i Safety module for ET 200SP	6ES7	From 2/29
Section of the sectio	The CM AS-i Master ST and F-CM AS-i Safety ST modules are plugged into an ET 200SP configuration and connect an AS-i network, including safety-related inputs and outputs, with the controller.		
R: " arms = E = E = E	 Single, double and multiple masters possible 		
	 Per CM AS-i Master ST module up to 496 DI/496 DQ/124 AI/124 AQ possible 		
	 Per F-CM AS-i Safety ST module up to 31 safe input signals (2-channel)/16 safe output channels possible 		
18:81 8:81	 Configuring with TIA Portal or STEP 7 (Classic) 		
AS-i Master and AS-i Safety module	 Plant-wide safety programming of the F-CPU via SIMATIC Distributed Safety/ Safety Advanced/F Systems 		
	Integrated diagnostics		
	No other programming tools required		
	Your advantage: Modular connection of fail-safe AS-i networks with system-wide programming in SIMATIC and SINUMERIK controllers.		

Industrial communication

Introduction

		Article No.	Page
ASIsafe (continued)			
K45F SC17.5F	AS-Interface safety modules Complete portfolio of ASIsafe modules For connection of safety switches with contacts (e.g. position switches) Degree of protection IP65/IP67 or IP20 Especially compact dimensions, with widths from 17.5 mm Up to four safe inputs per module Standard outputs are available on the module in addition Up to SIL 3/PL e Your advantage: Easy integration of safe signals both in the control cabinet and in the field.	3RK1	From 2/26
Safety switch	SIRIUS 3SF1 mechanical safety switches for AS-Interface Plastic with degree of protection IP65 and metal with degree of protection IP66/IP67 ASIsafe electronics integrated into the enclosure Available with separate actuator, with or without tumbler Your advantage: Conventional wiring of safety functions no longer required.	3SF1	From 12/99
EMERGENCY STOP mushroom pushbutton in enclosure	SIRIUS ACT EMERGENCY STOP mushroom pushbuttons for AS-Interface • Degree of protection IP66/IP67/IP69 (IP69K) • Metal or plastic version • Connection of an EMERGENCY STOP commanding device according to ISO 13850 to AS-Interface • Safety-related AS-Interface module is snapped onto the commanding device from behind • Can be used up to SIL 3/PL e Your advantage: Easy direct connection of control elements to ASIsafe.	3SU14 modules 3SU18 enclosure	

Industrial communication Introduction

		Article No.	Page
Masters			
	The AS-Interface master connects SIMATIC controllers to AS-Interface. It automatically organizes the data traffic on the AS-Interface cable and handles not only signal processing, but also parameter setting, monitoring and diagnostics functions.		
	Masters for SIMATIC ET 200		
12-7/2	CM AS-i Master ST for SIMATIC ET 200SP	3RK7	From 2/29
	 Connection of up to 62 AS-Interface slaves per master 		
AS-I Marine ST 2 ST 25	 Connection of up to 496 inputs and 496 outputs per AS-Interface network 		
	Integrated analog value transmission		
	• Simple configuration by adopting the ACTUAL configuration on the AS-Interface network		
E S	 Easy operation in the input/output address range of the SIMATIC (or other controller) comparable to standard I/O modules 		
	 Monitoring of the control supply voltage on the AS-Interface shaped cable 		
CM AS-i Master ST for	Integrated ground-fault monitoring		
SIMATIC ET 200SP	Your advantage: Easy connection of AS-i networks to distributed I/Os.		
11-71	F-CM AS-i Safety ST for SIMATIC ET 200SP	3RK7	From 2/34
Colonia P A ST	 Monitoring of up to 31 fail-safe AS-i input slaves per F-CM 16 fail-safe AS-i outputs per F-CM 		
	Transmission via PROFIsafe into the F-CPU for safety-related applications up to SIL 3 (IEC 62061)/PL e (ISO 13849-1)		
the little of th	 As a result, these sensors become part of the "unlimited programming and data archiving" options of SIMATIC and of Safety Integrated. 		
F-CM AS-i Safety ST for SIMATIC ET 200SP	Your advantage: Easy connection of fail-safe AS-i networks to the distributed I/Os.		
1955	Masters for SIMATIC S7		
FIE	AS-Interface master connections:		
	• CM 1243-2 for SIMATIC S7-1200	3RK7	From 2/37
- 4	• CP 343-2P, CP 343-2 for SIMATIC S7-300 and ET 200M	6GK7	From 2/39
27 (202)	Features:		
	Connection of up to 62 AS-Interface slaves		
	• Connection of up to 496 inputs and 496 outputs per master or AS-Interface network		
	Integrated analog value transmission		
CM 1243-2 for SIMATIC S7-1200	 Simple configuration by adopting the ACTUAL configuration on the AS-Interface network Easy operation in the input/output address area of the SIMATIC S7 comparable to standard I/O modules 		
	Monitoring of the control supply voltage on the AS-Interface shaped cable		
	Your advantage: Easy connection to SIMATIC controllers.		
CP 343-2, CP 343-2P for SIMATIC S7-300			
Routers			
<u>s</u>	Degree of protection IP20	6GK1	From 2/41
innument !	PROFIBUS slave and AS-Interface master		
The state of the s	Connection of up to 62 AS-Interface slaves per AS-Interface network		
	• Connection of up to 496 inputs and 496 outputs per AS-i network		
	Integrated analog value transmission		
	• Configuring and uploading of AS-Interface configuration in STEP 7 possible		
DP/AS-Interface Link 20E	User-friendly selection of AS-Interface slaves		
	Your advantage: Compact transition to PROFIBUS		
	A high-performance router can be set up between PROFINET and AS-Interface by combining the CM AS-i Master ST and F-CM AS-i Safety ST modules (for safety-related applications) in an ET 200SP station, see pages 2/32 and 2/36.		

Industrial communication

Introduction

		Article No.	Page
Slaves			
	Slaves contain the AS-Interface electronics and connection options for sensors and actuators in the field and in the control cabinet. A total of up to 62 slaves can be connected to one bus. The slaves then exchange their data in cyclic mode with a control module (master).		
	I/O modules for use in the field, high degree of protection		
in the second	Digital I/O modules, IP67 - K60, K60R, K45 and K20	3RK1, 3RK2	From 2/44
	 Degree of protection IP65/IP67 or IP68/IP69 (IP69K) 		
	 Modules available with up to degree of protection IP68/IP69 (IP69K) 		
5	Connection sockets in M8/M12		
	Up to eight inputs and four outputs		
ALL STREET	A/B technology available		
K20 digital module	Contacting protected against polarity reversal		
9	DIN-rail mounting and wall mounting possible		
	 Mounting of the module on the base plate using just one screw 		
3	Diagnostics LEDs		
	Your advantage: Reduction of mounting and startup times by up to 40%.		
K45 digital module			
G			
K60 digital module			
2 2	Analog I/O modules, IP67 - K60	3RK1	From 2/54
	Degree of protection IP65/IP67		
3 3	Detects or transmits analog signals locally		
	• 2-/4-channel		
	 Input modules for up to four current, voltage or thermal resistance sensors 		
· 6 3	Output modules for current or voltage		
	Your advantage: Easy integration of analog values.		
K60 analog module			

Industrial communication Introduction

		Article No.	Page
Slaves (continued)			
	I/O modules for use in the control cabinet	3RG9, 3RK1,	From 2/57
	Degree of protection IP20	3RK2	
	No M12 plugs required for connection		
	 Especially narrow design for SlimLine Compact modules with widths of 17.5 mm and 22.5 mm 		
	Analog modules are also available		
1	 Removable, finger-safe terminal blocks that cannot be inadvertently interchanged when using the SlimLine Compact modules 		
SlimLine SlimLine	• Flat design of the flat modules for small control boxes and confined conditions		
Compact Compact	 Connection with screw terminals or spring-loaded terminals 		
SC17.5 SC22.5	DIN-rail mounting and wall mounting possible		
W W-W W-W -	• Diagnostics LEDs		
SIEMENS (CE	Your advantage: Modules enable space-saving use in control cabinets and small local control boxes.		
F90 module			
STEMENS			
Flat module			
	Modules with special functions		
17.00	Counter modules	3RK1	2/64
020202 333333	Degree of protection IP20		
SIEMENS	• For evaluation of pulses		
2 Core	 Connection with screw terminals or spring-loaded terminals Your advantage: Evaluation of pulses which exceed even the clock frequency of AS-Interface. 		
929292			
Counter module			
93000	Ground-fault detection modules	3RK1	2/65
000000	Degree of protection IP20		
SIDMENS	Display using LEDs True since line protects.		
	Two signaling outputs Your advantage: Automatic diagnostics of ground faults on AS-Interface		
Ground-fault detection			
module			
	Overvoltage protection modules	3RK1	2/66
0.	 Degree of protection IP67 Discharge through ground cable with oil-proof outer sheath 		
	Protection at transition of lightning protection zones		
TO THE PROPERTY OF THE PARTY OF	Your advantage: The AS-Interface overvoltage protection module protects downstream AS-Interface devices or individual sections in AS-Interface networks from conducted overvoltages.		
Overvoltage protection module			

Industrial communication

Introduction

		Audiala Na	Danie
01(Article No.	Page
Slaves (continued)			
	Contactors and contactor assemblies		_
6-211	SIRIUS 3RT contactors, 3-pole up to 250 kW SIRIUS 3RA23 reversing contactor assemblies, up to 55 kW	3RT20 3RA23	From 3/18 From 3/143
	SIRIUS 3RA24 contactor assemblies for star-delta (wye-delta) starting, up to 90 kW	3RA24	From 3/159
# # #	Notable reduction of wiring in the control circuit		
	Integrated mechanical interlocking		
	Prevention of wiring errors in the main circuit		
6			
CIDILIC sententes			
SIRIUS contactor 3RT2031NB30-0CC0			
	SIRIUS 3RA27 function modules	3RA2712	From 3/106
4	Connection of 3RT20 power contactors with communication capability, 3RA23 reversing		
	contactor assemblies, and 3RA24 contactor assemblies for star-delta (wye-delta) starting		
SHARK	to AS-Interface		
000000	 Reduction of control current wiring through plug-in design and integrated monitoring of circuit breaker/motor starter protector and contactor 		
SIRIUS 3RA2712	Reduced space requirement in the control cabinet through fewer digital inputs and outputs		
function module	in the control system		
	Easy configuration through operation of feeders instead of individual contactors		
	 Enhanced operational reliability and quick wiring thanks to spring-loaded terminals 		
	• Small number of versions through use of identical modules for size S00 to S3 contactors		
	Your advantage: Shortening of mounting and startup times.		
cea	Motor starters for use in the control cabinet		
	SIRIUS 3RA6 compact starters	3RA6	From 8/57
Million .	3RA61 direct-on-line starters, 3RA62 reversing starters	3RA61, 3RA62	From 8/65
	Degree of protection IP20		
Real L	 Very compact load feeders with the integrated functionality of an electronic overload relay 		
	 As direct-on line or reversing starters for motors up to 15 kW/400 V 		
	Easy expansion into a communication-capable load feeder using AS-i add-on modules		
seemed !	On-site safe disconnection also possible using AS-i add-on modules		
3RA61 compact starter	Standardized integration of the loads in higher-level control systems using AS-i		
	Your advantage: Compact solution with minimum wiring outlay for actuating direct-on-line and reversing starters in the control cabinet.		
	Motor starters for use in the field, high degree of protection		
The state of the s	SIRIUS M200D motor starters for AS-Interface	3RK1	From 9/21
6 - 0	High degree of protection IP65 for cabinet-free design		
O BE	As direct-on line or reversing starters for motors up to 5.5 kW/400 V		
	Mechanical or electronic switching for high switching frequencies		
0000	Optional with manual operation and brake actuation		
SIRIUS	Expanded diagnostics and parameterization possible through AS-Interface		
M200D motor starter	Easy and consistent integration in STEP 7 through AS-Interface		
otor otartor	Your advantage: The correct solution for all simple applications in conveyor systems with		
	spatially distributed drives.		

Industrial communication Introduction

			Article No.	Page
Slaves (co	ntinued)			
		SINAMICS G115D distributed converters	SINAMICS	Catalog D 31.2
SINAMICS G	21150	\bullet Robust, with degree of protection IP65/IP66, wide operating temperature range -30 to +55 $^{\circ}\text{C}$	G115D wall-mounted: 6SL352;	
		• Wide power range from 0.37 to 7.5 kW (SINAMICS G115D motor-mounted up to 4 kW)		
		Preconfigured with SIMOGEAR 2KJ8	SINAMICS	
		 Local commissioning via DIP switch, USB interface and potentiometer or SINAMICS G120 Smart Access 	G115D motor-mounted:	
frequency co wall-mounted	nverters,	 Integrated safety function: STO (Safe Torque Off) via fail-safe digital input F-DI or PROFIsafe and, from firmware V4.7 SP14 in conjunction with SINAMICS Startdrive V18 SP1 or higher, SLS (Safely-Limited Speed) with Safety Extended license 	2KJ8	
		 Integrated applications for conveyor systems, e.g. for roller conveyor, rotary table, transfer carriage 		
		• Expanded diagnostics and parameterization through AS-Interface		
		 Flexible connection method for cables, choice of screw connection or plug-in design, compatible with SINAMICS G120D 		
		Optional maintenance switch (SINAMICS G115D wall-mounted)		
SINAMICS G		 Optional manual local operation (SINAMICS G115D wall-mounted) 		
frequency co motor-mount		Your advantage: The simple solution for consistent implementation of distributed plant concepts with requirements for wall-mounted and motor-mounted variable-speed drives with Safety functionality.		
		Commanding and signaling devices		
	11	SIRIUS ACT pushbuttons and indicator lights for AS-Interface	3SU14 modules	13/88 From 13/101
		 AS-Interface modules for snap-on mounting on front plate 	3SU18 enclosure	
		 AS-Interface modules for base mounting for mounting in enclosure 		
		 Modular configuration of enclosure based on individual specifications 		
		Enclosures with standard fittings		
The state of the s		 Up to six command points for standard signals or EMERGENCY STOP 		
AS-Interface	module	• Degree of protection IP66/IP67/IP69 (IP69K)		
710 11110111111111	modulo	Metal or plastic version		
		Indicator lights with integrated LED		
•		 Any change of equipment possible even after installation 		
		Your advantage: Complete operating system with simple AS-Interface integration for your plant.		
AS-i enclosur	·e			
		SIRIUS 8WD42 and 8WD44 signaling columns	8WD42, 8WD44	From 13/171
		Many optical and acoustic elements can be combined		
-		• Up to four signaling elements can be connected using an AS-Interface adapter element		
		With integrated LEDs or with BA15d base for LEDs/incandescent lamps		
Ea		• For fastening to connection elements (screw or spring-loaded terminals)		
		• 24 V DC, diameters 50 mm (8WD42) and 70 mm (8WD44)		
		Connection with bayonet mechanism		
8WD42, 8WD44 signaling columns	AS-Interface adapter element	Your advantage: Signaling columns for monitoring production sequences and for visual or acoustic warnings in emergency situations, with easy AS-Interface integration.		

Industrial communication

Introduction

AO IIIIOIIIIOO			
		Article No.	Page
Power supply units ar	nd data decoupling modules		
	AS-Interface power supply units generate a controlled direct voltage of 30 V DC with high stability and low residual ripple in conjunction with data decoupling. They are an integral component of the AS-Interface network and enable the simultaneous transmission of data and energy on one cable.		
	In conjunction with data decoupling modules, AS-Interface can also be operated with standard power supply units.		
	AS-Interface power supply units	3RX9	2/67
The state of the s	With wide performance spectrum from 2.6 to 8 A		
at A	Degree of protection IP20		
OOME	Separation of data and energy by means of the integrated data decoupling		
- H	 UL/CSA approval means the power supplies can be used worldwide, 2.6 A version with output power restricted to max. 100 W (for Class 2 circuits according to NEC) 		
IP20, 3 A	Certified for global use		
	 Integrated ground-fault and overload detection save the need for additional components and make applications reliable 		
WER STATE OF THE S	 Diagnostics memory, remote signaling and Remote RESET allow fast detection of faults in the system 		
201	Ultra-wide input range permits 1-phase and 2-phase use (8 A version).		
THID.	Your advantage: Optimum performance for each application.		
IP20, 8 A			
	30 V power supply units		
	Standard 30 V power supply units without data decoupling	3RX9	From 2/69
308	Power spectrum 3 A, 4 A and 8 A		
N AND THE REAL PROPERTY OF THE PERTY OF THE	Overload and short-circuit-proof in every performance class Discreption With substitute largers 205 FV DC.		
Sa Estados	 Diagnostics: With output voltage > 26.5 V DC LED and signaling contact for output voltage 30 V O.K. 		
-,000	Primary-side connection to 120/230 V AC (1-phase) with automatic range selection		
PSN130S	Your advantage: Economical alternatives in conjunction with data decoupling modules while		
30 V DC, 8 A	making full use of the maximum AS-Interface cable length. 24 V power supply units		
	Standard 24 V power supply units (SITOP), without data decoupling	6EP	15/1 or
18200	Power spectrum 2.5 to 40 A	·	Catalog KT 10.1
No.	Overload and short-circuit-proof in every performance class		
STOOL	Add-on modules for signaling, redundancy, buffering and UPS		
	• 1-, 2- and 3-phase versions		
OUTOD DOLLARDA	Your advantage: Economical alternatives in conjunction with data decoupling modules.		
SITOP PSU100M, 24 V DC, 20 A			
21100,207	S22.5 data decoupling modules	3RK1	From 2/71
000	Degree of protection IP20, narrow design 22.5 mm		
000	Supply of several AS-i networks with a single power supply unit		
	Single and double data decoupling		
	Operation with 24 V DC or 30 V DC		
	Your advantage: Cost-effective installation of AS-i networks in conjunction with standard		
200 5 1 1 1 1 1	power supply units.		
S22.5 data decoupling module			
	DCM 1271 data decoupling module for SIMATIC S7-1200	3RK7	From 2/73
	Simple data decoupling in IP20 design		
	 Supply of several AS-i networks with a single power supply unit 		
Britis	Operation with 24 V DC or 30 V DC		
	Your advantage: Cost-effective installation of AS-i networks in conjunction with standard power supply units in the design of a SIMATIC S7-1200 module.		
	power supply units in the design of a shirt-fit of 1-1200 module.		
DCM 1271 data			
decoupling module Transmission media			
Transinission media	AS-Interface shaped cable for connection of network stations		
4	AS-Interface shaped cable for connection of network stations AS-Interface shaped cable	3RX9	2/76
	No polarity reversal thanks to trapezoidal shape	STIAS	2,10
	Cables made of optimized material for different operating conditions		
	Special version according to UL Class 2 available		
	Your advantage: Fast replacement and connection to AS-Interface by piercing method.		
Shaped cable	,		

Industrial communication Introduction

AS-Interface

		Article No.	Page
System components a	and accessories		
	Accessories comprise tools for mounting, installation and operating as well as individual components.		
wallen	Repeaters and extension plugs	6GK1 repeater	2/77
-13	 Repeaters for extending the AS-Interface cable by 100 m per repeater 	3RK1 extension	
J: -	• Extension plug for extending the AS-Interface segment to max. 200 m	plug	2/79
201	• Parallel connection of several repeaters possible (star configuration option)		
150	 Maximum size increases (when combined) to more than 600 m 		
D. C.	Easy mounting		
Repeater	IP67 module enclosure		
	Your advantage: Lower infrastructure costs, more possibilities of use and greater freedom for plant planning.		
Compact extension plug	Addressing wite	2DV1	From 2/20
TO THE PARTY OF TH	Addressing units	3RK1	From 2/80
SECULIA DE LA COMPANIA DE LA COMPANI	 Reading out and adjusting the slave address 0 to 31 or 1A to 31A, 1B to 31B, with automatic addressing aid and prevention of double addresses 		
	Reading out the slave profile (IO, ID, ID2) and reading out and setting the ID1 code		
	 Input/output test when commissioning the slaves, on all digital and analog slaves according to AS-Interface specification V3.0, including safe input slaves and complex CTT2 slaves 		
ф: =	 Display of the operational current in case of direct connection of an AS-i slave (measuring range from 0 to 150 mA) 		
Addressing unit for AS-Interface V 3.0	 Storage of complete network configurations (profiles of all slaves) to simplify the addressing 		
	Your advantage: Easiest way to address and test the slaves.		
	AS-Interface analyzer	3RK1	From 2/82
SIEMENS AG-leterface Analyser	 Diagnostics units for completely checking the quality and function of an AS-Interface installation 		
CC SECRET COURSE \$	• Transmission of collected data through an RS 232 interface to a PC, evaluation by software		
Transport No. 1 Aprillation of Johnson Trade to Service's	Easy and user-friendly operation		
Analyzer	Automatically generated test logs		
	Advanced trigger functions enable exact analysis		
	Process data can be monitored online		
	 In addition to digital I/O data it is possible to view analog values and safety slaves in data mode. 		
	Your advantage: Preventative testing of an AS-Interface network is possible, recorded logs facilitate remote diagnostics.		
	Miscellaneous accessories	3RK1, 3RX9,	From 2/86
	Individual components such as sealing caps, cable adapters, distributors, M12 plugs and cables, cable end terminator, etc.	6ES7	
M12 sealing cap			
Cable end terminator			

Introduction

AS-Interface

		Article No.	Page
Diagnostics			_
ASI Diagnorifo Tomosoni Tomosoni Tomosoni Tomosoni Tomosoni Tomosoni CM ASI Marsier 1	The following diagnostics blocks with visualization via HMI or web browser for AS-Interface can be downloaded free of charge in SiePortal:		
Histories No. 10 11 NA 11 NS 12 NS 10 NS NS NS NS NS NS NS N	Diagnostics blocks		
Diagnostics for AS-Interface via HMI panels	 For CM AS-i Master ST and F-CM AS-i Safety ST in ET 200SP, see https://support.industry.siemens.com/cs/ww/en/view/109479103 		
	 For other Siemens AS-i master and links, see https://support.industry.siemens.com/cs/ww/en/view/50897766 		
via i ivii paricis	Your advantage: Detailed diagnostics display for fast fault analysis and short downtimes – for easy integration into STEP 7 projects.		
Software			
Security and the second security and the second sec	AS-Interface block library for SIMATIC PCS 7	3ZS1635	From 14/20
TO THE STATE OF TH	Engineering and runtime software		
The state of the s	• Easy connection of AS-Interface to PCS 7		
The state of the s	• Engineering work reduced to positioning and connecting the blocks in the CFC		
	 No additional configuring steps required for connection to the PCS 7 Maintenance Station, diagnostics for the AS-i system optimally guaranteed 		
AS-Interface block library for PCS 7	Your advantage: Easy connection of AS-Interface to PCS 7, little engineering and configuration.		

Connection methods

	The terminals are indicated in the corresponding tables by the symbols shown on orange backgrounds.
	COMBICON connectors (plug-in screw terminals)
88	Spring-loaded terminals, spring-loaded terminals (push-in)
	Screw terminals

Ordering notes for multi-unit packaging

SlimLine Compact module SC17,5, SC17.5F and SC22.5 can be ordered in practical and environmentally friendly multi-unit packaging on request.

Multi-unit packaging with order code X90

When ordering products in <u>multi-unit packaging</u>, the article number of the product concerned must be supplemented with "-Z" and, <u>in addition</u>, the order code "X90" must be specified.

Ordering examples:

- Safe SlimLine Compact module SC17.5F 3RK1205-0BE00-2AA2-Z X90; Order quantity 16 items → Packed number of items 16
- Analog SlimLine Compact module SC22.5 3RK1207-0CE00-2AA2-Z X90; Order quantity 12 items → Packed number of items 12

For more information, see page 16/7.

Industrial communication Introduction

IO-Link

Overview

More information

Homepage, see www.siemens.com/io-link

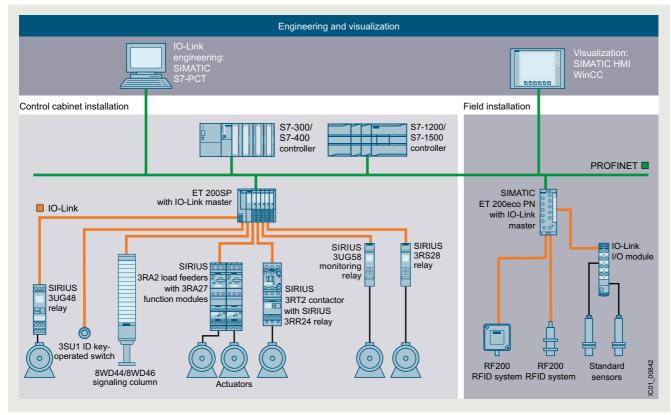
TIA Selection Tool Cloud (TST Cloud), see www.siemens.com/tstcloud/?node=loLink

For important topics at a glance, see

https://support.industry.siemens.com/cs/ww/en/view/109737170

For brochure see

https://assets.new.siemens.com/siemens/assets/api/uuid:7460eb69-efa0-4426-9213-af4d3619b567/dffa-b10447-01broschuereiolinkdeengb-144.pdf



Engineering and visualization

IO-Link - more than just another interface

IO-Link is an open communication standard for sensors and actuators – defined by the IO-Link Consortium.

IO-Link is a smart concept for the uniform connection of actuators and sensors to the control level by means of a low-cost point-to-point connection.

As an open interface, IO-Link can be integrated into all standard fieldbus and automation systems.

The IO-Link communication standard below fieldbus level enables central error diagnostics and localization down to actuator/sensor level, and facilitates both startup and maintenance by allowing parameter data to be dynamically changed directly from the application.

The increasing intelligence of field devices and their integration into automation as a whole now allows data to be accessed right down to the lowest field level. The result: greater plant availability and less engineering work.

Transparency in the process through IO-Link

High system availability and data transparency are market requirements that must also be met by the connecting of innovative control technology to a control system. A systematic diagnostics concept and efficient handling of parameter data are required for this purpose in automation.

With the aid of the IO-Link communication standard, a communication link is established between switchgear and controller, and this allows data to be exchanged efficiently. Based on a standard cable, it is therefore possible to integrate parameter, process and diagnostics data and measured values into the plant automation with ease. For example, the available diagnostics data allow potential errors to be detected quickly, thus avoiding lengthy plant downtimes.

As a consequence of their basic function, such as overvoltage protection (SIRIUS 3UG5 monitoring relays for IO-Link), many controls have measured values. The availability of these via IO-Link now allows conclusions to be drawn at an early stage concerning wear and tear in the application.

At the same time the option of parameterizing via IO-Link supports the device not just when parameters concerning operating time are changed, but also when the device is replaced. In the case of a spare part, for example, the parameters can be quickly transmitted to a new device via the communication system.

Introduction

IO-LIIIK				
Manhaus		Article No.	Page	
Masters	The IO-Link master modules form the heart of the IO-Link system.		Catalog ST 70	
	IO-Link master module for SIMATIC S7-1500		Catalog 31 70	
CM 8xIO-Link for SIMATIC S7-1500	CM 8xIO-Link Communications module for connecting up to 8 IO-Link devices (three-wire connections) or 8 standard sensors according to IO-Link specification V1.1 Can be used directly downstream of an S7-1500 CPU or distributed in ET 200MP via PROFINET or PROFIBUS Simple replacement of sensors/actuators without time-consuming parameterization Data transfer rates COM1 (4.8 kBd), COM2 (38.4 kBd), COM3 (230.4 kBd) Your advantage: Easy connection of IO-Link connections to the SIMATIC S7-1500.	6ES7	2/97	
101 31WATIC 37-1300	IO-Link master module for SIMATIC S7-1200			
SM 1278 4xIO-Link for SIMATIC S7-1200	IO-Link master module for SIMATIC S7-1200 SM 1278 4xIO-Link master • IO-Link master as serial communications module with four ports (channels) according to IO-Link specification V1.1 • Easy device exchange with automatic data recovery without engineering for IO-Link device • Up to four IO-Link devices (three-wire connections) can be connected to each IO-Link master module • Data transfer rates COM1 (4.8 kBd), COM2 (38.4 kBd), COM3 (230.4 kBd), automatic adjustment to the data transfer rate supported by the device Your advantage: Easy connection of IO-Link connections to the SIMATIC S7-1200.			
	IO-Link master module for ET 200SP			
CM 4xIO-Link for ET 200SP	O-Link waster module as serial communications module with four ports (channels) according to IO-Link specification V1.1 Module replacement with automatic data recovery without engineering for IO-Link master and device Up to four IO-Link devices (three-wire connections) can be connected to each IO-Link master module. Data transfer rates COM1 (4.8 kBd), COM2 (38.4 kBd), COM3 (230.4 kBd), automatic adjustment to the data transfer rate supported by the device Your advantage: Easy connection of IO-Link connections to distributed I/Os.	6ES7	2/99	
W. L	IO-Link master module for ET 200pro			
IO-Link master module for ET 200pro	4 IO-LINK HF • IO-Link master module as serial communications module with four ports (channels) according to IO-Link specification V1.1 • Easy device exchange with automatic data recovery without engineering for IO-Link device • Up to four IO-Link devices can be connected to each IO-Link master module • Support of IO-Link Port Class B • Data transfer rates COM1 (4.8 kBd), COM2 (38.4 kBd), COM3 (230.4 kBd), automatic adjustment to the data transfer rate supported by the device Your advantage: Easy connection of sensors and actuators to the I/Os directly in the machine's field area.	6ES7	2/100	
6ES7148-6J.00-0.B0	IO-Link master module for ET 200eco PN IO-Link master • 4 IO-L + 8 DI + 4 DO 24 V DC/1.3 A - Up to four IO-Link devices (IO-Link Port Class A) can be connected - Up to eight standard sensors and up to four standard actuators can be additionally connected - Enclosure width 60 mm • 4 IO-L - Up to four IO-Link devices (IO-Link Port Class B) can be connected - Enclosure width 30 mm • 8 IO-L + 4 DI 24 V DC - Up to eight IO-Link devices (4 x Port Class A + 4 x Port Class B) can be connected - Additionally four digital inputs - Enclosure width 45 mm	6ES7	2/101	
	Your advantage: Easy connection of sensors and actuators to the I/Os directly in the machine's field area.			
EP.	IO-Link master module for ET 200AL	CEC7	0/100	
CM IO-Link for ET 200AL	CM IO-Link IO-Link master module as serial communications module with four ports (channels) according to IO-Link specification V1.1 Easy device exchange with automatic data recovery without engineering for IO-Link device Up to four IO-Link devices can be connected to each IO-Link master module Support of IO-Link Port Class B Data transfer rates COM1 (4.8 kBd), COM2 (38.4 kBd), COM3 (230.4 kBd), automatic adjustment to the data transfer rate supported by the device Your advantage: Easy connection of sensors and actuators to the I/Os directly in the machine's field area.	6ES7	2/103	

Industrial communication Introduction

		Article No.	Page
IO-Link digital module	s		
IO-Link I/O modules for	 IO-Link I/O modules IO-Link, digital input modules DI 8 x DC 24 V, 8 x M8 DI 16 x DC 24 V, 8 x M12 IO-Link, digital output modules DQ 8 x 24 V DC/2 A, 8 x M12 IO-Link, digital input/output modules DIQ 10 x 24 V DC/0.5 A, 8 x M8 DIQ 16 x 24 V DC/0.5 A, 8 x M12 	6ES7	From 2/104
ET 200AL Industrial controls			
maastiai controls	Starters and contactor assemblies for direct-on-line, reversing and star-delta (wye-delta) starting can be connected to IO-Link through function modules without any additional, complicated wiring.		
SIRIUS contactor	Contactors and contactor assemblies SIRIUS 3RT contactors, 3-pole up to 250 kW SIRIUS 3RA23 reversing contactor assemblies, up to 55 kW SIRIUS 3RA24 contactor assemblies for star-delta (wye-delta) starting, up to 90 kW • Notable reduction of wiring in the control circuit • Integrated mechanical interlocking • Prevention of wiring errors in the main circuit	3RT20 3RA23 3RA24	From 3/18 From 3/143 From 3/159
3RT2011B0CC0			
SIRIUS 3RA2711 function module for IO-Link	SIRIUS 3RA27 function modules Connection of 3RT20 power contactors with communication capability, 3RA23 reversing contactor assemblies, and 3RA24 contactor assemblies for star-delta (wye-delta) starting to IO-Link Reduction of control current wiring through plug-in technology, feeder groups and integrated monitoring of circuit breaker/motor starter protector and contactor Reduced space requirement in the control cabinet through fewer digital inputs and outputs in the control system Simple user program through operation of feeders instead of individual contactors Enhanced operational reliability and quick wiring thanks to spring-loaded terminals Can be flexibly combined with many automation solutions using the open, standardized IO-Link wiring system Small number of versions through use of identical modules for size S00 to S3 contactors Your advantage: Shortening of mounting and startup times	3RA2711	From 3/106
	Motor starters for use in the control cabinet	3RA6	From 8/57
	SIRIUS 3RA64, 3RA65 compact starters for IO-Link	3RA64, 3RA65	From 8/67
SIRIUS 3RA64 compact starter	 Integrated functionality of a circuit breaker, contactor and electronic overload relay and various functions of optional mountable accessories Can be used for direct starting of standard three-phase motors up to 32 A (approx. 15 kW/400 V) Compact design offers enormous savings in space and wiring in the control cabinet Low variance of devices thanks to wide setting ranges for the rated current and wide voltage ranges Your advantage: The diagnostics data of the process collected by the 3RA6 compact starter, e.g. short circuit, end of service life, limit position, etc., are not only indicated on the compact starter itself but also transmitted to the higher-level control system through IO-Link. 		

Introduction

		Article No.	Page
Industrial controls (co			
	Monitoring relays		E 10/55
litit i	SIRIUS 3RR24 monitoring relays for mounting on 3RT2 contactors for IO-Link	3RR24	From 10/55
20100	Monitoring relays for mounting on 3RT2 contactors Research adjusted and discovered the discovered to a device accepted IQ Links		
488	Parameterization and diagnostics via the display on the device or via IO-Link Adjustable wasping and suitableff limit values and antisping delay times.		
	Adjustable warning and switch-off limit values and on/tripping delay times All surrent measured values available in the central system.		
Separate 1	All current measured values available in the control system Your adventure: Communication canable manifering relay anables remote diagnostics and		
	Your advantage: Communication-capable monitoring relay enables remote diagnostics and preventive maintenance.		
SIRIUS 3RR24			
monitoring relay	CIDILIC OLICES monitoring values for stand along installation for IO Link	211050	From 10/00
ATT .	 SIRIUS 3UG58 monitoring relays for stand-alone installation for IO-Link Line monitoring (phase failure, phase sequence, phase asymmetry, undervoltage and 	3UG58	From 10/62
The state of the s	overvoltage, N conductor failure, and frequency)		
	Can be used in all networks from 160 to 690 V AC		
of normal determinant	Freely configurable delay times and RESET response		
	Your advantage: Simplest way of monitoring network stability and of forwarding the		
BINE	measured values to the control system.		
SIRIUS 3UG58			
monitoring relay			
1000	SIRIUS 3UG48 monitoring relays for stand-alone installation for IO-Link	3UG48	From 10/101
GGG.	Monitoring ofNetwork (3UG481)		
23A	- Voltage (3UG483)		
PATE AND ADDRESS OF THE PATE A	- Current (3UG4822) - Power factor and active current (3UG484)		
	- Fault current (3UG4825)		
606	- Speed (3UG485)		
SIRIUS 3UG48	Parameterization and diagnostics via the display on the device or via IO-Link		
monitoring relay	Adjustable warning and switch-off limit values and on/tripping delay times		
	All current measured values available in the control system		
	Your advantage: Communication-capable monitoring relay enables remote diagnostics and preventive maintenance.		
	SIRIUS 3RS28 temperature monitoring relay for IO-Link	3RS28	From 10/121
	Measuring the temperature of solids, liquids and gases		
Manage States	Use of resistance sensors or thermocouples		
	Parameterization and diagnostics via the display on the device or via IO-Link		
	Adjustable warning and switch-off limit values and on/tripping delay times		
	All current measured values available in the control system		
EDE	Your advantage: Independent monitoring easily linked to the control system.		
SIRIUS 3RS28			
temperature monitoring relay	SIRIUS ACT pushbuttons and indicator lights		
	SIRIUS ACT 3SU1 ID key-operated switches for IO-Link	3SU1	13/12
	Access system and selection system for four authorization levels		.0, .2
	Authentication of groups and persons		
	Five ID keys with different coding		
SIRIUS ACT	Option for individual coding via IO-Link		
3SU1 ID	For installation in enclosures or fastening on front plate		
key-operated switch	• Electronic module for ID key-operated switches must be ordered separately		
	Your advantage: Only authorized personnel can work on plants and machines.		
44	SIRIUS ACT 3SU1 electronic modules for IO-Link	3SU1400	13/89
90.0s	Eight digital inputs and outputs possible		
min o	• DI and DQ freely selectable (programmable)		
111.11.	• Input and output functions parameterizable		
The state of the s	Connection method (push-in)		
SIRIUS ACT	For installation in enclosures or fastening on front plate		
3SU1 electronic module	Your advantage: No wiring required if ordered in a 3SU1 enclosure via configurator.		

Industrial communication Introduction

		Article No.	Page
Industrial controls (con	ntinued)		3-
` .	SIRIUS 8WD4 signaling columns		
	Electronically configurable 8WD46 signaling columns, 70 mm diameter	8WD46	From 13/164
	Signaling columns for IO-Link, with or without audible signal	0.1.2.10	110111 10, 10 1
	Configuration of signaling column via IO-Link interface (IODD)		
	Fast connection of signaling columns to application using 4-pole M12 plugs		
	Via the IO-Link interface, the pattern, color and brightness of the individual segments		
	(9 to 15 segments) can be set.		
	 The audible signal can also be set (volume, type of sound up to 105 dB). 		
	Your advantage: Signaling columns for monitoring production sequences and for visual or		
	acoustic warnings in emergency situations, with easy IO-Link connection.		
8WD46 signaling column			
	8WD44 signaling columns, 70 mm diameter	8WD44	From 13/171
	Up to five signaling elements can be connected using an IO-Link adapter element		
	• 24 V DC		
	Connection with bayonet mechanism		
TO A STATE OF THE	• For fastening on feet		
T	 Connection elements with screw or spring-loaded terminals or connection element with 5-pole M12 plug 		
	Your advantage: Signaling columns for monitoring production sequences and for visual or		
8WD44 8WD44	acoustic warnings in emergency situations, with easy IO-Link connection.		
signaling IO-Link column adapter			
element			
IO-Link RFID systems			
	SIMATIC RF200 RFID system in the HF range	6GT2	Catalog ID 10
	Products SIMATIC RF210R, SIMATIC RF220R, SIMATIC RF240R,		
SIMATIC	SIMATIC RF250R, SIMATIC RF260R		
	Simple identification tasks such as reading an ID number (UID) Reading of user data		
	Reading of user dataWriting of user data		
and a second	No RFID-specific programming, ideal for those new to RFID		
	Simple connection via master modules for IO-Link, such as SIMATIC S7-1200, ET 200SP,		
The Dayston for to Enix	ET 200pro, ET 200eco PN and ET 200AL		
	 Use with the tried and tested ISO 15693 transponders (MDS Dxxx) 		
IO-Link SITRANS			
	SITRANS FM100	7ME6010	Catalog FI 01
2052	Magnetic-inductive sensor with a compact design for basic applications of various process		
	and OEM industries		
100	• Connection 1/2", 3/4", 1", 2"		
FM100	Flow rate and temperature measurement IO Link communication.		
	IO-Link communication Proportioning function with outcome control		
	Proportioning function with external control Configurable multiparameter TET color display, can be retated by 90°.		
	 Configurable multiparameter TFT color display, can be rotated by 90° Your advantage: Measurement of small or medium flow rates of conductive liquids with 		
	a small size device for almost any installation location with transmission of the measured values to the control system.		
-	SITRANS LCS050	7ML5772	Catalog FI 01
	Compact, capacitive limit switches with two-wire technology for measuring levels of water-based liquids, sludge, and foam in tight spaces.		o o
ALIED .	Straightforward mounting without any need for adjustment		
	Low maintenance because it has no moving parts		
V	• Easy-to-read 360° status display		
L00000	M12 plug for easy connection		
	Your advantage: Compact design for easy installation even in tight spaces with support for		
	transmission of values to a control system via IO-Link.		

Introduction

		Article No.	Page
IO-Link Device Descrip	otion (IODD)		
COOK Cook can be can	IODD files These files provide the device description for IO-Link devices. • Comprehensive IODD catalog of SIEMENS IO-Link devices • Freely available for downloading from SiePortal, see https://support.industry.siemens.com/cs/ww/en/ps/15851	-	2/95
IODD files for IO-Link	IODD#:::-l-::		0/05
IODDfinder for IO-Link	IODDfinder The entire world of IO-Link under one roof The IODDfinder is a service provided by the IO-Link community. It is a central cross-vendor database for descriptive files (IODDs). In addition, the platform provides an overview of the available IO-Link devices. For more information, see https://ioddfinder.io-link.com/#/.	-	2/95
IO-Link software			
	S7-PCT (Port Configuration Tool) Engineering software for configuring the IO-Link master modules for SIMATIC S7-1200, ET 200MP, ET 200SP, ET 200pro, ET 200eco PN and ET 200AL • Available as a stand-alone version or integrated into STEP 7 (V5.5 SP1 and higher) and TIA (V12 and higher)	-	2/95
S7-PCT	 Engineering of the IO-Link devices connected to the master Monitoring of the process image of the IO-Link devices Open interface for importing further IODDs Freely available for downloading from SiePortal, see https://support.industry.siemens.com/cs/ww/en/view/32469496 		
*** II Sement Jo Link Devices Library, Tel. 1913 ** This Special Control of the	Library for IO-Link (LIOLink) This library provides blocks and PLC data types to enable easy communication between the SIMATIC controller and the IO-Link master module or IO-Link device. • Freely available for downloading from SiePortal, see https://support.industry.siemens.com/cs/ww/en/view/82981502	7	2/95
TO LINK DEVICE" IN END	Application of the device-specific blocks for IO-Link This application shows on a specific example how easy it is to connect Siemens IO-Link devices to a SIMATIC S7 CPU using the library for IO-Link (LIOLink). • Freely available for downloading from SiePortal, see https://support.industry.siemens.com/cs/ww/en/view/90529409	T	2/95

Industrial communication AS-Interface Introduction

Communication overview

Overview

AS-Interface is an open, international standard according to IEC 62026-2 for process and field communication. Leading manufacturers of actuators and sensors all over the world support the AS-Interface. Interested companies are provided with the electrical and mechanical specifications by the AS-Interface Association.

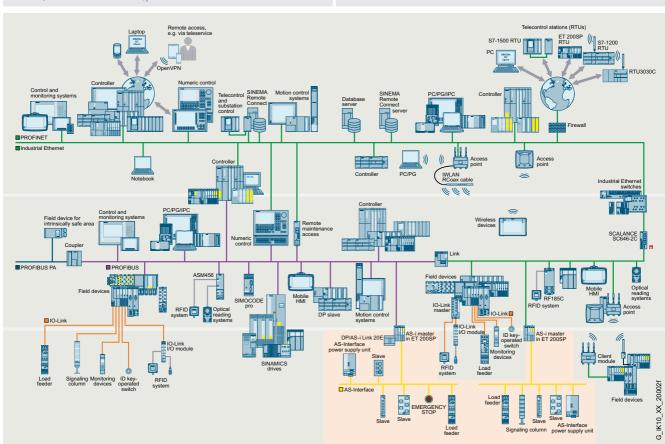
AS-Interface is a single master system. For automation systems from Siemens, there are communications processors (CPs), communications modules (CMs) and routers (links) that control the process or field communication as masters, and actuators and sensors that are activated as AS-Interface slaves.



Video: AS-Interface - Powerful integration in SIMATIC ET 200SP

More information

Homepage, see www.siemens.com/as-interface SiePortal, see www.siemens.com/product?as-interface TIA Selection Tool Cloud (TST Cloud), see www.siemens.com/tstcloud/?node=AsInterface



AS-Interface in the SIMATIC NET communications landscape

AS-Interface Introduction

Communication overview

Benefits

An important characteristic of the AS-Interface technology is the use of a shared twisted pair for data transmission and distribution of auxiliary power to the sensors and actuators. An AS-i power supply unit or alternatively a standard power supply unit that meets the requirements of the AS-Interface transmission method and has an external AS-i data decoupling module is used for the distribution of auxiliary power. The AS-Interface cable used for the wiring is mechanically coded and hence protected against polarity reversal and can be easily contacted by the insulation displacement method.

Elaborately wired control cables in the control cabinet and marshaling racks can be replaced by AS-Interface.

The AS-Interface cable can be connected to any points thanks to a specially developed cable and connection by the insulation displacement method.

With this concept you become extremely flexible and achieve high savings.

Application

I/O data exchange

The AS-i master automatically transfers the inputs and outputs between the controller and the digital and analog AS-Interface slaves. Slave diagnostics information is forwarded to the control system when required.

The latest AS-Interface masters according to the AS-Interface specification V3.0 support integrated analog value processing. This means that data exchange with analog AS-Interface slaves is just as easy as with digital slaves.

Command interface

In addition to I/O data exchange with binary and analog AS-Interface slaves, the AS-Interface masters can provide a number of other functions through the command interface.

Hence it is possible, for example, for slave addresses to be issued, parameter values transferred or configuration information read out from user programs.

For more information, see https://support.industry.siemens.com/cs/ww/en/view/51678777.

Industrial communication AS-Interface Introduction

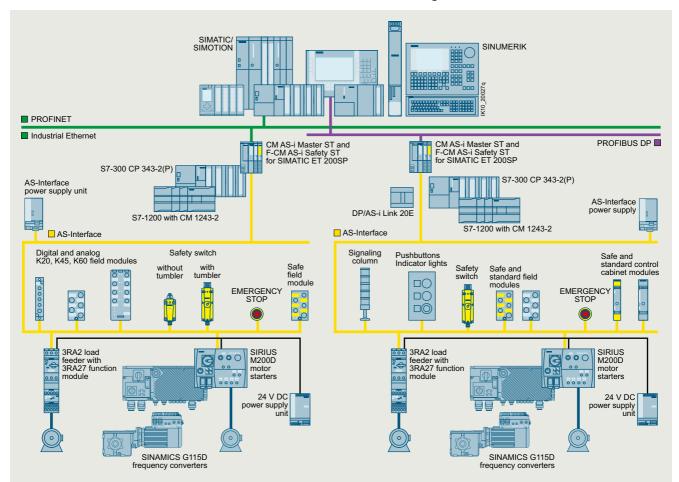
System components

Overview

To implement communication, the following components of a system installation are available:

- AS-i master modules for central control units such as SIMATIC S7, ET 200M/ET 200SP distributed I/Os, or network transitions from PROFIBUS to AS-Interface
- AS-i power supply unit or alternatively a standard power supply unit in combination with an AS-i data decoupling module for the power supply to the slaves and sensors
- AS-Interface shaped cables

- Network components such as repeaters and extension plugs (cannot be used for AS-i Power24V)
- I/O modules (AS-i slaves) for connection of standard sensors/actuators
- Actuators and sensors with integrated AS-i slave
- Safe I/O modules (ASIsafe slaves) for transmitting safetyrelated data through AS-Interface
- Addressing device for setting slave addresses during commissioning



Example of a configuration with the system components

Features

IEC 62026-2 Standard Maximum cycle time • 5 ms in maximum configuration with 31 standard addresses Line, star or tree topology Topology 10 ms in maximum configuration with 62 A/B (same as electrical wiring) addresses Unshielded twisted pair (2 x 1.5 mm²) Transmission medium • Profile-specific for slaves with extended data, for data and auxiliary power e.g. analog slaves Contacting of the AS-Interface cable by insulation Connection methods Number of stations Up to 62 slaves (A/B addressing) displacement method per AS-Interface line • Integrated analog value transmission Maximum cable length • 100 m without repeater, without an extension plug Number of binary Max. 496 DI/496 DQ 200 m with an extension plug sensors and actuators • 300 m with two repeaters in series connection Cyclic polling master/slave procedure
Cyclic data acceptance from host (PLC, PC) Access control • 600 m with three extension plugs and two repeaters connected in parallel Identification and repetition of faulty message Longer cable lengths also possible through Error safeguard parallel connection of more repeaters

AS-Interface Introduction

AS-Interface specification > Specification V3.0

Overview

Scope of AS-Interface specification V3.0

		inputs	Number of digital outputs	
Digital	Analog	ASIsafe	DI	DQ
62	62	31	62 X 8 = 496	62 X 8 = 496

Basic data

- AS-Interface specification V3.0 describes a fieldbus system with an AS-i master and up to 62 AS-i slaves.
- Every AS-i slave with standard addressing occupies one AS-i address (1...31).
- Slaves with extended addressing divide an AS-i address into an A address (1A...31A) and a B address (1B...31B). Up to 62 A/B slaves can be connected accordingly to one AS-Interface network.
- Mixed operation of slaves with standard addressing and extended addressing (A/B slaves) is possible without difficulty. The AS-i master identifies automatically which type of slave is connected, so no special adjustments are required of the user.
- One digital AS-i slave typically has up to four digital inputs and four digital outputs.
- Transmission of the digital input/output data requires max. 5 ms cycle time for 31 slaves; for further values, see "Communication cycle".
- Integrated analog value transmission permits access to both analog values and digital values without the need for any special function blocks.

Communication cycle

Maximum cycle time (digital signals)

- 5 ms with 31 slaves
- 10 ms with 62 slaves
- Up to 20 ms for slaves with A/B address and 4 DI/4 DQ
- Up to 40 ms for slaves with A/B address and 8 DI/8 DQ

Each address is queried in max. 5 ms cycle time. If two A/B slaves are operated on one basic address (e.g. 12A and 12B), a maximum of 10 ms will be required to update the data of both slaves.

Slaves with A/B addressing transmit max. 4 DI/3 DQ in one cycle.

Slaves with A/B addressing and 4 DQ or 4 DI/4 DQ transmit the output data in two consecutive cycles. The double transmission time of these outputs has no effect in typical applications. The transmission procedure is performed automatically by the AS-i master according to AS-i specification V3.0. These slaves are identified in the selection data with addressing type A/B (spec. V3.0).

Slaves with a single A/B address and 8 DI/8 DQ transmit the input and output data in four consecutive cycles. The transmission time of the inputs/outputs of these slaves increases accordingly. The transmission procedure is performed automatically by the AS-i master according to AS-i specification V3.0.

The slaves offered by Siemens with 8 DI or 8 DI/2 DQ use two AS-i addresses so that the time-consuming procedure is not needed and a fast data update is ensured.

All slave types can be mixed and used on a single AS-Interface network.

For more information, such as the addressing type used by the AS-interface slave (standard or A/B address), see the "Selection and ordering data" for the relevant slave.

More information

System Manual for AS-Interface, see https://support.industry.siemens.com/cs/ww/en/view/26250840

AS-Interface product range

AS-Interface products from Siemens use the current AS-Interface specification V3.0, which is standardized internationally as IEC 62026-2.

The alternating pulse modulation developed more than 20 years ago for AS-Interface has proven to be a reliable transmission method with which the direct voltage supply for the bus modules and the connected sensors is provided on the standard twisted pair.

Multiple development stages were implemented to produce the proven-in-use system components with optimum EMC properties available today. The extensive product range with AS-Interface specification V3.0 undergoes constant innovation and is extremely cost-efficient, both to install and operate.

The bus cable can be retrofitted with repeaters of AS-Interface specification V3.0, and the modules function without any reciprocal interference. Master modules from Siemens enable ideal integration into the SIMATIC environment, in particular for the AS-Interface master of the ET 200SP distributed I/O system.

The underlying industrial requirements for the system concept are still applicable today: Numerous individual digital input and output signals are spatially distributed in the machine. Rather than having to install thick cable harnesses from the control cabinet to the sensors and actuators, smaller, more manageable AS-i modules are simply inserted in situ onto the bus cable in the IP67 enclosure, and the sensors and actuators connected with short M12 cables.

An additional AS-i module is installed in proximity to the next sensor to ensure that the length of the M12 cables is kept as short as possible. As analog signals are likewise transmitted without any problems, the AS-Interface also replaces the long, shielded analog cables.

Depending on requirements, the switching devices can also be connected to AS-i modules with terminal connection or conveniently used with the integrated AS-i connection. Motor controllers with digital and analog inputs and outputs are also offered with the current AS-Interface specification V3.0.

Safety signals are also transmitted simply and flexibly by the AS-Interface. The safety-related sensors for protective doors and EMERGENCY STOP buttons can be installed and retrofitted in any position.

The AS-i Safety functionality from Siemens has been continuously optimized and complies with the proven AS-Interface specification V3.0.

For industrial components which require greater transmission capacities, Siemens provide respective solutions with the suitable communications systems.

The AS-Interface system from Siemens continues to provide an ideal and consistent solution for a multitude of simple sensors and actuators, including safety technology and special applications.

Available masters with the latest AS-Interface specification V3.0

- CM AS-i Master ST, F-CM AS-i Safety ST (ET 200SP)
- CM 1243-2 (S7-1200)
- CP 343-2P/CP 343-2 (S7-300/ET 200M)
- DP/AS-Interface Link 20E

AS-Interface Introduction

AS-Interface specification > AS-i Power24V

Overview

More information

For a complete overview of AS-i Power24V-capable devices currently available from Siemens, see

https://support.industry.siemens.com/cs/ww/en/view/42806066

For details of AS-i Power24V, see System Manual for AS-Interface, https://support.industry.siemens.com/cs/ww/en/view/26250840



AS-Interface data decoupling modules for AS-i Power24V Left: S22.5 data decoupling module,

Right: DCM 1271 data decoupling module for SIMATIC S7-1200

Parallel wiring frequently dominates, above all, in applications with very few I/Os. AS-Interface can, however, also replace extensive parallel wiring in small applications at a favorable price.

AS-i Power24V enables an already existing standard 24 V DC power supply unit to be used for the AS-i network.

Data and power in the standard AS-Interface network

One of the great advantages of AS-Interface is the ability to convey not only data, but also the power needed for the connected slaves and sensors over the same unshielded twisted pair. This is owed to the service-proven AS-Interface power supply units which provide integrated data decoupling as well as overload and short-circuit protection and integrated ground-fault monitoring.

AS-i Power24V

Instead of the AS-Interface power supply unit (with 30 V output voltage and integrated data decoupling) the AS-i cable is supplied via a data decoupling module from a 24 V standard power supply unit. The communication technology of AS-Interface works at the same high level of quality with an operational voltage of both 30 V DC and 24 V DC.

	Key data of AS-i Power24V
Number of slaves	Up to 62 slaves and up to 31 safe slaves
Topology	Any
Range	Up to 50 m
Components	• 24 V power supply unit with low residual ripple and limitation to max. 40 V
	AS-i Power24V-capable data decoupling with integrated ground-fault detection
	 AS-i Power24V-capable masters, slaves and components

Requirements for operation of an AS-i Power24V network

- When 24 V power supply units are used, the maximum network range of 50 m must be observed to reach slaves and sensors with a sufficient level of voltage (at least 18 V).
- The power supply units must comply with the ES1 (IEC 62368-1) or PELV (Protective Extra Low Voltage)/SELV (Safety Extra Low Voltage) standards, have a residual ripple of < 250 mV_{pp}, and must limit the output voltage to a maximum of 40 V in the event of a fault. We recommend SITOP power supplies, see page 15/1 or Catalog KT 10.1,

https://support.industry.siemens.com/cs/ww/en/view/109745655.

- When used in conjunction with standard 24 V power supply units, each AS-Interface network requires AS-i Power24Vcapable data decoupling, see page 2/71 onwards.
- For reliable operation of an AS-i network with 24 V voltage, it is important that the masters, slaves and other components are approved for AS-i Power24V. AS-i Power24V-capable AS-i components can also be used without restriction in standard 30 V AS-i networks.
- Use of repeaters or extension plugs in AS-i Power24V networks is not permitted.

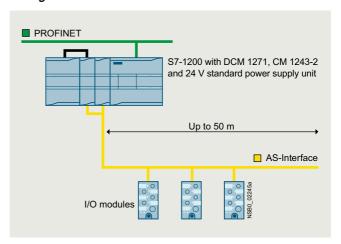
Benefits

In small control cabinets the AS-i power supply unit can be replaced by an AS-i data decoupling module that is connected to an existing 24 V power supply unit.

- The advantages of the AS-i communications system in terms of commissioning, maintenance and diagnostics can be fully exploited
- If a double data decoupling module is used, two AS-i networks can be supplied.

Application

Configuration of an AS-i Power24V network



Configuration of an AS-i Power24V network with an AS-Interface DCM 1271 data decoupling module and S7-1200 (simple network)

AS-Interface ASIsafe

Introduction

Overview

More information

For more information and typical circuit diagrams on safety technology, see https://support.industry.siemens.com/cs/ww/en/view/83150405

ASIsafe - Safety is included

ASIsafe enables the integration of safety-related components such as EMERGENCY STOP buttons, protective door switches, cable-operated switches or other AS-i safety sensors in an AS-Interface network. These are fully compatible with the familiar AS-Interface components (masters, slaves, power supply units, repeaters, etc.) according to IEC 62026-2 and are operated in conjunction with them on the yellow AS-Interface cable.

Tested safety

- · Protective door switches
- · Cable-operated switches
- Other AS-i safety sensors

The transmission method for safety-related signals is released for applications up to SIL 3 (IEC 62061)/PL e (ISO 13849-1).

Higher-level control

As usual, nodes on the AS-Interface bus are controlled in operation by the standard program of the higher-level SIMATIC (F) CPU or by a SINUMERIK control.

Configuring safety functions

In order to implement safe functions, the information from the safe and standard nodes must be combined logically and further parameters set.

In conjunction with the modular safety AS-i master, which is formed by combining the CM AS-i Master ST and F-CM AS-i Safety ST modules in an ET 200SP station, all safety functions and combinations are configured via STEP 7 and processed in the controller (F-CPU) by the Failsafe program.

Benefits

- Simple system structure thanks to standardized AS-Interface technology
- Safety-related and standard data on the same bus
- Existing systems can be expanded quickly and easily
- Optimum integration in TIA (Safety Diagnostics) and Safety Integrated
- Inclusion of the safety signals in the plant diagnostics, also on existing HMI Panels
- Approved up to SIL 3 (IEC 62061)/PL e (ISO 13849-1)
- ASIsafe is certified by TÜV (Germany), NRTL (USA) and INRS (France)

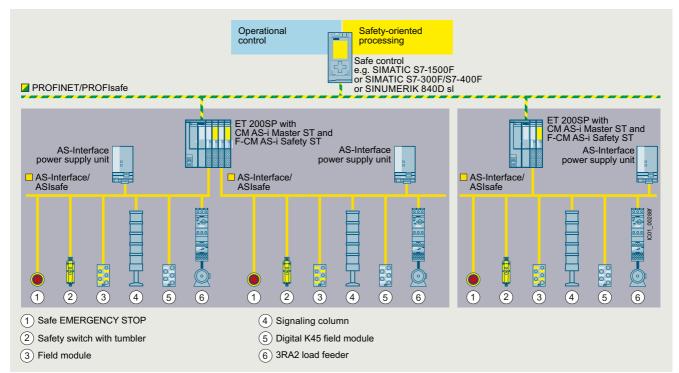
Application

Integrated safety technology in the AS-Interface system can be used wherever EMERGENCY STOP buttons, protective door interlocks, safety switches, light arrays and two-hand operation are installed.

Industrial communication AS-Interface ASIsafe

AS-i safety solution with F-CPU and AS-i in ET 200SP

Overview



AS-Interface configuration with AS-i master modules in the ET 200SP

The AS-i communications modules in the ET 200SP facilitate the use of AS-Interface under fail-safe SIMATIC or SINUMERIK controllers.

The allocation of tasks is as follows:

- Acquisition of safety-related signals via safe input slaves on the AS-Interface bus.
 Further signals can be detected through other F-DI modules of the SIMATIC.
- Evaluation and processing of signals via the fail-safe SIMATIC or SINUMERIK control
- Reacting by means of SIMATIC F-DQ modules

Simple combination of the CM AS-i Master ST and F-CM AS-i Safety ST modules in one ET 200SP station results in a powerful, safety-related network transition between PROFINET (or PROFIBUS) and AS-Interface, which can be expanded further in a modular fashion with further I/O modules of the FT 200SP

Using these design methods, it is possible to create expansion versions for virtually any application. Besides the single AS-i master, double, triple or generally multiple masters can be realized with or without Failsafe functionality.

F-CM AS-i Safety ST for SIMATIC ET 200SP, see page 2/34 onwards.

AS-Interface ASIsafe

AS-Interface safety modules

Overview



AS-Interface safety modules: K45F (left), K20F (center) and SC17.5F (right)

Safety modules for AS-Interface (ASIsafe modules) are available for field use in degree of protection IP67 (K20F and K45F compact modules) and for the control cabinet (SC17.5F SlimLine Compact modules) in degree of protection IP20.

A very compact module with an optimum price/performance ratio is thus available for every application.

All modules for the connection of (mechanical) switches and safety sensors with contacts feature cross-circuit monitoring of the connected sensor line.

Function

The safety-related modules with 2 F-DI have two safe inputs. These inputs can be used in a 2 x 1-channel configuration for applications up to SIL 1/PL c or as 1 x 2-channel for applications up to SIL 3/PL e according to IEC 62061 or ISO 13849. According to the AS-Interface specification, the two safe inputs are always evaluated in AND-gated pairs, i.e. the two inputs always influence the safety function as a pair and cannot therefore influence the two different actuators independently. A safety-related module takes up one AS-i address (1 ... 31) with standard addressing and no A/B address.

If the module is used in a 2×1 -channel configuration, the actuator can be activated as soon as the contacts are closed at both inputs. No discrepancy check is made.

If the module is used in a 1 x 2-channel configuration, the actuator can be activated as soon as the contacts are closed at both inputs and no discrepancy has first been detected at the input pair. The response of the discrepancy check can be set via the evaluation unit (e.g. F-CM AS-i Safety module).

The safety-related modules with 4 F-DI have four safe inputs, where each pair of 2 F-DI exert an influence jointly as described above (2 x 2 F-DI). The two input pairs work independently of each other. Each input pair can influence one actuator (i.e. a safety function). The safety-related modules with 4 F-DI take up two AS-i addresses.

Safety-related modules with 2 F-DI/2 DQ contain not only the safety-related inputs but also non-safety-related standard outputs. The standard outputs must not be used for safety-related switching functions.

The safe inputs are designed for connecting (mechanical) switches. Safety sensors with solid-state outputs (OSSD) cannot be used at the safe inputs.

AS-Interface safety modules

The following modules are available for selection:

K20F compact safety modules for use in the field

Being only 20 mm wide, the K20F module is particularly well suited for applications where modules need to be arranged in the most confined space. The K20F modules are connected to the AS-Interface with a round cable with M12 cable box instead of with the AS-Interface flat cable. This enables extremely compact installation. The flexibility of the round cable means that it can also be used on moving machine parts without any problems. The K20 modules are also ideal for such applications as their non-encapsulated design makes them particularly light in weight.

K45F compact safety modules for use in the field

The platform of the K45F modules covers the connection of ("mechanical") switches/safety sensors with contacts:

- K45F 2 F-DI: two safety-related inputs. These can be used in a 2 x 1-channel configuration for applications up to SIL 1/PL c or as 1 x 2-channel for applications up to SIL 3/PL e according to IEC 62061 or ISO 13849.
- K45F 2 F-DI/2 DQ: There are also two standard outputs in addition to the safe inputs. Depending on the selected K45F module, the outputs are powered either from the yellow AS-Interface cable or via the auxiliary voltage U_{aux} from the black 24 V DC cable. Modules with degree of protection IP67 do not have a switch for setting the power supply on the module.
- K45F 4 F-DI: four safety-related inputs. Functionality as for two K45F 2 F-DI modules, but combined with a K45F enclosure. Extremely compact double slave (uses two AS-i addresses)

SC17.5F SlimLine Compact safety modules with a width of just 17.5 mm for use in control cabinets and local control boxes

With a width of only 17.5 mm, the safe SC17.5F SlimLine Compact modules are ideal for space-saving use in a control cabinet. The modules have two safety inputs for connecting signals to an ASIsafe network in the control cabinet. In operation up to SIL 1/PL c, the two inputs can be assigned separately (with AND gating of the inputs); if SIL 3/PL e is required, the inputs must be used in a 2-channel configuration.

There are also two module versions which have two standard outputs in addition to the two safety inputs. These outputs are supplied with power either via the yellow AS-Interface cable only or via the 24 V DC auxiliary voltage. The type of supply voltage is set via a slide switch on the rear of the device.

When using several modules, they can be connected simply via the optional device connector. This simplifies the wiring. The yellow AS-i bus cable and the 24 V DC auxiliary voltage $U_{\rm aux}$ then only need to be connected to one module.

PG

Industrial communication **AS-Interface ASIsafe**

AS-Interface safety modules

Selection and ordering data

for SC17.5F page 16/7.

	K20F compact safety module					
init packaging F, see	version	Article No.	per PU	(UNIT, SET, M)	PS*	ı



3RK1205-0BQ30-0AA3



3RK1205-0BQ00-0AA3



3RK1405-2BE00-2AA2

				SET, M)		
K20F compact sa Slave addressing	fety module ype: Standard address					
I/O type	U _{aux} 24 V					
2 F-DI		3RK1205-0BQ30-0AA3		1	1 unit	42C
K45F compact sa Slave addressing to (modules supplied	fety modules type: Standard address I without mounting plate)					
I/O type	U _{aux} 24 V					
2 F-DI		3RK1205-0BQ00-0AA3		1	1 unit	42C
4 F-DI ¹⁾		3RK1205-0CQ00-0AA3		1	1 unit	42C
2 F-DI/2 DQ		3RK1405-0BQ20-0AA3		1	1 unit	42C
2 F-DI/2 DQ	✓	3RK1405-1BQ20-0AA3		1	1 unit	42C
	Compact safety modules type: Standard address					
I/O type	Outputs					
		Screw terminals				
2 F-DI		3RK1205-0BE00-2AA2		1	1 unit	42C
		Spring-loaded terminals (push-in)	$\overset{\infty}{\square}$			
2 F-DI		3RK1205-0BG00-2AA2		1	1 unit	42C
		Screw terminals				
2 F-DI/2 DQ	$U_{\rm ASI}/U_{\rm aux}$ supply selectable	3RK1405-2BE00-2AA2		1	1 unit	42C
		Spring-loaded terminals (push-in)	$\overset{\infty}{\square}$			
2 F-DI/2 DQ	$U_{\rm ASI}/U_{\rm aux}$ supply selectable	3RK1405-2BG00-2AA2		1	1 unit	42C

- ✓ Available or possible
- -- Not available or not possible

Standard I/O modules for AS-Interface

- For degree of protection IP67, see page 2/44 onwards
- For degree of protection IP20, see page 2/59 onwards

The existing SlimLine series of ASIsafe modules for use in the control cabinet and local control boxes is being replaced by the innovated SlimLine Compact series. We recommend that these new devices are used in future.

For the conversion table, see page 2/61.

The previous SlimLine devices are still available for use as replacements in existing systems. As a result of the innovation, the new SlimLine Compact devices are not fully compatible in terms of either mechanical dimensions or electrical properties.

¹⁾ Module occupies two AS-Interface addresses

AS-Interface ASIsafe

AS-Interface safety modules

Accessories

More information

For the Equipment Manual for SlimLine Compact modules, see https://support.industry.siemens.com/cs/ww/en/view/109481489

		Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Accessories	s for co	mpact safety modules	_				
Accessories	3 101 60	K45 mounting plates					
e 1111 e		For mounting K45F	001/1001 05 400				400
0		For wall mounting For DIN-rail mounting	3RK1901-2EA00 3RK1901-2DA00		1 1	1 unit 1 unit	42C 42C
	RK1901- AA00	Input jumpers for K20F and K45F For screwing into M12 input sockets, connects pin 1 to pin 2, for bridging input 2 when 1-channel sensor at input 1					
		Black version Red version	3RK1901-1AA00 3RK1901-1AA01		1 1	1 unit 1 unit	42C 42C
		AS-Interface sealing caps M12	3RK1901-1KA00		100	10 units	42C
		For free M12 sockets • Tamper proof	3RK1901-1KA01		100	10 units	42C
	RK1901-	a part of					
110.00	(A01 s for Sli	mLine Compact safety modules					
Accessories	S IUI SII	Device connectors					
		For the electrical connection of SlimLine Compact modules (connects AS-i bus cable and 24 V DC auxiliary power supply $U_{\rm aux}$ when using several SlimLine Compact modules)					
		• Width 17.5 mm • Width 22.5 mm	3RK1901-1YA00 3RK1901-1YA10		1 1	1 unit 1 unit	42C 42C
那 :		Device termination connectors					
	RK1901-	Required for the last module in the network					
1YA00 1Y	⁄A01	Width 17.5 mmWidth 22.5 mm	3RK1901-1YA01 3RK1901-1YA11		1 1	1 unit 1 unit	42C 42C
		Removable terminals	Screw terminals	(1)			
7		• Screw terminals up to 2 x 1.5 mm ² or 1 x 2.5 mm ²					
		- 2-pole - 4-pole	3ZY1121-1BA00 3ZY1141-1BA00		1 1	6 units 6 units	41L 41L
27/4404 0044			Spring-loaded terminal				
3ZY1121-2BA0	00	• Push-in terminals up to 2 x 1.5 mm ²	(push-in)				
		- 2-pole - 4-pole	3ZY1121-2BA00 3ZY1141-2BA00		1 1	6 units 6 units	41L 41L
SIEMENS		Hinged covers	3ZY1450-1BA00		1	5 units	41L
Samus		Replacement for SlimLine Compact module, without terminal labeling, width 17.5 mm, yellow					
•		Push-in lugs for wall mounting	3ZY1311-0AA00		1	10 units	41L
		Two lugs are required per device	07)/1440 14400			10	441
		Coding pins for removable terminals For mechanical coding of the terminals	3ZY1440-1AA00		ı	12 units	41L
3ZY1450-1BA	00						
		Blank labels					
		Unit labeling plates ¹⁾ • 10 mm x 7 mm. titanium grav	3RT2900-1SB10		100	816 units	41B
3RT2900-1SB2	20	• 20 mm x 7 mm, titanium gray	3RT2900-1SB20			340 units	41B
-4		Tools for opening spring-loaded terminals	Spring-loaded terminal (push-in)	s 🕦			
500		Screwdriver for SIRIUS devices with spring-loaded terminals	3RA2908-1A		1	1 unit	41B
3RA2908-1A		3.0 mm x 0.5 mm, length approx. 200 mm, titanium gray/black, partially insulated					

PC labeling system for individual inscription of unit labeling plates available from: murrplastik Systemtechnik GmbH (see page 16/18).

Masters for SIMATIC ET 200 > CM AS-i Master ST for SIMATIC ET 200SP

Overview



CM AS-i Master ST for SIMATIC ET 200SP



Video: AS-Interface - Powerful integration in SIMATIC ET 200SP

More information

Equipment Manual, see https://support.industry.siemens.com/cs/ww/en/view/71756485

SIMATIC ET 200SP Manual Collection, see https://support.industry.siemens.com/cs/ww/en/view/84133942

Diagnostics blocks with visualization, see

https://support.industry.siemens.com/cs/ww/en/view/109479103 AS-Interface block library for SIMATIC PCS 7 for easy connection of AS-Interface to PCS 7, see page 14/20 onwards

Released combinations of the AS-i modules for ET 200SP, see https://support.industry.siemens.com/cs/ww/en/view/103624653

The CM AS-i Master ST communications module is designed for use in the SIMATIC ET 200SP distributed I/O system and has the following features:

- Connection of up to 62 AS-Interface slaves
- Supports all AS-Interface master functions according to the AS-Interface specification V3.0
- User-friendly configuration with graphic or tabular display of the AS-i line in TIA Portal or STEP 7 (Classic) or via GSD in other systems
- Supply via AS-Interface cable
- Suitable for AS-i Power24V and for AS-Interface with 30 V voltage
- Extended temperature range from -25 °C (from hardware function status FS20 onwards)
- Integrated ground-fault monitoring for the AS-Interface cable
- Through connection to AS-Interface, the number of digital inputs and outputs available for the control system is greatly increased (max. 496 DI/496 DQ on the AS-Interface per CM AS-i Master ST).
- Integrated analog value processing

AS-i gateways with ET 200SP

An AS-i gateway or AS-i link enables access to the AS-Interface data via PROFINET or PROFIBUS.

With the CM AS-i Master ST module, flexible and powerful PROFINET/AS-i links or PROFIBUS/AS-i link solutions are set up. Depending on the requirements, even several AS-i masters can be plugged into one ET 200SP station, so that the setup can easily be extended from a single master to double masters or multiple masters.

The maximum number of modules is determined by the ET 200SP interface module (IM): Up to 8 AS-i masters with PROFINET IM 155-6PN Standard, up to 43 AS-i masters with IM 155-6PN High Feature, or a single AS-i master with IM 155-6PN Basic. For the connection to PROFIBUS, the IM 155-6DP HF interface module with up to 7 AS-i master modules is used.

Since in many plants an ET 200SP station is provided with I/O, motor starter or other peripheral modules, the AS-i master modules are simply plugged in without any additional effort. There are countless possible combinations.

An AS-i Safety gateway can also be implemented without any problems by adding the safety-oriented module F-CM AS-i Safety ST in the ET 200SP station. This greatly simplifies the cabling and connection of distributed EMERGENCY STOP pushbuttons and protective door monitoring systems to a Failsafe CPU. The AS-i Safety application is completely configured in TIA Portal/STEP 7.

The ET 200SP modules CM AS-i Master ST and F-CM AS-i Safety ST (see from page 2/34) can of course also be used directly on an ET 200SP CPU or F-CPU, so that an extremely compact SIMATIC control system with AS-i bus connection can be set up.

For further application possibilities, see the brochure "The modular AS-i Master".

More information, see the SIMATIC ET 200SP Manual Collection.

Design

The CM AS-i Master ST module has an ET 200SP module enclosure with a width of 20 mm. A C0 type BaseUnit (BU) is required for use in the ET 200SP.

The communications module has LED displays for diagnostics, operation, AS-i voltage and AS-i slave status and offers informative module inscription on the front for

- Plain-text marking of the module type and function class
- 2D matrix code (Article No. and serial number)
- Circuit diagram
- Color coding module type communications module: light gray
- · Hardware and firmware version
- Supported BaseUnit type BU: C0

AS-Interface Masters

Masters for SIMATIC ET 200 > CM AS-i Master ST for SIMATIC ET 200SP

Function

The CM AS-i Master ST communications module supports all specified functions of the AS-Interface specification V3.0.

The input/output values of the digital AS-i slaves can be activated via the cyclic process image. The values of the analog AS-i slaves are accessible via the cyclic process image or via data record transfer.

If required, master calls can be performed with the command interface, e.g. read/write parameters, read/write configuration.

Changeover of the operating mode, automatic application of the slave configuration and the re-addressing of a connected AS-i slave can be implemented via the control panel of the CM AS-i Master ST in STEP 7.

For the implementation of modular machine concepts, the AS-i slaves can be activated or deactivated via the PLC program (option handling). The configuration of AS-i slaves can be modified while being executed, thus enabling variable machine setups and tool changing with integrated input/output modules during ongoing operation. AS-i input/output modules can be added to the system without deactivating the controller.

An existing AS-i installation can be read into the STEP 7 hardware configuration and adapted and documented in the project. Analog values are transmitted via the cyclic process image, the length of which is adjustable and extendable up to 288 bytes (depending on the interface module (IM) used).

Diagnostics information is accessed via automatic alarm indications, via the status information in the process image or via the graphical status display in the online diagnostics of the TIA Portal. The transmission quality of the AS-i network can also be read out. To avoid configuration errors, duplicate addresses can be detected on the AS-i network.

Configuration is possible with SIMATIC CPUs S7-300 up to S7-1500 and with a SINUMERIK 840D sl or other controller.

The online diagnostic status of the AS-i slaves can be displayed directly on the slaves in the network view in TIA Portal (for S7-1500 CPUs with firmware version V 2.0 or higher).

Notes on security:

In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial security concept. Siemens products and solutions represent only one component of such a concept.

For more information about the subject of Industrial Security, see www.siemens.com/industrialsecurity.

Configuration

The following software is required for configuration of the CM AS-i Master ST module:

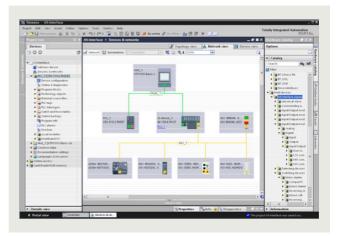
- STEP 7 (TIA Portal) or
- STEP 7 (Classic) or
- the GSD file of the ET 200SP with STEP 7 or another engineering tool

STEP 7 enables user-friendly configuration and diagnostics of the AS-i master and any connected slave modules.

Alternatively, you can also apply the AS-Interface ACTUAL configuration as the TARGET configuration at the "touch of a button" via the control panel integrated in the TIA Portal or an optional expansion button. Configuration with the GSD file is possible only with the button.

In the default setting, the CM AS-i Master ST module occupies 32 input/output bytes. To adapt the number and type of AS-i slaves used, the I/O address space can be reduced, or expanded up to 288 bytes.

Together with an ET 200SP CPU 1510SP, 1512SP, 1514SP or 1515SP PC, preprocessing of safe AS-i signals directly in the ET 200SP station and setting up of an independent AS-i station without a higher-level CPU are possible.



Configuration of an AS-Interface network with CM AS-i Master ST via the TIA Portal

Industrial communication AS-Interface Masters

Masters for SIMATIC ET 200 > CM AS-i Master ST for SIMATIC ET 200SP

Benefits

The CM AS-i Master ST for ET 200SP communications module enables modular, simple and high-performance expansion of AS-interface networks via engineering in the TIA Portal.

Up to eight CM AS-i Master ST units can be plugged into one ET 200SP station with IM 155-6PN Standard. When using the IM 155-6 PN High Feature, the number of CM AS-i Master ST in the ET 200SP station can be further increased. The maximum configuration depends on the interface module used. Multiple masters as well as single masters can thus be implemented in the ET 200SP depending on the number of modules.

Together with the interface module, a scalable PROFINET/AS-i link or PROFIBUS/AS-i link can be assembled.

Using STEP 7, the AS-i network is consistently configured and programmed with only one configuration tool.

The PRONETA PC program (for ET 200SP with PROFINET interface module) is available for convenient input/output testing during the commissioning of an AS-i network without a CPU; see www.siemens.com/proneta.

For the connection of an AS-i network to systems with Ethernet/IP and Modbus TCP, the ET 200SP MultiFieldbus interface module IM155-6MF in combination with the CM AS-i Master ST module is available.

The CM AS-i Master ST module can be used in a system with PROFINET system redundancy S2. Furthermore, the CM AS-i Master ST module (from FW version V1.1.11 onwards or from FW version 2.0 onwards) can be used in a system with PROFINET system redundancy R1 with SIMATIC S7-1500R/H CPU.

For diagnostics during ongoing operation, diagnostics blocks with clearly arranged visualization on the SIMATIC HMI panel are available or can be downloaded free of charge via a web browser, see

https://support.industry.siemens.com/cs/ww/en/view/109479103.



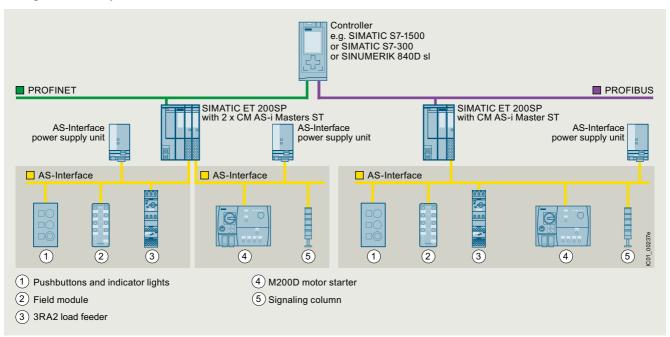
CM AS-i Master ST diagnostics block

AS-Interface Masters

Masters for SIMATIC ET 200 > CM AS-i Master ST for SIMATIC ET 200SP

Application

Configuration examples of AS-Interface networks with CM AS-i Master ST for SIMATIC ET 200SP



Configuration of AS-Interface networks under a SIMATIC ET 200SP

Selection and ordering data

	Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
A The	CM AS-i Master ST communications module	3RK7137-6SA00-0BC1		1	1 unit	42C
State Library ST 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	AS-Interface master for SIMATIC ET 200SP, can be plugged onto BaseUnit type C0					
	 Corresponds to AS-Interface specification V3.0 					
	• Dimensions W x H x D (mm): 20 x 73 x 58					
3RK7137-6SA00-0BC1						

Industrial communication AS-Interface Masters

Masters for SIMATIC ET 200 > CM AS-i Master ST for SIMATIC ET 200SP

ιΛ	cces	en	PIDE
	ccs	JU	1163

Accessories						
	Version	Spring-loaded terminals	<u></u>	PU (UNIT, SET, M)	PS*	PG
		Article No.	Price per PU	- , ,		
6ES7193-6BP20-0DC0	BaseUnit BU20-P6+A2+4D BaseUnit (light), BU type C0 Suitable for the CM AS-i Master ST module For connection of the AS-Interface cable to the CM AS-i Master ST Start of an AS-i network, isolation of the AS-i voltage from the left-hand module	6ES7193-6BP20-0DC0	регто	1	1 unit	255
0E37 130-0B1 20-0B00						
	Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	PROFINET interface module IM 155-6PN Basic Max. 12 I/O modules, max. 32 bytes of I/O data per station Including server module and 2 x RJ45 ports (supplied without RJ45 plug)	6ES7155-6AR00-0AN0		1	1 unit	255
CECTAFE CECTAFE	PROFINET interface modules IM 155-6PN Standard Max. 32 I/O modules, max. 512 bytes of I/O data per station • Including server module and BusAdapter 2 x RJ45	6ES7155-6AA01-0BN0		1	1 unit	255
6ES7155- 6ES7155- 6AR00-0AN0 6AA01-0BN0	(supplied without RJ45 plug) • Including server module	6ES7155-6AU01-0BN0		1	1 unit	255
	(BusAdapter must be ordered separately, see below) PROFINET interface modules IM 155-6PN High Feature					
	Max. 64 I/O modules, max. 1 440 bytes of I/O data per station • IM 155-6PN/2 High Feature 2-port IM with a BusAdapter slot, including server module (BusAdapter must be ordered separately, see below)	6ES7155-6AU01-0CN0		1	1 unit	255
6ES7155-6AU01-0CN0	IM 155-6PN/3 High Feature 3-port IM with two BusAdapter slots, including server module (BusAdapter must be ordered separately, see below) PROFINET interface module IM 155-6PN High Speed	6ES7155-6AU30-0CN0		1	1 unit	255
	Max. 30 I/O modules, max. 968 bytes of I/O data per station • Including server module (bus adapter must be ordered separately, see below)	6ES7155-6AU00-0DN0		1	1 unit	255
6ES7155-6AU00-0DN0	PROFIBUS interface module IM 155-6DP High Feature Max. 32 I/O modules, max. 244 bytes of I/O data per station • Including server module and PROFIBUS plug	6ES7155-6BA01-0CN0		1	1 unit	255
6ES7155-6MU00-0CN0	MultiFieldbus interface module IM 155-6MF High Feature For operation on PROFINET, EtherNet/IP or Modbus TCP controllers, 1 slot for bus adapter, max. 64 I/O modules • Including server module (BusAdapter must be ordered separately, see below) For more information, see https://support.industry.siemens.com/cs/ww/en/view/ 109779189.	6ES7155-6MU00-0CN0		1	1 unit	255
6ES7193- 6ES7193-6AR00-0AA0	Bus adapters for PROFINET/Ethernet For connection of the Ethernet cable to the PROFINET IM 155-6PN interface module and the MultiFieldbus IM 155-6MF interface module • Connection 2 x RJ45 (supplied without RJ45 plug) • Connection 2 x FC (FastConnect) For more bus adapters with fiber-optic cable connection, see SiePortal.	6ES7193-6AR00-0AA0 6ES7193-6AF00-0AA0		1 1	1 unit 1 unit	255 255

^{*} You can order this quantity or a multiple thereof. Illustrations are approximate

AS-Interface Masters

Masters for SIMATIC ET 200 > F-CM AS-i Safety ST for SIMATIC ET 200SP

Overview



F-CM AS-i Safety ST for SIMATIC ET 200SP

More information

Equipment Manual, see

https://support.industry.siemens.com/cs/ww/en/view/90265988

SIMATIC ET 200SP Manual Collection, see

https://support.industry.siemens.com/cs/ww/en/view/84133942

Diagnostics blocks with visualization, see

https://support.industry.siemens.com/cs/ww/en/view/109479103

Released combinations of the AS-i modules for ET 200SP, see https://support.industry.siemens.com/cs/ww/en/view/103624653

The F-CM AS-i Safety ST fail-safe communications module supplements an AS-Interface network without additional wiring to produce a safety-related AS-i network.

Important features:

- Fail-safe communications module for the ET 200SP
 - 31 fail-safe input channels in the process image
 - 16 fail-safe output channels in the process image
 - Certified up to SIL 3 (IEC 62061)/PL e (ISO 13849-1)
 - Parameterization conforms with other Failsafe I/O modules of the ET 200SP
- The communications module supports PROFIsafe in PROFINET and PROFIBUS configurations. Can be used with fail-safe SIMATIC S7-300F, S7-400F CPUs and S7-1500F CPUs and also the Failsafe versions of the ET 200SP station with ET 200SP F-CPU 1510SP F, 1512SP F, 1514SP F or 1515SP PC F.
- For reading up to 31 fail-safe AS-i input slaves
 - Two sensor inputs/signals for each fail-safe AS-i input slave
 - Adjustable evaluation of sensor signals: 2-channel or 2 x 1-channel
 - Integrated discrepancy evaluation in the case of 2-channel signals
 - Integrated AND operation in the case of 2 x 1-channel signals
 - Input delay can be parameterized
 - Start-up test can be set
 - Sequence monitoring can be activated
- For control of up to 16 fail-safe AS-i output circuit groups
- The output circuit groups are controlled independently of one another.
- One output circuit group can act on one or more actuators (e.g. to switch drives simultaneously).
- The F-CM AS-i Safety ST module transmits the switching command of the output circuit group on the AS-i cable.
 A safe AS-i output module that is installed at any point on the AS-i cable receives the switching command and switches the connected actuator (e.g. contactor).
- Simple fault acknowledgment via the process image

- Simple module replacement thanks to automatic importing of the safety parameters from the coding element
- · Comprehensive diagnostics options
- Can be plugged onto type C1 or type C0 BaseUnits (BU)
- Informative automatic alarm indications
- Supply via AS-Interface voltage
- Eight LED displays for diagnostics, operating state, fault indication and supply voltage
- Informative module inscription on the front
 - Plain-text marking of the module type and function class
 - 2D matrix code (Article No. and serial number)
 - Circuit diagram
 - Color coding module type communications module: light gray
 - Hardware and firmware version
 - Supported BaseUnit type BU: C1, C0

Design

The fail-safe F-CM AS-i Safety ST module has an ET 200SP module enclosure with a width of 20 mm.

One AS-i master according to the AS-i specification V3.0 and safe AS-i input slaves and/or safe AS-i output modules are needed for operation. The CM AS-i Master ST communications module (Article No. 3RK7137-6SA00-0BC1) is recommended as the AS-i master for the ET 200SP, see page 2/29 onwards.

Simple combination of the CM AS-i Master ST and F-CM AS-i Safety ST modules in one ET 200SP station results in a powerful, safety-oriented network transition between PROFINET (or PROFIBUS) and AS-Interface, which can be expanded further in a modular fashion.



Combination of an ET 200SP interface module, CM AS-i Master ST and F-CM AS-i Safety ST $\,$

With the digital and analog I/O modules of the ET 200SP, additional local inputs and outputs can be realized so as to ensure that the modular AS-i router complies precisely with customer requirements. Expansion versions for almost every application are possible thanks to the selection of standard and Failsafe I/O modules.

Besides the single AS-i master, double, triple or generally multiple masters can be realized with or without fail-safe functionality.

Industrial communication AS-Interface

AS-Interface Masters

Masters for SIMATIC ET 200 > F-CM AS-i Safety ST for SIMATIC ET 200SP

Supported BaseUnits

With the combination of the CM AS-i Master ST and F-CM AS-i Safety ST modules, the CM module is plugged onto a light type C0 BaseUnit and, immediately to the right of it, the F-CM module is plugged onto a dark type C1 BaseUnit. The AS-i cable is connected only on the light BaseUnit of the CM module.

Notes on security:

In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial security concept. Siemens products and solutions represent only one component of such a concept.

For more information about the subject of Industrial Security, see www.siemens.com/industrialsecurity.

Configuration

The following software is required for configuration of the F-CM AS-i Safety ST module:

- STEP 7 (TIA Portal) and Safety Advanced or
- STEP 7 (Classic) and Distributed Safety or F-Configuration Pack SP11 or SIMATIC S7 F/FH Systems

Configuration and programming are done entirely in the STEP 7 user interface. No additional configuration software is needed for commissioning.

Data management – together with all other configuration data of the SIMATIC – is realized completely in the S7 project.

The input and output channels are assigned to the process image automatically and manual linking via configuration blocks is not necessary.

If the F-CM AS-i Safety ST module is replaced, all necessary settings are automatically imported into the new module.

The F-CM AS-i Safety ST module occupies 16 input bytes and 8 output bytes in the I/O data of the ET 200SP station.

For diagnostics during ongoing operation, diagnostics blocks with clearly arranged visualization on the SIMATIC HMI panel are available or can be downloaded free of charge via a web browser, see

https://support.industry.siemens.com/cs/ww/en/view/109479103.



Diagnostics block for F-CM AS-i Safety ST

Application

Thanks to use of the fail-safe module in the ET 200SP, it is possible to fulfill the safety-related application requirements in a manner that is integrated in the overall automation solution.

The safety functions required for fail-safe operation are integrated in the modules. Communication with the fail-safe SIMATIC S7 CPUs is realized via PROFIsafe.

The safety application is programmed in the SIMATIC S7 F-CPU with Distributed Safety, S7 F/FH Systems or Safety Advanced. The fail-safe input signals of the ASIsafe slave modules are read via the AS-i bus line and are combined with any chosen further signals in the fail-safe program.

The fail-safe F-CM AS-i Safety ST module can be configured independently of the AS-i master. In this way, the F-CM AS-i Safety ST module can be connected to any AS-i network as required to evaluate the Safety data of the safe AS-i slaves and forward them to the F-CPU. In this case, the fail-safe module is plugged into a light BaseUnit of type C0.

The fail-safe output signals can be output via safe SIMATIC output modules or also directly via AS-i output modules. No special functions are required for this in the program.

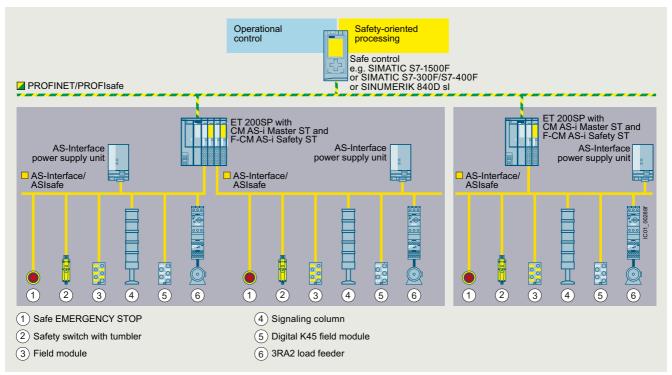
Operation with SINUMERIK 840D sl is possible with SINUMERIK software version V4.7 SP2 HF1 or higher.

Together with an ET 200SP station with ET 200SP F-CPU 1510SP F, 1512SP F, 1514SP F or 1515SP PC F, pre-processing of safe AS-i signals directly in the ET 200SP station is possible, as well as the configuration of an autonomous AS-i Safety station without a higher-level CPU.

AS-Interface Masters

Masters for SIMATIC ET 200 > F-CM AS-i Safety ST for SIMATIC ET 200SP

Configuration examples of AS-Interface networks with CM AS-i Master ST and F-CM AS-i Safety ST for SIMATIC ET 200SP



AS-Interface configuration comprising an ET 200SP station with CM AS-i Master ST and F-CM AS-i Safety ST modules

Selection and ordering data

	Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
D-37-	F-CM AS-i Safety ST communications module	3RK7136-6SC00-0BC1		1	1 unit	42C
Section 27 April 1	Fail-safe module for SIMATIC ET 200SP, can be plugged onto BaseUnit type C1 (alternatively type C0)					
	Operation requires an AS-i master, e.g. CM AS-i Master ST (see page 2/29 onwards)					
	• Can be used up to SIL 3 (IEC 62061)/PL e (ISO 13849-1)					
Salar Salar	 Coding element type H (included in scope of supply) 					
The second secon	• Dimensions W x H x D (mm): 20 x 73 x 58					
3RK7136-6SC00-0BC1						

Accessories

	Version	Spring-loaded terminals	<u></u>	PU (UNIT, SET, M)	PS*	PG
		Article No.	Price per PU			
	BaseUnit BU20-P6+A2+4B	6ES7193-6BP20-0BC1		1	1 unit	255
	 BaseUnit (dark), BU type C1 					
	Suitable for the F-CM AS-i Safety ST fail-safe communications module					
	Continuation of an AS-i network, connection with the AS-i voltage of the left-hand module					
6ES7193-6BP20-0BC1						
	Coding elements type H (spare part)	6ES7193-6EH00-1AA0		1	5 units	256
	For the ET 200SP modules F-CM AS-i Safety ST and CM 4xIO-Link					
	Packing unit 5 items					

More accessories, see page 2/33.

Masters for SIMATIC S7 > CM 1243-2

Overview



CM 1243-2 communications module for S7-1200

More information

Manual for AS-i master CM 1243-2 and AS-i data decoupling module DCM 1271, see

https://support.industry.siemens.com/cs/ww/en/view/57358958

The CM 1243-2 communications module is the AS-Interface master for the SIMATIC S7-1200 and has the following features:

- · Connection of up to 62 AS-Interface slaves
- · Integrated analog value transmission
- Supports all AS-Interface master functions according to the AS-Interface specification V3.0
- Indication of the operating state on the front of the device displayed via LED
- Display of operating mode, AS-Interface voltage faults, configuration faults and peripheral faults via LED behind the front flap
- Compact enclosure in the design of the SIMATIC S7-1200
- Suitable for AS-i Power24V and for AS-Interface with 30 V voltage: A standard 24 V power supply unit can be used in combination with the optional DCM 1271 data decoupling module.
- · Configuration and diagnostics via the TIA Portal
- Improved performance with current firmware version V1.2

Design

The CM 1243-2 communications module is positioned to the left of the S7-1200 CPU and linked to the S7-1200 via lateral contacts.

It has

- Terminals for two AS-i cables (internally jumpered) via two screw terminals
- · One terminal for connection to the functional ground
- LEDs for indication of the operating state and fault statuses of the connected slaves

The screw terminals (included in scope of supply) can be removed to facilitate installation.

Function

The CM 1243-2 supports all specified functions of the AS-Interface specification V3.0.

The values of the digital AS-i slaves can be activated via the process image of the S7-1200. During configuration of the slaves in the TIA Portal, the values of the analog AS-i slaves can also be accessed directly in the process image.

If required, master calls can be performed with the data record interface, e.g. read/write parameters, read/write configuration.

Changeover of the operating mode, automatic application of the slave configuration and the re-addressing of a connected AS-i slave can be implemented via the control panel of the CM 1243-2 in the TIA Portal.

The optional DCM 1271 data decoupling module (see "Accessories", page 2/38) has an integrated detection unit for detecting ground faults on the AS-Interface cable. The integrated overload protection also disconnects the AS-Interface cable if the drive current required exceeds 4 A. For more information on DCM 1271, see page 2/73.

Notes on security:

In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial security concept. Siemens products and solutions represent only one component of such a concept.

For more information about the subject of Industrial Security, see www.siemens.com/industrialsecurity.

Configuration

The TIA Portal enables user-friendly configuration and diagnostics of the AS-Interface master and any connected slave modules.

When operated on an S7-1200 CPU with firmware version V4.0 or higher, the firmware version V1.1 (or higher) is required for the CM 1243-2 module.

Benefits

- More flexibility and versatility in the use of SIMATIC S7-1200 as the result of a significant increase in the number of digital and analog inputs/outputs available
- Very easy configuration and diagnostics of the AS-Interface via the TIA Portal
- Simple operation with AS-Interface power supply unit (see page 2/67) possible without restrictions.
- Alternatively: No need for the AS-i power supply unit with AS-i Power24V. The AS-Interface cable is supplied through an existing 24 V DC PELV power supply unit. For decoupling, the AS-i DCM 1271 data decoupling module is required, see "Accessories" and page 2/73.
- LEDs for indication of fault statuses for fast diagnostics
- Monitoring of AS-Interface voltage facilitates diagnostics

AS-Interface Masters

Masters for SIMATIC S7 > CM 1243-2

Application

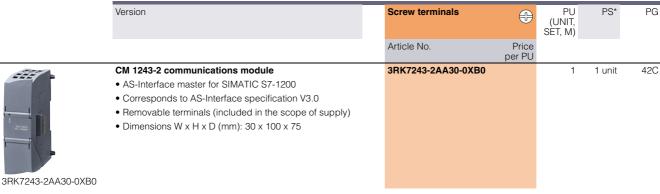
The CM 1243-2 is the AS-Interface master connection of the SIMATIC S7-1200. Through connection to AS-Interface, the number of digital inputs and outputs available for the S7-1200 is greatly increased (max. 496 DI/496 DQ on the AS-Interface per CM).

The integrated analog value processing also makes the analog values available at the AS-Interface for the S7-1200. Up to 31 analog slaves with a standard address (each with up to four channels) or up to 62 analog slaves with an A/B address (each with up to two channels) are possible per CM.

Operating conditions

- The CM 1243-2 communications module exchanges data with the S7-1200 CPU with a cycle time of 10 ms.
- The AS-i cycle time depends on the AS-i bus capacity and is up to 5 ms in the case of 31 slaves addresses; for more information, see Equipment Manual for AS-i Master CM 1243-2 and AS-i DCM 1271 data decoupling module, https://support.industry.siemens.com/cs/ww/en/view/57358958.
- For calculation of the maximum switching frequency at inputs/outputs of AS-i slaves, these cycle times and the runtime of the user program must be added up.

Selection and ordering data



Note:

The CM 1243-2 communications module is available as a SIPLUS version under article number 6AG1243-2AA30-7XB0 in the extended temperature range (from -25 to +70 °C) and for use in harsh environmental conditions (coated according to environment standard IEC 60721).

For more information, see www.siemens.com/siplus-extreme.

Accessories

	Version	Screw terminals		PU (UNIT, SET, M)	PS*	PG
		Article No.	Price per PU			
FIFT.	DCM 1271 data decoupling module	3RK7271-1AA30-0AA0		1	1 unit	42C
	• Max. 1 x 4 A					
	 Removable terminals (included in the scope of supply) 					
	 Dimensions W x H x D (mm): 30 x 100 x 75 					
3 500 (10)	Screw terminals (spare part)					
	 5-pole, For AS-i master CM 1243-2 and AS-i DCM 1271 data decoupling module 	3RK1901-3MA00		1	1 unit	42C
3RK7271-1AA30-0AA0	 3-pole, For AS-i DCM 1271 data decoupling module for connecting the power supply unit 	3RK1901-3MB00		1	1 unit	42C

Overview



CP 343-2P/CP 343-2

More information

Manual, see

https://support.industry.siemens.com/cs/ww/en/view/5581657

For diagnostics during ongoing operation, diagnostics blocks with clearly arranged visualization on the SIMATIC HMI panel are available or can be downloaded free of charge via a web browser, see https://support.industry.siemens.com/cs/ww/en/view/61892138

AS-Interface block library for SIMATIC PCS 7 for easy connection of AS-Interface to PCS 7, see page 14/20 onwards

The CP 343-2P communications processor is the AS-Interface master for the SIMATIC S7-300 and the ET 200M distributed I/O station, with user-friendly parameterizing options.

The CP 343-2 is the basic version of the module.

The CP 343-2P/CP 343-2 has the following characteristics:

- · Connection of up to 62 AS-Interface slaves
- Integrated analog value transmission
- Support of all AS-Interface master functions according to the AS-Interface specification V3.0
- Status displays of operating states and indication of the readiness for operation of connected slaves by means of LEDs in the front plate
- Fault indications (including AS-Interface voltage errors, configuration errors) by means of LEDs on the front plate
- Compact enclosure in the design of the SIMATIC S7-300
- Suitable for AS-Interface with 30 V voltage and AS-i Power24V
- Additionally for CP 343-2P: Supports the detailed configuration of the AS-Interface network with STEP 7

Design

The CP 343-2P/CP 343-2 is connected like an I/O module to the S7-300. It has:

- Two terminal connections for connecting the AS-Interface cable directly.
- LEDs in the front panel for indicating the operating state and the readiness for operation of all connected and activated slaves
- Pushbuttons for switching over the master operating state and for adopting the existing ACTUAL configuration of the AS-i slave as the TARGET configuration

Function

The CP 343-2P/CP 343-2 supports all specified functions of the AS-Interface specification V3.0.

Each CP 343-2P/CP 343-2 occupies 16 bytes in the I/O address area of the SIMATIC S7-300. The digital I/O data of the standard slaves and A slaves are saved in this area. The digital I/O data of the B slaves and the analog I/O data can be accessed with the S7 system functions for read/write data records.

If required, master calls can be performed with the command interface, e.g. read/write parameters, read/write configuration.

For more information, see

https://support.industry.siemens.com/cs/ww/en/view/51678777.

Notes on security:

In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial security concept. Siemens products and solutions represent only one component of such a concept.

For more information about the subject of Industrial Security, see www.siemens.com/industrialsecurity.

Configuration

All connected AS-Interface slaves are configured at the press of a button. No further configuration of the CP is required.

Additionally for CP 343-2P

The CP 343-2P also supports configuring of the AS-Interface network with STEP 7. Specifying the AS-i configuration in HW Config facilitates the setting of slave parameters and documentation of the plant. Uploading the ACTUAL configuration of an already configured AS-Interface network is also supported. The saved configuration cannot be overwritten at the press of a button and is therefore tamper-proof.

Benefits

- Shorter startup times through simple configuration at the press of a button
- Design of flexible machine-related structures using the ET 200M distributed I/O system
- · Provides diagnostics of the AS-Interface network
- Well suited also for complex applications thanks to connection options for 62 slaves and integral analog value processing
- Reduction of standstill and servicing times in the event of a fault thanks to the LED displays:
 - Status of the AS-Interface network
- Slaves connected and their readiness for operation
- Monitoring of the AS-Interface voltage

- Lower costs for stock keeping and spare parts inventory because the CP can be used for the SIMATIC S7-300 and also for the ET 200M
- Additionally for CP 343-2P: Improved plant documentation and support for service assignments thanks to a description of the AS-Interface configuration in the STEP 7 project
- Simple operation with AS-Interface power supply unit (see page 2/67) possible without restrictions.
- Alternatively: No need for the AS-i power supply unit with AS-i Power24V. The AS-Interface cable is supplied through an existing 24 V DC PELV power supply unit. An S22.5 AS-i data decoupling module (e.g. 3RK1901-1DE12-1AA0) is required for the decoupling, see page 2/71.

AS-Interface Masters

Masters for SIMATIC S7 > CP 343-2P/CP 343-2

Application

The CP 343-2P/CP 343-2 is the AS-Interface master connection for SIMATIC S7-300 and ET 200M.

Through connection to AS-Interface it is possible to access max. 248 DI/248 DQ per CP, using 62 A/B slaves with 4 DI/4 DQ each.

With the integrated analog value processing, it is easy to transmit analog signals. Up to 62 analog slaves with an A/B address (each with up to two channels) or up to 31 analog slaves with a standard address (each with up to four channels) are possible per CP.

The CP 343-2P is the further development of the CP 343-2 and contains its entire functionality. An existing STEP 7 user program for a CP 343-2 can thus be used without restrictions with a CP 343-2P. It is only in STEP 7 HW-Config that the two modules are configured differently, with the CP 343-2P offering additional options. This is why the CP 343-2P is recommended.

Selection and ordering data

	Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	CP 343-2P communications processor Device version with expanded configuration options for connection of SIMATIC S7-300 and ET 200M to AS-Interface Configuration of the AS-i network using the SET key or STEP 7 Without front connector Corresponds to AS-Interface specification V3.0	6GK7343-2AH11-0XA0		1	1 unit	42C
6GK7343-2AH11-0XA0 6GK7343-2AH01-0XA0	 Dimensions W x H x D (mm): 40 x 125 x 120 CP 343-2 communications processor Basic version for connection of SIMATIC S7-300 and ET 200M to AS-Interface Configuration of the AS-i network using the SET key Without front connector Corresponds to AS-Interface specification V3.0 Dimensions W x H x D (mm): 40 x 125 x 120 	6GK7343-2AH01-0XA0		1	1 unit	42C

Accessories

Version		Article No.	Price per PU		PS*	PG
Front connectors, 20-pole						
With screw terminals		6ES7392-1AJ00-0AA0		1	1 unit	230
With spring-loaded terminals	\cong	6ES7392-1BJ00-0AA0		1	1 unit	230

Overview



DP/AS-Interface Link 20E

More information

Manual, see

https://support.industry.siemens.com/cs/ww/en/view/5281638

Р	'N	DP-M	DP-S	AS-i M	
			•	•	210_10195a

DP/AS-Interface Link 20E connects PROFIBUS DP to AS-Interface and has the following features:

- PROFIBUS DP slave and AS-Interface master
- Up to 62 AS-Interface slaves, each with four digital inputs and four digital outputs as well as analog slaves can be connected
- · Integrated analog value transmission
- Supports all AS-Interface master functions according to the AS-Interface specification V3.0
- Supply from AS-Interface cable; hence no additional power supply required
- Suitable for AS-i Power24V (from product version 2/firmware version 3.1) and for AS-Interface with 30 V voltage
- Supports uploading of the AS-Interface configuration in STEP 7

Routers

High-performance routers between PROFINET and AS-Interface and between PROFIBUS and AS-Interface can be set up by combining the CM AS-i Master ST and F-CM AS-i Safety ST modules in an ET 200SP station (for safety-related applications), see pages 2/29 and 2/34.

Design

- Compact plastic enclosure in degree of protection IP20 for DIN-rail mounting
- LEDs in the front panel for indicating the operating state and functional readiness of all connected slaves
- Setting of PROFIBUS DP address is possible by pressing a button
- LED display of the PROFIBUS DP slave address, PROFIBUS DP bus faults and diagnostics
- Two pushbuttons for switching over the operating state and for adopting the existing ACTUAL configuration as the TARGET configuration

Functionality

Communication

The DP/AS-Interface Link 20E enables a DP master to access all the slaves of an AS-Interface network.

The DP/AS-Interface Link 20E occupies a standard 32 bytes of input data and 32 bytes of output data in which the digital I/O data of the connected AS-Interface slaves (standard and A/B addressing) of an AS-i line are stored.

The size of the input/output image can be compressed so that only the actually required I/O address area is occupied in the system of the PROFIBUS DP master.

The analog I/O data can be accessed with the S7 system functions for read/write data records.

Configuration

The DP/AS-Interface Link 20E is configured as follows:

- With STEP 7 (TIA Portal) or STEP 7 (Classic)
 When configuring, the AS-Interface configuration can be
 uploaded to STEP 7. Furthermore, AS-Interface slaves from
 Siemens can also be conveniently configured in HW Config
 (slave selection dialog).
- By adopting the ACTUAL configuration of the AS-Interface by using the SET pushbutton on the front panel.
- Alternatively, DP/AS-Interface Link 20E can be integrated by means of the PROFIBUS GSD file in the engineering tool (e.g. for non-Siemens engineering tools).

Benefits

- Reduction of installation costs because the power is supplied entirely via the AS-Interface cable, which means that no additional power supply is required
- Short startup times thanks to easy configuration at the touch of a button
- The LED displays help reduce downtime and service times if a slave fails
- Quick and easy commissioning by reading the AS-Interface configuration
- For diagnostics during ongoing operation, diagnostics blocks with clearly arranged visualization on the SIMATIC HMI panel are available or can be downloaded free of charge via a web browser; see

https://support.industry.siemens.com/cs/ww/en/view/61892138.

AS-Interface Routers

DP/AS-Interface Link 20E

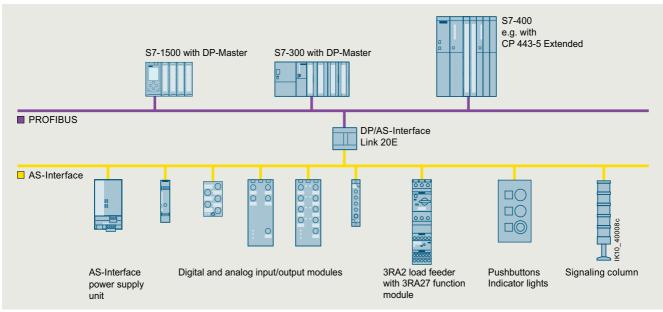
Application

The DP/AS-Interface Link 20E is a PROFIBUS DP slave (according to IEC 61158/IEC 61784) and an AS-Interface master (according to IEC 62026-2). It enables the AS-Interface to be operated on PROFIBUS DP.

Up to 248 DI/248 DQ can be operated via the DP/AS-Interface Link 20E using 62 A/B slaves with 4 DI/4 DQ each.

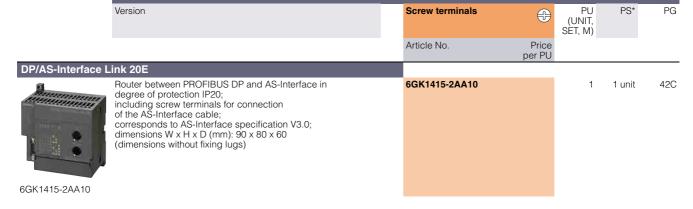
PROFIBUS DP masters (DP-V0) can exchange digital I/O data cyclically with the AS-Interface.

PROFIBUS DP masters with acyclic services (DP-V1) are additionally able to exchange analog I/O data and initiate AS-Interface master calls (e.g. reading/writing the AS-i configuration during normal operation).



Transition from PROFIBUS DP to AS-Interface using DP/AS-Interface Link 20E

Selection and ordering data



Industrial communication AS-Interface Routers

DP/AS-Interface Link 20E

Accessories						
	Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
-	PROFIBUS FC standard cable GP	6XV1830-0EH10		1	1 M	5K1
	FastConnect standard type with special design for fast installation, 2-core, shielded					
	PROFIBUS FastConnect bus connectors					
	With insulation displacement connection, max. transfer rate 12 Mbps, activatable terminating resistor integrated					
	 RS 485 bus connector with 90° cable outlet 					
	- Without programming device socket	6ES7972-0BA52-0XA0		1	1 unit	250
	- With programming device socket	6ES7972-0BB52-0XA0		1	1 unit	250
	 RS 485 bus connector with diagonal cable outlet (35°) 					
	- Without programming device socket	6ES7972-0BA61-0XA0		1	1 unit	250
	- With programming device socket	6ES7972-0BB61-0XA0		1	1 unit	250
	PROFIBUS FastConnect stripping tool	6GK1905-6AA00		1	1 unit	5K2
	Preset stripping tool for speedy stripping of PROFIBUS FastConnect bus cables					

AS-Interface Slaves

I/O modules for use in the field, high degree of protection > Digital I/O modules, IP67 - Introduction

Overview



K60



K45



K20

Three coordinated series of AS-Interface compact modules with digital and analog compact modules and a high degree of protection are available for use in the field:

- Digital modules with a high degree of protection
 - Series K60, see pages 2/46 and 2/48 Series K45, see page 2/51

 - Series K20, see page 2/52
- Analog modules with a high degree of protection
 - Series K60, see page 2/55

All compact modules are characterized by particularly simple handling. The K60 and K45 modules are mounted with a mounting plate. The mounting plate is used to mount the AS-Interface flat cables and enables mounting on a wall or DIN rail.

The particularly narrow K20 modules are directly mounted without a mounting plate and connected to the AS-Interface using a round cable.

Connection types

For flexible connection of different sensors and actuators, the following pin assignments are available on the I/O modules with M12 sockets:

Standard assignment

With the standard assignment, one sensor/actuator is connected per M12 socket. In this case the signal for the outputs is acquired at pin 4 while the signal for the inputs is acquired at pin 4 and pin 2. As the result, sensors can be connected directly to pin 2 and pin 4.

Y-assignment

With the Y-assignment, two sensors or two actuators can be connected to one M12 socket. In this case, both pin 4 and pin 2 are provided for one sensor signal and one actuator signal on each M12 socket.

In this case, the second socket is not required and is closed with a sealing cap.

Y-II assignment

The Y-II assignment offers the following options:

- Individual connection of a sensor/actuator to one M12 socket
- · Connection of two sensors/actuators to one M12 socket as follows:
 - The signal of the first sensor/actuator is connected to pin 4 of the first socket.
 - The signal of the second sensor/actuator is connected to pin 2 of the first socket and to pin 4 of the second socket.

Overview of digital compact modules

The following table provides an overview of the important features of the digital compact modules.

Version	K60	K45	K20
8 inputs/2 outputs	✓		
8 inputs	✓	1	
4 inputs/4 outputs	✓	✓	✓
4 inputs/3 outputs	✓		
4 inputs/2 outputs	1		
4 inputs	✓	1	/
2 inputs/2 outputs		✓	/
4 outputs	✓	✓	/
3 outputs		✓	
AS-Interface connection	Flat cable/ round cable	Flat cable	Round cable
I/O connection method	M12	M12/M8	M12/M8
Pin assignment	Standard/Y-II/Y	Standard/Y	Standard/Y
Degree of protection	IP65/IP67/IP68/ IP69 (IP69K)	IP65/IP67	IP65/IP67
Addressing type A/B address	✓	1	/

- ✓ Available
- -- Not available

Safety modules for AS-Interface, see page 2/27.

I/O modules for use in the field, high degree of protection > Digital I/O modules, IP67 - K60

Overview



K60

The K60 digital AS-Interface compact modules are characterized by optimized handling characteristics and user-friendliness. They permit the mounting times and startup times of AS-Interface to be reduced by up to 40%.

Mounting and connection of the AS-Interface shaped cables

Assembly of the K60 modules is performed with a mounting plate which accommodates the AS-Interface shaped cables. Two different mounting plates are offered for

- · Wall mounting
- · DIN-rail mounting

The mounting plate and the compact module are joined together by means of a screw, with simultaneous contacting of the AS-Interface cable by the service-proven insulation displacement method.

Addressing and connection of the sensors/actuators

Addressing of the K60 modules is performed using an addressing socket integrated in the compact module. The addresses can also be assigned after installation.

K60 modules with a maximum of four digital inputs and outputs

These compact modules contain the M12 standard connections for inputs and outputs. Using M12 standard plugs, a maximum of four sensors and four actuators can be connected to the compact module.

K60 compact modules with a maximum of eight digital inputs

These modules have eight digital inputs for connection through M12 plugs.

The module requires two AS-Interface addresses for processing all eight inputs. The addressing can thus be performed through a double addressing socket integrated in the module.

K60 data couplers

An AS-Interface data coupler has been added to the K60 compact module range. Integrated in this module are two AS-i slaves which are connected to two different AS-i networks. Each of the two integrated slaves has four virtual inputs and four virtual outputs. The bidirectional data transmission of four data bits between two AS-i networks is thus possible in a simple and cost-effective manner. The data coupler needs its own address in each AS-i network. The data coupler is supplied with power directly from the AS-i cable.

Each AS-i network works with a different cycle time depending on the number of stations. Hence two AS-i networks are not necessarily synchronous. For this reason, the AS-i data coupler can be used to transmit only standard data and no safety data.

AS-Interface Slaves

I/O modules for use in the field, high degree of protection > Digital I/O modules, IP67 - K60

Selection and ordering data

	Version					Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
-	Digital I/O mod	ules IP67 - I	K60							
	PNP transistor	,								
	Width 60 mm									
	Connection m	athad. M10								
	Modules supp	Current-	Slave							
	Туре	carrying capacity of outputs		Pin assign- ment	Sensor power supply via					
3RK1400- 1DQ00-0AA3	8 inputs/ 2 outputs ¹⁾	2 A	A/B	Special	AS-i	3RK2400-1HQ00-0AA3		1	1 unit	42C
	8 inputs ¹⁾		Standard	Y-II	AS-i	3RK1200-0DQ00-0AA3		1	1 unit	42C
			A/B	Y-II	AS-i	3RK2200-0DQ00-0AA3		1	1 unit	42C
			A/B	Y-II	U _{aux}	3RK2200-1DQ00-1AA3		1	1 unit	42C
	4 inputs/	2 A	Standard	Y-II	AS-i	3RK1400-1DQ00-0AA3		1	1 unit	42C
	4 outputs	2 A	Standard	Standard	AS-i	3RK1400-1CQ00-0AA3		1	1 unit	42C
		1 A	Standard	Y-II	AS-i	3RK1400-1DQ01-0AA3		1	1 unit	42C
		1 A	Standard	Standard		3RK1400-1DQ03-0AA3		1	1 unit	42C
		2 A	A/B (spec. V3.0)		AS-i	3RK2400-1DQ00-0AA3		1	1 unit	42C
		2 A	A/B (spec. V3.0)		U _{aux}	3RK2400-1DQ00-1AA3		1	1 unit	42C
	4 inputs/ 3 outputs	2 A	A/B	Y-II	AS-i	3RK2400-1FQ03-0AA3		1	1 unit	42C
	4 inputs/ 2 outputs	2 A	Standard	Y-II	AS-i	3RK1400-1MQ00-0AA3		1	1 unit	42C
	4 inputs		Standard	Y-II	AS-i	3RK1200-0CQ00-0AA3		1	1 unit	42C
			A/B	Y-II	AS-i	3RK2200-0CQ00-0AA3		1	1 unit	42C
	2 x 2 inputs/ 2 x 2 outputs	1 A	Standard	Υ	AS-i	3RK1400-1DQ02-0AA3		1	1 unit	42C
	4 outputs	2 A	Standard	Y-II		3RK1100-1CQ00-0AA3		1	1 unit	42C
		2 A	A/B (spec. V3.0)	Y-II		3RK2100-1CQ00-0AA3		1	1 unit	42C
	Digital I/O mod	ule, IP67 - K	60 data coupler							
	Modules suppli	ed without mo	ounting plate							
1)	Type	Current- carrying capacity of outputs	Slave addressing type	Pin assign- ment	Sensor power supply via					
	Data coupler 4 inputs/4 out- puts (virtual)		Standard			3RK1408-8SQ00-0AA3		1	1 unit	42C

¹⁾ Module occupies two AS-Interface addresses

Safety modules for AS-Interface, see page 2/27 onwards.

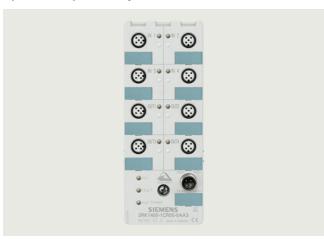
Accessories

	Version		Price er PU	PU (UNIT, SET, M)	PS*	PG
MEMENS	K60 mounting plates Suitable for all K60 compact modules					
★ (%)	Wall mounting	3RK1901-0CA00		1	1 unit	42C
	DIN-rail mounting	3RK1901-0CB01		1	1 unit	42C
3RK1901-0CA00						
	AS-Interface sealing caps M12 For free M12 sockets	3RK1901-1KA00		100	10 units	42C
3RK1901-1KA00						
	Sealing set	3RK1902-0AR00		100	5 units	42D
	For K60 mounting plate					
	Cannot be used for K45 mounting plate					
3RK1902-0AR00	One set contains one straight and one shaped seal					

I/O modules for use in the field, high degree of protection > Digital I/O modules, IP68/IP69 - K60R

Overview

Operation in particularly harsh environments



K60R module in degree of protection IP68/IP69 (IP69K)

Modules with degree of protection IP67 cannot be used in areas exposed to permanently high levels of humidity, in applications with drilling emulsions and cutting oils or when cleaning with high-pressure cleaners. The answer for these applications is provided by the expansion of the K60 compact modules with the K60R module with degree of protection IP68/IP69 (IP69K).

The K60R modules are connected instead of the AS-Interface flat cable using a round cable with M12 cable box. The AS-Interface bus cable and the 24 V DC auxiliary power supply are routed in this case in a shared round cable.

Degree of protection IP68 permits many new applications that were impossible with the former field modules with degree of protection IP67. In applications such as filling plants or machine tools, the K60R with degree of protection IP68 enables the module to be used directly in zones exposed to permanent loading by humidity. It is thus possible to make even more rigorous savings in wiring with AS-Interface. For more information on IP68 test conditions, see "IP68/IP69 (IP69K) tests", page 2/48.

Cleaning with high-pressure cleaners, such as is regularly required in the food and beverages industry for instance, is possible without difficulty (IP69).

In applications with cable carriers, many users rely on placing the AS-Interface bus cable in a round cable. With the K60R module, a round cable connection enables direct connection to a round cable. No adapter is required.

Mounting

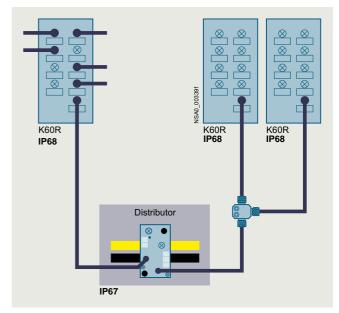
The same mounting plates are used as for the K60 modules. Instead of using flat cables, the K60R is connected using a 4-pole round cable with an M12 connection. With the K60R the mounting plate thus serves only as a fixture and ground terminal.

Addressing

Addressing is performed using the same socket as for the bus connection. Connecting the module to the addressing unit takes place over a 3-pole standard M12 cable.

When the mounting is finished, the module is connected with the addressing cable to the addressing unit and addressed. The addressing cable is then removed and the module connected to the bus cable.

Connection



K60R connection options

In the IP67 environment, the service-proven standard components are connected using flat cables. Spur lines are laid into the IP68 environment by means of an AS-Interface M12 feeder (3RK1901-2NR..). The module is connected with a round cable to an M12 cable box. For this purpose, the module has an M12 bus connection instead of the former addressing socket. The AS-Interface bus cable and the 24 V DC auxiliary voltage are routed together in a 4-pole round cable. There must be no ground conductor in this round cable. Connection to ground is made through the mounting plate.

In the IP68 environment, only cables with extruded M12 plugs may be used.

Please note the following conditions:

- The configuration guidelines for AS-Interface apply. For all M12 connecting cables, the maximum permissible current is limited to 4 A. The cross-section of these cables is just 0.34 mm². For connection of the K60R modules, the aforementioned M12 connecting cables can be used for the spur lines. The voltage drop caused by the ohmic resistance (approx. 0.11 Ω/m) must be taken into account.
- For round cable connections with shared AS-i and U_{aux} in a single cable, the following maximum lengths apply:
 - Per spur line from feeder to module: max. 5 m
 - Total of all round cable segments in an AS-Interface network: max. 20 m

AS-Interface Slaves

I/O modules for use in the field, high degree of protection > Digital I/O modules, IP68/IP69 - K60R

IP68/IP69 (IP69K) tests

K60R modules were tested with the following tests:

- Stricter test than IP67: 90 min at 1.8 m depth of water (IP67: 30 min at 1 m depth of water)
- Salt water test: Five months in salt water, 20 cm deep, at room temperature
- Test with particularly creepable oil: Five months completely under oil at room temperature
- Test with drilling emulsion: Five months at room temperature (components of the drilling emulsion: Anionic and non-ionic emulsifiers, paraffinic low-aromatic mineral oil, boric acid alkanolamines, corrosion inhibitors, oil content 40%)
- Test in oil bath (Excellence 416 oil) with alternating oil bath temperature: 130 cycles of 15 to 55 °C, two months
- Cleaning with a high-pressure cleaner according to IP69 (IP69K): 80 to 100 bar, 10 to 15 cm distance, time per side > 30 s, water temperature 80 °C

To simulate requirements as realistically as possible, the modules were artificially aged prior to the tests by 15 temperature cycles of -25/+85 °C. During the test, the modules were connected to 3RX1 connecting cables. Unassigned connections were closed with 3RK1901-1KA00 sealing caps.

Note:

Sealing caps and M12 connections must be tightened with the correct torque.

	Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
© • • •	Digital I/O module, IP68/IP69 - K60R	3RK1400-1CR00-0AA3		1	1 unit	42C
	• 4 inputs/4 outputs					
3 3	Width 60 mm					
· · · · · · ·	• IP68/IP69 (IP69K)					
	Standard assignment					
0 0	Current-carrying capacity					
: @ 1	- 200 mA (inputs)					
SIEMENS III	- 2 A (outputs)					
3RK1400-1CR00-	Slave addressing type: Standard address					
0AA3	Modules supplied without mounting plate					

I/O modules for use in the field, high degree of protection > Digital I/O modules, IP68/IP69 - K60R

Accessories									
	Version				Article No.	Price per PU		PS*	PG
Photos	K60 moun Suitable fo • Wall mou • DIN-rail r	•	compact i	modules	3RK1901-0CA00 3RK1901-0CB01		1 1	1 unit 1 unit	42C 42C
3RK1901-0CA00 3RK1901-1KA00	AS-Interface sealing caps M12 For free M12 sockets			3RK1901-1KA00		100	10 units	42C	
3RK1901-2NR21	AS-Interface M12 feeders • Current-carrying capacity up to 4 A • Degree of protection IP67/IP68/IP69 (IP69K) For flat cable AS-i/U _{aux} AS-i/U _{aux} AS-i/U _{aux} AS-i/U _{aux} AS-i/U _{aux} M12 socket AS-i/U _{aux} AS-i/U _{aux} M12 cable box			3RK1901-2NR20 3RK1901-2NR21 3RK1901-2NR22		1 1 1	1 unit 1 unit 1 unit	42C 42C 42C	
3RK1901-1NR04	• Current-	ce M12 feeder, 4-fol carrying capacity up of protection IP67 For 4-fold M12 socket, delivery includes mounting plate (for wall and DIN-rail mounting)	Cable length	Cable end in feeder Not available	3RK1901-1NR04		1	1 unit	42C
3RK1902-4PB15-3AA0	• 3-pole • For addr	ecting cable essing AS-i slaves w	ith M12 b	ous connection	3RK1902-4PB15-3AA0		1	1 unit	42D

AS-Interface Slaves

I/O modules for use in the field, high degree of protection > Digital I/O modules, IP67 - K45

Overview



Compact modules K45

The K45 series of compact modules supplements the large K60 compact modules which have a proven track record in industry. They are the logical consequence for rounding off the bottom end of the existing product range.

The acclaimed advantages of the existing K60 compact modules are fully emulated by the K45 modules. The K45 modules have a substantially smaller basic area and installation depth, however.

Yet in spite of these small dimensions all the modules have large labels and an integrated addressing socket.

Two mounting plates are offered for the K45 compact modules:

- Mounting plate for wall mounting
 This has a hole pattern that is identical to that of the K60 compact modules. This means that K60 compact modules can be mounted together with K45 modules in an aligned arrangement. The shaped cables can be inserted in the recesses of the mounting plates where they cause no hindrance.
- Mounting plate for DIN-rail mounting

Connection of the AS-Interface shaped cables

The mounting plate and the compact module are joined together by means of a screw, with simultaneous contacting of the AS-Interface cable by the service-proven insulation displacement method.

Now, mounting the AS-Interface shaped cables is in fact easier than ever. The yellow and black AS-Interface shaped cable can be inserted into the mounting plates from the left or right regardless of the position of the coding lug. The correct polarity of the applied voltages is thus guaranteed.

Addressing and connection of the sensors/actuators

Addressing of the K45 compact modules is performed using an addressing socket integrated in the module. The addresses can be assigned even when mounted.

K45 modules with a maximum of four digital inputs and outputs

These compact modules contain up to four M12 standard connections or M8 standard connections for inputs and outputs. Using M12 or M8 standard plugs, a maximum of four sensors and four actuators can be connected to the compact module. Depending on the module, the sockets can be assigned in duplicate.

Pin assignment: Y – i.e. via a socket, two sensors or one sensor/one actuator are connected.

K45 modules with a maximum of eight digital inputs

These modules have eight digital inputs for connection through M12 plugs. The sockets have duplicate assignments. Pin assignment: Y – i.e. via a socket, two sensors or one sensor/one actuator are connected.

The module requires two AS-Interface addresses for processing all eight inputs. The addresses can be assigned through a double addressing socket integrated in the module.

I/O modules for use in the field, high degree of protection > Digital I/O modules, IP67 - K45

Selection and ordering data

	Version						Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
PRINCE CONSIDERATE STATE OF THE		tor m rying capad	57 - K45 city of the inputout mounting								
9:	Туре	Current- carrying capacity of outputs	Slave addressing type	Pin assign- ment	U _{aux} 24 V	Connection methods					
SIEMENS	8 inputs ¹⁾		A/B	Υ		M12	3RK2200-0DQ20-0AA3		1	1 unit	42C
3RK1400-	4 inputs		Standard	Standard		M12	3RK1200-0CQ20-0AA3		1	1 unit	42C
0GQ20-0AA3			Standard	Standard		M8	3RK1200-0CT20-0AA3		1	1 unit	42C
			A/B	Standard		M12	3RK2200-0CQ20-0AA3		1	1 unit	42C
			A/B	Standard		M8	3RK2200-0CT20-0AA3		1	1 unit	42C
	2 x 2 inputs		A/B	Υ		M12	3RK2200-0CQ22-0AA3		1	1 unit	42C
	2 inputs/ 2 outputs	2 A ²⁾	Standard	Standard	/	M12	3RK1400-1BQ20-0AA3		1	1 unit	42C
	2 x (1 input/ 1 output)	0.2 A	Standard	Υ		M12	3RK1400-0GQ20-0AA3		1	1 unit	42C
	4 x (1 input/ 1 output)	0.2 A	A/B (spec. V3.0)	Υ		M12	3RK2400-0GQ20-0AA3		1	1 unit	42C
		0.5 A	A/B (spec. V3.0)	Υ	✓	M12	3RK2400-1GQ20-1AA3		1	1 unit	42C
	4 outputs	1 A	A/B (spec. V3.0)	Standard	√	M12	3RK2100-1CQ20-0AA3		1	1 unit	42C
	3 outputs	1 A	A/B	Standard	/	M12	3RK2100-1EQ20-0AA3		1	1 unit	42C
	4 outputs	1 A	Standard	Standard	/	M12	3RK1100-1CQ20-0AA3		1	1 unit	42C
	2 outputs/ 2 inputs	2 A	A/B	Standard	1	M12	3RK2400-1BQ20-0AA3		1	1 unit	42C

✓ Available

-- Not available

- 1) Module occupies two AS-Interface addresses
- The typical current carrying capacity per output increases with version "E12" from 1.5 to 2 A (available since approx. 07/2003).

Safety modules for AS-Interface, see page 2/27 onwards.

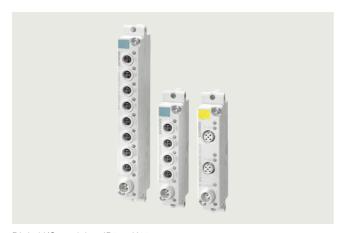
Accessories

	Version	Article No. Price per PU	PU (UNIT, SET, M)	PS*	PG
	K45 mounting plates				
	For wall mounting	3RK1901-2EA00	1	1 unit	42C
3RK1901-2EA00	• For DIN-rail mounting	3RK1901-2DA00	1	1 unit	42C
311(1901-2LA00	Cable end terminators	3RK1901-1MN00	1	10 units	42C
MENS SANIOTE GAARS	For sealing open cable ends of the AS-Interface shaped cable with IP67	STIRTISET THINKS	'	TO dilito	420
3RK1901-1MN00					
	AS-Interface sealing caps				
	• For free M12 sockets	3RK1901-1KA00	100	10 units	42C
	• For free M8 sockets	3RK1901-1PN00	100	10 units	42C
3RK1901-1KA00					
3RK1901-1PN00					
JI II 190 I- IFINOU					

AS-Interface Slaves

I/O modules for use in the field, high degree of protection > Digital I/O modules, IP67 - K20

Overview



Digital I/O modules, IP67 - K20

The K20 compact module series rounds off the AS-Interface compact modules with a particularly slim design and only 20-mm width. Thanks to its extremely compact dimensions, these modules are particularly suited for handling machine applications in the field of production engineering where modules need to be arranged in the smallest of spaces.

Robotics is yet another application area. The K20 modules are connected to the AS-Interface with a round cable with M12 cable box instead of with the AS-Interface flat cable. The AS-Interface bus cable and the 24 V DC auxiliary power are routed in this case in a shared round cable. This enables extremely compact installation.

The flexibility of the round cable means that it can also be used on moving machine parts without any problems. The K20 modules are also ideal for such applications as their non-encapsulated design makes them particularly light in weight.

In applications with cable carriers, many users rely on placing the AS-Interface bus cable in a round cable. In this case, the K20 modules support direct connection to the round cable. No flat to round cable adapter is required.

The K20 compact module range includes standard AS-Interface modules, as well as an ASIsafe version for the connection of safety-related sensors, such as EMERGENCY STOP pushbuttons or protective door monitoring.

For particularly space-saving dimensions, the sensors and actuators are connected over M8 plug-in connectors.

Alternatively, M12 connectors with Y-assignment can be used.

Selection and ordering data

	Version					Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	Digital I/O	modules, IP	67 - K20							
	Type	Current- carrying capacity of outputs	Slave addressing type	Pin assignment	Connection methods					
	4 inputs		A/B	Standard	M8	3RK2200-0CT30-0AA3		1	1 unit	42C
			A/B	Υ	M12	3RK2200-0CQ30-0AA3		1	1 unit	42C
	2 inputs/	1	A/B	Standard	M8	3RK2400-1BT30-0AA3		1	1 unit	42C
3RK2200-	2 outputs	1	A/B	Υ	M12	3RK2400-1BQ30-0AA3		1	1 unit	42C
0CT30-0AA3	4 outputs	1	A/B (spec. V3.0)	Standard	M8	3RK2100-1CT30-0AA3		1	1 unit	42C
	4 inputs/	1	Standard	Standard	M8	3RK1400-1CT30-0AA3		1	1 unit	42C
	4 outputs	1	A/B (spec. V3.0)	Standard	M8	3RK2400-1CT30-0AA3		1	1 unit	42C
	2 safe inputs		Standard	Y-II	M12	3RK1205-0BQ30-0AA3		1	1 unit	42C

Safety modules for AS-Interface, see page 2/27 onwards.

I/O modules for use in the field, high degree of protection > Digital I/O modules, IP67 - K20

	Version				Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	AS-Interfac	e sealing caps							
	 For free M 	112 sockets			3RK1901-1KA00		100	10 units	42C
	 For free M 	8 sockets			3RK1901-1PN00		100	10 units	42C
3RK1901-1KA00									
3RK1901-1PN00									
	AS-Interfac	e compact distributo	or,						
The Table 200803-00		rface flat cable AS-i							
A THE REST OF THE PARTY OF	* /	arrying capacity up to protection IP67/IP68/		COK					
3RK1901-2NN10	For flat	For	Cable						
	cable		length	feeder					
	AS-i or U _{aux}	Flat cable AS-i or U_{aux}		Not available	3RK1901-2NN10		1	1 unit	42C
•	AS-Interfac	e M12 feeder							
	Current-ca	arrying capacity up to	2 A						
	 Degree of 	protection IP67							
3RX9801-0AA00	For flat cable	For	Cable length						
	AS-i	M12 socket		Available	3RX9801-0AA00		1	1 unit	42C
SIEMENS MUZZOL SI		e M12 feeders							
Q.		arrying capacity up to							
€ Ĉŧ ♣ <u>×</u>		protection IP67/IP68/							
3RK1901-2NR10	For flat cable	For	Cable length						
_	AS-i	M12 socket		Not available	3RK1901-2NR10		1	1 unit	42C
SHARAS IDEC MORE MANUAL	AS-i	M12 cable box	1 m	Not available	3RK1901-2NR11		1	1 unit	42C
i * f	AS-i	M12 cable box	2 m	Not available	3RK1901-2NR12		1	1 unit	42C
	AS-i/U _{aux}	M12 socket		Not available	3RK1901-2NR20		1	1 unit	42C
	AS-i/U _{aux}	M12 cable box	1 m	Not available	3RK1901-2NR21		1	1 unit	42C
	AS-i/U _{aux}	M12 cable box	2 m	Not available	3RK1901-2NR22		1	1 unit	42C
3RK1901-2NR21									
AND THE PERSON NAMED IN COLUMN		e M12 feeder, 4-fold							
		arrying capacity up to	4 A						
(4) 1	For flat cable	protection IP67 For	Cable length						
(1)	AS-i/U _{aux}	4-fold M12 socket,		Not available	3RK1901-1NR04		1	1 unit	42C
3RK1901-1NR04	, to , o _{aux}	delivery includes mounting plate (for wall and DIN-rail mounting)		101 2121125			·		.20
	-	ed coupler plug			6ES7194-1KA01-0X	40	1	1 unit	250
	For connect Y-assignmer	ion of two sensors to o	one M12	2 socket with					
6ES7194-1KA01-0XA0									
أكب — حيوا أ	M12 conne	cting cable			3RK1902-4PB15-3A	40	1	1 unit	42D
3RK1902-4PB15-3AA0	• 3-pole								
	 For address 	ssing AS-i slaves with	M12 hu	e connection					

AS-Interface Slaves

I/O modules for use in the field, high degree of protection > Analog I/O modules, IP67 - K60

Overview



K60 analog compact module

More information

Manual for AS-Interface analog modules, see https://support.industry.siemens.com/cs/ww/en/view/7643815

AS-Interface analog modules from the K60 compact series detect or issue analog signals locally. These modules are linked to the higher-level controller through an AS-Interface master according to specification V2.1 or specification V3.0.

The analog modules are divided into the following groups:

- · Input modules for
 - Current sensor
 - Voltage sensor
 - Thermal resistance sensors
- · Output modules for
 - Current actuators
 - Voltage actuators

The input modules according to profile 7.3/7.4 are available with two or four input channels. It is possible in addition to convert the 2-channel module to using only one input channel, thus enabling very short times before the analog value is available. The conversion is effected by means of a jumper plug at socket 3. The transmission times achieved with analog modules according to profile 7.A.9 are twice as fast as those achieved with profile 7.3/7.4. Operation is adjustable in this case, e.g. it is possible to choose with the ID1 code whether the module is operated with 1 or 2 channels.

The output modules are configured as 2-channel modules as standard.

The input and output channels are electrically separated from the AS-Interface network. If sensors with a higher power requirement are to be connected, more power can be supplied through the auxiliary voltage as an alternative to the internal supply.

In the manual (see "More information"), the modules are presented in great detail along with their technical specifications and in-depth notes on operation. Sample function blocks round off the manual.

Benefits

- Analog modules are just as easy to integrate in AS-Interface as digital modules
- Analog values can be easily detected and issued locally
- Preprocessing of the analog value transfer in the master enables rapid evaluation of the analog values
- Up to four values can be detected using one analog module
- Faster transmission and conversion of analog values thanks to the new option for switching to single-channel operation

In addition, specification V3.0 now also offers:

- A/B technology, now also with analog modules
- On average, double fast transmission times (only 3 or 4 cycles, depending on the resolution selected)
- Variable adjustable mode: 12-bit or 14-bit resolution, 1-channel or 2-channel, selectable via the ID1 code

I/O modules for use in the field, high degree of protection > Analog I/O modules, IP67 - K60

Selection and ordering data

	Version			Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
6.561	Analog I/O module analog profile 7.3	es, IP67 - K60,						
		type: Standard addr	ess					
9 0	Width 60 mm	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,						
MACROAGE		d without mounting pl	ate					
to the first to the state of th	Inputs	Type	Measuring range					
MMMR Manual I	1 or 2 inputs (selectable using jumper plug at	Current	4 20 mA or ± 20 mA (selectable) ¹⁾	3RK1207-1BQ40-0AA3		1	1 unit	42C
3RK1207-1BQ44-0AA3	socket 3)	Voltage	± 10 V or 1 5 V (selectable)	3RK1207-2BQ40-0AA3		1	1 unit	42C
		Thermal resistance	Pt100 or Ni100 or 0 600 Ω (selectable) ¹⁾	3RK1207-3BQ40-0AA3		1	1 unit	42C
	4 inputs	Current	4 20 mA or ± 20 mA (selectable)	3RK1207-1BQ44-0AA3		1	1 unit	42C
		Voltage	± 10 V or 1 5 V (selectable)	3RK1207-2BQ44-0AA3	1	1 unit	42C	
		Thermal resistance	Pt100 or Ni100 or 0 600 Ω (selectable)	3RK1207-3BQ44-0AA3		1	1 unit	42C
	Outputs	Type	Output range					
	2 outputs	Current for two-wire actuators	4 20 mA or ± 20 mA or 0 20 mA (selectable) ¹⁾	3RK1107-1BQ40-0AA3		1	1 unit	42C
		Voltage for two-wire actuators	± 10 V or 0 10 V or 1 5 V (selectable)	3RK1107-2BQ40-0AA3		1	1 unit	42C
O NE CALLED	Analog I/O module analog profile 7.A.							
	Slave addressing	type: A/B (spec. V3.	0)					
2 2	 Width 60 mm 							
RATES MANY	Modules supplied without mounting plate							
	Inputs	Туре	Measuring range					
SERVING CO.	1 or 2 inputs (variably adjustable)	Current	4 20 mA or ± 20 mA (selectable)	3RK2207-1BQ50-0AA3		1	1 unit	42C
3RK2207-2BQ50-0AA3		Voltage	± 10 V or 1 5 V (selectable)	3RK2207-2BQ50-0AA3		1	1 unit	42C

³RK2207-2BQ50-0AA3

Some modules are available in the extended temperature range (from -25 to +70 °C) and for use in harsh environmental conditions (coated according to environment standard IEC 60721).

Description	SIPLUS article number	Corresponds to module
SIPLUS AS-Interface 2AA, IP67	6AG1107-1BQ40-7AA3	3RK1107-1BQ40-0AA3
SIPLUS AS-Interface 2AI, IP67	6AG1207-1BQ40-7AA3	3RK1207-1BQ40-0AA3
SIPLUS AS-Interface 2AI, IP67	6AG1207-3BQ40-7AA3	3RK1207-3BQ40-0AA3

For more information, see www.siemens.com/siplus-extreme.

AS-Interface Slaves

I/O modules for use in the field, high degree of protection > Analog I/O modules, IP67 - K60

Accessories						
	Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
3RK1901-0CA00	K60 mounting plates Suitable for all K60 compact modules • Wall mounting • DIN-rail mounting	3RK1901-0CA00 3RK1901-0CB01		1	1 unit 1 unit	42C 42C
	M12 sealing caps	3RK1901-1KA00		100	10 units	42C
3RK1901-1KA00	Cooling oat	3RK1902-0AR00		100	5 units	42D
3RK1902-0AR00	Sealing set • For K60 mounting plate • Cannot be used for K45 mounting plate • One set contains one straight and one shaped seal	SHR 1902-UAHUU		100	Sunits	42D
3RK1901-1AA00	Jumper plug For deactivating analog input 2 on 2-channel analog input modules 3RK1207BQ40-0AA3, for screwing into M12 socket 3, connects pin 1 to pin 2, color black	3RK1901-1AA00		1	1 unit	42C

I/O modules for use in the control cabinet > Introduction

Overview



SlimLine Compact modules SC17.5F, SC17.5 and SC22.5



F90 module



Flat module

For AS-Interface applications inside control cabinets, there are various module series for the most diverse requirements:

- SlimLine Compact particularly slim design ideal for spacesaving use in the control cabinet
- F90 module particularly flat design for flat control boxes
- Flat module special design for integration into customerspecific solutions

The existing SlimLine series of modules S22.5 and S45 are being replaced by the innovative new devices in the SlimLine Compact SC17.5, SC17.5F and SC22.5 series. The previous SlimLine modules are still available as replacements for existing systems.

Available versions

The following table provides an overview of the key features of the different series of control cabinet modules.

Feature	SlimLine Compact	F90 module	Flat module
Digital I/O	✓	✓	✓
Analog I/O	✓		
Safe inputs	✓		
Relay outputs	/		
Addressing type A/B address	√		
Mounting on TH 35 DIN rail according to IEC 60715	√	1	
Wall mounting using push-in lugs	1		
Integrated lugs for screw fixing			1
Width in mm	17.5 or 22.5	90	80

- ✓ Available
- -- Not available

AS-Interface Slaves

I/O modules for use in the control cabinet > SlimLine Compact

Overview

SlimLine Compact modules



SC17.5 and SC22.5 SlimLine Compact modules with screw terminals

The AS-Interface module series for the control cabinet SlimLine Compact with degree of protection IP20 creates space in the cabinet and in distributed local control boxes. A width of just 17.5 mm or 22.5 mm ensures considerable space savings in the control cabinet.

The SlimLine Compact module series comprises not only digital and analog I/O modules but also ASIsafe modules with safe inputs. Digital outputs are available as solid-state and relay outputs.

Sensors and actuators, as well as the AS-Interface bus cable, are connected by means of removable screw or push-in spring-loaded terminals. Device connectors available as accessories offer the possibility of looping through the AS-Interface bus cable and the 24 V DC power supply $U_{\rm aux}$ from one module to additional modules. This significantly simplifies the wiring, as the AS-Interface bus cable and $U_{\rm aux}$ only have to be connected to one device.



SC22.5 SlimLine Compact module with connector with screw terminals

All devices for the connection of three-wire sensors offer the option of supplying the sensors either from the AS-Interface bus cable or alternatively from the 24 V DC voltage supply $U_{\rm aux}$ depending on the requirements of the particular application. A slide switch is used to make the selection. If supply via $U_{\rm aux}$ is selected, the wiring of the sensor terminals remains unchanged. This means that no external supply is required for the sensors.

All modules have LEDs on the front that provide diagnostics information and indicate the status of the module inputs and outputs. Devices with semiconductor outputs indicate the status of each output by means of a dual LED. Thus the status (on/off/overload) is displayed for each output. An addressing socket integrated on the front enables the module to be addressed also when it is installed. Integrated adapters permit mounting on a DIN rail – either directly for the module or for the device connector. Alternatively, the modules can also be screwmounted using push-in lugs (accessories). These lugs for screw fastening must be ordered separately.

I/O modules for use in the control cabinet > SlimLine Compact

Selection and ordering data

 $\begin{array}{ll} PU \text{ (UNIT, SET, M)} &= 1 \\ PS^* &= 1 \text{ unit} \\ PG &= 42C \end{array}$

More information

Equipment Manual, see

3RK2200-0CE00-2AA2

3RK2200-2CE00-2AA2

3RK2100-1CE00-2AA2

3RK2402-2ME00-2AA2

3RK2402-2CE00-2AA2

3RK1400-2CE00-2AA2

3RK1207-0CE00-2AA2

https://support.industry.siemens.com/cs/ww/en/view/109481489

per PU

For multi-unit packaging, see page 16/7.

Version
I/O type Width Inputs Outputs

Screw terminals

Article No. Price

Spring-loaded terminals (push-in)

Article No.

Price

per PU

SC17.5 and SC22.5 digital SlimLine Compact modules

4 inputs

4 inputs/ 4 outputs



Slave addressing type: A/B address

mm

17.5

22 5

	22.5	Three-wire	
4 outputs	22.5		2A semiconductor
4 inputs/ 2 outputs, relays	22.5	Three-wire	Relay (change-over contacts)
4 inputs/ 4 outputs, relays	22.5	Three-wire	Relay (NO contacts)

Two-wire --

Three-wire 2A

semiconductor

3RK2200-0CG00-2AA2 3RK2200-2CG00-2AA2

3RK2100-1CG00-2AA2

3RK2402-2MG00-2AA2

3RK2402-2CG00-2AA2

3RK2400-2CE00-2AA2

3RK2400-2CG00-2AA2

3RK2400-2CG00-2AA2

Slave addressing type: Standard address

4 inputs/ 22.5 Three-wire 2A semiconductor

3RK1400-2CG00-2AA2

SC22.5 analog SlimLine Compact modules



Slave addressing type: Standard

address		
4 inputs	22.5	Voltage/ current selectable (1 5 V, ± 10 V, 4 20 mA, ± 20 mA)
		Thermal resistance (Pt100, Ni100, 0 600 Ω)

22.5

3RK1207-3CE00-2AA2

3RK1207-0CG00-2AA2

3RK1207-3CG00-2AA2

-- Voltage/ current SRK1107-0BE00-2AA2

selectable (0 ... 10 V, 1 ... 5 V, ± 10 V, 0 ... 20 mA,

4 ... 20 mA, ± 20 mA) 3RK1107-0BG00-2AA2

SC17.5F ASIsafe SlimLine Compact modules

2 outputs



Slave addressing type: Standard address

auuress			
2 safe inputs	17.5	For mechanical contacts	
2 safe inputs/ 2 standard outputs	17.5	For mechanical contacts	Semiconductor $U_{\rm ASI}/U_{\rm aux}$ supply selectable

3RK1205-0BE00-2AA2

3RK1405-2BE00-2AA2

3RK1205-0BG00-2AA2

3RK1405-2BG00-2AA2

For safety modules for AS-Interface, see page 2/27 onwards.

AS-Interface Slaves

I/O modules for use in the control cabinet > SlimLine Compact

Accessor	ies						
		Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		Device connectors For electrical connection of SlimLine Compact modules (connects AS-i bus cable and 24 V DC auxiliary power supply U_{aux} when using several SlimLine Compact modules) • Width 17.5 mm • Width 22.5 mm	3RK1901-1YA00 3RK1901-1YA10		1	1 unit 1 unit	42C 42C
3RK1901- 1YA00	3RK1901- 1YA10	Device termination connectors					
		Required for the last module in the network • Width 17.5 mm • Width 22.5 mm	3RK1901-1YA01 3RK1901-1YA11		1	1 unit 1 unit	42C 42C
3RK1901- 1YA01	3RK1901- 1YA11	Removable terminals	Screw terminals	+			
2771101 05	DA00	 Screw terminals up to 2 x 1.5 mm² or 1 x 2.5 mm² 2-pole 4-pole 	3ZY1121-1BA00 3ZY1141-1BA00 Spring-loaded terminals (push-in)	•••	1 1	6 units 6 units	41L 41L
3ZY1121-2E	BAUU	 Push-in terminals up to 2 x 1.5 mm² 2-pole 4-pole 	3ZY1121-2BA00 3ZY1141-2BA00		1 1	6 units 6 units	41L 41L
STRANS .	SIGUS	Hinged covers Replacement for SlimLine Compact module, without terminal labeling • Width 17.5 mm - Titanium gray for SC17.5	3ZY1450-1AA00		1	5 units	41L
		 Yellow for SC17.5F Width 22.5 mm Titanium gray for SC22.5 	3ZY1450-1BA00 3ZY1450-1AB00		1	5 units 5 units	41L 41L
3ZY1450- 1BA00	3ZY1450- 1AB00	Push-in lugs for wall mounting Two lugs are required per device	3ZY1311-0AA00		1	10 units	41L
3ZY1311-0A	AA00	Coding pins for removable terminals For mechanical coding of the terminals	3ZY1440-1AA00		1	12 units	41L
3ZY1440-1A	AA00	Blank labels Unit labeling plates ¹⁾ • 10 mm x 7 mm, titanium gray	3RT2900-1SB10		100	816 units	41B
3RT2900-15	SB20	• 20 mm x 7 mm, titanium gray	3RT2900-1SB20		100	340 units	41B
3RA2908-1/	A	Tool for opening spring-loaded terminals Screwdriver for SIRIUS devices with spring-loaded terminals 3.0 mm x 0.5 mm, length approx. 200 mm, titanium gray/black, partially insulated	Spring-loaded terminals 3RA2908-1A	<u> </u>	1	1 unit	41B

PC labeling system for individual inscription of unit labeling plates available from: murrplastik Systemtechnik GmbH (see page 16/18).

I/O modules for use in the control cabinet > SlimLine Compact

More information



SlimLine S45 modules (picture on left) and S22.5 module (picture on right) with spring-loaded terminals

The existing SlimLine series of I/O modules for use in the control cabinet is being replaced by the new, innovative SlimLine Compact series. We recommend that these new devices are used in future.

The code conversion table below indicates the best options for replacing the existing SlimLine devices with SlimLine Compact devices.

Note:

The previous SlimLine devices are still available for use as replacements in existing systems. As a result of the innovation, the new SlimLine Compact devices are not fully compatible in terms of either mechanical dimensions or electrical properties.

The code conversion table below links the existing S22.5, S22.5F and S45 SlimLine modules with the new SC17.5, SC17.5F and SC22.5 SlimLine Compact devices.

Code conversion table

S22.5, S22.5F and S45	SlimLine		Comparison type: SC1	7.5, SC17.5F and SC22.	5 SlimLine Compact	
Screw terminals	Spring-loaded terminals	Version	Screw terminals	Spring-loaded terminals	Version	
3RK1200-0CE00-0AA2	3RK1200-0CG00-0AA2	4 DI, two-wire, standard address	3RK2200-0CE00-2AA2	3RK2200-0CG00-2AA2	4 DI, two-wire, A/B address	
3RK2200-0CE02-0AA2	3RK2200-0CG02-0AA2	4 DI, A/B address	3RK2200-2CE00-2AA2	3RK2200-2CG00-2AA2	4 DI, A/B address	
3RK1200-0CE02-0AA2	3RK1200-0CG02-0AA2	4 DI, standard address				
3RK1400-0BE00-0AA2	3RK1400-0BG00-0AA2	2 DI/2 DQ, standard address	3RK1400-2CE00-2AA2	3RK1400-2CG00-2AA2	4 DI/4 DQ, standard address	
3RK1402-0BE00-0AA2	3RK1402-0BG00-0AA2	2 DI/2 DQ relay, standard address	3RK2402-2ME00-2AA2	3RK2402-2MG00-2AA2	4 DI/2 DQ relay, A/B address	
3RK1100-1CE00-0AA2	3RK1100-1CG00-0AA2	4 DQ, standard address	3RK2100-1CE00-2AA2	3RK2100-1CG00-2AA2	4 DQ, A/B address	
3RK2400-1CE01-0AA2	3RK2400-1CG01-0AA2	4 DI/4 DQ, A/B address	3RK2400-2CE00-2AA2	3RK2400-2CG00-2AA2	2 4 DI/4 DQ, A/B address	
3RK2400-1FE00-0AA2	3RK2400-1FG00-0AA2	4 DI/3 DQ, A/B address				
3RK1400-1CE00-0AA2	3RK1400-1CG00-0AA2	4 DI/4 DQ, 1A semiconductor, standard address	3RK1400-2CE00-2AA2	3RK1400-2CG00-2AA2	semiconductor,	
3RK1400-1CE01-0AA2	3RK1400-1CG01-0AA2	4 DI/4 DQ, 2A semiconductor, standard address	_		standard address	
3RK1402-3CE01-0AA2	3RK1402-3CG01-0AA2	4 DI/4 DQ (sensor supply from U_{aux}), standard address				
3RK1402-3CE00-0AA2	3RK1402-3CG00-0AA2	4 DI/4 DQ relay, standard address	3RK2402-2CE00-2AA2	3RK2402-2CG00-2AA2	4 DI/4 DQ relay, A/B address	
3RK1205-0BE00-0AA2	3RK1205-0BG00-0AA2	2 F-DI, standard address	3RK1205-0BE00-2AA2	3RK1205-0BG00-2AA2	2 F-DI, standard address	
3RK1405-0BE00-0AA2	3RK1405-0BG00-0AA2	2 F-DI/2 DQ, standard address (outputs supplied from $U_{\rm ASI}$)	3RK1405-2BE00-2AA2	3RK1405-2BG00-2AA2	2 F-DI/2 DQ, standard address (supply $U_{\rm ASI}/U_{\rm aux}$	
3RK1405-1BE00-0AA2	3RK1405-1BG00-0AA2	2 F-DI/2 DQ, standard address (outputs supplied from U_{allx})			selectable)	

AS-Interface Slaves

I/O modules for use in the control cabinet > F90 module

Selection and ordering data

	Version				Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	
SIEMENS SIE	WidthWith C	addressing type	on:							
+ + + (0/0) 7/2 - (8/2) + (0/08 7/2 - (8/8) +	Type	Connection		Inputs	Outputs					
RG9002-0DB00	4 inputs/ 4 out- puts	Screw	(1)	Two and three-wire PNP transistor	PNP transistor 1 A	3RG9002-0DB00		1	1 unit	42C
				Two and three-wire PNP transistor	PNP transistor 2 A	3RG9002-0DA00		1	1 unit	42C
				Two and three-wire PNP transistor floating	PNP transistor 2 A	3RG9002-0DC00		1	1 unit	42C
		COMBICON ¹⁾		Two and three-wire PNP transistor	PNP transistor 1 A	3RG9004-0DB00		1	1 unit	42C
				Two and three-wire PNP transistor	PNP transistor 2 A	3RG9004-0DA00		1	1 unit	42C
				Two and three-wire PNP transistor	PNP transistor 2 A	3RG9004-0DC00		1	1 unit	42C

Scope of supply does not include COMBICON connector set 3RX9810-0AA00, this must be ordered separately, see "Accessories".

Accessories

Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
COMBICON connector set	3RX9810-0AA00		1	1 unit	42C
For 4I/4O modules with COMBICON connection; one set comprises:					
• 4 x 5-pole plug for connection					
Standard sensors/actuators					
• 2 x 4-pole plug for AS-Interface and external auxiliary voltage					

floating

I/O modules for use in the control cabinet > Flat module

Overview



The flat module for the control cabinet in degree of protection IP20 has four inputs and four outputs.

The module is fitted at the front with an LED which indicates the module's status.

With the integrated lugs, the modules can be screwed on.

An integrated addressing socket enables the module to be addressed when it is installed.

Standard sensors/actuators and the AS-Interface cable can be connected using screw terminals.

Flat module 4I/4O

	<u> </u>								
	Version	Screw terminals		PU (UNIT, SET, M)	PS*	PG			
		Article No.	Price per PU						
The same of the sa	Flat module 4I/4O	3RK1400-0CE00-0AA3		1	1 unit	42C			
3 4 8 8 1	Slave addressing type: Standard address								
	• 4 inputs/4 outputs								
SIEMENS SPICAGO-OCEO-CAAS	• 200 mA for all I/Os								
24V DC 2 200 mA									
57, F									
3RK1400-0CE00-0AA3									

AS-Interface Slaves

Modules with special functions > Counter modules

Overview



Counter module with spring-loaded terminals

The counter module is used to send hexadecimally coded count values (LSB=D0, MSB=D3) to a higher-level controller. The count value is increased by 1 for each valid count pulse at terminal 8. Beginning at 0, the module counts up to 15 and then begins again at 0. The controller adopts the current value and determines the number of pulses between two host invocations through subtraction from the previous value. The total number of count pulses is determined by adding these differences.

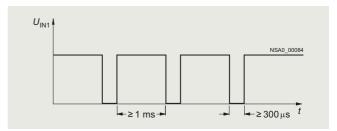
For the values sent to be unambiguous, no more than 15 count values are allowed between two host invocations or AS-Interface master invocations at terminal 8. The maximum permissible transmission frequency is calculated from these times:

$$f_{\text{Trmax}} = 15/T_{\text{max}}$$

 T_{max} : max. possible transmission time from the slave to the host

A further condition for the maximum frequency is the required pulse shape. For the counter to accept a pulse as valid, a Low must have been applied at the input for at least 300 μ s and a High for at least 1 ms.

This results in a maximum frequency of $f_{\rm Zmax}$ = 1/1.3 ms = 769 Hz independently of the control system (see figure below).



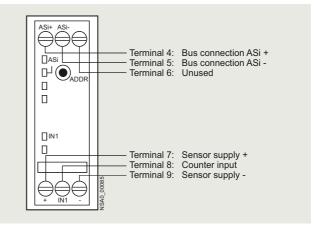
Maximum frequency for the counter module

If the time criterion stipulated in the figure is violated, the count value is rejected.

The counter is active only for the reset parameter P2 (default). The counter is deleted when P2 is set, and the incoming count pulses are not registered until after P2 is reset again.

Note:

A customized function block is necessary or must be programmed.



Counter module connection options

	Version		Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
binnen I	Counter modules Slave addressing type: Standard address						
SIGMENS	Width 22.5 mm						
	With screw terminals	+	3RK1200-0CE03-0AA2		1	1 unit	42C
T Care	With spring-loaded terminals		3RK1200-0CG03-0AA2		1	1 unit	42C
Control of the Contro							
3RK1200-0CG03-0AA2							

Modules with special functions > Ground-fault detection modules

Overview



Ground-fault detection module with spring-loaded terminals

"Ground faults in any control circuit must not lead to unintentional starting or potentially hazardous movements or prevent the machine from stopping." (IEC 60204-1/VDE 0113-1).

The AS-Interface ground-fault detection module is used to meet these requirements. Using this module from the SlimLine series, ground faults in AS-Interface systems can be reliably detected and reported.

The following ground faults are detected:

- Ground fault from AS-i "+" to ground
- Ground fault from AS-i "-" to ground
- Ground fault on sensors and actuators that are supplied from the AS-Interface voltage.

Note:

Not suitable for AS-i Power24V.

Check whether the AS-i power supply unit or the AS-i master module, etc. features integrated ground-fault detection, and therefore whether a separate ground fault detection module can be omitted.

It should be noted that an AS-i cable segment behind an AS-i repeater requires its own ground-fault monitoring.

Version		Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Ground-fault detection modules						
Width 22.5 mm						
With screw terminals	(1)	3RK1408-8KE00-0AA2		1	1 unit	42C
With spring-loaded terminals	∞	3RK1408-8KG00-0AA2		1	1 unit	42C
	Ground-fault detection modules Module does not require an AS-i address Width 22.5 mm • With screw terminals	Ground-fault detection modules Module does not require an AS-i address Width 22.5 mm • With screw terminals	Ground-fault detection modules Module does not require an AS-i address Width 22.5 mm • With screw terminals 3RK1408-8KE00-0AA2	Ground-fault detection modules Module does not require an AS-i address Width 22.5 mm • With screw terminals 3RK1408-8KE00-0AA2	Ground-fault detection modules Module does not require an AS-i address Width 22.5 mm • With screw terminals 3RK1408-8KE00-0AA2 1	Ground-fault detection modules Module does not require an AS-i address Width 22.5 mm • With screw terminals 3RK1408-8KE00-0AA2 1 1 unit

AS-Interface Slaves

Modules with special functions > Overvoltage protection modules

Overview



AS-Interface overvoltage protection module

The AS-Interface overvoltage protection module (protection module) protects downstream AS-Interface devices or individual sections in AS-i networks from conducted overvoltages which can be caused by switching operations and remote lightning strikes. The location of the protection module forms the transition from zone 1 to 2/3 within the lightning protection zone concept. Direct lightning strikes must be coped with using additional protective measures at the transitions from lightning protection zone 0A to 1.

With the AS-Interface overvoltage protection module, it is now also possible to integrate AS-Interface in the overall overvoltage protection concept of a plant or machine.

The module has the same design and degree of protection (IP67) as the AS-Interface K45 compact modules. It is a passive module and as such does not need its own address on the AS-Interface network. The module can be used to protect the AS-Interface cable and the cable for the auxiliary voltage from overvoltage. Overvoltages are discharged through a ground cable with a green/yellow oil-proof outer sheath. This cable is fixed in the module and must be connected with low resistance to the system's ground.

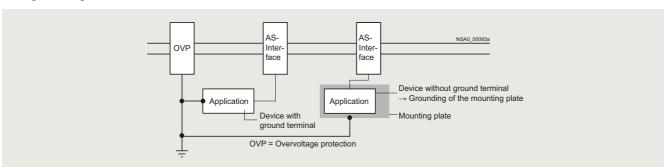
Rated discharge current Isn

The rated discharge current is the peak value of a surge current of the form 8/20 μs (microseconds), for which the protection module is designed according to a specified test program. With an 8/20 waveform, 100% of the value is achieved after 8 μs and 50% after 20 μs .

Protection level Un

The protection level of a protection module is the highest momentary value of the voltage at the terminals, established in individual tests and characterizes the capability of a protection module to limit overvoltages to a residual level.

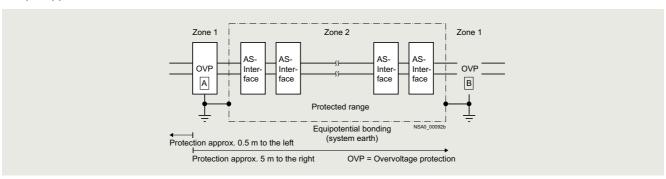
Configuration guidelines



The grounding of protection modules and the units to be protected must be effected through a shared grounding point.

If insulated devices are protected, their mounts must be included in the grounding points.

Sample application



	Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
6:5	AS-Interface overvoltage protection module Module does not require an AS-i address	3RK1901-1GA01		1	1 unit	42C
	Delivery includes mounting plate (for wall and DIN-rail mounting)					

AS-Interface

Power supply units and data decoupling modules

AS-Interface power supply units

Overview



AS-Interface power supply unit for 3 A

More information

Operating Instructions for AS-i power supply units, see https://support.industry.siemens.com/cs/ww/en/view/21489904 and https://support.industry.siemens.com/cs/ww/en/view/22317836

AS-Interface power supply units feed 30 V DC into the AS-Interface cable and supply the AS-Interface components. They include power-optimized data decoupling for the separation of communication signals and supply voltage. As the result, AS-Interface is able to convey both data and power along a single line. The power supply units are resistant to overload and short circuits.

Dimensions

AS-Interface power supply units have compact dimensions in widths of 50/70/120 mm. No distances from other devices need to be observed when mounting the power supply units.

Features

- Higher rating: The power supply units deliver currents of 2.6 to 8 A.
- Integrated data decoupling: As the result, AS-Interface is able to convey both data and power along a single line.
- Integrated ground-fault detection: The power supply units perform the reliable detection and signaling of ground faults according to IEC 60204-1. The AS-Interface voltage can be disconnected automatically in the event of a ground fault.
- Integrated overload detection: An output overload is detected and reported over a diagnostics LED.
- Diagnostics memory: Any ground faults or overloads on the output side are stored in a diagnostics memory and signaled until the device is RESET.
- Remote RESET and remote signaling: Using relay contacts, a ground fault can be signaled and evaluated by a central controller and/or indicator light.
- Diagnostics LEDs: Three different LEDs indicate the status of the AS-Interface power supply unit locally at the power supply unit.
- Ultra-wide input range/2-phase connection: The ultra-wide input range of 120 to 500 V of the 8 A version means that the supply units can be used in virtually any network worldwide. In addition, this version dispenses with the need for an N conductor as the device can be connected directly between 2 phases of a network.
- Operation with 24 V DC: The 3 A power supply unit is also available as a version with a 24 V DC input. This power supply unit is suitable for use in battery-powered systems or in systems with UPS (uninterruptible power supply).
- Removable terminal blocks with spring-loaded terminals: For easy exchanging of devices, each power supply unit has three removable terminal blocks: for the input side, for the output side and for Signal/RESET connections.

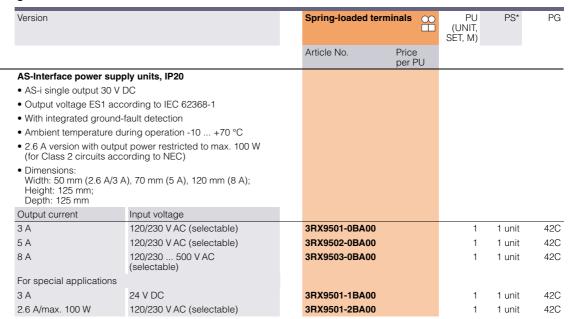
Benefits

- Complete solution for supplying AS-Interface networks while making full use of the maximum possible cable length per AS-i segment
- Only AS-i masters and AS-i slaves need to be connected to the AS-Interface cable in order to operate AS-Interface
- · Compact, space-saving dimensions
- Reliable power supply even for large numbers of AS-Interface modules with a high power requirement
- Integrated ground-fault and overload detection saves the need for additional components and enhances safety
- Fast fault detection and reduced downtimes thanks to diagnostics memory, remote signaling and Remote RESET
- Reduced downtimes as the result of removable terminal blocks which enable the fast exchanging of devices
- Ultra-wide input range of the 8 A version permits 1-phase and 2-phase operation and removes the need for an N conductor
- Can be used world-wide thanks to, for example, UL/CSA approval (UL 508)
- With the 2.6 A version, the output power is restricted to max. 100 W for use in Class 2 circuits according to NEC (National Electrical Code)

AS-Interface

Power supply units and data decoupling modules

AS-Interface power supply units







3RX9503-0BA00

AS-Interface

Power supply units and data decoupling modules

30 V power supply units

Overview



PSN130S 30 V power supply units for 3 A, 4 A and 8 A

More information

For operating instructions and other technical information, see https://support.industry.siemens.com/cs/ww/en/view/64364000 and https://support.industry.siemens.com/cs/ww/en/view/44030789

The PSN130S 30 V power supply units feed 30 V DC into the AS-Interface cable and supply the AS-Interface components, but do not include data decoupling. Data decoupling modules are needed in addition therefore to separate communication signals and control supply voltage, see page 2/71 or 2/73.

The power supply units are resistant to overload and short circuits.

Dimensions

The 30 V power supply units have compact dimensions with widths of 50 and 70 mm. No distances from other devices need to be observed when mounting the power supply units.

Features

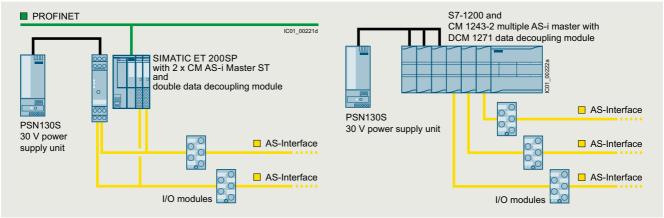
- Primary switched-mode power supplies for connection to a 1-phase AC system
- Power for currents of 3 A, 4 A and 8 A
- The output voltage is floating, and resistant to short-circuits and no-load operation. If there is an overload, the output voltage is reduced or cut-off. After a short circuit or overload, the devices start up again automatically.
- In the event of a device fault, the output voltage will be limited to max. 37 V.
- Modular installation devices in degree of protection IP20 and protection class I
- Diagnostics: With an output voltage > 26.5 V DC, the green LED (30 V O.K.) is lit and the signaling contact 13-14 is closed.

Benefits

- Low-cost alternative solution for supplying AS-Interface networks while making full use of the maximum possible cable length per AS-i segment
- · Cost advantage particularly for multiple networks
- Compact, space-saving dimensions
- Reliable power supply even for large numbers of AS-Interface modules with a high power requirement
- Can be used world-wide thanks to, for example, UL/CSA approval (UL 508)

Application

Configuration examples of AS-Interface networks with a 30 V power supply unit



Configuration of AS-Interface multiple networks with one PSN130S 30 V power supply unit (examples with schematic representation): Left: Double network based on the S22.5 double data decoupling module and a SIMATIC ET 200SP with two CM AS-i Master ST modules Right: Triple network based on the SIMATIC S7-1200 with DCM 1271 data decoupling modules and CM 1243-2 communications processors

AS-Interface

Power supply units and data decoupling modules

30 V power supply units

Technical specifications

PSN130S 30 V DC power supply unit	t	3 A	4 A	8 A
Input data				
• Input voltage, rated value $U_{\rm e}$	V AC		/, 1-phase selection	
Range of input voltage	V AC	85 132	/174 26	4
Mains frequency	Hz	50/60		
• Power consumption at full load, typ.	W	103	139	270
Output data				
 Output voltage, rated value U_a 	V DC	30		
Residual ripple	mV_{pp}	< 150		
 Output current, rated value at -20 +60 °C 	Α	3	4	8
 Max. output current at +60 +70 °C 	Α	3	3	4
Degree of efficiency under rated con	ditions			
Degree of efficiency	%	87	88	90
Power loss, typ.	W	12	17	25

	_					
PSN130S 30 V DC power supply ur	iit	3 A	4 A	8 A		
Protection and monitoring						
 Output overvoltage protection 	V	< 37				
 Current limiting, typ. 	Α	4	5.5	11		
Operating data						
Ambient temperature						
Operation	°C	-20 +70				
Transport/storage	°C	-40 +8	-40 +85			
Pollution degree		2				
Humidity class		Climate class according to DIN 50010, relative air humidity max. 100%, without condensation				
Dimensions and weight						
• Width	mm	50	50	70		
Height x depth	mm	125 x 12	6.5			
Weight	kg	0.4	0.4	0.7		

	Version	/ersion		Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
				Article No.	Price per PU			
Mill Control	PSN130S 30 V (without AS-i c	DC power supply units lata decoupling)						,
, i	 Output voltag 	e 30 V DC						
	Output voltage ES1 according to IEC 62368-1							
3RX9511-0AA00	• Dimensions: Width: 50 mm (3 A/4 A); 70 mm (8 A); Height: 125 mm; Depth: 126.5 mm							
3RX9511-0AA00	Output current	Input voltage						
444	3 A	120/230 V AC (automatic selection)		3RX9511-0AA00		1	1 unit	42C
	4 A	120/230 V AC (automatic selection)		3RX9512-0AA00		1	1 unit	42C
W. Company	8 A	120/230 V AC (automatic selection)		3RX9513-0AA00		1	1 unit	42C
3RX9512-0AA00								
3RX9513-0AA00								
3049313-UAAUU								

AS-Interface

Power supply units and data decoupling modules

S22.5 data decoupling modules

Overview



AS-Interface S22.5 double data decoupling module: Screw terminal version (picture on left), Spring-loaded terminal version (picture on right)

More information

Operating Instructions, see https://support.industry.siemens.com/cs/ww/en/view/44030789

More information on AS-i Power24V, see System Manual for AS-Interface, https://support.industry.siemens.com/cs/ww/en/view/26250840

With the aid of the S22.5 data decoupling module, the AS-Interface network can also be supplied with 24 V DC or 30 V DC from a standard power supply unit and the transmission of data and power can be realized along one cable.

The combination of data decoupling modules and standard power supply units is therefore a cost-efficient alternative to the service-proven AS-Interface power supply units.

The quality of the data signals and the reliable operation of the AS-i network are not negatively affected as the result.

Features of the S22.5 data decoupling module

- Degree of protection IP20
- Narrow design: 22.5 mm wide
- · Version with screw or spring-loaded terminals
- Versions for single and double data decoupling
- Supply of several AS-i networks with a single power supply unit
- Operation with 24 V DC or 30 V DC, grounded or non-grounded
- Adjustable current limiting up to 2 x 4 A
- Integrated ground-fault detection with fault storage, display can optionally be switched off
- Diagnostics LEDs and signaling contacts
- RESET by button or Remote RESET

Ground-fault detection

The integrated ground-fault detection works with a grounded and non-grounded supply: The connection of negative pole and ground (upstream from the data decoupling module) customary with 24 V DC power supplies is permitted. A ground fault to the negative or positive pole on the AS-Interface network (downstream from the data decoupling module) is detected and stored as a fault and will be signaled using LEDs and a relay contact.

Using the ground-fault detection in the AS-i master is recommended for non-grounded supply. In this case, the ground-fault indicator can be deactivated in the data decoupling module to avoid any unwanted LED messages.

Benefits

- Compatible expansion of the AS-Interface system
- An existing standard power supply unit with 24 V DC or 30 V DC can be used for supplying AS-i networks
- The AS-Interface system can also be used in tightly budgeted applications because no AS-Interface power supply unit needs to be purchased
- Applications benefit in addition from the advantages of a modern bus system:
 - High level of standardization
 - Additional diagnostics and maintenance information
 - Faster commissioning
- Easy and cost-efficient design of single and multiple networks is possible

Application

The AS-Interface data decoupling module is designed for AS-Interface networks with 30 V or 24 V supply (AS-i Power24V).

Operation of an AS-i network with the data decoupling module and a 30 V standard power supply unit is technically equivalent to the use of an AS-Interface power supply unit and offers the service-proven features of AS-Interface for all applications.

AS-Interface Power24V uses a 24 V power supply unit in conjunction with a data decoupling module and is particularly suitable for:

- Compact machines using AS-Interface input/output modules
- Applications in the control cabinet for AS-Interface integration of SIRIUS 3RT2 contactors using 3RA27 function modules

When using the double data decoupling module or other data decoupling units, several AS-Interface networks can be operated with a single power supply unit. This results in an additional cost advantage.

Note

The power supply units must comply with the ES1 (IEC 62368-1) or PELV (Protective Extra Low Voltage)/SELV (Safety Extra Low Voltage) standards, have a residual ripple of < 250 mV $_{\rm pp}$, and must limit the output voltage to a maximum of 40 V in the event of a fault.

We recommend

- SITOP power supplies, see page 15/1 or Catalog KT 10.1, https://support.industry.siemens.com/cs/ww/en/view/109745655
- PSN130S 30 V power supply units, see page 2/69

Note on AS-i Power24V:

The length of an AS-i Power24V network is restricted to 50 m in order to limit the voltage drop along the cable.

AS-i masters, AS-i slaves and the sensors and actuators supplied through the AS-i cable must be designed for the reduced voltage. Sensors and actuators for the standard voltage range of 10 to 30 V can be supplied with sufficient voltage.

Please also observe the requirements specified in "AS-i Power24V" for the operation of an AS-i Power24V network, see page 2/23.

For more information on AS-i Power24V, see System Manual for AS-Interface.

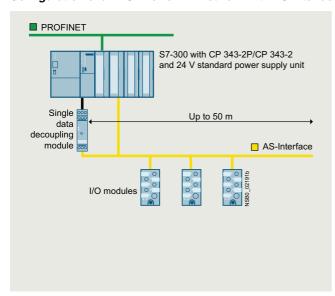
https://support.industry.siemens.com/cs/ww/en/view/26250840.

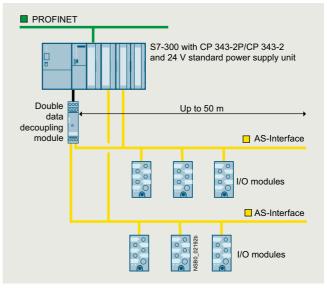
AS-Interface

Power supply units and data decoupling modules

S22.5 data decoupling modules

Configuration of an AS-i Power24V network with AS-Interface S22.5 data decoupling module





Single network Multiple network

	Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
200	S22.5 data decoupling modules With screw terminals, removable terminals, width 22.5 mm, height 101 mm, depth 115 mm	Screw terminals				
	 Single data decoupling module, 1 x 4 A 	3RK1901-1DE12-1AA0		1	1 unit	42C
3RK1901-1DE12-1AA0	Double data decoupling module, 2 x 4 A	3RK1901-1DE22-1AA0		1	1 unit	42C
in the constitution of the	S22.5 data decoupling modules With spring-loaded terminals, removable terminals, width 22.5 mm, height 105 mm, depth 115 mm	Spring-loaded terminals				
	 Single data decoupling module, 1 x 4 A 	3RK1901-1DG12-1AA0		1	1 unit	42C
3RK1901-1DG12-1AA0	Double data decoupling module, 2 x 4 A	3RK1901-1DG22-1AA0		1	1 unit	42C

AS-Interface

Power supply units and data decoupling modules

Data decoupling modules for S7-1200 > DCM 1271 data decoupling module

Overview



DCM 1271 data decoupling module for SIMATIC S7-1200

More information

Manual for AS-i Master CM 1243-2 and AS-i DCM 1271 data decoupling module, see

https://support.industry.siemens.com/cs/ww/en/view/57358958

For more information on AS-i Power24V, see System Manual for AS-Interface

https://support.industry.siemens.com/cs/ww/en/view/26250840

With the aid of the DCM 1271 data decoupling module, the AS-Interface network can also be supplied with 24 V DC or 30 V DC from a standard power supply unit and the transmission of data and power can be realized along one cable.

The DCM 1271 data decoupling module has the same enclosure design as the S7-1200 module and is therefore ideal for combining with the CM 1243-2 AS-i master.

The DCM 1271 data decoupling module has no connection to the backplane bus of the SIMATIC S7-1200 and is not counted as a communications module when calculating the maximum configuration.

Features of the DCM 1271 data decoupling module

- Design: S7-1200, width 30 mm, degree of protection IP20
- Detachable terminals (scope of supply)
- Single data decoupling
- Supply of several AS-i networks with a single power supply unit
- Operation with 24 V DC or 30 V DC, grounded or non-grounded
- · Current limiting at 4 A
- · Integrated ground-fault detection
- Diagnostics LEDs for ground faults and overloads
- Signaling contacts for ground-fault detection

Ground-fault detection

The integrated ground-fault detection works with a grounded and non-grounded supply: The connection of negative pole and ground (upstream from the data decoupling module) customary with 24 V DC power supplies is permitted. A ground fault to the negative or positive pole on the AS-Interface network (downstream of the data decoupling module) is identified and signaled via LED and a transistor output.

Benefits

- An existing standard power supply unit with 24 V DC or 30 V DC can be used for supplying AS-i networks
- The AS-Interface system can also be used in tightly budgeted applications because no AS-Interface power supply unit needs to be purchased
- Applications benefit in addition from the advantages of a modern bus system:
 - High level of standardization
 - Additional diagnostics and maintenance information
 - Faster commissioning

AS-Interface

Power supply units and data decoupling modules

Data decoupling modules for S7-1200 > DCM 1271 data decoupling module

Application

The AS-Interface data decoupling module is designed for AS-Interface networks with 30 V or 24 V supply (AS-i Power24V).

Operation of an AS-i network with the data decoupling module and a 30 V standard power supply unit is technically equivalent to the use of an AS-Interface power supply unit and offers the service-proven features of AS-Interface for all applications.

AS-i Power24V uses a 24 V power supply unit in conjunction with a data decoupling module and is particularly suitable for

- Compact machines using AS-Interface input/output modules
- Applications in the control cabinet for AS-Interface integration of SIRIUS 3RT2 contactors using 3RA27 function modules

Note:

The power supply units must comply with the ES1 (IEC 62368-1) or PELV (Protective Extra Low Voltage)/SELV (Safety Extra Low Voltage) standards, have a residual ripple of < 250 mV $_{\rm pp}$, and must limit the output voltage to a maximum of 40 V in the event of a fault.

We recommend

- SITOP power supplies, see page 15/1 or Catalog KT 10.1, https://support.industry.siemens.com/cs/ww/en/view/109745655
- PSN130S 30 V power supply units, see page 2/69

Note on AS-i Power24V:

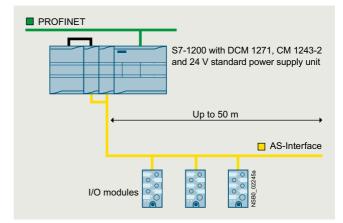
The length of an AS-i Power24V network is restricted to 50 m in order to limit the voltage drop along the cable.

AS-i masters, AS-i slaves and the sensors and actuators supplied through the AS-i cable must be designed for the reduced voltage. Sensors and actuators for the standard voltage range of 10 to 30 V can be supplied with sufficient voltage.

Please also observe the requirements specified in "AS-i Power24V" for the operation of an AS-i Power24V network, see page 2/23.

For more information on AS-i Power24V, see System Manual for AS-Interface,

https://support.industry.siemens.com/cs/ww/en/view/26250840.



Configuration of an AS-i Power24V network with DCM 1271 AS-Interface data decoupling module

AS-Interface

Power supply units and data decoupling modules

Data decoupling modules for S7-1200 > DCM 1271 data decoupling module

Selection and ordering data

	ion	Screw terminals	⊕	PU (UNIT, SET, M)	PS*	PG
		Article No.	Price per PU			
• Ma: • Rer	1 1271 data decoupling module ax. current: 1 x 4 A emovable terminals (included in the scope of supply) mensions W x H x D (mm): 30 x 100 x 75	3RK7271-1AA30-0AA0		1	1 unit	42C

Accessories

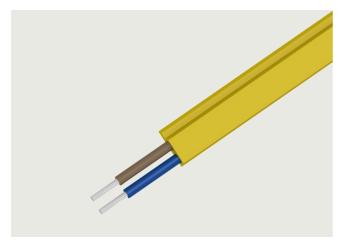
	Version	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
		Article No.	Price per PU			
	Screw terminals (spare part)					
	 5-pole, For AS-i master CM 1243-2 and AS-i DCM 1271 data decoupling module 	3RK1901-3MA00		1	1 unit	42C
	 3-pole, For AS-i DCM 1271 data decoupling module for connecting the power supply unit 	3RK1901-3MB00		1	1 unit	42C
	CM 1243-2 communications module	3RK7243-2AA30-0XB0		1	1 unit	42C
	AS-Interface master for SIMATIC S7-1200					
	 Corresponds to AS-Interface specification V3.0 					
	 Removable terminals (included in the scope of supply) 					
E-17-05	 Dimensions W x H x D (mm): 30 x 100 x 75 					
OFFICE OF A COLONIA	See also from page 2/37 onwards					
3RK7243-2AA30-0XB0						

AS-Interface

Transmission media

AS-Interface shaped cable

Overview



AS-Interface shaped cable

The actuator-sensor interface – the networking system used for the lowest field area – is characterized by very easy mounting and installation. A new connection method was developed specially for AS-Interface.

The stations are connected using the AS-Interface cable. This two-wire AS-Interface shaped cable has a trapezoidal shape, thus ruling out polarity reversal.

Connection is effected by the insulation displacement method. In other words, male contacts pierce the AS-Interface shaped cable and make reliable contact with the two wires. Cutting to length and stripping are superfluous. Consequently, AS-Interface stations (e.g. I/O modules, intelligent devices) can be connected in the shortest possible time and exchanging devices is quick.

To enable use in the most varied ambient conditions (e.g. in an oily environment), the AS-Interface cable is available in different materials (rubber, TPE, PUR).

For special applications it is also possible to use an unshielded standard round cable H05VV-F 2 x 1.5 mm² according to AS-i specification. With AS-Interface, data and energy for the sensors (e.g. proximity switches) and actuators (e.g. indicator lights) are transmitted over the yellow AS-Interface cable.

The black AS-Interface cable must be used for actuators with a 24 V DC supply (e.g. solenoid valves) and a high power requirement.

Suitable for operation in cable carriers

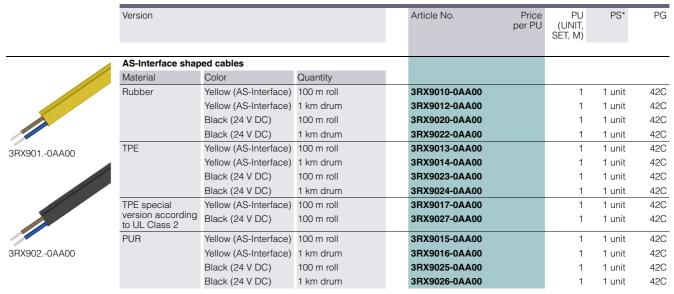
The use of the AS-Interface shaped cables with TPE and PUR outer sheath was checked in a cable carrier test with the following conditions:

Chain length	m	6
Travel	m	10
Bending radius	mm	75
Travel speed	m/s	4
Acceleration	m/s ²	4
Number of cycles		10 million
Duration of test		approx. 3 years (11 000 cycles per day)

After termination of the 10 million cycles only slight wear was visible due to the lugs of the cable carrier. No damage to the cores and core insulation could be detected.

Note:

When using a cable carrier, the cables must be installed in such a way that they are not subject to tensile forces. On no account may the cables be twisted, but they must be routed flat over the cable carrier.



System components and accessories

Repeaters

Overview



AS-Interface repeater

The AS-Interface repeater is used to extend the AS-Interface

- In its basic version, an AS-i network comprises one segment with a maximum cable length of 100 m. An extension plug (see page 2/79) can be used to increase the cable length for a segment to a maximum of 200 m.
- If this is insufficient, however, you can use one or more repeaters.

- A repeater adds an extra segment to an existing segment. The extra segment can have a cable length of up to 100 m (without extension plug) or up to 200 m (with an extension plug in the extra segment).
- Each segment requires a separate AS-i power supply unit The repeater is automatically supplied with power by the AS-i power supply units.
- Electrical separation of the two AS-Interface shaped cable lines, e.g. interfering signals or ground faults are blocked at the repeater. The wanted signals are prepared by the repeater and passed on after amplification.
- Slaves can be used on both sides of the repeater because the repeater has a symmetrical internal structure. The AS-i master can be positioned before or after the repeater.
- The additional power supply can increase the current infeed for slaves/sensors and lower the voltage drop on the AS-i cable.
- Separate display of the correct AS-Interface voltage by means of LED for each segment
- Installed in K45 module enclosure IP67 with mounting plate
- · Easy mounting

Benefits

- More possibilities of use and greater freedom for plant planning through extension of the AS-Interface network
- Reduced downtime and servicing times in the event of a fault thanks to separate display of the correct AS-Interface voltage for each side
- Increased operational reliability in extensive networks due to conditioning and amplification of the wanted signals.

Design of an AS-Interface network with repeaters

- Parallel connection of several repeaters possible (star configuration)
- · Combination of series and parallel connection possible

The following conditions apply to enable the signal propagation times to be maintained:

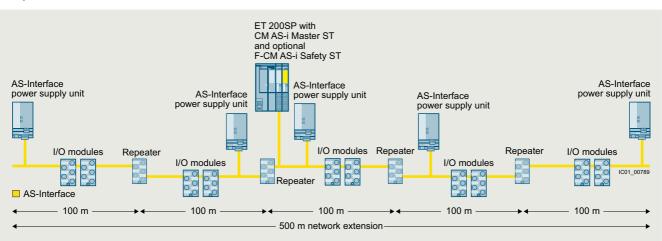
- When used without an extension plug no more than two repeaters are permitted between AS-i master and slave (repeaters connected in series)
- · When used with an extension plug no more than one repeater is permitted between AS-i master and slave

In safety-related applications the following also applies:

- When used without an extension plug, no more than two repeaters are permitted between evaluation unit (e.g. F-CM AS-i Safety ST for ET 200SP) and ASIsafe input slave or safe output module.
- When used with an extension plug, no more than one repeater is permitted between the evaluation unit (e.g. F-CM AS-i Safety ST for ET 200SP) and ASIsafe input slave or safe output module.

The open end of an AS-i bus cable must not be in the AS-Interface repeater. The AS-Interface shaped cable can be terminated by means of a cable end terminator to provide degree of protection IP67 where required, see "Miscellaneous accessories" on page 2/86.

The AS-Interface repeater is not suitable for AS-i Power24V networks. It is recommended for use in AS-Interface networks with AS-Interface power supply units (e.g. 3RX9501-0BA00).



Configuration example AS-Interface network with repeaters (without extension plugs)

AS-Interface

System components and accessories

Repeaters

Application

The repeater is used to extend the AS-Interface network. In this case there are AS-Interface slaves and one AS-Interface power supply unit on each side of the repeater.

As with all AS-Interface networks, any network topology (line, tree, star) is possible.

In a configuration example with two repeaters and three extension plugs, the maximum possible size of the AS-Interface network is 600 m, see configuration example with extension plug on page 2/79.

Selection and ordering data

	Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
and the same	Repeater for AS-Interface	6GK1210-0SA01		1	1 unit	42C
6GK1210-0SA01	 Cable extension due to expansion of an existing cable segment by an additional segment Doubling of the total cable length to 200 m when a repeater is used Amplification of the wanted signals Delivery includes mounting plate (for wall and DIN-rail mounting) Direct connection to AS-Interface shaped cable using the insulation displacement method Repeater does not require an AS-i address 					

Accessorie

es						
	Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	Cable end terminators	3RK1901-1MN00		1	10 units	42C
	For sealing open cable ends of the AS-Interface shaped cable with IP67					
1N00						



System components and accessories

Extension plugs

Overview



AS-Interface Extension Plug Compact

With the Extension Plug Compact, it is possible to double the cable length possible in an AS-Interface segment from 100 to 200 m.

Only one AS-i power supply unit is needed to supply power to the slaves on the up to 200 m long segment.

The extension plug suppresses interfering signals that can arise due to reflection at the end of a long cable. The extension plug contains no amplification of the wanted signals.

The extension plug is mounted directly on the AS-Interface shaped cable by means of the insulation displacement method and does not require its own power supply.

Design of an AS-Interface segment with an extension plug

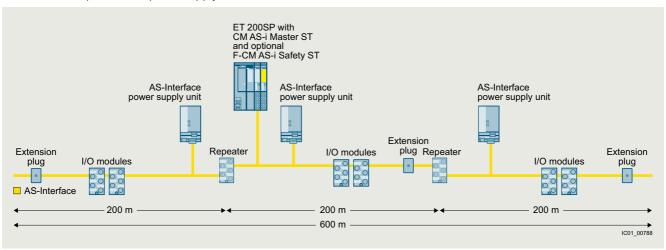
To construct an AS-Interface segment with a cable length of more than 100 m and up to a maximum of 200 m, the extension plug is installed in a radius of around \pm 10 m at the point of the network that is furthest from the AS-i power supply unit (tolerance up to 10 m from the end point). The extension plug is not allowed to be used in AS-Interface networks smaller than 100 m. Generally, any network topology (line, tree, star) is possible when using the extension plug. Only one extension plug is required per 200 m segment even with a tree or star topology.

The extension plug can be combined with the AS-Interface repeater, see page 2/78.

Note:

The open end of an AS-i bus cable must not be in the extension plug. The AS-Interface shaped cable can be terminated by means of a cable end terminator to provide degree of protection IP67 where required, see "Miscellaneous accessories" on page 2/86.

The AS-Interface extension plug is not suitable for AS-i Power24V networks. It is recommended for use in AS-Interface networks with AS-Interface power supply units (e.g. 3RX9501-0BA00).



Configuration example AS-Interface network with repeaters and extension plugs

Selection and ordering data

	<u>-</u>						
	Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	
3RK1901-1MX02	AS-Interface Extension Plug Compact Doubling of the cable length to 200 m per AS-Interface segment Direct connection to AS-Interface shaped cable using the insulation displacement method Extension Plug Compact does not require an AS-i address	3RK1901-1MX02		1	1 unit	42C	

Accessories

Accessories						
	Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	Cable end terminators For sealing open cable ends of the	3RK1901-1MN00		1	10 units	42C
3RK1901-1MN00	AS-Interface shaped cable with IP67					

AS-Interface

System components and accessories

Addressing units

Overview



The innovated addressing unit for AS-Interface of the AS-i specification V3.0

The addressing unit is used to assign an address during commissioning to each AS-Interface slave. The device detects a connected slave module or a complete AS-i network and displays the found module in the LCD display. Each address can be individually set using the Up/Down keys. By turning the rotary switch, further commissioning functions are selected intuitively. The innovative device has been adapted to the current AS-i specification V3.0 and can now also handle the I/O data of the latest slaves.

Functionality

- Reading out and adjusting the slave address 0 to 31 or 1A to 31A, 1B to 31B, with automatic addressing aid and prevention of double addresses
- Reading out the slave profile (IO, ID, ID2)
- Reading out and adjusting the ID1 code
- Input/output test when commissioning the slaves: Read input signals and write outputs with all digital and analog slaves according to AS-Interface specification V3.0, including safe input slaves and complex CTT2 slaves
- Measuring the voltage on the AS-Interface cable (measuring range from 2 to 35 V)
- Display of the operational current in case of direct connection of an AS-i slave (measuring range from 0 to 150 mA)
- Storage of complete network configurations (profiles of all slaves) to simplify the addressing
- Adjusting the slave parameters for commissioning
- Reading out the identification and diagnostics of CTT2 slaves
- Reading out the code table of safe input slaves (ASIsafe)

Note:

For operation of the addressing unit on an AS-Interface cable with connected power supply unit, the following applies: The AS-Interface addressing unit is suitable for standard AS-i networks and AS-i Power24V networks (min. operational voltage on the AS-Interface cable 19 V).

Benefits

- Increased power supply to the slaves up to 150 mA
- Better utilization of the battery capacity thanks to improved circuitry
- Support for the current AS-i specification V3.0
- Expanded display for simultaneously displaying input and output states
- Clearly recognizable display of status of digital inputs/outputs in binary format (0/1), optionally also available as hexadecimal values
- Intuitive display of analog data either as decimal, hexadecimal or as a percentage (e.g. 100% corresponds to input/output value 20 mA)
- I/O data of complex slaves (CTT2 profile) can be displayed
- Decoded display of the input data of safe input slaves, including code table
- Simplification of the operating steps when setting the slave address with automatic read back of the set address
- Addressing cable, ready for operation even without screwing in tight into the M12 socket, thus faster availability of the addressing unit
- Proven compact housing with smooth keys and rotary switch
- Connection of standard AS-i networks possible with 30 V as well as Power24V networks
- Complex slaves with high operating currents can be addressed without external supply
- Longer operating time by automatic shutdown after approx.
 5 minutes (or approx. 1 minute when data exchange is active) after last operation
- Can be used with all types of digital and analog slaves
- Comprehensive and fast input/output test of plants, even for A/B slaves with 4 DI/4 DQ and current analog modules with an A/B address
- Faster and more reliable commissioning of the AS-Interface modules
- One-hand operation possible, with unique selection of the functions
- Connection via M12 socket (pin 1: ASI+; pin 3: ASI-; pins 2, 4, 5: not used)
- Universal applicability for all AS-i networks

	Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
3RK1904-2AB02	AS-Interface addressing unit V3.0 For AS-Interface modules and sensors and actuators with integrated AS-Interface according to AS-i specification V3.0 For setting the AS-i address of slaves with standard addresses, and slaves with extended addressing mode (A/B slaves) With input/output test function and many other commissioning functions Battery operation with four type AA batteries (IEC LR6, NEDA 15) Degree of protection IP40 Dimensions (W x H x D) mm: 84 x 195 x 35 Scope of supply: Addressing unit with four batteries Addressing cable, with M12 plug to addressing plug (hollow plug), length 1.5 m	3RK1904-2AB02		1	1 unit	42C

Industrial communication **AS-Interface** System components and accessories

Addressing units

Accessories

	Version		Price er PU	PU (UNIT, SET, M)	PS*	PG
3RK1902-4PB15-3AA0	• Addressing cable, with M12 plug to M12 socket ¹⁾ • For addressing slaves with M12 connection, e.g. K20 or K60R modules or light curtains • Length 1.5 m, 3-pole, 3 x 0.34 mm ²	3RK1902-4PB15-3AA0		1	1 unit	42D
3RX9801-0AA00	AS-Interface M12 feeder Transition of AS-Interface cable to a standard round cable Insulation displacement method for connection of AS-Interface cable M12 socket for connection of standard round cable Current-carrying capacity up to 2 A Degree of protection IP67	3RX9801-0AA00		1	1 unit	42C
3RK1901-2NR10	AS-Interface M12 feeder AS-Interface cable transition without U _{aux} , with M12 socket Insulation displacement method for connection of AS-Interface cable M12 socket for connection of standard round cable Current-carrying capacity up to 4 A Degree of protection IP67/IP68/IP69 (IP69K)	3RK1901-2NR10		1	1 unit	42C
3RK1902-4HB50-5AA0	M12 cable plug ²⁾ • Extruded M12 plug (angled cable outlet 90°), other cable end open • Length: 5 m, 5-pole, color: Black	3RK1902-4HB50-5AA0		1	1 unit	42D
3RK1902-4BA00-5AA0	M12 plug, straight ²⁾ • For screw fixing, 5-pole screw terminal, max. 0.75 mm ² • A-coded, max. 4 A	3RK1902-4BA00-5AA0		1	1 unit	42D
	Addressing cable, with M12 plug to addressing plug (hollow plug) ³⁾ • Included in the scope of supply of the addressing unit • Length 1.5 m	Z236A				

 $^{^{\}rm 1)}$ Not included in scope of supply of the 3RK1904-2AB02 addressing unit.

- 3) Addressing cable available from: GMC-I Messtechnik GmbH (see page 16/18).

Not included in scope of supply of the 3HK19U4-2ABU2 addressing unit.
 For connecting the addressing unit to an AS-i network via AS-Interface M12 feeder it is necessary to establish a connection by means of a connecting cable (M12 plug to M12 connector) which must be wired as follows:

 M12 cable plug: pin 1/core brown ↔ M12 plug: pin 1
 M12 cable plug: pin 3/core blue ↔ M12 plug: pin 3
 Pin 2, 4, 5 not connected.

 Addressing cable available from:

AS-Interface

System components and accessories

Analyzer

Overview



AS-Interface analyzer

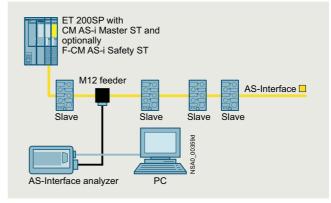
The AS-Interface analyzer is used to test AS-Interface networks.

Installation errors, e.g. loose contacts or EMC interference under extreme loads, can be revealed by this unit.

Thanks to the easy-to-use software the user can assess the quality of complete networks even if he lacks detailed specialist knowledge of AS-Interface. In addition it is an easy matter with the AS-Interface analyzer to create test logs from the records produced, thus providing documentation for startups and service assignments.

For advanced AS-Interface users there are trigger functions for detailed diagnostics.

Connection



Connection of AS-Interface analyzer to PC and AS-Interface network

The AS-Interface analyzer follows the communication on the AS-Interface network as a passive station. The unit is supplied simultaneously from the AS-Interface cable.

This analyzer interprets the physical signals on the AS-Interface network and records the communication.

The data thus obtained are transferred through an RS 232 interface to a PC such as a notebook, for evaluation with the supplied diagnostics software.

Benefits

- Simple and user-friendly operation enables diagnostics of AS-Interface networks without help from specialists
- Speedy troubleshooting thanks to intuitive display in statistics mode
- Test logs provide verification of the state and quality of the installation for service and approval
- Recorded logs facilitate remote diagnostics by Technical Support
- Comprehensive trigger functions enable exact analysis
- Process data can be monitored online

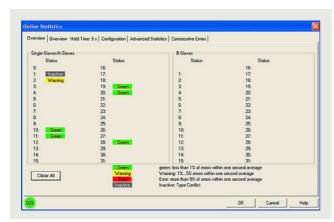
AS-Interface

System components and accessories

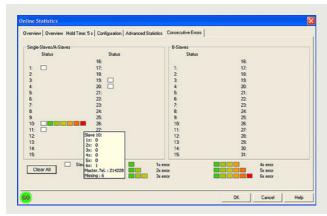
Analyzer

Application

Online statistics



Online statistics, overview



Online statistics, details, e.g. here a fault on slave 10

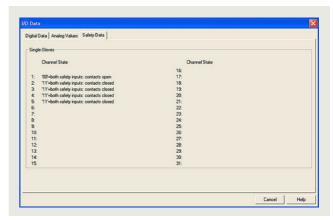
This mode provides a quick overview of the existing AS-Interface system. The error rates are displayed per slave in a traffic-light function (green, yellow, red).

The bus configuration and the currently transmitted data of the slaves are shown in a well arranged presentation.

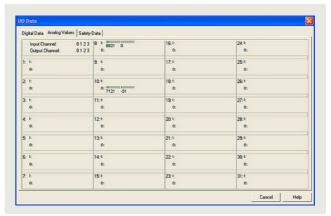
With the expanded statistics function, it is possible to determine the error rates as the number of transmitted or faulty bus message frames.

The bundle error overview shows in steps how many multiple repetitions of message frames occurred in order to enable a selective and look-ahead assessment of the transmission quality.

Data mode



Presentation of the I/O data: Safety data



Presentation of the I/O data: Analog values

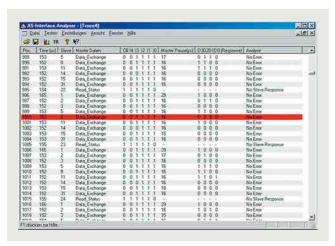
In this mode, the analyzer shows not only the digital input/output values but also the current analog values and the input status of the safety slaves.

AS-Interface

System components and accessories

Analyzer

Trace mode



Presentation of message frames in trace mode

The presentation of message frames in the style of a classic fieldbus analyzer is indispensable for complex troubleshooting. Extensive trigger functions and recording and viewing filters are available for this purpose. An external trigger input and trigger output round off the scope of functions in order to find even the most difficult errors.

For troubleshooting in connection with ASIsafe applications, changes of status in the code tables of safety slaves are identified and assessed.

The AS-i analyzer can be used with an AS-i master according to AS-Interface specification V3.0 or a predecessor version.

The analyzer does not automatically decode the process values for type CTT2 - CTT5 AS-i slaves. As for other slave types, the message frames are recorded and evaluated in the statistics. If required, decoding can also be performed by the user manually.

For more information, see

https://support.industry.siemens.com/cs/ww/en/view/109746763.

Test log



Example of a test log

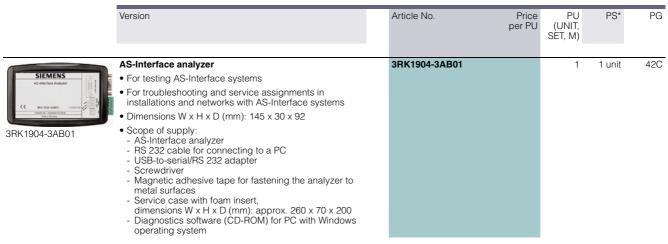
The recorded data of the online statistics are easy to output and document using a test log. Verification of the state of the plant can thus be provided for approvals or service assignments.

The integrated measurement assistant records the bus signals for a variable duration, thereby triggering creation of an automatic test log. A standardized quality test of AS-i plants is thus possible.

Note:

The AS-Interface analyzer is suitable for standard AS-i networks and AS-i Power24V networks (min. operational voltage 20 V).

Selection and ordering data



Note:

Download the current version of the diagnostics software for PC with Windows operating system, see

https://support.industry.siemens.com/cs/ww/en/view/109750259.

Industrial communication AS-Interface System components and accessories

Analyzer

Accessories

	Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	AS-Interface M12 feeder	3RX9801-0AA00		1	1 unit	42C
	 Transition of AS-Interface shaped cable to a standard round cable 					
3RX9801-0AA00	 Insulation displacement method for connection of AS-Interface cable 					
	M12 socket for connection of standard round cable					
	Current-carrying capacity up to 2 A					
	Degree of protection IP67					
SIEMENS SEXUOI	AS-Interface M12 feeder	3RK1901-2NR10		1	1 unit	42C
3BK1901-2NB10	Insulation displacement method for connection of AS-Interface cable					
CHICIOUT ZIWITO	 M12 socket for connection of standard round cable 					
	 Current-carrying capacity up to 4 A 					
	 Degree of protection IP67/IP68/IP69 (IP69K) 					
	M12 cable plug	3RK1902-4HB50-5AA0		1	1 unit	42D
	PUR cable, 5-pole					
	• Length 5 m					
3RK1902-4HB50-5AA0	Color black					
	 Extruded M12 plug (angled cable outlet 90°), other cable end open 					

AS-Interface

System components and accessories

Miscellaneous accessories

Selection and ordering data

More information

System Manual for AS-Interface, see https://support.industry.siemens.com/cs/ww/en/view/26250840

	Version				Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
lancar O	AS-Interfa	ace compact distribu	itor, for A	S-Interface flat			1	1 unit	42C
		carrying capacity up							
3RK1901-2NN10		of protection IP67/IP6							
	For flat cable	For	Cable length	Cable end in feeder					
	AS-i or U _{aux}	Flat cable AS-i or $U_{\rm aux}$		Not available	3RK1901-2NN10		1	1 unit	42C
•	AS-Interfa	ace M12 feeder							
The same of the sa	 Current- 	carrying capacity up	to 2 A						
0DV0004 0AA00		of protection IP67							
3RX9801-0AA00	For flat cable	For	Cable length	Cable end in feeder					
	AS-i	M12 socket		Available	3RX9801-0AA00		1	1 unit	42C
	AS-Interfa	ace M12 feeders							
Sideral Control	• Current-	carrying capacity up	to 4 A						
©	• Degree	of protection IP67/IP6	8/IP69 (IP6	69K)					
3RK1901-2NR10	For flat	For	Cable	Cable end in					
Dia.	cable AS-i	M12 socket	length	feeder Not available	3RK1901-2NR10		1	1 unit	42C
6	AS-i	M12 cable box	1 m	Not available	3RK1901-2NR11		1	1 unit	42C
	AS-i	M12 cable box	2 m	Not available	3RK1901-2NR12		1	1 unit	42C
	AS-i/U _{aux}	M12 socket		Not available	3RK1901-2NR20		1	1 unit	42C
	AS-i/U _{aux}	M12 cable box	1 m	Not available	3RK1901-2NR21		1	1 unit	42C
	AS-i/U _{aux}		2 m	Not available	3RK1901-2NR22		1	1 unit	42C
3RK1901-2NR21									
A = 100	AS-Interfa	ace M12 feeder, 4-fol	d						
. (1)	 Current- 	carrying capacity up	to 4 A						
@ 1		of protection IP67							
— ⊕ 1	For flat cable	For	Cable length	Cable end in feeder					
3RK1901-1NR04	AS-i/U _{aux}	4-fold M12 socket, delivery includes mounting plate (for wall and DIN-rai mounting)		Not available	3RK1901-1NR04		1	1 unit	42C
200	M12 Y-sh	aped coupler plug			6ES7194-1KA01-0XA0		1	1 unit	250
CEC7104 1KA01 0KA0	For conne Y-assignm	ection of two sensors t nent	o one M12	socket with					
6ES7194-1KA01-0XA0	ΔS-Interf	ace sealing caps		_					
		M12 sockets							
		ard version			3RK1901-1KA00		100	10 units	42C
3RK1901- 3RK1901-	- Tampe				3RK1901-1KA01			10 units	42C
1KA00 1KA01									
		M8 sockets			3RK1901-1PN00		100	10 units	42C
3RK1901-1PN00	- Standa	ard version							
OTIL TOO IS IT INOU	AS-Interf	ace M20 seals			3RK1901-1MD00		100	10 units	42C
		nterface shaped cabl	е		OTTETOOT THE DOO		100	70 driito	120
4.0		rtion in M20 glands							
3RK1901-1MD00		-							

Industrial communication AS-Interface System components and accessories

Miscellaneous accessories

	Version	Article No. Pr	rice PU PU (UNIT,	PS*	PG
		,	SET, M)		
	Cable adapters for flat cables				
	Connection of AS-Interface cable to metric gland with insulation displacement method				
	Continuation using standard cable				
ĺ	- For M16 gland	3RK1901-3QM00	1	1 unit	42C
	- For M20 gland	3RK1901-3QM10	1	1 unit	42C
 3RK1901-3QM00	Continuation using pins	0D1/4004 0OM04		4 0	400
	- For M16 gland - For M20 gland	3RK1901-3QM01 3RK1901-3QM11	1	1 unit 1 unit	42C 42C
4 .	Cable clips for cable adapters	3RK1901-3QA00		10 units	42C
2DK1001 20 A00					
3RK1901-3QA00	Cable end terminators	3RK1901-1MN00	1	10 units	42C
	For sealing open cable ends of the	CHICLOUT HIMITOC	· ·	TO dilito	120
Low Option	AS-Interface shaped cable with IP67				
Miller areas					
3RK1901-1MN00	Manuskin v vlaka				
SEMESS Seminoral Seminoral	Mounting platesK45, suitable for all K45 compact modules				
e e	- For wall mounting	3RK1901-2EA00	1	1 unit	42C
	- For DIN-rail mounting	3RK1901-2DA00	1	1 unit	42C
	K60, suitable for all K60 compact modules				
	- For wall mounting	3RK1901-0CA00	1	1 unit	42C 42C
3RK1901- 3RK1901- 2EA00 0CA00	- For DIN-rail mounting	3RK1901-0CB01	1	1 unit	420
22/100 00/100	Sealing set	3RK1902-0AR00	100	5 units	42D
	For K60 mounting plate				
2D1/4000 04 D00	Cannot be used for K45 mounting plate				
3RK1902-0AR00	One set contains one straight and one shaped seal				
	Control cable, assembled at one end Angled M12 socket for screw fixing, 4-pole, 4 x 0.34 mm ² ,				
3RK1902-4GB50-4AA0	A-coded, black PUR sheath, max. 4 A				
	Cable length 5 m	3RK1902-4GB50-4AA0	1	1 unit	42D
	M12 socket, angled	3RK1902-4CA00-4AA0	1	1 unit	42D
	For screw fixing, 4-pole screw terminals, max. 0.75 mm ² , A-coded, max. 4 A				
4					
3RK1902-4CA00-4AA0					
	M12 plugs For screw fixing, 5-pole screw terminals, max. 0.75 mm ² ,				
	A-coded, max. 4 A				
3RK1902-4BA00-5AA0	• Straight	3RK1902-4BA00-5AA0	1	1 unit	42D
	Angled	3RK1902-4DA00-5AA0	1	1 unit	42D
3RK1902-4DA00-5AA0					
	Control cables, assembled at one end				
	Angled M12 plug for screw fixing, 5-pole, 5 x 0.34 mm ² ,				
3RK1902-4H5AA0	A-coded, black PUR sheath, max. 4 A				
	Cable length 1.5 m	3RK1902-4HB15-5AA0	1	1 unit	42D
	Cable length 5 mCable length 10 m	3RK1902-4HB50-5AA0 3RK1902-4HC01-5AA0	1	1 unit 1 unit	42D 42D
	Control cable, assembled at both ends	3RK1902-4PB15-3AA0	1	1 unit	42D
3RK1902-4PB15-3AA0	Straight M12 plug, straight M12 socket, for screw fixing,				
	3-pole, 3 x 0.34 mm ² , A-coded, black PUR sheath, max. 4 A				
	Cable length 1.5 m				
	 Also for addressing AS-i slaves with M12 bus connection (e.g. K20, K60R compact modules, 				
	M200D motor starters)				

IO-Link Introduction

Communication overview

Overview

More information

Homepage, see www.siemens.com/io-link TIA Selection Tool Cloud (TST Cloud), see www.siemens.com/tstcloud/?node=loLink

For important topics at a glance, see https://support.industry.siemens.com/cs/ww/en/view/109737170

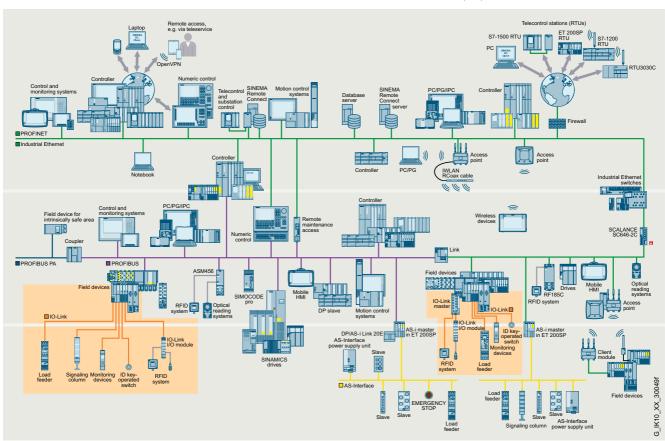


Video: The open communication standard IO-Link

https://assets.new.siemens.com/siemens/assets/api/uuid:7460eb69-efa0-4426-9213-af4d3619b567/dffa-10447-01broschuereiolinkdeengb-144.pdf

IO-Link is an open communication standard for sensors and actuators – defined by the PROFIBUS User Organization (PNO). IO-Link technology is based on the point-to-point connection of sensors and actuators to the control system.

Parameter and diagnostics data are transmitted in addition to the cyclic operating data for the connected sensors/actuators. The simple, unshielded three-wire cable customary for standard sensors is used for this purpose.



IO-Link in the SIMATIC NET communications landscape

Industrial communication IO-Link Introduction

Communication overview

Benefits

Engineering

- Standardized, open system for greater flexibility (non-Siemens IO-Link devices can be integrated in engineering)
- Uniform, transparent configuring and programming through integrated engineering (SIMATIC STEP 7)
- Unassigned SIMATIC function blocks for easy parameterization, diagnostics and read-out of measured values
- Efficient engineering thanks to pre-integration into SIMATIC HMI
- Low error rate in CAD circuit diagram design as a result of reduced control current wiring

Installation and commissioning

- Faster assembly with minimized error rate as a result of reduced control current wiring
- Less space required in the control cabinet
- Low-cost circuitry where there are several feeders by making full use of existing components

Operation and maintenance

- High transparency in the system right down to field level and integration into energy management systems
- Reduction in downtimes and maintenance times thanks to system-wide diagnostics and faster fault correction
- Support of predictive maintenance
- Shorter changeover times, even for field devices, by means of parameter and recipe management

Application

IO-Link can be used in the following main applications:

- Easy connection of complex IO-Link sensors/actuators with a large number of parameters and diagnostics data to the control system
- Wiring-optimized replacement of sensor boxes for connecting binary sensors with the IO-Link input modules
- Optimized cable connection of switching devices to the control system
- Simple transmission of energy values from the device to the control system for integration into a user program or energy management

In these cases, all the diagnostics data are transmitted to the higher-level control system through IO-Link. The parameter settings can be changed during operation.

Integration in STEP 7

Integration of the device configuration in the STEP 7 environment guarantees:

- · Quick and easy engineering
- · Consistent data storage
- · Quick localization and rectification of faults

IO-Link Introduction

System components

Overview



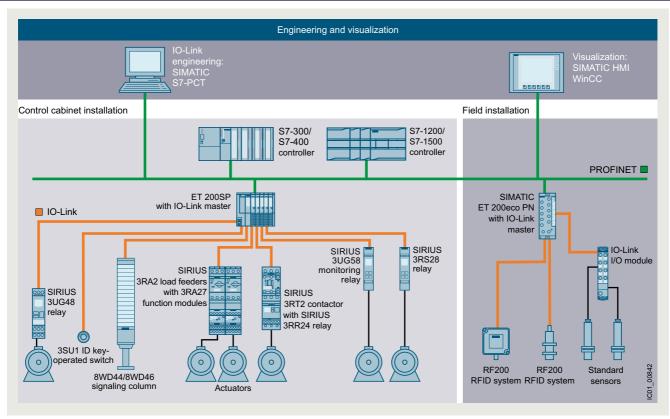
IO-Link product family

To implement communication, a system installation has the following main components:

- An IO-Link master moduleOne or more IO-Link devices, such as sensors (e.g. RFID systems), actuators or combinations thereof
- A standard three-wire sensor/actuator cable

IO-Link Introduction

System components



Example of a configuration with the system components

IO-Link compatibility

IO-Link ensures compatibility between IO-Link-capable modules and standard modules as follows:

- IO-Link sensors can generally be operated both on IO-Link modules (masters) and standard input modules.
- IO-Link sensors/actuators as well as today's standard sensors/actuators can be used on IO-Link master modules.
- If conventional components are used in the IO-Link system, then of course only the standard functions are available at this point.

Analog signals

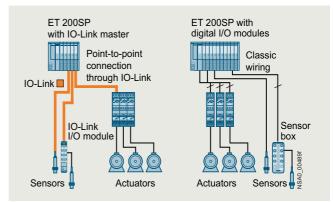
Another advantage of IO-Link technology is that analog signals are already digitized in the IO-Link sensor itself and are digitally transmitted via IO-Link communication. As the result, faults are prevented and there is no extra cost for cable shielding.

Enhancement with IO-Link input modules

IO-Link compatibility also permits connection of standard sensors/actuators, i.e. conventional sensors/actuators can also be connected to IO-Link. This is particularly cost-effective with the IO-Link input modules, which allow several sensors to be connected at one time via a cable to the controller.

Load feeders and motor starters

Through IO-Link it is possible to control not only sensors but also actuators in the form of load feeders and motor starters.



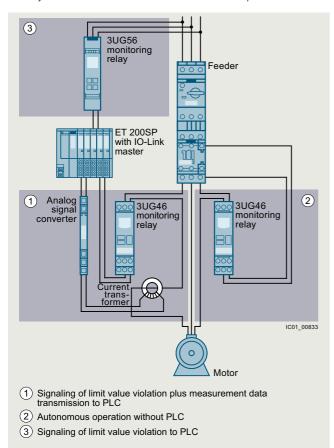
Possibilities of connecting load feeders and motor starters to IO-Link or in the conventional way

IO-Link Introduction

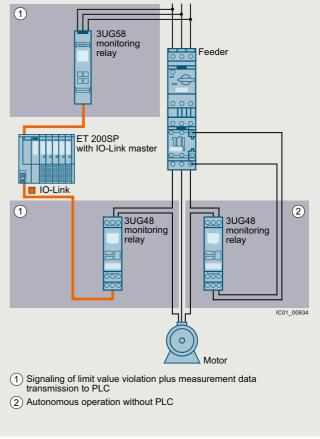
System components

Monitoring relays

By using monitoring relays with IO-Link it is now possible to send data that has already been recorded and evaluated in the devices directly to the controller. This avoids the use of duplicated sensors.



Possibilities for interfacing conventional 3UG56/3UG46 monitoring relays (in comparison with 3UG58/3UG48)



Possibilities of interfacing 3UG58/3UG48 monitoring relays for IO-Link

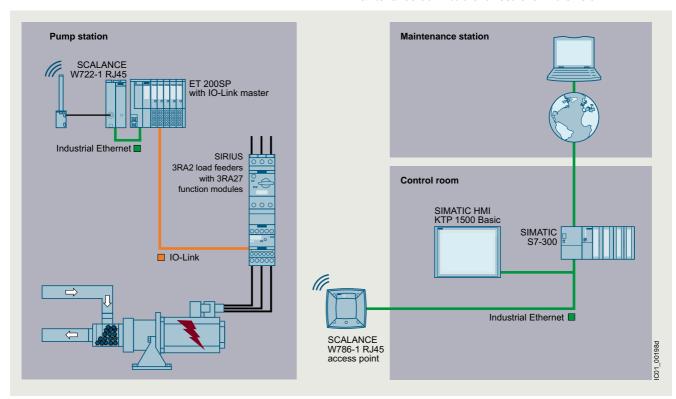
IO-Link Introduction

System components

Wireless communication

Using an upstream IWLAN client module, such as SCALANCE W722-1 RJ45, allows IO-Link to be integrated into the PROFINET world via a distributed I/O. Possible uses include acting as an alternative to fault-prone cable carrier or collector wire technology.

The individual diagnostics options offered by the various IO-Link devices provide greater transparency for the production process. Just like the parameter data for a device, these diagnostics data can be evaluated remotely using the possibilities offered by SIMATIC. This supports remote maintenance down to the lowest level in the field.



Wireless communication between Industrial Ethernet and IO-Link components

IO-Link Introduction

System components

IO-Link components

IO-Link master modules



Masters

IO-Link master module for S7-1500

CM 8xIO-Link, see page 2/97

IO-Link master module for S7-1200

• SM 1278 4xIO-Link, see page 2/98

IO-Link master module for ET 200SP

• CM 4xIO-Link V1.1 Standard, see page 2/99

IO-Link master module for ET 200pro

• 4 IO-Link HF, see page 2/100

IO-Link master modules for ET 200eco PN

- IO-Link master 4 IO-L + 8 DI + 4 DO 24 V DC/1.3 A
- IO-Link master 4 IO-L
- IO-Link master 8 IO-L + 4 DI 24 V DC

See page 2/101

IO-Link master module for ET 200AL

• CM IO-Link, see page 2/103

For full product range, see Catalog ST 70

IO-Link devices



IO-I ink I/O modules

Detection and output with IO-Link

IO-Link digital modules

IO-Link I/O modules

- IO-Link, digital input modules DI 8 x DC 24 V, 8 x M8
- DI 16 x DC 24 V, 8 x M12
- IO-Link, digital output modules
 DQ 8 x 24 V DC/2 A, 8 x M12
- IO-Link, digital input/output modules
- DIQ 4+DQ 4 x 24 V DC/0.5 A, 8 x M8
- DIQ 16 x 24 V DC/0.5 A, 8 x M12

See page 2/104

Switching with IO-Link

Contactors and contactor assemblies



SIRIUS 3RA23 reversing contactor assemblies, up to 55 kW, see page 3/143 onwards

SIRIUS 3RA24 contactor assemblies for star-delta (wye-delta) starting, up to 90 kW, see page 3/159 onwards

SIRIUS 3RA27 function modules

• For direct-on-line, reversing, and star-delta (wye-delta) starting with IO-Link connection, see page 3/106 onwards

Motor starters for use in the control cabinet



SIRIUS 3RA2711

function module

for IO-Link

SIRIUS 3RA64 direct-on-line starter



SIRIUS 3RR24 monitoring relay

SIRIUS 3RA64, 3RA65 compact starters for IO-Link for high-feature applications

- 3RA64 direct-on-line starters, see page 8/67
- 3RA65 reversing starters, see page 8/68

Infeed system for 3RA6, see page 8/76 onwards

Accessories, see page 8/69 onwards

Monitoring with IO-Link

SIRIUS 3RR24 monitoring relays for mounting on 3RT2 contactors for IO-Link

- Monitoring of current, phase failure, open circuit and phase sequence
- Designed for mounting on 3RT2 contactors
- Terminal supports for stand-alone installation for separate mounting

See page 10/55 onwards

IO-Link devices (continued)

SIRIUS 3UG58 monitoring relay



SIRIUS 3UG48 monitoring relay



SIRIUS 3RS28 temperature monitoring relay



SIRIUS ACT 3SU1 ID key operated switch



SIRIUS ACT 3SU1 electronic module



8WD46 signaling column for IO-Link



8WD44 signaling column



adapter element

Monitoring with IO-Link

SIRIUS 3UG58 monitoring relays for stand-alone installation for IO-Link

- Line monitoring (phase failure, phase sequence, phase asymmetry, undervoltage and overvoltage, N conductor failure, and frequency)
- Can be used in all networks from 160 to 690 V AC
- Freely configurable delay times and RESET response

See page 10/62 onwards

SIRIUS 3UG48 monitoring relays for stand-alone installation for IO-Link

- Monitoring the supply system, voltage, current, power factor and active current, residual current or speed depending on device design
- On/tripping delay time can be adjusted

See page 10/101 onwards

SIRIUS 3RS28 temperature monitoring relays for IO-Link

- Digital device for temperature monitoring with connected sensors
- Two limit values, can be adjusted separately See page 10/121 onwards

Actuating and indicating with IO-Link

SIRIUS ACT 3SU1 ID key-operated switches for

- · Access system and selection system for four authorization levels
- Authentication of groups and persons
- Five ID keys with different codingOption for individual coding via IO-Link
- For installation in enclosures or fastening on front plate • Electronic module for ID key-operated switches must

be ordered separately See page 13/12

SIRIUS ACT 3SU1 electronic modules for IO-Link

- Eight digital inputs and outputs possible
- DI and DQ freely selectable (programmable)
- Input and output functions parameterizable
- Connection method (push-in) For fastening on front plate or for installation in enclosure, see page 13/89

Electronically configurable 8WD46 signaling columns, 70 mm diameter

Signaling columns for IO-Link, with or without audible

- Configuration of signaling column via IO-Link interface (IODD) • Fast connection of signaling columns to application
- using 4-pole M12 plugs Via the IO-Link interface, the pattern, color and brightness of the individual segments
- (9 to 15 segments) can be set • The audible signal can also be set (volume, type of

sound up to 105 dB). See page 13/164 onwards

8WD44 signaling columns, 70 mm diameter

- Up to five signaling elements can be connected using an IO-Link adapter element
- 24 V DC, diameter 70 mm
- Connection with bayonet mechanism
 For fastening on feet, 8WD44
- · Connection elements with screw or spring-loaded terminals or connection element with 5-pole M12 plug

See page 13/171 onwards

IO-Link Introduction

System components

IO-Link RFID systems



SIMATIC RF200 RFID system in the HF range

Products SIMATIC RF210R, SIMATIC RF220R, SIMATIC RF240R, SIMATIC RF250R, SIMATIC RF260R

- Simple identification tasks such as reading an ID number (UID)
- Reading of user data
- Writing of user data
- No RFID-specific programming, ideal for those new to RFID
- Simple connection via master modules for IO-Link, such as SIMATIC S7-1200, ET 200SP, ET 200pro, ET 200eco PN and ET 200AL
- Use with the tried and tested ISO 15693 transponders (MDS xxx)

See Catalog ID 10

IO-Link SITRANS



FM100

IO-Link

SITRANS FM100

Magnetic-inductive sensor with a compact design for basic applications of various process and OEM industries

- Flow rate and temperature measurement
- · Proportioning function with external control
- Configurable multiparameter TFT color display

Compact, capacitive limit switches with two-wire technology for measuring levels of water-based liquids,

See Catalog FI 01

SITRANS LCS050



LCS050

sludge, and foam in tight spaces.

- Low maintenance
 Easy-to-read 360° status display
- M12 plug for easy connection

See Catalog FI 01

IO-Link Device Description (IODD)



IODD files for IO-Link



IODDfinder for IO-I ink

IODD files

These files provide the device description for IO-Link devices

- Comprehensive IODD catalog of SIEMENS IO-Link
- Freely available for downloading from SiePortal, see https://support.industry.siemens.com/cs/ww/en/ps/15851

IODDfinder

The entire world of IO-Link under one roof

The IODDfinder is a service provided by the IO-Link community. It is a central cross-vendor database for descriptive files (IODDs). In addition, the platform provides an overview of the available IO-Link devices.

For more information, see https://ioddfinder.io-link.com/#/.

IO-Link software



S7-PCT

S7-PCT (Port Configuration Tool)

Engineering software for configuring the IO-Link master modules for SIMATIC S7-1200, ET 200SP, ET 200MP, ET 200pro, ET 200eco PN and ET 200AL

- Available as a stand-alone version or integrated into STEP 7 (V5.5 SP1 and higher) and TIA (V12 and higher)
- Engineering of the IO-Link devices connected to the master
- Monitoring of the process image of the IO-Link devices
- Open interface for importing further IODDs
- Freely available for downloading from SiePortal, see https://support.industry.siemens.com/cs/ww/en/view/32469496

Library for IO-Link (LIOLink)

This library provides blocks and PLC data types to enable communication between the SIMATIC controller and the IO-Link master module or IO-Link device.

• Freely available for downloading from SiePortal, see https://support.industry.siemens.com/cs/ww/en/view/82981502

Library for IO-Link (LIOLink)

WFB50001 "IO_LINK_DEVICE"

IO-Link device function block

Application of the device-specific blocks for IO-Link

This application shows on a specific example how easy it is to connect Siemens IO-Link devices to a SIMATIC S7 CPU using the library for IO-Link (LIOLink).

• Freely available for downloading from SiePortal, see https://support.industry.siemens.com/cs/ww/en/view/90529409

IO-Link Introduction

IO-Link specification

Overview

Principles of the IO-Link specification

According to the IO-Link specification, communication functions as follows:

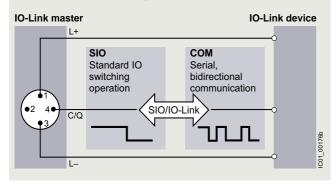
- Transmission takes place via an unshielded three-wire cable no more than 20 m long, of the kind normally used for standard sensors.
- Digital communication from 0 to 24 V on the so-called C/Q cable
- Most of the values transmitted are measured values from the sensors
- The sensors and actuators are described by the IO Device Description (IODD)
- As a matter of principle, one IO-Link device can be connected to one IO-Link port of the master (point-to-point connection)
- The transfer rates between IO-Link master module and the devices are as follows:
 - Via COM1: 4 800 Bd- Via COM2: 38 400 Bd- Via COM3: 230 400 Bd
- The average cycle time is 2 ms for the reading/writing of 16 data bits at a transfer rate of 38 400 Bd

IO-Link protocol

The IO-Link protocol supports both the Standard IO mode (SIO) and the IO-Link communications mode (COM).

Interface hardware:

- compatible with sensors according to IEC 60947-5-2 and actuators
- · communication and switching possible alternately



The structure of the protocol and its message frames depends on the types of data to be transmitted.

Data types

The IO-Link specification makes a distinction between the following data types:

Process data

The process data of the devices are transferred cyclically in a data frame, with the process data width defined by the device. Process data of 0 to 32 bytes are possible per device (input and output in each case). The consistency width of the transmission is not fixed and therefore depends on the master.

Value status

Each port has a value status (PortQualifier). The value status indicates whether the process data are valid or invalid. The value status can be transferred cyclically with the process data.

Device data

Device data can be parameters, identification data and diagnostics information. Device data replacement is acyclic and in response to an inquiry from the IO-Link master module. Device data can be written into the device (Write) and also read from the device (Read).

Events

When an event occurs, the device sends a signal to the master to report that an event is active. The master then reads out the event. Events can be fault messages (e.g. short circuit) and warnings/maintenance data (e.g. contamination, overheating). Fault messages are transferred from the device via the IO-Link master module to the controller or HMI. The IO-Link master module can also transfer events and states. Events include, for example, open circuit or communication breakdown.

Device parameters and events are sent independently of the cyclic transmission of process data. The transmissions do not affect or impair each other.

Data storage

As of specification V1.1, a data storage concept has been created for IO-Link. In this concept, the IO-Link device initiates storage of its data on a higher-level parameter server. In the event that a device is replaced, the parameter server can restore the original parameterization. It is therefore possible to replace the devices without reparameterization.

The IO-Link master module contains the parameter server. The parameter server can also be implemented centrally in the PLC or in a system server. In this case the data must be downloaded to the control system by means of the function blocks provided.

IO-Link master modules

The IO-Link master module is the interface to higher-level control systems. The IO-Link master module presents itself to the fieldbus as a normal fieldbus node, and is integrated into the appropriate network configurator via the relevant device description (GSD file).

IO Device Description (IODD)

The IO Device Description (IODD) has been defined to provide a full, transparent description of system characteristics as far as the IO-Link device.

The IODD contains information on communication characteristics, device parameters, identification, process and diagnostics data, and is supplied by the manufacturer. The design of the IODD is the same for all devices from all manufacturers, and is always presented in the same way by the IODD interpreter tools. This therefore ensures that the handling is the same for all IO-Link devices, whatever the manufacturer.

New in IO-Link specification V1.1

The IO-Link specification is currently available in Version 1.1, and standardized according to IEC 61131-9.

Specification V1.1 offers the following new features compared with the previous specification V1.0:

- Transmission of up to 32 bytes of process data in one cycle
- Parameter server function

IO-Link Masters

IO-Link master module for S7-1500 > CM 8xIO-Link

Overview



CM 8xIO-Link master

- Communications module for connecting up to 8 IO-Link devices (three-wire connection) or 8 standard sensors
- Can be used directly downstream of an S7-1500 CPU or distributed in ET 200MP via PROFINET or PROFIBUS
- Powerful diagnostics functions facilitate preventive maintenance to avoid plant standstills
- Simple replacement of sensors/actuators without timeconsuming parameterization

Application

IO-Link makes it easy to change the parameters for manufacturing and processing different product versions and batches, even during CPU runtime, down to the sensor/actuator level. Easy, much more detailed diagnostics are also possible down to the sensor or actuator, including remote diagnostics.

The CM 8xIO-Link enables direct connection of up to 8 IO-Link devices directly to SIMATIC S7-1500 and ET 200MP. This makes external stations unnecessary.

This results in savings on wiring, engineering and commissioning, Configuration because everything can be configured centrally with the CPU.

Design

- Fastening to the S7-1500 mounting rail with a single screw
- 40-pole front connector, optionally with screw terminals or push-in terminals
- Front connector with expandable cable compartment

Included in the scope of supply:

- · One U connector
- Front door

Function

Overview of functions

- Suitable for connecting up to 8 IO-Link devices (three-wire connection) or 8 standard sensors
- IO-Link master module according to IO-Link specification V1.1
- Data transfer rates COM1 (4.8 kBd), COM2 (38.4 kBd), COM3 (230.4 kBd)
- Parameterizable diagnostics can be set for each channel
- Master backup with "IO_Link_MASTER_8" function block
- Replacement of the IO-Link device (for V1.1 devices only)
- Support for firmware updating of IO-Link devices
- Variable address range for I/O data with up to 240 byte inputs and 240 byte outputs; **Expansion limits:**
 - Max. 32 bytes of input data and 32 bytes of output data per port
 - Max. 240 bytes of input data and 240 bytes of output data per module
- Port Qualifier Information (PQI)
- IO-Link port configuration with S7-PCT
- IO-Link port configuration with STEP 7 or GSD (without S7-PCT)
- Standard system functions of SIMATIC ET 200MP:
 - Identification and maintenance data IMO
 - Firmware update
 - Unambiguous module inscription on the front

The SIMATIC S7-1500 IO-Link master module of the S7-1500 can be conveniently configured using the graphical user interface in the free S7 Port Configuration Tool (S7-PCT, V3.5 and higher, SP1).

In addition to this configuration, commissioning without S7-PCT is also possible. In this case, the port is configured by means of either the TIA Portal or GSD file. The following port modes are supported:

- Operation in "IO-Link autostart" mode (default)
- · Operation in "IO-Link manual" mode
- Operation as DI
- Deactivated

Selection and ordering data

Selection and orden						
	Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
6ES7E47 1 IEON OADO	CM 8xIO-Link communications module Communications module for connecting up to 8 IO-Link devices (three-wire connection) or 8 standard sensors	6ES7547-1JF00-0AB0		1	1 unit	219
6ES7547-1JF00-0AB0						

For more information, see https://mall.industry.siemens.com/mall/en/ww/Catalog/Products/10355273.

IO-Link Masters

IO-Link master module for S7-1200 > SM 1278 4xIO-Link master

Overview



SM 1278 4xIO-Link master

Module for connecting up to four IO-Link devices according to the IO-Link specification V1.1. The IO-Link parameters are configured by means of the Port Configuration Tool (PCT) with version V3.2 and higher.

Application

The SM 1278 module enables an exchange of data with up to four external IO-Link devices through one three-wire cable each or four standard actuators or standard encoders. Control can be flexibly adapted to the communication partners using the comprehensive parameter assignment options. Since IO-Link is compatible with standard sensors, commercially available sensors compliant with IEC 61131 Type 1 can also be operated on the IO-Link master.

Design

- Expansion limits
- Cable length: Max. 20 m
- Max. 32 bytes of input data and 32 bytes of output data per port
- Max. 32 bytes of input data and 32 bytes of output data per module

LED displays

- DIAG: Operating state display (green/red) of the module
- C1..C4: Port status display (green) for ports 1, 2, 3 and 4
- Q1..Q4: Channel status display (green) for ports 1, 2, 3 and 4
- F1..F4: Port error display (red) for ports 1, 2, 3 and 4

Depending on the CPU type used, up to 8 SM 1278 units can be used on one S7-1200 CPU.

Function

Supported functions

- I&M identification data
- Firmware update
- SIO mode (standard IO mode)
- IO-Link parameter assignment with the S7-PCT interface configuration tool, TIA Portal from V13 and an S7-1200 CPU V4.0 or higher

Supported data transfer rates

- COM1 (4.8 kBd)
- COM2 (38.4 kBd)
- COM3 (230.4 kBd)

Selection and ordering data

	Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
6ES7278-4BD32-0XB0	SM 1278 4xIO-Link master signal module For connecting up to four IO-Link devices according to the IO-Link specification V1.1	6ES7278-4BD32-0XB0		1	1 unit	212

Accessories

	Version	Article No.	Price per PU		PS*	PG
6ES7292-1AG30-0XA0	Terminal blocks (spare part) 7-pole, tin-plated; 4 units • Screw terminals • Push-in terminals	6ES7292-1AG30-0XA0 6ES7292-2AG30-0XA0		1	4 units 4 units	212 212

For more information, see https://mall.industry.siemens.com/mall/en/ww/Catalog/Products/10231178.

IO-Link Masters

IO-Link master module for ET 200SP > CM 4xIO-Link V1.1 Standard

Overview



CM 4xIO-Link

- CM 4xIO-Link communications module Serial communications module for connecting up to four IO-Link devices according to the IO-Link specification V1.0 and V1.1. The IO-Link parameters are configured by means of the Port Configuration Tool (PCT) with version V3.0 and higher.
- Time-based IO

Time-based IO ensures that signals are output with a precisely defined response time. By combination of inputs and outputs, products passing by, for example, can be measured exactly or liquids can be perfectly dosed.

- Supported data transfer rates

 - COM1 (4.8 kBd) COM2 (38.4 kBd)
 - COM3 (230.4 kBd)
- Expansion limits
 - Cable length: Max. 20 m
 - Max. 32 bytes of input data and 32 bytes of output data per port
 - Max. 144 bytes of input data and 128 bytes of output data per module

- ET 200SP system functions supported
 - Exchange of IO-Link device parameters (V1.1 devices only) and of IO-Link master module parameters without a PG including automatic backup recovery without an engineering tool by means of redundant parameter storage on the e-coding element
 - Reparameterization during ongoing operation
 - I&M identification data
 - Firmware update
 - PROFlenergy
- Can be plugged onto type A0 BaseUnits (BU) with automatic e-coding
- LED displays
 - DIAG: Operating state display (green/red) of the module
 - C1..C4: Port status display (green) for ports 1, 2, 3 and 4
 - Q1..Q4: Channel status display (green) for ports 1, 2, 3 and 4
 - F1..F4: Port error display (red) for ports 1, 2, 3 and 4
 - PWR: Supply voltage display (green)
- Informative module inscription on the front
 - Plain-text marking of the module type and function class
 - 2D matrix code (Article No. and serial number)
 - Circuit diagram
 - CM module class color coding: Silver
 - Hardware and firmware version
 - Complete article number
- Optional accessories
 - Labeling strips
 - Equipment labeling plate
 - Color-coded label with color code CC04
- Optional system-integrated shield connection

Application

- The CM 4xIO-Link communications module enables an exchange of data with up to 4 external IO-Link devices through one three-wire cable each.
- Control can be flexibly adapted to the communication partners using the comprehensive parameter assignment options.
- Since IO-Link is compatible with standard sensors commercially available sensors compliant with IEC 61131 Type 1 can also be operated on the IO-Link master.

Selection and ordering data

	Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
6ES7137-6BD00-0BA0	CM 4xIO-Link V1.1 Standard communications module • Serial communications module for connecting up to 4 IO-Link devices, time-based IO, BU type A0, color code CC04	6ES7137-6BD00-0BA0		1	1 unit	255
0E07 107 0BB00 0B/10						

For more information, see https://mall.industry.siemens.com/mall/en/ww/Catalog/Products/10205200.

IO-Link Masters

IO-Link master module for ET 200pro > 4 IO-Link HF

Overview



- 45-mm-wide 4 IO-Link HF electronic module
- 4 IO-Link ports according to IO-Link specification V1.1
- Port Class B
- The IO-Link parameters are configured using the Port Configuration Tool (S7-PCT), version V3.4 and higher

4 IO-LINK HF

Application

The 4 IO-Link HF electronic module enables the exchange of data with up to 4 IO-Link devices.

Since IO-Link is compatible with standard sensors, commercially available sensors compliant with IEC 61131 Type 1 can also be operated on the IO-Link master.

Design

The 4 IO-Link HF electronic module is used together with the CM IO-LINK 4 X M12 P connection module. Sensors and actuators are integrated using commercially available 3- or 5-pole M12 plugs on the CM IO-Link 4 X M12 P.

IO-Link devices (e.g. sensors) with Port Class A are interconnected by means of a three-wire cable. IO-Link devices that require an additional supply voltage and have a Port Class B (e.g. actuators) are interconnected by means of a five-wire cable.

Selection and ordering data

	Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
6ES7147-4JD00-0AB0	4 IO-Link HF electronic module 4 IO-Link ports acc. to IO-Link specification V1.1 Port Class B High Feature Channel diagnostics Including bus module Connection module must be ordered separately	6ES7147-4JD00-0AB0		1	1 unit	250

Accessories

Version	Article No. Price per PU		PG
CM IO-LINK 4 X M12 P connection module	6ES7194-4CA20-0AA0	1 1 unit	250
4 M12 sockets for connection of IO-Link devices to ET 200pro 4 IO-Link HF electronic module			
Module labeling plates	6ES7194-4HA00-0AA0	1 500 units	250
For color coding of CM IOs in the colors white, red, blue and green; pack of 100			
M12 sealing caps	3RX9802-0AA00	100 10 units	42C
For protection of unused M12 terminals on ET 200pro			

For more information, see https://mall.industry.siemens.com/mall/en/ww/Catalog/Products/10304039.

IO-Link Masters

IO-Link master module for ET 200eco PN > IO-Link master

Overview



IO-Link master with 2 x M12-L coded power plug and 45-mm width

- IO-Link communications modules for connecting up to 8 IO-Link devices
- Versions: IO-Link master module
 - with 4x Port Class A and 4x Port Class B and additional 4 digital inputs,
 - with 4x Port Class A and an additional 12 digital inputs/outputs or
 - with 8x Port Class A and an additional 8 digital inputs/outputs
- The IO-Link specifications V1.0 and V1.1 are supported.



IO-Link master with 2 x M12-A coded power plug and 30-mm width

- IO-Link communications modules for connecting up to 4 IO-Link devices
- IO-Link master with 4 x Port Class B
- The IO-Link specifications V1.0 and V1.1 are supported.



IO-Link master with 2 x M12-A coded power plug and 60-mm width

- IO-Link communications modules for connecting up to 4 IO-Link devices
- IO-Link master with 4 x Port Class A and additional 8 digital inputs and 4 digital outputs
- The IO-Link specification V1.0 is supported.

IO-Link Masters

IO-Link master module for ET 200eco PN > IO-Link master

Application

IO-Link enables easy integration of sensors and actuators from different manufacturers. ET200eco PN IO-Link master I/O devices enable an exchange of data with up to 4 or 8 IO-Link devices.

IO-Link devices (e.g. sensors) with Port Class A are interconnected by means of a three-wire cable. IO-Link devices that require an additional supply voltage and have a Port Class B (e.g. actuators) are interconnected by means of a five-wire cable.

Since IO-Link is compatible with standard sensors, commercially available sensors compliant with IEC 61131 Type 1 can also be operated on the IO-Link master.

With a high degree of protection, ruggedness and small dimensions, the IO-Link master I/O devices are especially well-suited for use at the machine level in confined spaces. They have adjustable parameters and diagnostics functions and can therefore be flexibly adapted to individual process requirements.

Function

In addition to the general functions of the ET 200eco PN I/O system, the IO-Link masters according to the IO-Link specification V1.1 have some further functions:

- Supported data transfer rates of the IO-Link communication
 - COM1 (4.8 kBd)
 - COM2 (38.4 kBd)
 - COM3 (230.4 kBd)

- Expansion limits
- Cable length to the IO-Link device: Max. 20 m
- Max. 32 bytes of input data and 32 bytes of output data per IO-Link port
- Automatic backup of device parameters when the IO-Link device is replaced (V1.1 devices only)
- Reparameterization of the device during operation using a PLC function block
- Master backup using a PLC function block
- · Support for firmware updates of IO-Link devices
- Configuration using a GSD file or S7-PCT

Selection and ordering data

	Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	ET 200eco PN IO-Link masters					
	 4 IO-L + 8 DI + 4 DO, 24 V DC/1.3 A; 8 x M12, degree of protection IP67, enclosure width 60 mm; for connecting up to 4 IO-Link devices according to IO-Link specification V1.0 and Port Class A as well as an additional 8 digital inputs and 4 digital outputs 	6ES7148-6JA00-0AB0		1	1 unit	257
	 4 IO-L; 4 x M12, degree of protection IP67, enclosure width 30 mm; for connecting up to 4 IO-Link devices according to IO-Link specifications V1.0 and V1.1 and Port Class B 	6ES7148-6JD00-0AB0		1	1 unit	257
6ES7148-6J.00-0.B0	8 IO-L + 4 DI 24 V DC; 8 x M12, degree of protection IP67, enclosure width 45 mm; for connecting up to 8 IO-Link devices according to IO-Link specifications V1.0 and V1.1, 4 x Port Class A + 4 x Port Class B as well as an additional 4 digital inputs	6ES7148-6JG00-0BB0		1	1 unit	257
	8 IO-L + 8 DIQ 24 V DC; 8 x M12, degree of protection IP67, enclosure width 45 mm; for connecting up to 8 IO-Link devices according to IO-Link specifications V1.0 and V1.1, 8 x Port Class A as well as an additional 8 digital inputs/outputs	6ES7148-6JJ00-0BB0		1	1 unit	257
	4 IO-L + 12 DIQ 24 V DC; 8 x M12, degree of protection IP67, enclosure width 45 mm; for connecting up to 4 IO-Link devices according to IO-Link specifications V1.0 and V1.1, 4 x Port Class A as well as an additional 12 digital inputs/outputs	6ES7148-6JE00-0BB0		1	1 unit	257

For more information, see https://mall.industry.siemens.com/mall/en/ww/Catalog/Products/10370454.

Industrial communication IO-Link Masters

IO-Link master module for ET 200AL > CM IO-Link

Overview



CM IO-Link communications module

- CM IO-Link communications module, 30 mm wide
- For connecting up to 4 IO-Link devices according to the IO-Link specifications V1.0 and V1.1 and Port Class B
- The IO-Link parameters are configured by means of the S7-PCT Port Configuration Tool with version V3.2 and higher.

Application

The CM IO-Link communications module supports data exchange between up to four IO-Link devices. IO-Link devices (e.g. sensors) with Port Class A are interconnected by means of a three-wire cable. IO-Link devices, which require an additional supply voltage and have a Port Class B (e.g. actuators), are interconnected by means of a five-wire cable.

Since IO-Link is compatible with standard sensors, commercially available sensors compliant with IEC 61131 Type 1 can also be operated on the IO-Link master.

The 30-mm-wide I/O modules are ideally suited for use in extremely confined spaces. They have adjustable parameters and diagnostics functions and can therefore be flexibly adapted to individual process requirements.

The following IO-Link master modules are available:

• CM 4x IO-Link, 4x M12 communications module

Design

The I/O modules have a screw mounting hole at the front and side, and can be mounted in any position. As a result, they are extremely flexible to install on either a level surface or on aluminum mounting rails using sliding blocks.

The CM IO-Link communications module features:

 A backplane bus connection (ET connection) with M8 connection technology for connection to an interface module or other I/O modules

- A power supply connection with M8 connection technology with loop-through
- · LED display for port status
- · LED display for channel status in SIO mode
- LED display for module status (DIAG)
- LED display for load voltage 2L+ (PWR)
- Labeling plates for channel, module and slot identification
- Integrated cable tie holder
- Informative module inscription on the front:
 - Plain text marking of module type
 - Interface marking
 - LED label
- Informative module inscription on the side:
 - Article number, function level and FW version
 - 2D matrix code (Article No. and serial number)
 - Pin assignments of all interfaces

Labeling plates for channel, module and slot identification are supplied with the modules. These labeling plates can be inscribed using commercially available inscription machines.

Function

- IO-Link master module according to IO-Link specification V1.1
- · 4 ports, Class B type
- Supported data transfer rates
 - COM1 (4.8 kBd)
- COM2 (38.4 kBd)
- COM3 (230.4 kBd)
- Expansion limits
 - Cable length: Max. 20 m
 - Max. 32 bytes of input data and 32 bytes of output data per port
 - Max. 32 bytes of input data and 32 bytes of output data per module
- Automatic backup of device parameters when the IO-Link device is replaced (V1.1 devices only)
- Reparameterization during ongoing operation
- Standardized display and diagnostics concept:
 - Port status display (port activated or deactivated, green LED)
 - Channel status display for signal state in SIO mode (green LED)
 - Module status display (DIAG, red/green LED)
- Display for monitoring the load voltage 2L+ (PWR, green LED)
- Supported functions:
- Detailed module-level diagnostics and diagnostic interrupt
- Identification and maintenance data IM0 ... IM3
- Firmware update
- PROFlenergy

Selection and ordering data

	<u> </u>					
	Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	CM IO-Link CM 4x IO-Link, 4x M12; for connecting up to 4 IO-Link devices according to the IO-Link specifications V1.0 and V1.1 and Port Class B	6ES7147-5JD00-0BA0		1	1 unit	254
6ES7147-5JD00-0BA0						

For more information, see https://mall.industry.siemens.com/mall/en/ww/Catalog/Products/10233997.

IO-Link

IO-Link digital modules

IO-Link I/O modules

Overview



IO-Link I/O modules

The IO-Link communication standard enables and standardizes communication between machine and plant control systems on one hand and sensors, actuators and other field devices on the other

The IO-Link I/O modules permit simple connection of binary standard sensors and actuators and the signals and power supply are transmitted via IO-Link (IO-Link master module).

The IO-Link IO modules can be connected to any IO-Link master and distributed I/O units that are independent of the fieldbus can be built. The universal deployability of the IO-Link DIQ I/O modules provides additional versatility.

With the ET 200AL IO-Link I/O modules, a rounded portfolio of digital input, digital output and digital input/output modules is available in the design and with the ET 200AL system features.

Application

IO-Link can provide advantages as a communications system, e.g. when complex sensors and actuators are to be used. These IO-Link devices can be connected via an IO-Link master and be integrated into the automation system with reduced effort, e.g. for cabling.

If such an IO-Link master is available, further binary sensor/actuator signals can be integrated in the field via the IO-Link I/O modules without great effort. IO-Link masters can be expanded with the IO-Link I/O modules to form a modular

I/O station, with which distributed signals can be detected and output in the plant or machine.

The following IO-Link I/O modules are available:

- IO-Link, digital input module DI 8 x 24 V DC, 8 x M8
- IO-Link, digital input module DI 16 x 24 V DC, 8 x M12
- IO-Link, digital output module DQ 8 x 24 V DC/2 A, 8 x M12
- IO-Link, digital input/output module DIQ 4+DQ 4 x 24 V DC/0.5 A
- IO-Link, digital input/output module DIQ 16 x 24 V DC/0.5 A

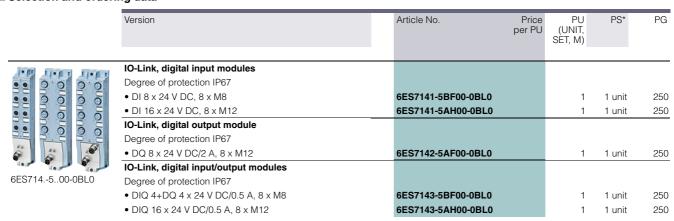
Function

- Standardized display and diagnostics concept:
 - Channel status display for signal status log. "0" and log. "1" (green LED)
 - Module status display (DIAG, red/green LED)
 - Display for monitoring the load voltage 2L+ (PWR, green LED, only modules with outputs)
- Supported functions:
 - Channel-specific parameterization
 - Detailed module-level diagnostics and diagnostic interrupt
 - Safety-related tripping of digital outputs according to IEC 62061 (SILCL2) and ISO 13849-1 (Cat 3/PL d)
 - IO-Link V1.1
 - Support for the "general profile" of IO-Link
 - Firmware update

Engineering

The engineering of the IO-Link I/O modules is performed via IO-Link engineering of the relevant IO-Link master module. For this purpose, one device description file (IODD) per IO-Link I/O module is provided.

Selection and ordering data



For more information, see https://mall.industry.siemens.com/mall/en/ww/Catalog/Products/10383153.





	Price groups
0/0	PG 41B, 41E, 41H, 42F
3/2	Introduction
	Power contactors for switching motors
3/8	General data
3/18	SIRIUS 3RT contactors, 3-pole up to 250 kW
	Accessories for SIRIUS 3RT contactors and SIRIUS 3RH2 contactor relays
3/71	- General data
3/83	- Auxiliary switches, instantaneous NEW
3/100	- Auxiliary switches, delayed
3/102	- Surge suppressors
3/104	- Modules for contactor control
3/109	- Link modules
3/115 3/118	Connection modules/adaptersCovers
3/119	- Miscellaneous accessories
0,110	Spare parts for SIRIUS 3RT contactors
	and SIRIUS 3RH2 contactor relays
3/122	- Solenoid coils
3/126	- Contacts and arc chutes
3/127	SIRIUS 3RT12 and 3TF6 vacuum contactors
3/134	Accessories and spare parts for SIRIUS 3RT12 and 3TF6 vacuum contactors
3/139	3TG10 power relays/miniature contactors
	Reversing contactor assemblies
3/143	SIRIUS 3RA23 reversing contactor assemblies, up to 55 kW
3/154	Reversing contactor assemblies consisting of SIRIUS 3RT1 and 3TF6 contactors, up to 335 kW
	Contactor assemblies for star-delta
	(wye-delta) starting
3/159	SIRIUS 3RA24 contactor assemblies
	for star-delta (wye-delta) starting,
	up to 90 kW
3/172	Contactor assemblies for star-delta
	(wye-delta) starting consisting of
	SIRIUS 3RT and 3TF6 contactors, up to 710 kW
	ap to 7 to KW

Introduction

Overview



Overview of the 3RT and 3TF contactors

Introduction

More information

Homepage, see www.siemens.com/sirius

SiePortal, see www.siemens.com/product?3RT_3TK_3TC

Conversion tool, see www.siemens.com/conversion-tool TIA Selection Tool Cloud (TST Cloud), see www.siemens.com/tstcloud/?node=Contactor





		00000				0 0 10					
Size Type		S00 3RT201				S0 3RT202					
3RT20 contactors											
Туре		3RT2015	3RT2016	3RT2017	3RT2018	3RT2023	3RT2024	3RT2025	3RT2026	3RT2027	3RT2028
AC, DC operation		(p. 3/47, 3	/54 3/57)			(p. 3/48	3/50, 3/58 .	3/60, 3/62	2)		
AC-3 and AC-3e											
I _e /AC-3/AC-3e/400 V	Α	7	9	12	16	9	12	17	25	32	38
400 V 230 V	kW kW	3 1.5	4 2.2	5.5 3	7.5 4	4 2.2	5.5 3	7.5 4	11 5.5	15 7.5	18.5 11
500 V	kW	6	7.7	9.2	12.4	9	12	4 17	18	32	32
690 V	kW	4	5.5	5.5	7.5	7.5	7.5	11	11	18.5	18.5
1 000 V	kW										
AC-4 (at $I_a = 6 \times I_e$) 400 V	kW	3	4	4	5.5	4	5.5	7.5	7.5	11	11
400 V (200 000 operating cycles		1.15	2	2	2.5	2	2.6	7. 5 3.5	4.4	6	6
AC-1 (40 °C, ≤ 690 V)) NVV	1.10			2.0	2	2.0	3.3	4.4	0	0
I _e	Α	18	22	22	22	40	40	40	40	50	50
Accessories for contactor	·c										
Auxiliary • On the front	3	3RH29, 3F	3428	(n	3/91 3/100	3BH20 3F	3428			(n. 3)	/91 3/100)
switches • Lateral		3RH29	IAZU	VI	o. 3/95 3/99	1	IAZU			NI -	3/95 3/99)
Function modules • Direct-on-line starting, star-delta (wye starting)		3RA281.				3RA281.					(p. 3/105)
• IO-Link, AS-In	terface		AA00	**	. 3/106, 3/107		AA00				3/106, 3/107)
Surge suppressors		3RT2916		(p.	. 3/102, 3/103	3RT2926				(p. 3	3/102, 3/103)
3RU2 and 3RB3 overload	relays	;									
3RU thermal overload relays		3RU2116	0.11 16	A	(p. 7/86)	3RU2126	1.8 40 A	١			(p. 7/86)
3RB electronic overload relay	s	3RB3016, 3RB3113	0.1 16 A	(p. 7/98	, 7/100, 7/102	3RB3026, 3RB3123	0.1 40 A	1		(p. 7/98, 7	7/100, 7/102)
3RV20 motor starter prote	ctors										
Motor starter protectors		3RV2011	0.11 16	A	(p. 7/26	3RV2021	0.45 40	Α			(p. 7/27)
Link modules		3RA1921,	3RA2911		(p. 7/61)	3RA2921					(p. 7/61)
3RA23 reversing contacto	r asse	emblies									
Complete units	Туре	3RA2315	3RA2316	3RA2317	3RA2318		3RA2324	3RA2325	3RA2326	3RA2327	3RA2328
		(p. 3/150)					(p. 3/151)				
400 V	kW	3	4	5.5	7.5		5.5	7.5	11	15	18.5
Assembly kits/wiring modules	3	3RA2913-	2AA.		(p. 3/109		3RA2923-	2AA.			(p. 3/109)
Function modules		3RA271	BA00		(p. 3/106		3RA271	BA00			(p. 3/106)
3RA24 contactor assembl	ies fo	r star-delt	a (wye-del	lta) startin	g						
Complete units		3RA2415		3RA2417		3RA2423		3RA2425	3RA2426		
		(p. 3/168)				(p. 3/169)					
400 V	kW	5.5	7.5	11		11		15/18.5	22		
Assembly kits/wiring modules	3	3RA2913-	2BB.		(p. 3/110	3RA2923-	2BB.				(p. 3/110)
Function modules		3RA271	CA00		(p. 3/106	3RA271	CA00				(p. 3/106)

Note:

Safety characteristics for contactors, see "Standards and approvals", page 16/9.

Introduction





		2 0 0							
Size		S2 3RT203				S3			
Type 3RT20 contact	otors	3H12U3				3RT204			
Type	Clors	3RT2035	3RT2036	3RT2037	3RT2038	3RT2045	3RT2046	3RT2047	
AC, DC operation	on.		, 3/61, 3/63, 3/6		3H12U30		3, 3/61, 3/64, 3/6		
AC-3 and AC-3		(p. 3/31, 3/33	, 3/01, 3/03, 3/0	00)		(p. 3/32, 3/3	3, 3/01, 3/04, 3/0	55)	
I _e /AC-3/AC-3e/4		41	51	65	80	80	95	110	
400 V	kW	18.5	22	30	37	37	45	55	
230 V	kW	11	15	18.5	22	22	22	30	
500 V 690 V	kW kW	22 22	30 22	37 37	37 45	45 55	55 75	75 90	
1 000 V	kW				45	37	37	37	
AC-4 (at $I_a = 6$)	× I _e)					1			
400 V	kW	18.5	22	30	37	37	45	55	
	operating cycles) kW	11.6	12.6	14.7	15.8	17.9	22	24.3	
AC-1 (40 °C, ≤ 6	,	1				1			
I _e	A	60	70	80	90	125	130	130	
Accessories	for contactors					,			
	 On the front 	3RH29, 3RA2	28		(p. 3/91 3/100)	,	28	(p. 3/91 3/100)
	Lateral	3RH29			(p. 3/95 3/99)	3RH29			(p. 3/95 3/99)
Function modules	 Direct-on-line starting, star-delta (wye-delta) starting 	3RA28			(p. 3/105)	3RA28			(p. 3/105)
	IO-Link, AS-Interface	3RA271AA	.00		(p. 3/106, 3/107)	3RA271A	400		(p. 3/106, 3/107)
Surge suppressors		3RT2936 (p. 3/102, 3/103)			3RT2936, 3F	3RT2936, 3RT2946 (p. 3/102, 3/10			
Terminal covers		3RT2936-4EA2 (p. 3/118)			3RT2946-4E	A2		(p. 3/118)	
3RU2 and 3R	B3 overload relays								
3RU thermal ov	verload relays	3RU2136	11 80 A		(p. 7/87)	3RU2146	28 100 A		(p. 7/87)
3RB electronic	overload relays	3RB3036, 3RB3133	12.5 80 A	(p. 7)	/98, 7/100, 7/102)	3RB3046, 3RB3143	12.5 115 A	(p. 7/9	98, 7/100, 7/102)
3RV20 motor	starter protectors								
Motor starter p	rotectors	3RV2031, 3R	V2032	9.5 80 A	(p. 7/29)	3RV2041, 3F	RV2042	28 100 A	(p. 7/29)
Link modules		3RA2931			(p. 7/61)	3RA1941			(p. 7/61)
3RA23 revers	sing contactor asse	mblies							
Complete units	Туре	3RA2335 (p. 3/152)	3RA2336	3RA2337	3RA2338	3RA2345 (p. 3/153)	3RA2346	3RA2347	
400 V	kW	18.5	22	30	37	37	45	55	
Assembly kits/	wiring modules	3RA2933-2A	A.		(p. 3/109)	3RA2943-2	AA.		(p. 3/109)
Function modu	iles	3RA271BA00 (p. 3/106)				3RA271BA00 (p. 3/106)			
Mechanical inte	erlocks	3RA2934-2B			(p. 3/114)	3RA2934-2E	3		(p. 3/114)
3RA24 conta	ctor assemblies for	star-delta (v	wye-delta) st	arting					
Complete units	Туре	3RA2434 (p. 3/170)	3RA2435	3RA2436	3RA2437	3RA2444 (p. 3/171)	3RA2445	3RA2446	
400 V	kW	22/30	37	45	55	55	75	90	
Assembly kits/	wiring modules	3RA2933-2B	B./-2C		(p. 3/110)	3RA2943-2E	3B./-2C		(p. 3/111)
Function modu	iles	3RA271CA	00		(p. 3/106)	3RA271C	A00		(p. 3/106)

Note:

Safety characteristics for contactors, see "Standards and approvals", page 16/9.

Introduction







								(Te I
Size		S6			S10	1)		S12	
Туре		3RT105			3RT1.6			3RT1.7	
3RT10 contactors · 3RT	12 vac	uum contac	tors						
Туре		3RT1054	3RT1055	3RT1056	3RT1064	3RT1065	3RT1066	3RT1075	3RT1076
AC, DC operation		(p. 3/66 3/6	88)		(p. 3/66 3/6	8)		(p. 3/66 3/6	68)
Туре			-	-	3RT1264 (p. 3/131)	3RT1265	3RT1266	3RT1275 (p. 3/131)	3RT1276
AC-3 and AC-3e					((
I _o /AC-3/AC-3e/400 V	Α	115	150	185	225	265	300	400	500
400 V	kW	55	75	90	110	132	160	200	250
230 V	kW	37	45	55	55	75	90	132	160
500 V 690 V	kW kW	75 110	90 132	132 160	160 200	160 250	200 250	250 400	315 (355) ¹⁾ 400 (500) ¹⁾
1 000 V	kW	75	90	90	90 (315) ¹⁾	132 (355) ¹⁾	132 (400) ¹⁾	250 (560) ¹⁾	250 (710) ¹⁾
AC-4 (at $I_a = 6 \times I_e$)					, ,			, ,	,
400 V	kW	55	75	90	110	132	160	200	250
400 V (200 000 operating cycles)	kW	29	38	45	54 (55) ¹⁾	66 (65) ¹⁾	71 (79) ¹⁾	84 (98) ¹⁾	98 (122) ¹⁾
AC-1 (40 °C, ≤ 690 V)		1							
I_{e}	Α	160	185	215	275 (330) ¹⁾	330	330	430 (610) ¹⁾	610
3RT14 AC-1 contactors									
Туре		3RT1456		(p. 4/17, 4/18)	3RT1466	3RT1467	(p. 4/17, 4/18)	3RT1476	
<i>I_e</i> /AC-1/40 °C/≤ 690 V	Α	275			400	500		690	
Accessories for contact	ors								
Auxiliary • On the front	i	3RH19, 3RT1	926						(p. 3/94, 3/101)
switches • Lateral		3RH19							(p. 3/96 3/99)
Surge suppressors		3RT1956-1C	(RC element)						(p. 3/103)
Terminal covers		3RT1956-4EA	١.	(p. 3/118)	3RT1966-4EA				(p. 3/118)
Box terminal blocks		3RT1955-4G,	3RT1956-4G	(p. 3/116)	3RT1966-4G				(p. 3/116)
3RB2 overload relays									
3RB electronic overload rela	ays	3RB2056	50 200 A	(p. 7/99, 7/101)	3RB2066	55 250 A or	160 630 A		(p. 7/99, 7/101)
	-	3RB2153	50 200 A	(p. 7/103)	3RB2163				(p. 7/103)
3VA2 molded case motor	or star	ter protector	rs						
Molded case motor starter protectors								(See	e Catalog LV 10)
• for 3RT10 • for 3RT12		3VA21 3VA21	3VA22 3VA22	3VA22 3VA22	3VA23 3VA23	3VA23 3VA23	3VA24 3VA24	3VA24 3VA24	3VA25 3VA25
Reversing contactor ass	sembli	es ²⁾			<u>'</u>				
Complete units	Туре								
400 V	kW	55	75	90	110	132	160	200	250
Assembly kits/wiring modul	les	3RA1953-2A		(p. 3/109)	3RA1963-2A		(p. 3/109)	3RA1973-2A	(p. 3/109)
Mechanical interlocks		3RA1954-2A						I	(p. 3/114)
Contactor assemblies for	or star	-delta (wye-c	delta) sta <u>rtin</u>	ıg ²⁾					
Complete units	Туре								
400 V	71.	1							
400 V	kW								

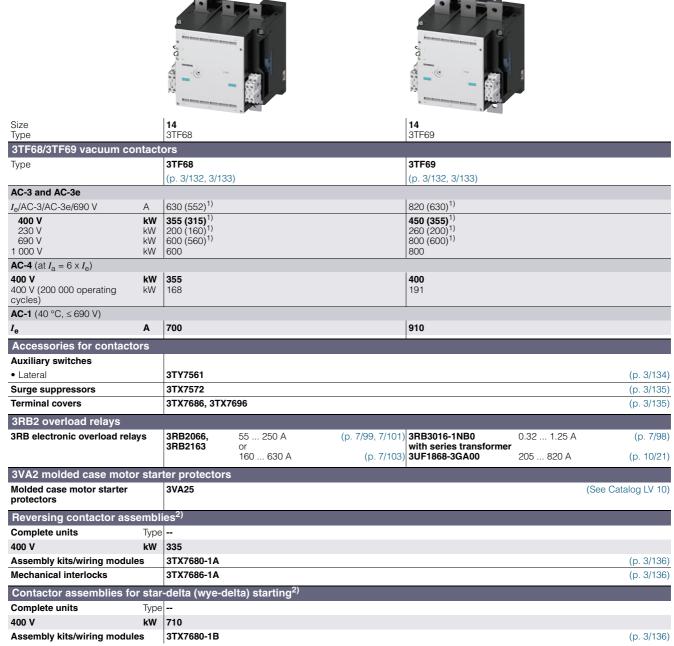
 $^{^{1)}\,}$ Value applies for 3RT12 contactors.

Note:

Safety characteristics for contactors, see "Standards and approvals", page 16/9.

Contactor assemblies for customer assembly:
 Reversing contactor assemblies, see pages 3/155 to 3/157,
 Contactor assemblies for star-delta (wye-delta) starting, see pages 3/173 to 3/178.

Introduction



¹⁾ Value applies for utilization category AC-3e.

²⁾ Contactor assemblies for customer assembly:

- Reversing contactor assemblies, see page 3/158,

Note:

Safety characteristics for contactors, see "Standards and approvals", page 16/9.

⁻ Contactor assemblies for star-delta (wye-delta) starting, see page 3/179.

Introduction

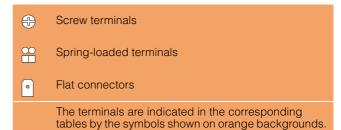


Type			3TG10		
3TG10 power relays/n	niniatur	e cor	ntactors		
Number of main contacts	4				
AC, DC operation			(p. 3/139)		
AC-1					
I _e at 400 V	55 °C	Α	20		
P at 400 V		kW	13		
At 230 V		kW	7.5		
AC-3					
$I_{\rm e}$ up to 400 V		Α	8.4		
P at 400 V		kW	4		
AC-3e					
I _e up to 400 V		Α	6.4		
P at 400 V		kW	3		

Connection methods

The 3RT contactors are available with screw terminals (box terminals or flat connectors) or with spring-loaded terminals.

The 3TG10 power relays/miniature contactors are available with screw terminals or flat connectors.



Voltage data

The data for 3-phase power systems according to IEC 60947-4-1 are valid for the following line system configurations:

Voltage U _e	Line system configura	ations
	Three-phase four-wire systems	Three-phase three-wire systems
	1001	
		_ 0
V	V	V
V 230	V	V 230
v	V 230/400	·
230	-	230
230 400	 230/400	230 400
230 400 440	 230/400	230 400 440

-- Not specified

Use of 3RT contactors, 3RT and 3TF vacuum contactors, reversing contactor assemblies, and contactor assemblies for star-delta (wye-delta) starting with IE3 and IE4 motors

Note:

For the use of 3RT contactors, 3RT and 3TF vacuum contactors, reversing contactor assemblies and contactor assemblies for star-delta (wye-delta) starting in conjunction with highly efficient IE3 and IE4 motors, please observe the information on dimensioning and configuring, see Application Manual.

For more information, see page 1/8.

Power contactors for switching motors

General data

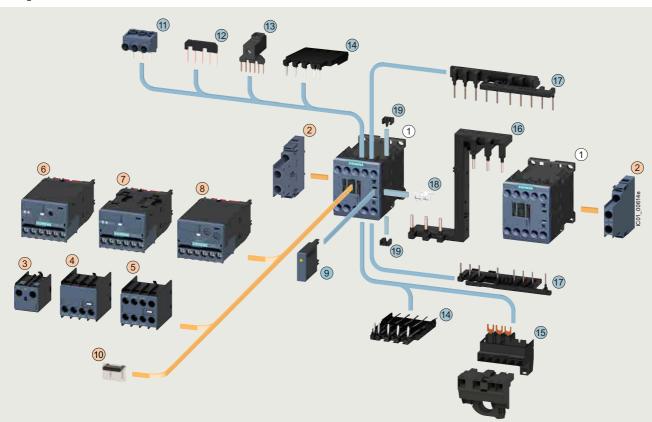
Overview

The SIRIUS family of controls

The SIRIUS modular system with its components for the switching, starting, protection and monitoring of motors and industrial systems stands for the fast, flexible and space-saving construction of control cabinets.

3RT2.1 contactors · Size S00 with mountable accessories

The figure shows the version with screw terminals



- 1 Contactor, size S00
- (2) 2-pole auxiliary switch, laterally mountable
- 3 1-pole auxiliary switch, for snapping onto the front, cable entry from the top
- 2-pole auxiliary switch, for snapping onto the front, cable entry from the bottom
- (5) 4-pole auxiliary switch, for snapping onto the front
- 6 3RA27 function module for AS-Interface
- 7 3RA27 function module for IO-Link
- 8 3RA28 function module
- 9 Surge suppressor with/without LED
- 10 Cover, sealable
- 11) 3-phase infeed terminal
- 1) 3RT201. contactors with one NC contact in the basic unit are required for the electrical interlock. An additional NO contact is required for momentary-contact operation.
- 2) The parts 18 and 19 can only be ordered together as 3RA2912-2H mechanical connectors.

- 2 Star jumper, 3-pole, without connecting terminal
- 13 Link for paralleling, 3-pole, with connecting terminal
- Solder pin adapter
- (5) Connection module (adapter and connector) for contactors with screw terminals
- 16 Safety main current connector for two contactors

Assembly kit 3RA2913-2AA1

onsisting of:

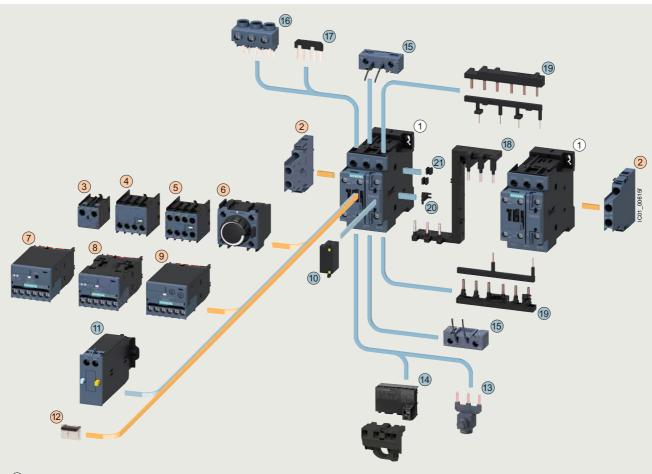
- Wiring modules on the top and bottom for connecting the main, auxiliary and control current paths, electrical interlock¹⁾ included, interruptible (NC contact interlock)
- (18) Mechanical interlocks 2)
- 19 Two connecting clips for two contactors 2)
- For contactors
- For contactors and coupling contactors

Power contactors for switching motors

General data

3RT2.2 contactors · Size S0 with mountable accessories

The figure shows the version with screw terminals



- (1) Contactor, size S0
- 2 2-pole auxiliary switch, laterally mountable
- 3 1-pole auxiliary switch, for snapping onto the front, cable entry from the top
- 4 2-pole auxiliary switch, for snapping onto the front, cable entry from the bottom
- (5) 4-pole auxiliary switch, for snapping onto the front
- 6 Pneumatically delayed auxiliary switch
- 7 3RA27 function module for AS-Interface
- 8 3RA27 function module for IO-Link
- 9 3RA28 function module
- 10 Surge suppressor with/without LED
- 11 Mechanical latching block
- 12 Cover, sealable
- 1) The parts 20 and 21 can only be ordered together as 3RA2922-2H mechanical connectors.

- 13 Link for paralleling, 3-pole, with connecting terminal
- Connection module (adapter and plug) for contactors with screw terminals
- (15) Coil connection module, on the top or bottom
- (16) 3-phase infeed terminal
- Link for paralleling (star jumper), 3-pole, without connecting terminal
- (18) Safety main current connector for two contactors

Assembly kit 3RA2923-2AA1

Consisting of:

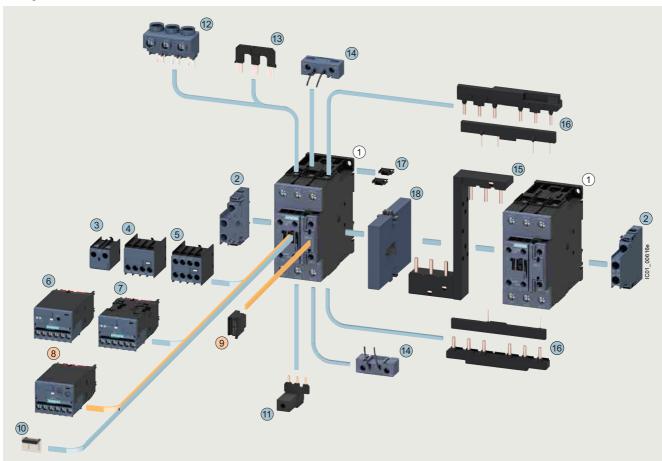
- Wiring modules on the top and bottom for connecting the main current paths, electrical interlock included (NC contact interlock)
- Mechanical interlocks 1)
- 21) Two connecting clips for two contactors 1)
- For contactors
- For contactors and coupling contactors

Power contactors for switching motors

General data

3RT2.3 contactors · Size S2 with mountable accessories

The figure shows the version with screw terminals



- 1 Contactor, size S2
- 2 2-pole auxiliary switch, laterally mountable
- 3 1-pole auxiliary switch, for snapping onto the front, cable entry from the top
- 4 2-pole auxiliary switch, for snapping onto the front, cable entry from the bottom
- (5) 4-pole auxiliary switch, for snapping onto the front
- (6) 3RA27 function module for AS-Interface
- 7 3RA27 function module for IO-Link
- 8 3RA28 function module
- 9 Surge suppressor with/without LED
- 10 Cover, sealable
- 11 Link for paralleling, 3-pole, with connecting terminal
- 12 3-phase infeed terminal
- Link for paralleling (star jumper), 3-pole, without connecting terminal

- (14) Coil connection module, top or bottom
- (15) Safety main current connector for two contactors

Assembly kit 3RA2933-2AA1 Consisting of:

- (NC contact interlock)

 Wiring modules on the top and bottom for connecting the main current paths, electrical interlock included (NC contact interlock)
- 17) Two connecting clips for two contactors

To be ordered separately:

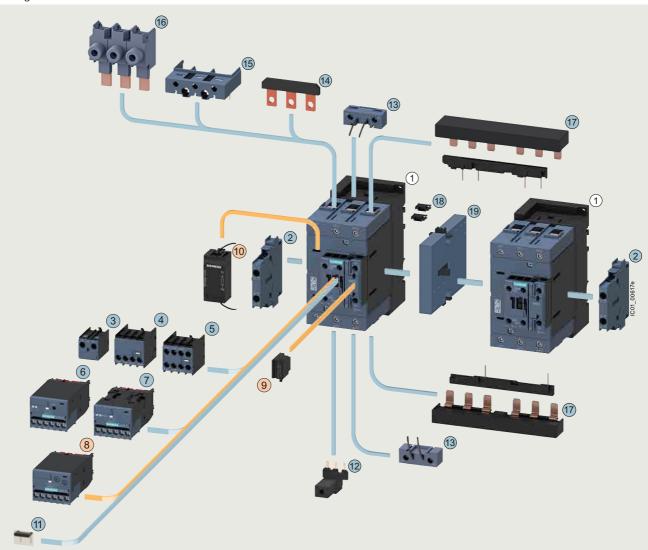
- 18 Mechanical interlocks
- For contactors
- For contactors and coupling contactors

Power contactors for switching motors

General data

3RT2.4 contactors · Size S3 with mountable accessories

The figure shows the version with screw terminals



- (1) Contactor, size S3
- 2 2-pole auxiliary switch, laterally mountable
- 3 1-pole auxiliary switch, for snapping onto the front, cable entry from the top
- 4 2-pole auxiliary switch, for snapping onto the front, cable entry from the bottom
- (5) 4-pole auxiliary switch, for snapping onto the front
- 6 3RA27 function module for AS-Interface
- 7 3RA27 function module for IO-Link
- 8 3RA28 function module
- Surge suppressor with/without LED (Varistor, diode assembly), can be plugged in on the front
- Surge suppressor without LED (RC element), can be plugged in on the front in the recesses on the left next to the connection block
- (11) Cover, sealable
- 1) 3RT201. contactors with one NC contact in the basic unit are required for the electrical interlock. An additional NO contact is required for momentary-contact operation.

- 12 Links for paralleling, 3-pole, with connecting terminal
- (13) Coil connection module, top or bottom
- Links for paralleling (star jumper), 3-pole, without connecting terminal
- 15 Auxiliary conductor terminal, 3-pole
- 16 1-phase infeed terminals (3 units)

Assembly kit 3RA2943-2AA1 Consisting of:

- Wiring modules on the top and bottom for connecting the main, auxiliary and control current paths, electrical interlock¹⁾ included, interruptible (NC contact interlock)
- (18) Two connectors for two contactors

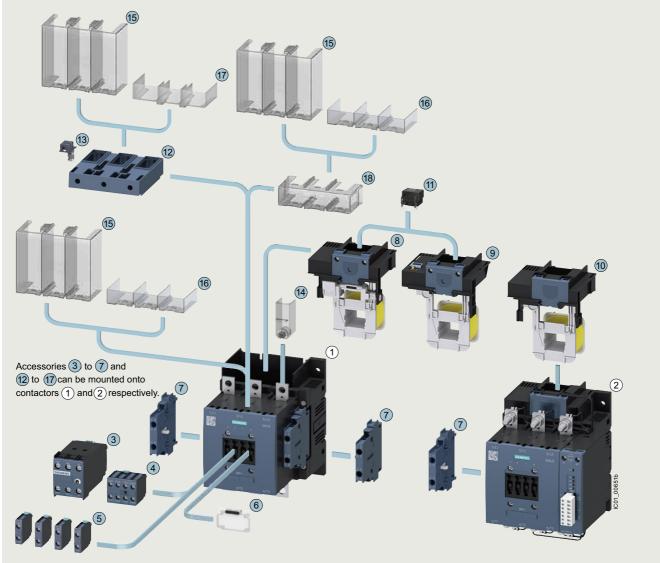
To be ordered separately:

- 19 Mechanical interlock
- For contactors
- For contactors and coupling contactors

Power contactors for switching motors

General data

3RT105 and 3RT145 contactors · Size S6 with mountable accessories



- 3RT105 and 3RT145 air-break contactors, size S6 (version without withdrawable coil)
- 2 3RT105.-.P and 3RT145.-.P air-break contactors with solid-state operating mechanism and remaining lifetime indicator, size S6 (version with withdrawable coil and laterally mountable add-on module)

Can be mounted onto the front of contactors (1) and (2)

- 3 3RT1926: Auxiliary switch, electronically delayed (ON-delay or OFF-delay or star-delta (wye-delta) starting)
- 4) 3RH192: 4-pole auxiliary switch
- (5) 3RH192: 1-pole auxiliary switch (max. four can be snapped on)
- 6 3RT1926-4MA10: Cover, sealable

Can be mounted onto the side of contactors 1 and 2

7) 3RH192: 2-pole auxiliary switch

Can be inserted in top of contactors

- (8) 3RT1955-5A.3.: Withdrawable coil, standard operating mechanism
- 9 3RT1955-5N.3.: Withdrawable coil, solid-state operating mechanism
- 3RT1955-5P.3.: Withdrawable coil, solid-state operating mechanism and remaining lifetime indicator

Can be plugged onto the top of contactor operating mechanisms (8) and (9)

11) 3RT1956-1C: Surge suppressor (RC element)

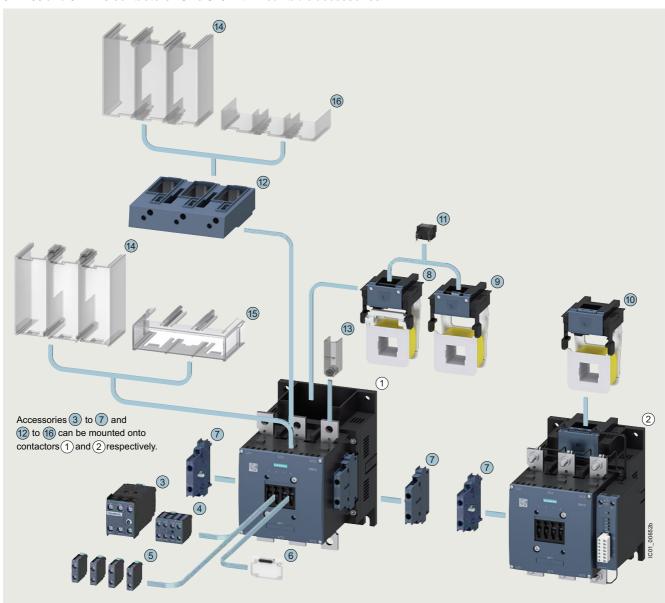
Can be mounted onto the top or bottom on busbars or box terminals of contactors (1) and (2)

- 12) 3RT1956-4G: Box terminal block
- 3 3TX7500-0A: Auxiliary conductor terminal, 1-pole
- 4 3TX6526-3B: Terminal cover (can be screwed on), covers one busbar connection
- (5) 3RT1956-4EA1: Terminal cover for busbar connection and on box terminal
- 16) 3RT1956-4EA3: Terminal cover for busbar connection
- 17 3RT1956-4EA2: Terminal cover on box terminal
- (18) 3RT1956-4EA4: Terminal cover for busbar connection, covers (15), (16) can be mounted to (18)

Power contactors for switching motors

General data

3RT106 and 3RT146 contactors · Size S10 with mountable accessories



- 1 3RT106 and 3RT146 air-break contactors, size S10 (version without withdrawable coil)
- ② 3RT106.-.P and 3RT146.-.P air-break contactors with solid-state operating mechanism and remaining lifetime indicator, size S10 (version with withdrawable coil and laterally mountable add-on module)

Can be mounted onto the front of contactors (1) and (2)

- 3 3RT1926: Auxiliary switch, electronically delayed (ON-delay or OFF-delay or star-delta (wye-delta) starting)
- 4 3RH192: 4-pole auxiliary switch
- 5 3RH192: 1-pole auxiliary switch (max. four can be snapped on)
- 6 3RT1926-4MA10: Cover, sealable

Can be mounted onto the side of contactors 1 and 2

7) 3RH192: 2-pole auxiliary switch

Can be inserted in the top of contactors

- (8) 3RT1965-5A.3.: Withdrawable coil, standard operating mech.
- (9) 3RT1965-5N.3.: Withdrawable coil, solid-state operating mech.
- (10) 3RT1965-5P.3.: Withdrawable coil, solid-state operating mech. and remaining lifetime indicator

Can be plugged onto the top of contactor operating mechanisms (8) and (9)

11) 3RT1956-1C: Surge suppressor (RC element)

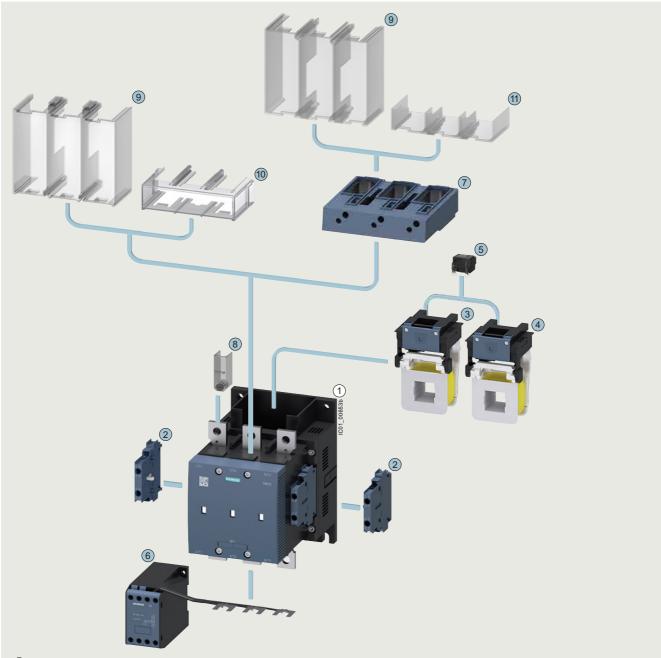
Can be mounted at the top or bottom on busbars or box terminals of contactors $\stackrel{\frown}{(1)}$ and $\stackrel{\frown}{(2)}$

- (12) 3RT1966-4G: Box terminal block
- 3 3TX6546-3B: Terminal cover (can be screwed on), covers one busbar connection
- 4 3RT1966-4EA1: Terminal cover for busbar connection and on box terminal
- 15) 3RT1966-4EA3: Terminal cover for busbar connection
- 16 3RT1966-4EA2: Terminal cover on box terminal

Power contactors for switching motors

General data

3RT126 vacuum contactors · Size S10 with mountable accessories



1 3RT126 vacuum contactor, size S10 (version without withdrawable coil)

Can be mounted onto side of contactor

2) 3RH192: 2-pole auxiliary switch

Can be inserted in top of contactor

- 3 3RT1966-5A.3.: Withdrawable coil, standard operating mechanism
- 4) 3RT1966-5N.3.: Withdrawable coil, solid-state operating mechanism

Can be plugged onto top of contactor operating mechanisms

(5) 3RT1956-1C: Surge suppressor (RC element)

Can be mounted at bottom on busbars

6 3RT1966-1PV.: Main current path surge suppression module

Can be mounted onto the top or bottom on busbars or box terminals

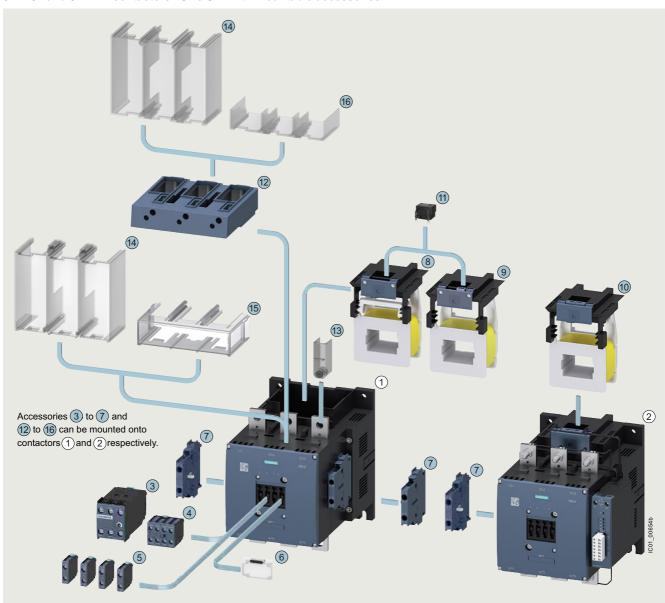
- 7 3RT1966-4G: Box terminal block
- 3TX6546-3B: Terminal cover (can be screwed on), covers one busbar connection
- ③ 3RT1966-4EA1: Terminal cover for busbar connection and on box terminal
- 10 3RT1966-4EA3: Terminal cover for busbar connection
- 11) 3RT1966-4EA2: Terminal cover on box terminal

Accessories and spare parts, see pages 3/71 to 3/126 and 3/134 to 3/138.

Power contactors for switching motors

General data

3RT107 and 3RT147 contactors · Size S12 with mountable accessories



- 1 3RT107 and 3RT147 air-break contactors, size S12 (version without withdrawable coil)
- ② 3RT107.-.P and 3RT147.-.P air-break contactors with solid-state operating mechanism and remaining lifetime indicator, size S12 (version with withdrawable coil and laterally mountable add-on module)

Can be mounted onto the front of contactors (1) and (2)

- 3 3RT1926: Auxiliary switch, electronically delayed (ON-delay or OFF-delay or star-delta (wye-delta) starting)
- 4) 3RH192: 4-pole auxiliary switch
- (5) 3RH192: 1-pole auxiliary switch (max. four can be snapped on)
- 6 3RT1926-4MA10: Cover, sealable

Can be mounted onto the side of contactors 1 and 2

7 3RH192: 2-pole auxiliary switch

Can be inserted in top of contactors

- 8 3RT1975-5A.3.: Withdrawable coil, standard operating mech.
- 9 3RT1975-5N.3.: Withdrawable coil, solid-state operating mech.
- (ii) 3RT1975-5P.3.: Withdrawable coil, solid-state operating mech. and remaining lifetime indicator

Can be plugged onto top of contactor operating mechanisms (8) and (9)

11) 3RT1956-1C: Surge suppressor (RC element)

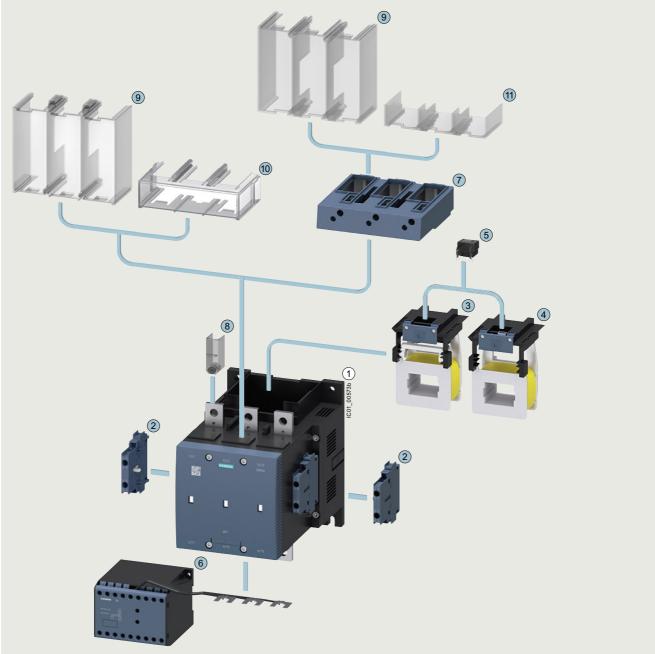
Can be mounted at the top or bottom on busbars or box terminals of contactors (1) and (2)

- 12) 3RT1966-4G: Box terminal block
- (3) 3TX6546-3B: Terminal cover (can be screwed on), covers one busbar connection
- (4) 3RT1966-4EA1: Terminal cover for busbar connection and on box terminal
- 15) 3RT1966-4EA3: Terminal cover for busbar connection
- 16) 3RT1966-4EA2: Terminal cover on box terminal

Power contactors for switching motors

General data

3RT127 vacuum contactors · Size S12 with mountable accessories



1 3RT127 vacuum contactor, size S12 (version without withdrawable coil)

Can be mounted onto the side of contactor

2) 3RH192: 2-pole auxiliary switch

Can be inserted in top of contactors

- 3 3RT1975-5A.3.: Withdrawable coil, standard operating mechanism
- 4) 3RT1975-5N.3.: Withdrawable coil, solid-state operating mechanism

Can be plugged onto the top of contactor operating mechanisms

5 3RT1956-1C: Surge suppressor (RC element)

Can be mounted at bottom on busbars

(6) 3RT1966-1PV.: Main current path surge suppression module

Can be mounted at the top or bottom on busbars or box terminals

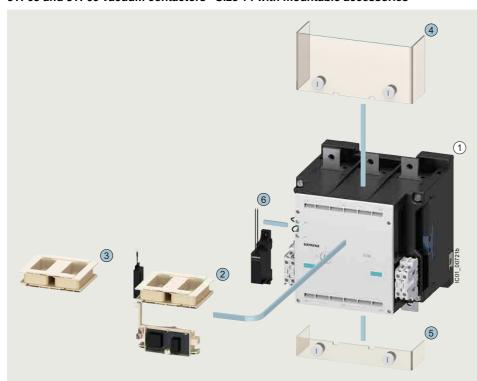
- 7 3RT1966-4G: Box terminal block
- 8 3TX6546-3B: Terminal cover (can be screwed on), covers one busbar connection
- 3 3RT1966-4EA1: Terminal cover for busbar connection and on box terminal
- (10) 3RT1966-4EA3: Terminal cover for busbar connection
- 11) 3RT1966-4EA2: Terminal cover on box terminal

Accessories and spare parts, see pages 3/71 to 3/126 and 3/134 to 3/138.

Power contactors for switching motors

General data

3TF68 and 3TF69 vacuum contactors · Size 14 with mountable accessories



1 3TF68 and 3TF69 vacuum contactors, size 14

Can be inserted or mounted on the front of the contactor (with the cover removed)

- Solenoid coils for AC operation, with switch-on electronics for contactor 3TF6844-.C: 3TY7683-0C.7 3TF6944-.C: 3TY7693-0C.7
- 3 Solenoid coils for DC operation 3TF6833-.D: 3TY7683-0D.4

Can be mounted on the front from above or below on busbars

Terminal cover for busbar connection (1 set = 2 units), attached to the right and left busbar connection in each case 3TF68: 3TX7686-0A 3TF69: 3TX7696-0A

Can be mounted on the front of 3TF68 contactors from below on busbars

(5) Terminal cover for busbar connection (on outgoing side in combination with overload relay) 3TF68: 3TX7686-0B

Can be snapped onto the left-hand side of the auxiliary switches

6 Surge suppressor (only with DC operation) 3TF6.33-.D: 3TX7572-3.

Power contactors for switching motors

SIRIUS 3RT contactors, 3-pole up to 250 kW

Overview

Version	Size	Ratings of three- phase motors at 50 Hz and 400 V	Connection Screw terminals	Spring- loaded	Туре	Page
		kW		terminals		
Power contactors for switching motors		IXVV				
AC operation						
Basic units With permanently mounted auxiliary switch With permanently mounted auxiliary switch and varistor	S00	3 7.5	/ /	√ √	3RT201A.0. 3RT201AP04-3MA0 3RT201CP04-3MA0	3/47 3/47 3/47
plugged into the front						
Basic units With removable auxiliary switch With permanently mounted auxiliary switch and varistor plugged in	S0	4 18.5	<i>y y</i>	<i>y y</i>	3RT202A0 3RT202A.04 3RT202CL24-3MA0	3/48, 3/49 3/50 3/50
Basic units With removable auxiliary switch With permanently mounted auxiliary switch and integrated	S2	18.5 37	<i>I I</i>	✓ ✓	3RT203A0 3RT2031A.04 3RT203CL24-3MA0	3/51, 3/53 3/51 3/51
coil circuit						
With removable auxiliary switch With permanently mounted auxiliary switch and integrated	S3	37 55	√ √	✓ 	3RT204A0 3RT2041A.04 3RT2041CL24-3MA0	3/52, 3/53 3/52 3/52
coil circuit DC operation						
Basic units With integrated coil circuit With permanently mounted auxiliary switch With permanently mounted auxiliary switch and integrated	S00	3 7.5	<i>y y y</i>	√ √ √	3RT201B.4. 3RT201B4. 3RT201BB44-3MA0 3RT201FB44-3MA0	3/54 3/54 3/55 3/55
oil circuitWith voltage tap-off			1	/	3RT201BB40CC0	3/55
Basic units	S0	4 18.5	1	/	3RT202B.40	3/58
With coil circuit plugged into the front			1	1	3RT202B40	3/58
 With removable auxiliary switch With permanently mounted auxiliary switch and integrated coil circuit 			✓ ✓	1	3RT202BB44 3RT202B44-3MA0	3/58 3/59
With voltage tap-off			1	✓	3RT202BB40-0CC0	3/59
DC operation for direct control by PLC (coupling co	ontactors)					
Basic units	S00	3 5.5	✓	✓	3RT201B4.	3/56
Basic units with integrated coil circuit	\$00 \$0 \$2 \$3	3 5.5 4 15 18.5 37 37 and 45	√ √ √	√ √ √	3RT201B4. 3RT202KB40 3RT203KB40 3RT204KB40	3/56, 3/57 3/60 3/61 3/61
AC/DC operation (50/60 Hz AC or DC)						
Basic units with integrated coil circuit	S0	5.5 18.5	1	/	3RT202N.30	3/62
Basic units with integrated coil circuit With removable auxiliary switch With permanently mounted auxiliary switch With voltage tap-off With fail-safe 24 V DC control signal input for safety-related applications up to SIL 3	S2	18.5 37	✓✓✓✓	/ - / /	3RT203N.30 3RT2031N.34 3RT203NB34-3MA0 3RT203NB30-0CC0 3RT203S.30	3/63 3/63 3/63 3/63 3/65
Basic units with integrated coil circuit With removable auxiliary switch	S3	37 55	1	1	3RT204N.30 3RT2041N.34	3/64 3/64
With permanently mounted auxiliary switch With voltage tap-off			1	<i>V</i>	3RT204NB34-3MA0 3RT204NB30-0CC0	3/64 3/64
 With fail-safe 24 V DC control signal input for safety-related applications up to SIL 3 			✓	✓	3RT204S.30	3/65
Basic units with integrated coil circuit Standard operating mechanism for AC and DC operation Solid-state operating mechanism with the option of control via a separate 24 V DC control signal input		55 250	√ 1)	1	3RT10A.36	3/66
 Fail-safe control signal input for safety-related applications up to SIL 3 Standard control signal input Standard control signal input, with remaining lifetime indicator (RLT) 	S6 S12	55 250	√¹) ✓¹) ✓¹)	 <u>/</u>	3RT10S.36 3RT10N.36 3RT10P.35	3/67 3/68 3/68

⁻⁻ Version not possible

[✓] Version possible

¹⁾ Connection method:

Main circuit: Busbar connection (optionally with box terminals),
 Auxiliary/control circuit: Screw terminals or spring-loaded terminals.

Power contactors for switching motors

SIRIUS 3RT contactors, 3-pole up to 250 kW



Contactors with screw terminals: 3RT20 (sizes S00 to S3) and 3RT10 (sizes S6 to S12)

Our power range of contactors for switching IE2 motors and highly efficient IE3 and IE4 motors:

· Contactors,

see pages 3/47 to 3/68: - Size S00: 3RT201 to 7.5 kW

- Size S0: 3RT202 to 18.5 kW
- Size S2: 3RT203 to 37 kW
- Size S3: 3RT204 to 55 kW
- Sizes S6 to S12: 3RT10 up to 250 kW

· Vacuum contactors,

see page 3/127 onwards:

- Sizes S10 and S12: 3RT12 to 250 kW
- Size 14: 3TF6 to 450 kW

Standards

IEC 60947-1, IEC 60947-4-1, IEC 60947-5-1 (auxiliary switches)

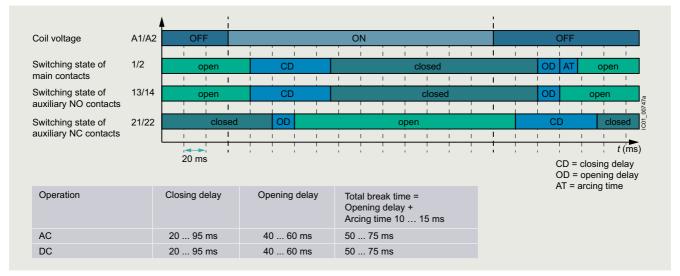
Contactors with increased tamper protection

Increased tamper protection is ensured either by using our contactor versions with factory-installed, permanently mounted auxiliary switches protected against mechanical external actuation (e.g. 3RT20...-...-3MA0 or 3RT10...-...-3PA0 contactors), or by using the 3RT2916-4MA10 or 3RT1926-4MA10 sealable cover as an accessory (see page 3/118).

Power contactors for switching motors

SIRIUS 3RT contactors, 3-pole up to 250 kW

Operating times



Operating times using the example of contactor 3RT1054-1AB36

Protection of the device connections from short circuit, overload and overvoltage

Appropriate steps must always be taken to protect device connections from overload and short circuit. There are different constraints depending on the type of connection:

Short-circuit and overload protection of main connections

For information about protection of a single contactor, see the technical product data sheet.

For more information on device combinations such as contactor with overload relay or contactor with circuit breaker as motor feeder, refer to

- Digital Configuration Manual for load feeders
- Configuration Manual for load feeders

Short-circuit and overload protection of auxiliary connections

For information on the protection of auxiliary contacts, see the technical product data sheet.

Short-circuit and overload protection of control supply voltage or supply voltage connections

First of all, the relevant standards and regulations for configuring control panels and the parts and components installed in them must be taken into account, for example for cable dimensioning.

One possible protection for these circuits could be the selection of a suitable power supply, i.e. one with a current-limiting function. In the selection of the source and the connecting cable, the load characteristics of the contactor must be considered (short-time inrush current peaks for solid-state contactor operating mechanisms, switch-on power, holding power). The same applies to the selection of suitable protection devices.

If there are further switching elements in the circuits, such as the auxiliary contact system of an overload relay that operates the contactor, the short-circuit protection necessary for this must also be considered.

For further recommendations, e.g. the use of miniature circuit breakers or circuit breakers for equipment in control circuits, see Control panel tip – Selecting and dimensioning suitable power supplies quickly and reliably.

Short-circuit and overload protection of contactors with digital input

A typical rated current of 20 mA applies to these inputs according to the PLC input types according to IEC 60947-4-1. These inputs can be protected accordingly.

- Contactors with PLC and F-PLC inputs:
- For 3RT10..-.P marked with IN+/IN-
- For 3RT10..-.S, -.N and 3RT20..-.S marked with +/-
- Supply voltage connections A1 A2:
- For 3RT10..-.N, -.P and 3RT20..-.S, protection should be provided on the basis of the load characteristics.
 For information about power consumption, see the technical product data sheet.
- For 3RT10..-.S, protection is already integrated.

Short-circuit and overload protection of other connections

The contactor version 3RT10..-.P with remaining lifetime indicator (RLT) has additional connections H1 - H2 and R1 - R2.

If A1 - A2 is already protected, further protection of H1 - H2 is not required.

For information on the protection of R1 - R2, see the technical product data sheet.

Overvoltage protection at the control supply voltage connection

3RT20 contactors supplied without a coil circuit can be retrofitted with RC elements, varistors, diodes or diode assemblies (combination of diode and Zener diode for short break times) for damping switching overvoltages in the coil and can be ordered separately as accessories, see page 3/102 onwards.

The 3RT10 contactors are already equipped with coil damping (varistor).

Note:

The break times of the contactor, the opening delay times of the NO contacts and the closing delay times of the NC contacts increase with damping.

For more detailed information about how damping affects the time response, see Equipment Manual.

SIRIUS 3RT contactors, 3-pole up to 250 kW

Connection methods

Main circuit

- 3RT201 and 3RT202 contactors: Screw terminals or spring-loaded terminals; spring-loaded terminals with convenient plug-in design for device connectors
- 3RT203 and 3RT204 contactors: Screw terminals with box terminal; direct connection to the connecting bar is possible with cable lugs for 3RT204 when the box terminal is removed.
- 3RT10 contactors:
 Screw terminals with connecting bars that the cables can be connected to using either cable lugs or flexible or rigid busbars. Alternatively, box terminals are available as accessories.

Auxiliary and control circuit

The 3RT contactors are available with screw terminals or springloaded terminals.

Electromagnetic compatibility

The contactors fulfill the requirements for environment category A. Note:

When the contactors are used in an **environment with frequency converters**, the configuration notes must be observed, see Equipment Manual.

Contact reliability of the auxiliary contacts

If voltages \leq 110 V and currents \leq 100 mA are to be switched, the auxiliary contacts of the 3RT contactors or 3RH contactor relays should be used as they guarantee a high level of contact reliability.

These auxiliary contacts are particularly suitable for solid-state circuits with currents \geq 1 mA at a voltage \geq 17 V.

Motor protection

3RT20 contactors

For protection against overload, 3RU2 thermal overload relays (see page 7/86 onwards) or 3RB3 electronic overload relays (see pages 7/98, 7/100 and 7/102) can be mounted on the 3RT20 contactors.

3RT10 contactors

For protection against overload, 3RB2 electronic overload relays (see pages 7/99, 7/101 and 7/103) can be mounted on the 3RT10 contactors.

Plant and application monitoring

For monitoring and measuring in the application, 3RR2 monitoring relays can be mounted on the 3RT20 contactors (see page 10/47).

Contactors with voltage tap

The 3RT20 contactors with voltage tap-off are special versions for mounting the SIRIUS 3RA27 function modules for connection to the control system via IO-Link or AS-Interface (see page 3/75 onwards).

Without a function module, these contactors can be used like the standard versions.

For more information on IO-Link and AS-Interface, see "Industrial communication", page 2/1 onwards.

Operating mechanism types

3RT20 contactors

The standard versions are available with AC or DC operating mechanisms or as versions with a wide-range solid-state operating mechanism and a universal actuating voltage (AC or DC operation possible).

Versions with solid-state operating mechanisms for AC or DC operation with a fail-safe PLC input are also available for the 3RT203 and 3RT204 contactors.

Control takes place via the control supply voltage connection A1 - A2 with varying operating ranges (see the technical product data sheet for further details).

DC coupling contactors with reduced power consumption are also ideally suited for connection to the controller.

3RT10 contactors

The operating mechanisms are powered via a supply voltage with an operating range from 0.8 to 1.1 x $U_{\rm S}$, optionally also controlled depending on the chosen mode of operation. Various rated voltage ranges are available for AC/DC control.

The following control or operating mechanism versions can be selected for contactors 3RT105 to 3RT107:

- 3RT10..-.A contactors: Standard operating mechanism for AC and DC operation (power consumption reduced from closing power to holding power)
- Solid-state operating mechanisms:
 Overvoltage damping of the operating mechanism coil is
 already integrated in the electronics for contactors with
 solid-state operating mechanisms.

The following versions are available:

- 3RT10..-.N contactors:
 With two operating modes: Direct control or via PLC input (24 V DC)
- 3RT10...-P contactors: Control via PLC input (24 V DC) only, but with additional remaining lifetime indicator (RLT)
- 3RT10....S contactors: Control via fail-safe PLC input (24 V DC) only, for simplification of safety applications (without operating mode selection)

Power contactors for switching motors

SIRIUS 3RT contactors, 3-pole up to 250 kW

Replacing solenoid coils, operating mechanisms or spare contacts

3RT20 contactors

Coil replacement is possible for contactors 3RT202 to 3RT204.

NOTICE

Removal or changing of the operating mechanism or spare contacts is not permitted for 3RT20..-.S contactors with fail-safe control.

3RT10 contactors

The operating mechanisms for 3RT10..-.A/-.N/-.P contactors are removable and can be replaced simply by unlocking and pulling them out.

NOTICE:

Removal or changing of the operating mechanism is not permitted for 3RT10....S contactors with fail-safe control.

Fitting auxiliary contacts and mounting additional auxiliary switches

Features in the delivery state

- 3RT20 contactors:
 - 3RT201 contactors:
 - An auxiliary contact is integrated in the basic unit.
 - Contactors 3RT202 to 3RT204:
 The basic units contain two integrated auxiliary contacts (1 NO + 1 NC).
- 3RT10 contactors:

These contactors are supplied with two laterally mounted auxiliary switches. The fitting of auxiliary switches is possible on the front and on the side.

Expansion possibilities

All basic units (with the exception of coupling contactors in sizes S00 and S0) can be expanded using auxiliary switches. The permitted configuration must be taken into account.

Detailed information about the fitting of auxiliary switches for 3RT20 contactors, see pages 3/83 to 3/90.

SIRIUS 3RT contactors, 3-pole up to 250 kW

Connection of contactors to fail-safe control modules

While contactors with smaller power ratings can be connected directly to the outputs of fail-safe controllers, implementing safety-related applications with standard contactors with higher power is much more complicated and elaborate because of the necessary coupling links.

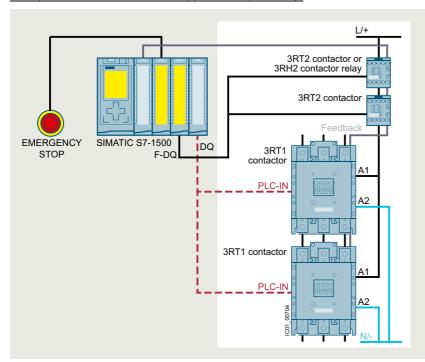
Due to their fail-safe control input, special contactors provide a much simpler way of doing this:

- 3RT20..-.S contactors in sizes S2 and S3
- 3RT10..-.S contactors in sizes S6 to S12

For more information, see

- Safety technology, page 11/1 onwards
- Guide of use for contactors in safety applications

Example for SIL 2 and SIL 3/PL e application – previously:

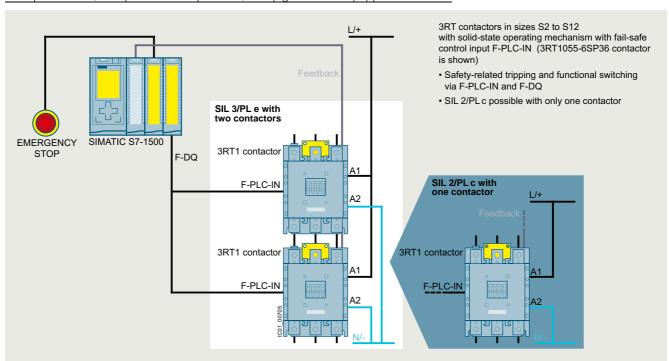


3RT contactors in sizes S2 to S12 with standard or solid-state operating mechanism with PLC-IN (3RT105 contactor is shown)

- Safety-related tripping only possible via coupling links and F-DQ
- Standard operating mechanism: functional switching via coupling links and F-DQ
- Solid-state operating mechanism: operational switching with PLC-IN and DQ

Application with safety-related tripping with standard contactors using the example of a 3RT105 contactor

Example for SIL 3/PL e (left-hand side) or SIL 2/PL c (right-hand side) application – new:



Application with safety-related tripping with contactors with fail-safe control using the example of a 3RT105 contactor

Power contactors for switching motors

SIRIUS 3RT contactors, 3-pole up to 250 kW

Contactors for special applications

- SIRIUS 3RT.4 contactors for weak or non-inductive loads (AC-1), 3-pole, see page 4/7 onwards
- SIRIUS 3RT20 or 3RT10 contactors with an extended operating range, 3-pole (for railway applications), see page 4/54 onwards

Article number scheme

Product versions		Article number
SIRIUS power contactors		3RT2
Device type	e.g. 0 = 3-pole motor contactor	
Size of the contactor	e.g. 4 = S3	
Rating dependent on size	e.g. 5 = 37 kW for S3	
Type of electrical connection	e.g. 1 = Screw terminals (main and auxiliary circuits)	
Operating range/solenoid coil circuit	e.g. A = AC standard/without coil circuit	
Rated control supply voltage	e.g. P0 = 230 V AC, 50 Hz	
Auxiliary switches	e.g. 0 = for S3: 1 NO + 1 NC integrated	
Special version		0000
Example		3RT2 0 4 5 - 1 A P 0 0

Note:

The article number scheme shows an overview of product versions for better understanding of the logic behind the article numbers.

For your orders, please use the article numbers quoted in the selection and ordering data.

SIRIUS 3RT contactors, 3-pole up to 250 kW

Technical specifications

System Manual for modular system, see https://support.industry.siemens.com/cs/ww/en/view/60311318
Equipment Manual, see https://support.industry.siemens.com/cs/ww/en/view/60306557
Application Manual - Switching devices with IE3 and IE4 motors, see https://support.industry.siemens.com/cs/ww/en/view/94770820
Digital Configuration Manual for load feeders, see https://imp.siemens.com/digital-engineering-manual/dem
Configuration Manual for load feeders, see https://support.industry.siemens.com/cs/ww/en/view/39714188
Configuration Manual for UL, see https://support.industry.siemens.com/cs/ww/en/view/53433538
Guide of use for contactors in safety applications, see https://support.industry.siemens.com/cs/ww/en/view/109807687

Туре			Contactors		
			3RT2		3RT1
Size			S00 to S2	S3	S6 to S12
Rated data of the auxiliary contacts					
According to IEC 60947-5-1 Data apply to integrated auxiliary contacts and convin the auxiliary switches	ventional contacts				
Rated insulation voltage U_i (pollution degree 3)		V	690	1 000 (3RT200CC0: 690)	
• For laterally mountable auxiliary switches		V	690	690	500
For front auxiliary switches		V	690	690	690
Conventional thermal current I_{th} = rated operational current I_e /AC-12		Α	10		
AC load					
Rated operational current I _e /AC-15/AC-14					
• At rated operational voltage $U_{\rm e}$	up to 230 V 400 V 500 V 690 V	A A A	10 ¹⁾ 3 2 1	6	6 3 2 1 ²⁾
DC load					
Rated operational current I _e /DC-12					
$ullet$ At rated operational voltage U_{e}	24 V 60 V 110 V 125 V	A A A	10 6 3 2		10 6 3 2
	220 V 440 V 600 V	A A A	1 0.3 0.15		1 0.3 0.15 ²⁾
Rated operational current I _e /DC-13					
$ullet$ At rated operational voltage U_{e}	24 V 60 V 110 V 125 V	A A A	10 ¹⁾ 2 1 0.9		10 ³⁾ 2 1 0.9
	220 V 440 V 600 V	A A A	0.3 0.14 0.1		0.3 0.14 0.15 ²⁾

Contact reliability at 17 V, 1 mA According to IEC 60947-5-4

¹⁾ 3RH22, 3RH29, 3RT2...-...4, 3RT2...-...6: $I_{\rm e}$ = 6 A at AC-15/AC-14 and DC-13.

Frequency of contact faults < 10⁻⁸ i.e. < 1 fault per 100 million operating cycles

With laterally mountable auxiliary switches, only the currents for rated operational voltages up to 500 V apply.

³⁾ For laterally mountable auxiliary switches, DC-13/at 24 V: Max. 6 A.

Power contactors for switching motors

SIRIUS 3RT contactors, 3-pole up to 250 kW

Type Size

Electrical endurance of auxiliary contacts

It is assumed that the operating mechanisms are switched randomly, i.e. not synchronized with the phase angle of the supply system.

The electrical endurance is mainly dependent on the breaking current.

3RT contactors S00 to S12

Sizes S00 to S3

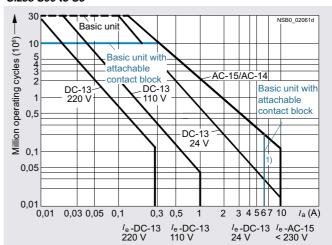


Diagram legend:

 I_a = Breaking current

 $I_{\rm e}$ = Rated operational current

The characteristic curves apply to:

- Integrated auxiliary contacts on 3RT2.
 3RH2911, 3RH2921 auxiliary switches¹⁾

Sizes S6 to S12

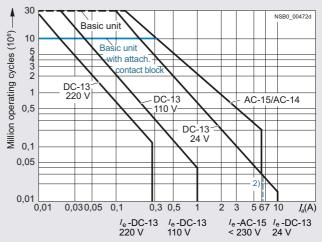


Diagram legend:

 I_a = Breaking current

 $I_{\rm e}$ = Rated operational current

- The characteristic curves apply to:
 Integrated auxiliary contacts on 3RT10
 3RH1921 auxiliary switches³⁾

 $^{^{1)}}$ 3RH22, 3RH29, 3RT2.......4, 3RT2...-...6: $I_{\rm e}$ = 6 A at AC-15/AC-14 and DC-13, 3RT2.4: $I_{\rm e}$ = 6 A at AC-15/AC-14.

²⁾ For laterally mountable auxiliary switches, DC-13/at 24 V: Max. 6 A.

³⁾ With laterally mountable auxiliary switches, the currents for rated operational voltages up to 500 V apply.

SIRIUS 3RT contactors, 3-pole up to 250 kW

Type Size

Contact endurance of the main contacts

The characteristic curves show the contact endurance of the contactors when switching weak inductive or non-inductive AC loads (AC-1) and motor-driven loads (AC-3 and AC-3e) depending on the breaking current and rated operational voltage. It is assumed that the operating mechanisms are switched randomly, i.e. not synchronized with the phase angle of the supply system.

The rated operational current $I_{\rm e}$ complies with utilization category AC-4 (breaking 6 times the rated operational current) and is intended for a contact endurance of approximately 200 000 operating cycles.

If a shorter contact endurance is sufficient, the rated operational current $I_{\rm e}/{\rm AC}$ -4 can be increased.

If the contacts are used for mixed operation, i.e. normal switching (breaking the rated operational current according to utilization category AC-3 and AC-3e) in combination with intermittent inching (breaking several times the rated operational current according to utilization category AC-4), the contact endurance can be calculated approximately from the following equation:

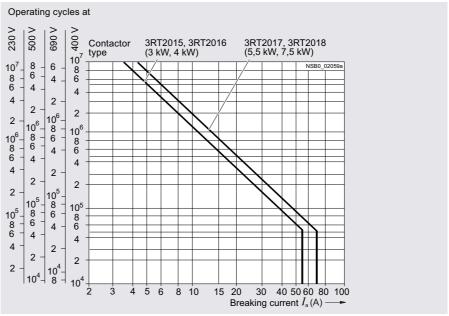
$$X = \frac{A}{1 + \frac{C}{100} \left(\frac{A}{B} - 1\right)}$$

Characters in the equation:

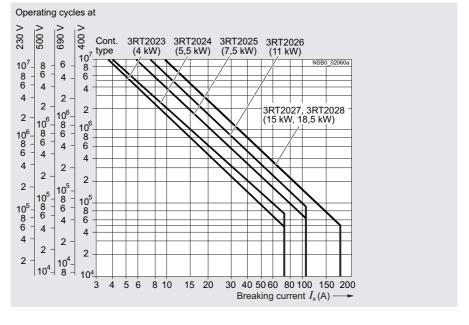
- X Contact endurance for mixed operation in operating cycles
- A Contact endurance for normal operation $(I_a = I_e)$ in operating cycles
- B Contact endurance for inching $(I_a = \text{multiple of } I_e)$ in operating cycles
- C Inching operations as a percentage of total switching operations

3RT2 contactors S00 and S0

Size S00



Size S0



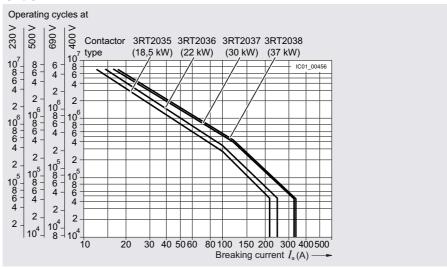
Power contactors for switching motors

SIRIUS 3RT contactors, 3-pole up to 250 kW

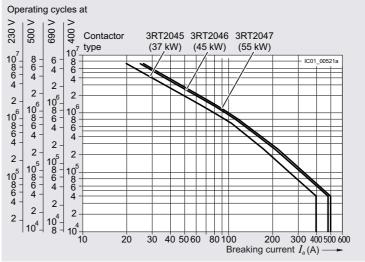
Type Size 3RT contactors S2 to S12

Contact endurance of main contacts (continued)

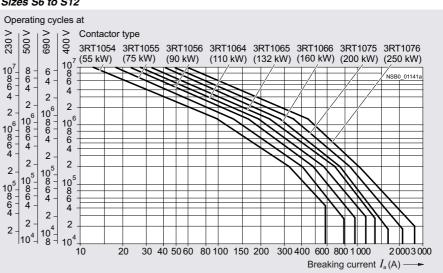
Size S2



Size S3



Sizes S6 to S12



		Contactors
Туре		3RT2015, 3RT2016 3RT2017, 3RT2018
Size		S00
General data		
Dimensions (W x H x D)		
Basic unit Screw terminals Spring-loaded terminals	mm mm	45 x 58 x 73 45 x 70 x 73
Basic unit with mounted auxiliary switch Screw terminals Spring-loaded terminals	mm mm	45 x 58 x 117 45 x 70 x 121
Basic unit with mounted function module or solid-state time-delay auxiliary switch Screw terminals Spring-loaded terminals	mm mm	45 x 58 x 147 45 x 70 x 147
Permissible mounting position		
The contactors are designed for operation on a vertical mounting surface.		360° 22,5° 22,5° 38 4500 OBBN
Upright mounting position		NSB0_00477a Special version required
Mechanical endurance		
Basic unit	Operat- ing cycles	30 million
- With mounted auxiliary switch	Operat- ing cycles	10 million
- With solid-state compatible auxiliary switch	Operat- ing cycles	5 million
Electrical endurance		Contact endurance of the main contacts, see page 3/27.
Rated insulation voltage <i>U</i> _i (pollution degree 3)	V	690
Rated impulse withstand voltage U _{imp}		
Auxiliary circuit	kV	6
Main circuit	kV	6
Protective separation between the coil and the main contacts according to IEC 60947-1, Annex N	V	400
Mirror contacts		
A mirror contact is an auxiliary NC contact that cannot be closed simultaneously with an NO main contact.		
3RT2.1 (removable auxiliary switch)		Yes, this applies to both the basic unit as well as to between the basic unit and the mounted auxiliary switch according to IEC 60947-4-1 Annex F
3RH2919NF solid-state compatible auxiliary switches		No mirror contact for size S00
Ambient temperature	20	05
During operationDuring storage	°C	-25 +60 -55 +80

		Contactors				
Туре		3RT2015, 3RT2016	3RT2017, 3RT2018			
Size		S00				
Short-circuit protection						
Main circuit						
Fuse links, operational class gG: LV HRC, type 3NA; DIAZED, type 5SB; NEOZED, type according to IEC 60947-4-1 Type of coordination "1" Type of coordination "2" Weld-free (test conditions according to IEC 60947-4-	A A	35 20 10	50 25			
 Miniature circuit breaker (up to 230 V) with C character Short-circuit current 1 kA, type of coordination "1" 	istic A	10				
Auxiliary circuit						
Short-circuit test according to IEC 60947-5-1						
 With fuse links, operational class gG: DIAZED, type 5SB; NEOZED, type 5SE with short-circuit current I_k = 1 kA 	А	10				
With 230 V miniature circuit breaker, C characteristic with short-circuit current $I_{\rm k}=400~{\rm A}$	А	6				
Short-circuit protection for contactors with overload relay	S	see				
		• Digital Configuration Manual f	or load feeders			
		• Configuration Manual for load	feeders			
Short-circuit protection for fuseless load feeders		See 3RA2 load feeders, page 8/5 onwards				
Control						
Solenoid coil operating range						
AC operation	50 Hz 60 Hz	0.8 1.1 x U _s 0.85 1.1 x U _s				
DC operation	up to 50 °C up to 60 °C	0.8 1.1 x U _s 0.85 1.1 x Ü _s				
Power consumption of the solenoid coils (for cold coil and $1.0 \times U_s$)						
AC operation, 50/60 Hz, standard version		07/04/0	07/00			
- Closing power - P.f.	VA	27/24.3 0.8/0.75	37/33			
- Holding power - P.f.	VA	4.2/3.3 0.25/0.25	5.7/4.4			
 AC operation, 50 Hz, for USA/Canada 						
 Closing power P.f. for closing power 	VA	26.4 0.81	36 0.8			
- F.I. for closing power - Holding power - P.f. for holding power	VA	4.4 0.24	5.9			
AC operation, 60 Hz, for USA/Canada Closing power	VA	31.7	43			
- P.f. for closing power		0.81	0.8			
 Holding power P.f. for holding power 	VA	4.8 0.25	6.5			
DC operation (closing power = holding power)	W	4				
Permissible residual current of the electronics (with 0						
AC operation	J /	< 3 mA x (230 V/U _c) ¹⁾	< 4 mA x (230 V/U _c) ¹⁾			
DC operation		$< 10 \text{ mA} \times (24 \text{ V/}U_s)^{1)}$, 5, 5,			
1) The 2DT2016 1CA00 additional land module is recomm		(''-5/				

¹⁾ The 3RT2916-1GA00 additional load module is recommended for higher residual currents, see page 3/120.

	Coupling cont	actors					
Туре	3RT201HB4.	3RT201JB4.	3RT201KB4.	3RT201MB40KT0	3RT201VB4.	3RT201SB4.	
Size	S00						
Control							
Solenoid coil operating range	0.7 1.25 x <i>U</i> _s	:		0.85 1.85 x <i>U</i> _S			
Power consumption of the solenoid coils (for cold coil) (witch-on power = holding power	2.8			1.6			
Permissible residual current of the electronics (with 0 signal)	< 6 mA x (24 V/U _s)		On request				
Upright mounting position	On request						
Overvoltage configuration of the solenoid coil	No overvoltage damping	Integrated diode	Integrated suppressor diode	No overvoltage damping	Integrated diode	Integrated suppressor diode	

Power contactors for switching motors

SIRIUS 3RT contactors, 3-pole up to 250 kW

			Contactors			
Type			3RT2015	3RT2016	3RT2017	3RT2018
Size			S00			
Rated data of the main contacts						
Load rating with AC						
Utilization category AC-3 and AC-3e						
 Rated operational currents I_e 	up to 400 V	Α	7	9	12	16
	440 V	A	7	9	11	14
	500 V 690 V	A A	6 4.9	7.7 6.7	9.2	12.4 8.9
Rated power for slip-ring or squirrel-cage	at 230 V	kW	1.5	2.2	3	4
motors at 50 and 60 Hz	400 V	kW	3	2.2 4	5.5	7.5
motore at 66 and 66 the	690 V	kW	4	5.5	0.0	7.5
Thermal load capacity	10 s current	Α	56	72	96	128
Power loss per main conducting path	at I _e /AC-3/	W	0.2	0.3	0.5	1
	AC-3e/400 V					
Utilization category AC-4 (at $I_a = 6 \times I_e$) ¹⁾						
Maximum values						
- Rated operational current I _e	up to 400 V	Α	6.5	8.5		11.5
 Rated power for squirrel-cage motors at 50 Hz and 60 Hz 	up to 400 V	kW	3	4		5.5
The following applies to a contact endurance of about 200 000 operating cycles:						
- Rated operational currents $I_{\rm e}$	up to 400 V	Α	2.6	4.1		5.5
riated operational currents 1 _e	690 V	A	1.8	3.3		4.4
- Rated power for squirrel-cage motors at	at 230 V	kW	0.67	1.1		1.5
50 Hz and 60 Hz	400 V 690 V	kW kW	1.15	2 2.5		2.5 3.5
up to a rated operational voltage of 400 V only.		_	Contactors			
Tupo			3RT2015 to 3R	T2010		
Type Size			S00	12016		
Conductor cross-sections			300			
	avenimala		G 0			
Main conductors, auxiliary conductors and coil t (1 or 2 conductors can be connected)	eriiiiais		Screw term	minais		
Solid or stranded		mm^2	2 x (0.5 1.5) ¹	⁾ ; 2 x (0.75 2.5)	¹⁾ : max. 2 x 4	
• Finely stranded with end sleeve (DIN 46228)		mm ²	2 x (0.5 1.5) ¹); 2 x (0.75 2.5)	1)	
AWG cables, solid or stranded		AWG		2 x (18 14) ¹⁾ ; 2		
Terminal screw			M3 (for Pozidriv	size 2; Ø 5 6 r	mm)	
Tightening torque		Nm	0.8 1.2 (7 1	10.3 lb.in)		
Main conductors, auxiliary conductors and coil t (1 or 2 conductors can be connected)	erminals ²⁾		Spring-loa	aded terminals		
Operating devices		mm	3.0 x 0.5			
Solid or stranded		mm^2	2 x (0.5 4)			
• Finely stranded with end sleeve (DIN 46228)		mm ²	2 x (0.5 2.5)			
 Finely stranded without end sleeve 		mm^2	2 x (0.5 2.5)			
AWG cables, solid or stranded		AWG	2 x (20 12)			
Auxiliary conductors for front and laterally mour	nted auxiliary					
switches ²⁾ (1 or 2 conductors can be connected)						
Operating devices		mm	3.0 x 0.5			
Solid or stranded		mm ²	2 x (0.5 2.5)			
Finely stranded with end sleeve (DIN 46228)		mm ²	2 x (0.5 2.5) 2 x (0.5 1.5)			
Finely stranded with end sleeve (Din 40220) Finely stranded without end sleeve		mm ²	2 x (0.5 2.5)			
AWG cables, solid or stranded		AWG	2 x (20 14)			
1)		5	2)			

¹⁾ If two different conductor cross-sections are connected to one clamping point, both cross-sections must lie in one of the ranges specified.

²⁾ Max. outer diameter of the conductor insulation: 3.6 mm. On spring-loaded terminals with conductor cross-sections ≤ 1 mm² an insulation stop is recommended, see page 3/121.

		Contactors
Туре		3RT2023 to 3RT2025 3RT2026 to 3RT2028
Size		S0
General data		
Dimensions (W x H x D)		
AC operation		
Basic unit	_	
- Screw terminals - Spring-loaded terminals	mm mm	45 x 85 x 97 45 x 102 x 97
Basic unit with mounted auxiliary switch	111111	40 × 102 × 31
- Screw terminals	mm	45 x 85 x 141
- Spring-loaded terminals	mm	45 x 102 x 145
 Basic unit with mounted function module or solid-state time-delay auxiliary switch 		
- Screw terminals	mm	45 x 85 x 171
- Spring-loaded terminals	mm	45 x 102 x 171
DC operation		
Basic unit Screw terminals	200.000	45 x 85 x 107
- Screw terminals - Spring-loaded terminals	mm mm	45 x 102 x 107
Basic unit with mounted auxiliary switch		
- Screw terminals	mm	45 x 85 x 151
- Spring-loaded terminals	mm	45 x 102 x 155
 Basic unit with mounted function module or solid-state time-delay auxiliary switch 		
- Screw terminals	mm	45 x 85 x 181
- Spring-loaded terminals Permissible mounting position	mm	45 x 102 x 181
The contactors are designed for operation on a vertical mounting surface.		360° 22,5° 22,5° &
·		₩ W
Upright mounting position		
		NSB0_00477a
		Special version required, also applies for 3RT202K.40 coupling contactors
Mechanical endurance		also applies for offizer. In the coapiling contactors
Basic unit and	Operat-	10 million
basic unit with mounted auxiliary switch	ing	
	cycles	5 111
Basic unit with solid-state compatible auxiliary switch	Operat- ing	5 million
	cycles	
Electrical endurance		Contact endurance of the main contacts, see page 3/27.
Rated insulation voltage U _i (pollution degree 3)	V	690
Rated impulse withstand voltage U _{imp}	1.17	
Auxiliary circuitMain circuit	kV kV	6
Protective separation between the coil and the main contacts	V	400
(according to IEC 60947-1, Annex N)		
Mirror contacts		
A mirror contact is an auxiliary NC contact that cannot be closed simultaneously with an NO main contact.		
Integrated auxiliary switches		Yes, according to IEC 60947-4-1, Annex F
3RT2.2. (removable auxiliary switch)		Yes, according to IEC 60947-4-1, Annex F
Permissible ambient temperature		,
During operation	°C	-25 +60
During storage	°C	-55 +80

Type		Contactors	s o 3RT2025		3RT2026	3BT20	27, 3RT2028
Type Size		3R12023 to	O 3H12U25		on i 2026	3H120	zr, 3m12028
Short-circuit protection							
Main circuit							
 Fuse links, operational class gG: LV HRC, type 3NA; DIAZED, type 5SB; NEOZED, type 5SE according to IEC 60947-4-1 							
- Type of coordination "1" - Type of coordination "2"	A A	63 25			100 35	125 50	
- Weld-free (test conditions according to IEC 60947-4-1)	A	10			16	00	
 Miniature circuit breaker with C characteristic (short-circuit current 3 kA, type of coordination "1") 	Α	25		3	32	40	
Auxiliary circuit							
• Fuse links, operational class gG: DIAZED, type 5SB; NEOZED, type 5SE (weld-free protection at $I_k \le 1$ kA)	А	10					
• 230 V miniature circuit breaker, C characteristic (short-circuit current $I_{\rm K}$ < 400 A)	А	10					
Short-circuit protection for contactors with overload relays		see					
		_	_	Manual for load			
Short-circuit protection for fuseless load feeders				for load feeders , page 8/5 onwa			
Short-circuit protection for fuseless load feeders		Jee JI IAZ	load leeders	, page 0/3 onwa	iius		
		Contactor	s				
Туре		3RT2023 to 3RT2025	3RT2026 to 3RT2028	o 3RT202NB	3 3RT20	2NF3.	3RT202NP3
Size		S0	01112020				
Control							
Type of operating mechanism		AC or DC		AC/DC			
Solenoid coil operating range AC/I	DC	0.8 1.1 x	(U _s ¹⁾	0.7 1.3 x <i>U</i>	s 2)		
Power consumption of the solenoid coils (for cold coil and $1.0 \times U_s$)							
 AC operation, 50 Hz, standard version Closing power 	VA	65	77	6.6	11.9		12.7
- P.f. - Holding power	VA	0.82 7.6	9.8	0.98 1.9	1.6		3.9
- P.f.	VA	0.25	9.0	0.86	0.79		0.51
 AC operation, 50/60 Hz, standard version Closing power 	VA	68/67	81/79	6.6/6.7	11.9/1	2.0	12.7/14.7
- P.f.		0.72/0.74		0.98/0.98			
- Holding power - P.f.	VA	7.9/6.5 0.25/0.28	10.5/8.5	1.9/2.0 0.86/0.82	1.6/1.8 0.79/0		3.9/4.3 0.51/0.56
 AC operation, 50 Hz, for USA/Canada Closing power 	VA	65	77				
- P.f.		0.82	0.82				
- Holding power - P.f.	VA	7 ³⁾ /7.6 0.25	9.8 0.28				
AC operation, 60 Hz, for USA/Canada							
- Closing power - P.f.	VA	73 0.76	87				
- Holding power - P.f.	VA	7.2 0.28	9.4				
DC operation (closing power = holding power)	W	5.9/5.9		5.9/1.4	10.2/1	.3	14.3/1.9
Permissible residual current of the electronics (with 0 signal)							
• AC operation • DC operation	mA mA	< 6 mA x (2 < 16 mA x		< 7 mA x (230	0 V/ <i>U</i> _s)		
Ocil operating range	IIIA		-	to <i>U</i> _{s max} = 280	1/	innit 11	w.11
- at 50 Hz: 0.8 to 1.1 x $U_{\rm S}$, - at 60 Hz: 0.85 to 1.1 x $U_{\rm S}$.		3) Value ap	plies to 3RT2	2023 contactor 5	o: upper i i0 Hz AC.	IIIIII = 1.1	X U _{S max} .
_		Coupling	contactors				
Туре		3RT202H	KB4.				
Size		S0					
Control		0.7 1.05	v 11				
Solonoid coil operating rooms		0.7 1.25	∧ U _S				
	C W			4.5			
Power consumption of the solenoid coils at $U_{\rm s}$ 24 V [OC W						
Power consumption of the solenoid coils (for cold coil) Switch-on power = holding power	OC W	4.5 < 10 mA x					
Solenoid coil operating range Power consumption of the solenoid coils (for cold coil) Switch-on power = holding power Permissible residual current of the electronics (with 0 signal) Overvoltage configuration of the solenoid coil	DC W	4.5					

Power contactors for switching motors

SIRIUS 3RT contactors, 3-pole up to 250 kW

			Contactors	3		_		_
Туре			3RT2023	3RT2024	3RT2025	3RT2026	3RT2027	3RT2028
Size			S0					
Rated data of the main contacts								
Load rating with AC			_					
Utilization category AC-3 and AC-3e								
$ullet$ Rated operational currents $I_{ m e}$	up to 400 V 440 V 500 V 690 V	A A A	9 9 9	12 12 12	17 17 17 13	25 22 18	32 32 32 21	38 35
 Rated power for slip-ring or squirrel-cage motors at 50 and 60 Hz 	at 230 V 400 V 690 V	kW kW kW	2.2 4 7.5	3 5.5	4 7.5 11	5.5 11	7.5 15 18.5	11 18.5
Thermal load capacity	10 s current	Α	80	110	150	200	260	304
Power loss per main conducting path	at I _e /AC-3/ AC-3e/400 V	W	0.2	0.3	0.6	1.9	2.3	3.2
Utilization category AC-4 (at $I_a = 6 \times I_e$)								
Maximum values:								
- Rated operational current I _e	up to 400 V	Α	8.5	12.5	15.5		22	
 Rated power for squirrel-cage motors at 50 Hz and 60 Hz 	at 400 V	kW	4	5.5	7.5		11	
The following applies to a contact endurance of about 200 000 operating cycles:								
- Rated operational currents $I_{\rm e}$	up to 400 V 690 V	A A	4.1 3.3	5.5 5.5	7.7 7.7	9 9	12 12	
- Rated power for squirrel-cage motors at 50 Hz and 60 Hz	at 110 V 230 V 400 V 690 V	kW kW kW	0.5 1.1 2 2.5	0.73 1.5 2.6 4.6	1 2 3.5 6	1.2 2.5 4.4 7.7	1.6 3.4 6 10.3	

Contactors

Type		3RT2023 to 3RT2028
Size		S0
Conductor cross-sections		
Main conductors		Screw terminals
(1 or 2 conductors can be connected)		Screw terminals
Solid or stranded	mm^2	2 x (1 2.5) ¹⁾ ; 2 x (2.5 10) ¹⁾
• Finely stranded with end sleeve (DIN 46228)	mm^2	2 x (1 2.5) ¹⁾ ; 2 x (2.5 6) ¹⁾ ; 1 x 10
AWG cables, solid or stranded	AWG	2 x (16 12) ¹⁾ ; 2 x (14 8) ¹⁾
Terminal screws		M4 (for Pozidriv size 2; Ø 5 6 mm)
- Tightening torque	Nm	2 2.5 (18 22 lb.in)
Auxiliary conductors (1 or 2 conductors can be connected)		
Solid or stranded	mm^2	2 x (0.5 1.5) ¹⁾ ; 2 x (0.75 2.5) ¹
• Finely stranded with end sleeve (DIN 46228)	mm^2	2 x (0.5 1.5) ¹⁾ ; 2 x (0.75 2.5) ¹⁾
AWG cables, solid or stranded	AWG	2 x (20 16) ¹⁾ ; 2 x (18 14) ¹⁾
Terminal screws Tightening torque	Nm	M3 (for Pozidriv size 2; Ø 5 6 mm) 0.8 1.2 (7 10.3 lb.in)
Main conductors ²⁾		O Spring-loaded terminals
(1 or 2 conductors can be connected)		
Operating devices	mm	3.0 x 0.5
Solid or stranded	mm ²	2 x (1 10)
 Finely stranded with end sleeve (DIN 46228) 	mm ²	2 x (1 6)
Finely stranded without end sleeve	mm ²	2 x (1 6)
AWG cables, solid or stranded	AWG	2 x (18 8)
Auxiliary conductors ²⁾ (1 or 2 conductors can be connected)		
Operating devices		3.0 x 0.5
Solid or stranded	mm^2	2 x (0.5 2.5)
• Finely stranded with end sleeve (DIN 46228)	mm^2	2 x (0.5 1.5)
Finely stranded without end sleeve	mm^2	2 x (0.5 2.5)
 AWG cables, solid or stranded 	AWG	2 x (20 14)

Power contactors for switching motors

		Contactors			
Туре		3RT2035	3RT2036	3RT2037	3RT2038
Size		S2			
General data					
Dimensions (W x H x D)					
Basic unit Screw/spring-loaded terminals	mm	55 x 114 x 130			
Basic unit with mounted auxiliary switch Screw terminals Spring-loaded terminals	mm mm	55 x 114 x 174 55 x 114 x 178			
Basic unit with mounted function module or solid-state time-delay auxiliary switch Screw/spring-loaded terminals	mm	55 x 114 x 204			
Permissible mounting position	111111	00 X 114 X 204			
The contactors are designed for operation on a vertical mounting surface.		360° 22,5° 2	22,5° %		
Upright mounting position					
		NSB0_00477a Specia	I version required		
Mechanical endurance					
Basic units and basic units with mounted auxiliary switch	Operat- ing cycles	10 million (3RT20	3S.30: 5 million))	
Basic units with solid-state compatible auxiliary switch		5 million			
Electrical endurance		Contact endurand	ce of the main cor	ntacts, see page 3	3/28.
Rated insulation voltage <i>U</i> _i (pollution degree 3)	V	690			
Rated impulse withstand voltage U _{imp}					
Auxiliary circuit	kV	6			
Main circuit	kV	6			
Protective separation between the coil and the main contacts (according to IEC 60947-1, Annex N)	V	400			
Mirror contacts					
A mirror contact is an auxiliary NC contact that cannot be closed simultaneously with an NO main contact.					
Integrated auxiliary switches			IEC 60947-4-1, A		
3RT2.3. (removable auxiliary switch)		Yes, according to	IEC 60947-4-1, A	nnex F	
Permissible ambient temperature • During operation	°C	05 .00			
During operation During storage	°C	-25 +60 -55 +80			
Short-circuit protection					
Main circuit					
Fuse links, operational class gG: LV HRC, type 3NA; DIAZED, type 5SB; NEOZED, type 5SE according to IEC 60947-4-1 Type of coordination "1" Type of coordination "2"	A A	160 80		250 125	160
- Weld-free (test conditions according to IEC 60947-4-1)	A	16	25	50	
Auxiliary circuit					
 Fuse links, operational class gG: DIAZED, type 5SB; NEOZED, type 5SE (weld-free protection at I_k≤1 kA) 	А	10			
• 230 V miniature circuit breaker, C characteristic (short-circuit current $I_{\rm k}$ < 400 A)	А	10			
Short-circuit protection for contactors with overload relays		see			
		Digital Configur	ation Manual for lo	oad feeders	
			lanual for load fee		
Short-circuit protection for fuseless load feeders		See 3RA2 load fe	eders, page 8/5 c	nwards	

		Contactors			Coupling contactors
Туре		3RT203A, 3RT203C	3RT203N.3.	3RT203S.3.	3RT203KB4.
Size		S2			
Control					
Type of operating mechanism		AC	AC/DC		DC
Solenoid coil operating range					
• AC operation ¹⁾		0.8 1.1 x U _s			
 AC/DC operation¹⁾ 			0.8 1.1 x <i>U</i> _s		
DC operation					0.8 1.2 x <i>U</i> _s
Power consumption of the solenoid coils (for cold coil and $1.0 \times U_{\text{S}}$)					
 AC operation, 50 Hz, standard version Closing power P.f. Holding power P.f. 	VA VA	190 0.72 16 0.37	 		
 AC operation, 50/60 Hz, standard version Closing power P.f. Holding power P.f. 	VA VA	210/188 0.69/0.65 17.2/16.5 0.36/0.39	 		
 AC operation, 60 Hz, for USA/Canada Closing power P.f. Holding power P.f. 	VA VA	212 0.67 18.5 0.37	 		
 AC/DC operation Closing power for AC operation P.f. Holding power for AC operation P.f. Closing power for DC operation Holding power for DC operation 	VA VA VA	 	40 0.95 2 0.95 23 ²⁾	0.7 40 1.6	
DC operation Closing power for DC operation Holding power for DC operation	W	 			21.5 ³⁾
Permissible residual current of the electronics (with 0 signal)	***				
AC/DC operation	mA		< 20		
• DC operation	mA				< 20
Overvoltage configuration of the solenoid coil			Integrated varis	tor	
PLC control input according to IEC 60947-1					
Solid-state operating mechanism				Type 1	
Rated voltage	V DC			24	
Operating range	V DC			17 30	
Power consumption	mA			≤30	
Recovery time after power failure, typical	S			2	
1) Call approximation range	· ·			_	

¹⁾ Coil operating range

⁻ at 50 Hz: 0.8 to 1.1 x $U_{\rm s}$, - at 60 Hz: 0.85 to 1.1 x $U_{\rm s}$.

²⁾ In the case of AC/DC coils, increased pickup currents (2.6 A on average) arise during the first 230 ms. For direct control by PLC, we therefore recommend special coupling contactors with reduced power consumption. The connection of one 3RT203.-.KB4. coupling contactor is possible per PLC output port with an output current of 2 A, see page 3/61.

³⁾ In the case of DC coils, increased pickup currents (2.1 A on average) arise during the first 230 ms.

			Contactors			
Туре			3RT2035	3RT2036	3RT2037	3RT2038
Size			S2	01112000	01112007	01112000
Rated data of the main contacts			-			
Load rating with AC			_			
Utilization category AC-3 and AC-3e						
$ullet$ Rated operational currents $I_{ m e}$	up to 400 V 440 V 500 V 690 V	A A A	41 41 41 24	51 51 51	65 65 65 47	80 80 80 58
Rated power for slip-ring or squirrel-cage motors at 50 Hz and 60 Hz	at 230 V 400 V 690 V	kW kW kW	11 18.5 22	15 22	18.5 30 37	22 37 45
Thermal load capacity	10 s current	Α	400	420	520	640
Power loss per main conducting path	at I _e /AC-3/ AC-3e/400 V	W	2.2	4	3.8	5.7
Utilization category AC-4 (at $I_a = 6 \times I_e$)						
Maximum values						
- Rated operational current $I_{\rm e}$	up to 400 V	Α	35	41	55	
 Rated power for squirrel-cage motors at 50 Hz and 60 Hz 	at 400 V	kW	18.5	22	30	
 The following applies to a contact endurance of about 200 000 operating cycles: 						
- Rated operational currents $I_{\rm e}$	up to 400 V 690 V	A A	22 18.5	24 20	28 22	30 24
- Rated power for squirrel-cage motors at 50 Hz and 60 Hz	at 110 V 230 V 400 V 690 V	kW kW kW kW	3.2 6.7 11.6 16.8	3.5 7.3 12.6 18.2	4.1 8.5 14.7 20	4.3 9.1 15.8 21.8

		Contactors
Type		3RT2035 to 3RT2038
Size		S2
Conductor cross-sections		
Main conductors (1 or 2 conductors can be connected)		Screw terminals
Solid or stranded	mm^2	2 x (1 35) ¹⁾ ; 1 x (1 50) ¹⁾
• Finely stranded with end sleeve (DIN 46228)	mm^2	2 x (1 25) ¹⁾ ; 1 x (1 35) ¹⁾
AWG cables, solid or stranded	AWG	2 x (18 2) ¹⁾ ; 1 x (18 1) ¹⁾
Terminal screwsTightening torque	Nm	Pozidriv size 2; Ø 5 6 mm 3 4.5 (27 40 lb.in)
Auxiliary conductors and control conductors (1 or 2 conductors can be connected)		
Solid or stranded	mm ²	2 x (0.5 1.5) ¹⁾ ; 2 x (0.75 2.5) ¹⁾
• Finely stranded with end sleeve (DIN 46228)	mm^2	2 x (0.5 1.5) ¹⁾ ; 2 x (0.75 2.5) ¹⁾
AWG cables, solid or stranded	AWG	2 x (20 16) ¹⁾ ; 2 x (18 14) ¹⁾
Terminal screwsTightening torque	Nm	M3 (for Pozidriv size 2; Ø 5 6 mm) 0.8 1.2 (7 10.3 lb.in)
Auxiliary and control conductors ²⁾ (1 or 2 conductors can be connected)		Spring-loaded terminals
Operating devices	mm	3.0 x 0.5
Solid or stranded	mm^2	2 x (0.5 2.5)
• Finely stranded with end sleeve (DIN 46228)	mm^2	2 x (0.5 1.5)
Finely stranded without end sleeve	mm^2	2 x (0.5 2.5)
AWG cables, solid or stranded	AWG	2 x (20 14)

¹⁾ If two different conductor cross-sections are connected to one clamping point, both cross-sections must lie in one of the ranges specified.

²⁾ Max. outer diameter of the conductor insulation: 3.6 mm. On spring-loaded terminals with conductor cross-sections ≤ 1 mm² an insulation stop is recommended, see page 3/121.

		Contactors		
Туре		3RT2045	3RT2046	3RT2047
Size		S3		
General data				
Dimensions (W x H x D)				
Basic unit Screw/spring-loaded terminals	mm	70 x 140 x 152		
Basic unit with mounted auxiliary switch Screw terminals Spring-loaded terminals	mm mm	70 x 140 x 196 70 x 140 x 200		
Basic unit with mounted function module or solid-state time-delay auxiliary switch	100.000	70 x 140 x 226		
- Screw/spring-loaded terminals	mm	70 X 140 X 220		
Permissible mounting position The contactors are designed for operation on				
a vertical mounting surface.		360° 22,5° 22,5° 3	ı	
Upright mounting position				
		NSB0_00477a Special version	required	
Mechanical endurance				
 Basic units and basic units with mounted auxiliary switch 	Operat- ing cycles	10 million		
Basic units with solid-state compatible auxiliary switch	•	5 million		
Electrical endurance		Contact endurance of th	e main contacts, see pa	ge 3/28.
Rated insulation voltage <i>U</i> _i (pollution degree 3)	V	1 000 (3RT200CC	D: 690)	
Rated impulse withstand voltage U _{imp}				
Auxiliary circuit Main circuit	kV kV	6 8		
Protective separation between the coil and the main contacts	V	690		
(according to IEC 60947-1, Annex N)	V	030		
Mirror contacts				
A mirror contact is an auxiliary NC contact that cannot be closed simultaneously with an NO main contact.				
Integrated auxiliary switches3RT2.4. (removable auxiliary switch)		Yes, according to IEC 60 Yes, according to IEC 60		
Permissible ambient temperature				
During operation	°C	-25 +60		
During storage	°C	-55 +80		
Short-circuit protection				
Main circuit				
 Fuse links, operational class gG: LV HRC, type 3NA; DIAZED, type 5SB; NEOZED, type 5SE according to IEC 60947-4-1 				
- Type of coordination "1"	A	250	100	000
Type of coordination "2" Weld-free (test conditions according to IEC 60947-4-1)	A A	160 80	160 100	200
Auxiliary circuit				
 Fuse links, operational class gG: DIAZED, type 5SB; NEOZED, type 5SE (weld-free protection at I_k ≤ 1 kA) 	Α	10		
• 230 V miniature circuit breaker, C characteristic (short-circuit current $I_{\rm k}$ < 400 A)	А	10		
Short-circuit protection for contactors with overload relays	_	see		
		Digital Configuration M		
		Configuration Manual 1		
Short-circuit protection for fuseless load feeders		See 3RA2 load feeders,	page 8/5 onwards	

		Contactors			Coupling contactors
Туре		3RT204A, 3RT204C	3RT204N.3.	3RT204S.3.	3RT204KB4.
Size		S3			
Control					
Type of operating mechanism		AC	AC/DC		DC
Solenoid coil operating range					
 AC operation¹⁾ 		0.8 1.1 x U _s			
 AC/DC operation¹⁾ 			0.8 1.1 x U _s		
DC operation					0.8 1.2 x <i>U</i> _s
Power consumption of the solenoid coils (for cold coil and $1.0 \times U_s$)					
 AC operation, 50 Hz, standard version Closing power 	VA	296			
- P.f.		0.61			
- Holding power - P.f.	VA	19 0.38			
AC operation, 50/60 Hz, standard version Closing power	VA	348/296			
- P.f.		0.62/0.55			
- Holding power - P.f.	VA	25/18 0.35/0.41			
AC operation, 60 Hz, for USA/Canada Closing power	VA	326			
- P.f.	\	0.62			
- Holding power - P.f.	VA	22 0.38			
 AC/DC operation Closing power for AC operation 	VA		163	130	
P.f.Holding power for AC operation	VA		0.95 3.1	2.4	
- P.f.	VA		0.95	0.7	
Closing power for DC operationHolding power for DC operation	VA VA		76 ²⁾ 1.8	130	
DC operation Classing payor for DC operation	147				25 ³⁾
Closing power for DC operationHolding power for DC operation	W				0.9
Permissible residual current of the electronics (with 0 signal)					
AC/DC operation	mA		< 20		
DC operation	mA				< 20
Overvoltage configuration of the solenoid coil			Integrated varist	or	
PLC control input according to IEC 60947-1			J		
Solid-state operating mechanism				Type 1	
Rated voltage	V DC			24	
Operating range	V DC			17 30	
Power consumption	mA			≤ 30	
Recovery time after power failure, typical	s			2	

¹⁾ Coil operating range

⁻ at 50 Hz: 0.8 to 1.1 x $U_{\rm s}$, - at 60 Hz: 0.85 to 1.1 x $U_{\rm s}$.

²⁾ In the case of AC/DC coils, increased pickup currents (6.5 A on average) arise during the first 150 ms. For direct control by PLC, we therefore recommend special coupling contactors with reduced power consumption. The connection of one 3RT204.-.KB4. coupling contactor is possible per PLC output port with an output current of 2 A, see page 3/61.

³⁾ In the case of DC coils, increased pickup currents (2.1 A on average) arise during the first 150 ms.

SIRIUS 3RT contactors, 3-pole up to 250 kW

		Contactors		
Туре		3RT2045	3RT2046	3RT2047
Size		S3		
Rated data of the main contacts				
Load rating with AC		_		
Utilization category AC-3 and AC-3e				
• Rated operational currents I_e	up to 400 V A 500 V A 690 V A 1 000 V A	80 80 58 30	95 95 78	110 110 98
 Rated power for slip-ring or squirrel-cage motors at 50 and 60 Hz 	at 230 V kW 400 V kW 690 V kW 1 000 V kW	22 37 55 37	22 45 75	30 55 90
Thermal load capacity	10 s current A	760		880
Power loss per main conducting path	at I _e /AC-3/ W AC-3e/400 V	5.3	6.6	7.9
Utilization category AC-4 (at $I_a = 6 \times I_e$)				
Maximum values				
- Rated operational current I _e	up to 400 V A	66	80	97
 Rated power for squirrel-cage motors at 50 Hz and 60 Hz 	at 400 V kW	37	45	55
The following applies to a contact endurance of about 200 000 operating cycles:				
- Rated operational currents $I_{\rm e}$	up to 400 V A 690 V A	34 24	42 30	46 36
- Rated power for squirrel-cage motors at 50 Hz and 60 Hz	at 110 V kW 230 V kW 400 V kW 690 V kW	4.9 10.4 17.9 21.8	6.1 12 22 27.4	6.7 14 24.3 32.9

		Contactors
Туре		3RT2045 to 3RT2047
Size		S3
Conductor cross-sections		
Main conductors (1 or 2 conductors can be connected)		Screw terminals
• Solid	mm ²	2 x (2.5 16) ¹⁾
• Stranded	mm ²	2 x (6 16) ¹⁾ ; 2 x (10 50) ¹⁾ ; 1 x (10 70) ¹⁾
• Finely stranded with end sleeve (DIN 46228)	mm ²	2 x (2.5 35) ¹⁾ ; 1 x (2.5 50) ¹⁾
AWG cables, solid or stranded	AWG	2 x (10 1/0) ¹⁾ ; 1 x (10 2/0) ¹⁾
Terminal screws Tightening torque	Nm	Hexagon socket, A/F 4 4.5 6 (40 53 lb.in)
Auxiliary conductors and control conductors (1 or 2 conductors can be connected)		
Solid or stranded	mm ²	2 x (0.5 1.5) ¹⁾ ; 2 x (0.75 2.5) ¹⁾
 Finely stranded with end sleeve (DIN 46228) 	mm ²	2 x (0.5 1.5) ¹⁾ ; 2 x (0.75 2.5 ¹⁾
AWG cables, solid or stranded	AWG	2 x (20 16) ¹⁾ ; 2 x (18 14) ¹⁾
Terminal screwsTightening torque	Nm	M3 (for Pozidriv size 2; Ø 5 6 mm) 0.8 1.2 (7 10.3 lb.in)
Auxiliary and control conductors ²⁾ (1 or 2 conductors can be connected)		Spring-loaded terminals
Operating devices	mm	3.0 x 0.5
Solid or stranded	mm ²	2 x (0.5 2.5)
 Finely stranded with end sleeve (DIN 46228) 	mm ²	2 x (0.5 1.5)
Finely stranded without end sleeve	mm ²	2 x (0.5 2.5)
AWG cables, solid or stranded	AWG	2 x (20 16)
1) If two different conductor cross-sections are connected to one clampi point, both cross-sections must lie in one of the ranges specified.	ng	2) Max. outer diameter of the conductor insulation: 3.6 mm. On spring-loaded terminals with conductor cross-sections ≤ 1 mm² an insulation step is recommended, see page 3/101

insulation stop is recommended, see page 3/121.

		Contactors	3			
Туре		3RT1054	3RT1055, 3RT1056	3RT1064 to 3RT1066	3RT1075	3RT107
Size		S6		S10	S12	
General data					_	
Dimensions (W x H x D)						
Basic unit	mm	120 x 172 x	< 170	145 x 210 x 202	160 x 214	x 225
Basic unit with mounted auxiliary switch	mm	120 x 172 x	∢217	145 x 210 x 251	160 x 214	x 271
Permissible mounting position		***	22,5°,22,5°	e oo		
The contactors are designed for operation on a vertical mounting surface.		90° ++++	900	NSB0_088N		
Mechanical endurance	Operat- ing cycles	10 million				
Electrical endurance	•	Contact en	durance of the	ne main contacts, se	e page 3/28.	
Rated insulation voltage <i>U_i</i> (pollution degree 3)	V	1 000				
Rated impulse withstand voltage <i>U</i> _{imp}						
Auxiliary circuit	kV	6				
Main circuit	kV	8				
Protective separation between the coil and the main contacts according to IEC 60947-1, Annex N	V	690				
Mirror contacts		Yes, accord	ding to IEC 6	0947-4-1, Annex F		
A mirror contact is an auxiliary NC contact that cannot be closed simultaneously with an NO main contact.						
Permissible ambient temperature						
During operation	°C	-25 +60				
During storage	°C	-55 +80				
Electromagnetic compatibility (EMC)		see page 3	3/21			
Short-circuit protection						
Main circuit						
Fuse links, operational class gG: LV HRC, type 3NA; DIAZED, type 5SB; NEOZED, type 5SE according to IEC 60947-4-1						
• Type of coordination "1"	А	355		500	630	
• Type of coordination "2"	А	250	315	400	500	
• Weld-free	А	80	160	250		315
Auxiliary circuit						
Short-circuit test						
• With fuse links of operational class gG: DIAZED, type 5SB; NEOZED, type 5SE with short-circuit current $I_{\rm k}=1$ kA according to IEC 60947-5-1	А	10				
• With miniature circuit breakers with C characteristic with short-circuit current $I_{\rm k}$ = 400 A	А	10				
Short-circuit protection for contactors with overload relays		see				
		Digital Co	onfiguration M	Manual for load feed	ers	
		 Configura 	ation Manual	for load feeders		

			Contactors		
Type			3RT105.	3RT106.	3RT107.
Size			S6	S10	S12
Control					<u> </u>
Operating range of the solenoid operating mechanism	AC/DC		0.8 x <i>U</i> _{s min} 1.1 x <i>U</i>	s max	
Power consumption of the solenoid op (with cold coil and rated range $U_{\rm s \ min} \dots U_{\rm s \ min}$	perating mechanism $J_{\rm s\ max}$				
 Standard operating mechanism (3RT10A) 					
- AC operation	Switch-on power at $U_{\rm S~min}$ Switch-on power at $U_{\rm S~max}$ Holding power at $U_{\rm S~min}$ Holding power at $U_{\rm S~max}$	VA/p.f. VA/p.f. VA/p.f. VA/p.f.	250/0.9 300/0.9 4.8/0.8 5.8/0.8	490/0.9 590/0.9 5.6/0.9 6.7/0.9	700/0.9 830/0.9 7.6/0.9 9.2/0.9
- DC operation	Switch-on power at $U_{\rm S~min}$ Switch-on power at $U_{\rm S~max}$ Holding power at $U_{\rm S~min}$ Holding power at $U_{\rm S~max}$	W W W	300 360 4.3 5.2	540 650 6.1 7.4	770 920 8.5 10
 Solid-state operating mechanism (3RT10N/P/S) 					
- AC operation	Switch-on power at $U_{\rm S~min}$ Switch-on power at $U_{\rm S~max}$ Holding power at $U_{\rm S~min}$ Holding power at $U_{\rm S~max}$	VA/p.f. VA/p.f. VA/p.f. VA/p.f.	190/0.8 280/0.8 3.5/0.6 4.8/0.6	400/0.8 530/0.8 5.5/0.5 8.5/0.4	560/0.8 750/0.8 5.6/0.5 9/0.4
- DC operation	Switch-on power at $U_{\rm S~min}$ Switch-on power at $U_{\rm S~max}$ Holding power at $U_{\rm S~min}$ Holding power at $U_{\rm S~max}$	W W W	250 320 2.1 2.8	440 580 2.8 3.4	600 800 3 3.6
PLC control input according to IEC 6094	47-1				
Solid-state operating mechanism	3RT10N/P 3RT10S		Type 2 Type 1		
Rated voltage		V DC	24		
Operating range		V DC	17 30		
Power consumption		mA	≤ 30		
 Recovery time after power failure, typics (applicable only for fail-safe version 3R) 		S	2		

			Contacto	rs				_	_	
Туре				3RT1055	3RT1056	3RT1064	3RT1065	3RT1066		3RT1076
Size			S6			S10			S12	
Rated data of the main contacts										
Load rating with AC										
Utilization category AC-3 and AC-3e										
$ullet$ Rated operational currents $I_{ m e}$	up to 500 V at 690 V at 1 000 V	A A A	115 115 53	150 150 65	185 170 65	225 225 68	265 265 95	300 280 95	400 400 180	500 450 180
Rated power for slip-ring or squirrel-cage motors at 50 Hz and 60 Hz	at 230 V at 400 V at 500 V at 690 V at 1 000 V	kW kW kW kW	37 55 75 110 75	45 75 90 132 90	55 90 132 160 160	55 110 160 200 200	75 132 160 250 132	90 160 200 250 132	132 200 250 400 250	160 250 315 400 250
Thermal load capacity	10 s current	Α	1 100	1 300	1 480	1 800	2 400		3 200	4 000
Power loss per main conducting path	at I _e /AC-3/ AC-3e/400 V	W	7	9	13	17	18	22	35	55
Utilization category AC-4 (at $I_a = 6 \times I_e$)										
 Maximum values 										
- Rated operational current I _e	up to 400 V	Α	97	132	160	195	230	280	350	430
 Rated power for squirrel-cage motors at 50 Hz and 60 Hz 	at 400 V	kW	55	75	90	110	132	160	200	250
The following applies to a contact endurance of about 200 000 operating cycles:										
- Rated operational current $I_{\rm e}$	up to 500 V up to 690 V	A A	54 48	68 57	81 65	96 85	117 105	125 115	150 135	175 150
 Rated power for squirrel-cage motors at 50 Hz and 60 Hz 	at 230 V at 400 V at 500 V at 690 V	kW kW kW	16 29 37 48	20 38 47 55	25 45 57 65	30 54 67 82	37 66 82 102	40 71 87 112	48 85 105 133	56 98 123 148

			Contactors			
Туре			3RT105.		3RT106.	3RT107.
Size			S6		S10	S12
Conduc	tor cross-sections					
Main con	ductors (1 or 2 conductors can be connected)		Screw terminals			
With mour	nted box terminals	Type	3RT1955-4G (55 kW)	3RT1956-4G	3RT1966-40	<u> </u>
	Terminal screwsTightening torque	Nm lb.in	M10 (hexagon socket, A/F 4) 10 12 90 110		M12 (hexag 20 22 180 195	on socket, A/F (
Front clan	nping point connected					
0_00479	 Finely stranded with end sleeve (DIN 46228) Finely stranded without end sleeve Stranded 	mm ² mm ² mm ²	16 70 16 70 16 70	16 120 16 120 16 120	70 240 70 240 95 300	
N S N N	 AWG cables, solid or stranded 	AWG	6 2/0	6 250 kcmil	3/0 600 k	cmil
	 Ribbon cable conductors (number x width x thickness) 	mm	Min. 3 x 9 x 0.8, max. 6 x 15.5 x 0.8	Min. 3 x 9 x 0.8, max. 10 x 15.5 x 0.8	Min. 6 x 9 x max. 20 x 2	
Rear clam	nping point connected	0				
30_00480	 Finely stranded with end sleeve (DIN 46228) Finely stranded without end sleeve Stranded 	mm ² mm ² mm ²	16 70 16 70 16 70	16 120 16 120 16 120	120 185 120 185 120 240	
S S	 AWG cables, solid or stranded 	AWG	6 2/0	6 250 kcmil	250 500 k	
	Ribbon cable conductors (number x width x thickness)	mm	Min. 3 x 9 x 0.8, max. 6 x 15.5 x 0.8	Min. 3 x 9 x 0.8, max. 10 x 15.5 x 0.8	Min. 6 x 9 x max. 20 x 2	
	iping points connected cross-section 16 mm²)					
,	 Finely stranded with end sleeve (DIN 46228) Finely stranded without end sleeve Stranded 	mm ² mm ² mm ²	Max. 1 x 50, 1 x 70 Max. 1 x 50, 1 x 70 Max. 1 x 50, 1 x 70	Max. 1 x 95, 1 x 120 Max. 1 x 95, 1 x 120 Max. 1 x 95, 1 x 120	Min. 2 x 50,	max. 2 x 185 max. 2 x 185 max. 2 x 240
NSB0.0	AWG cables, solid or stranded	AWG	Max. 2 x 1/0	Max. 2 x 3/0	Min. 2 x 2/0 max. 2 x 50	
	 Ribbon cable conductors (number x width x thickness) 	mm	Max. 2 x (6 x 15.5 x 0.8)	Max. 2 x (10 x 15.5 x 0.8)	Max. 2 x (20) x 24 x 0.5)
Busbar co	onnections					
	ng bar (max. width)	mm	17		25	
Cable lug	connection	2	40. 05			
	 Finely stranded with cable lug¹⁾²⁾ Stranded with cable lug¹⁾²⁾ 	mm ²	16 95 25 120		50 240 70 240	
	AWG cables, solid or stranded Tarming Larrages	AWG	4 250 kcmil		2/0 500 k	
	Terminal screwsTightening torque	Nm lb.in	M8 x 25 (A/F 13) 10 14 90 124		M10 x 30 (A 14 24 124 210	/F 1/)
Auxiliary	conductors (1 or 2 conductors can be connected)					
	 Solid Finely stranded with end sleeve (DIN 46228) 	mm≤	2 x (0.5 1.5) ³⁾ ; 2 x (0.75 2 x (0.5 1.5) ³⁾ ; 2 x (0.75	. 2.5) ³⁾ ; max. 2 x (0.75 4) ³⁾ . 2.5) ³⁾		
	AWG cables, solid or stranded	AWG	2 x (18 14)			
	Terminal screwsTightening torque	Nm lb.in	M3 (Pozidriv size 2) 0.8 1.2 7 10.3			
Auxiliary	conductors ⁴⁾ (1 or 2 conductors can be connected)		Spring-loaded termin	als		
	Operating devices		3.0 x 0.5; 3.5 x 0.5			
	Solid Finely stranded with end sleeve (DIN 46228) Finely stranded without end sleeve	mm ² mm ² mm ²	2 x (0.25 2.5) 2 x (0.25 1.5) 2 x (0.25 2.5)			
	 AWG cables, solid or stranded 	AWG	2 x (24 14)			
) 2DT10E	:: When using cable lugs according to DIN 46235, us	o tho	3) If two different of	conductor cross-sections are	connected to	one clampine

³RT105.: When using cable lugs according to DIN 46235, use the 3RT1956-4EA1 terminal cover for conductor cross-sections from 95 mm² to maintain the phase clearance, see page 3/118.

^{2) 3}RT106. and 3RT107.: When connecting cable lugs according to DIN 46234 for conductor cross-sections larger than 240 mm² and according to DIN 46235 for conductor cross-sections larger than 185 mm², the 3RT1966-4EA1 terminal cover is required to maintain the phase clearance, see page 3/118.

³⁾ If two different conductor cross-sections are connected to one clamping point, both cross-sections must lie in one of the ranges specified.

⁴⁾ Max. outer diameter of the conductor insulation: 3.6 mm. On spring-loaded terminals with conductor cross-sections ≤ 1 mm² an insulation stop is recommended, see page 3/121.

Power contactors for switching motors

SIRIUS 3RT contactors, 3-pole up to 250 kW

Data for North America

Type Size		Contactors 3RT2015 S00	3RT2016	3RT2017	3RT2018
® and ® rated data					
Rated operational voltage	V AC	600			
Uninterrupted current, at 40 °C, open and enclosed	А	20			
Maximum horsepower ratings (from ® and ® approved values)					
 Rated power for three-phase motors at 60 Hz 	at 200 V hp 230 V hp 460 V hp 575 V hp	1.5 2 3 5	2 3 5 7.5	3 7.5 10	5 10
Short-circuit protection (contactor)	at 600 V kA	5			
Class J fuse (values for RK5 fuses available on request)	А	60			
• Circuit breakers according to UL 489 ("Inverse Time E	Breakers") A	50			
Combination Motor Controllers (Type E) according to UL 508 or UL 60947-4-1		3RV2.1 or 3R\	/2.2		

	'		Contacto	ors					
Туре			3RT2023	3RT2024	3RT2025	3RT2026	3RT23264AA0	3RT2027	3RT2028
Size			S0						
® and ® rated data									
Rated operational voltage		V AC	600						
Uninterrupted current, at 40 °C, open and enclosed		Α	30					42	
Maximum horsepower ratings (from 3 and 9 approved values)									
 Rated power for three-phase motors at 60 Hz 	at 200 V 230 V 460 V 575 V	hp hp	2 3 5 7.5	7.5 10	5 10 15	5 7.5 15 20	3 5 10 15	10 10 20 25	25
Short-circuit protection (contactor)	at 600 V	kA	5		_				
Class J fuse (values for RK5 fuses available on request)		А	125					150	
• Circuit breakers according to UL 489 ("Inverse Time E	Α	70					100		
• Combination Motor Controllers (Type E)	at 480 V	Type	3RV202						
according to UL 508 or UL 60947-4-1	at 600 V	Type	3RV202						

			Contacto	rs					
Туре			3RT2035	3RT2036, 3RT23364AA0		3RT2038	3RT2045	3RT2046	3RT2047
Size			S2				S3		
⊕ and ⊕ rated data									
Rated operational voltage		V AC	600						
Uninterrupted current, at 40 °C, open and enclose	ed	Α	55	60	80	90	62	77	99
Maximum horsepower ratings (from © and ® approved values)									
 Rated power for three-phase motors at 60 Hz 	at 200/208 V 230/240 V 460/480 V 575/600 V	hp hp	10 15 30 40	15 40 50	20 20 50	25 60	25 30 60 60	30 75 75	40 100
Short-circuit protection (contactor)	at 600 V	kA	5	10			10		
RK5 fuse		Α	150	200	250		300	350	
Combination Motor Controllers (Type E) according to UL 508 or UL 60947-4-1		Type	3RV203				3RV204		

Power contactors for switching motors

		Contactor	s						
Type		3RT1054	3RT1055	3RT1056	3RT1064	3RT1065	3RT1066	3RT1075	3RT1076
Size		S6			S10			S12	
® and ® rated data									
Rated operational voltage	V AC	600							
Uninterrupted current, at 40 °C, open and enclosed	А	140	195		250	330		400	540
Maximum horsepower ratings (from @ and @ approved values)									
Rated power for three-phase at motors at 60 Hz	200 V hp 230 V hp 460 V hp 575 V hp	40 50 100 125	50 60 125 150	60 75 150 200		75 100 200 250	100 125 250 300	125 150 300 400	150 200 400 500
Short-circuit protection		For more in	nformation, s	ee Certificate	of Complian	nce for the in	dividual devi	ices.	
		For the dim	nensioning o	f load feeder:	s, see Config	juration Man	ual.		

		Contactors			
Type		3RT201	3RT202 to 3RT204		3RT105 to 3RT107
Size		S00	S0 to S3		S6 to S12
		Integrated or mountable auxiliary switch	Integrated	Mountable auxiliary switch	Mountable auxiliary switch
® and ® rated data of the auxiliary	contacts				
Rated voltage	V AC	600			
Switching capacity		A 600, Q 600	A 600, P 600	A 600, Q 600	A 600, Q 600
Uninterrupted current at 240 V AC	А	10			

Power contactors for switching motors

IE3/IE4 ready

SIRIUS 3RT contactors, 3-pole up to 250 kW

Selection and ordering data

AC operation ~

PU (UNIT, SET, M) = 1 PS* PG = 1 unit = 41B









3RT201.-1A

3RT201.-2A

3RT201.-1AP04-3MA0

3RT201.-2AP04-3MA0

Rated data	a		. , . ,		Rated control	Screw terminals	+	Spring-loaded terminals	∞
AC-3 and t_u : 60 °C	AC-3e,	AC-1, t _u : 40 °C			supply voltage U _s				
Opera- tional	Ratings of three-phase	Opera- tional	Ident. No.	Version	50/60 Hz AC				
current I _e up to	motors at 50 Hz and	current I_e up to		\ \		Article No.	Price per PU	Article No.	Price per PU
400 V	400 V	690 V) (
Α	kW	Α		NO NO	V				
For scre	w fixing and	snap-on n	nountine	on TH	35 DIN rail				

I OI SCIEW	namy and snap-on mounting on 111 35 D	iiv raii
9170 SOO		

For St	crew fixing	and snap-o	n mount	nig on		ווא דמווע ככ		
Size S	300							
7	3	18	10	1		24 110 230	3RT2015-1AB01 3RT2015-1AF01 3RT2015-1AP01	3RT2015-2AB01 3RT2015-2AF01 3RT2015-2AP01
			01		1	24 110 230	3RT2015-1AB02 3RT2015-1AF02 3RT2015-1AP02	3RT2015-2AB02 3RT2015-2AF02 3RT2015-2AP02
9	4	22	10	1		24 110 230	3RT2016-1AB01 3RT2016-1AF01 3RT2016-1AP01	3RT2016-2AB01 3RT2016-2AF01 3RT2016-2AP01
			01		1	24 110 230	3RT2016-1AB02 3RT2016-1AF02 3RT2016-1AP02	3RT2016-2AB02 3RT2016-2AF02 3RT2016-2AP02
12	5.5	22	10	1		24 110 230	3RT2017-1AB01 3RT2017-1AF01 3RT2017-1AP01	3RT2017-2AB01 3RT2017-2AF01 3RT2017-2AP01
			01		1	24 110 230	3RT2017-1AB02 3RT2017-1AF02 3RT2017-1AP02	3RT2017-2AB02 3RT2017-2AF02 3RT2017-2AP02
16	7.5	22	10	1		24 110 230	3RT2018-1AB01 3RT2018-1AF01 3RT2018-1AP01	3RT2018-2AB01 3RT2018-2AF01 3RT2018-2AP01
			01		1	24 110 230	3RT2018-1AB02 3RT2018-1AF02 3RT2018-1AP02	3RT2018-2AB02 3RT2018-2AF02 3RT2018-2AP02
With p	ermanently m	nounted auxi	liary switc	h				
7	3	18	22	2	2	230	3RT2015-1AP04-3MA0	3RT2015-2AP04-3MA0
9	4	22	22	2	2	230	3RT2016-1AP04-3MA0	3RT2016-2AP04-3MA0
12	5.5	22	22	2	2	230	3RT2017-1AP04-3MA0	3RT2017-2AP04-3MA0
16	7.5	22	22	2	2	230	3RT2018-1AP04-3MA0	3RT2018-2AP04-3MA0
With points the	ermanently m e front	nounted auxi	liary switc	h and v	varist	or plugged		
7	3	18	22	2	2	230	3RT2015-1CP04-3MA0	3RT2015-2CP04-3MA0
9	4	22	22	2	2	230	3RT2016-1CP04-3MA0	3RT2016-2CP04-3MA0
12	5.5	22	22	2	2	230	3RT2017-1CP04-3MA0	3RT2017-2CP04-3MA0
16	7.5	22	22	2	2	230	3RT2018-1CP04-3MA0	3RT2018-2CP04-3MA0

Other voltages according to page 3/69 on request.

Power contactors for switching motors

SIRIUS 3RT contactors, 3-pole up to 250 kW IE3/IE4 ready AC-30

AC operation ~

 $\begin{array}{ll} PU \text{ (UNIT, SET, M)} &= 1 \\ PS^* &= 1 \text{ unit} \\ PG &= 41B \end{array}$





3RT202.-1A.00

3R	T202.	-2A	\cap
Oit	1202	/ \	·

Rated data	а		Auxiliary	/ conta	acts	Rated control	Screw terminals	(1)	Spring-loaded terminals
AC-3 and t _u : 60 °C	AC-3e,	AC-1, t _u : 40 °C				supply voltage $U_{\rm S}$			
Opera- tional	Ratings of three-phase	Opera- tional	Ident. No.	Vers	sion	50 Hz AC			
current I _e up to 400 V	motors at 50 Hz and 400 V	current I _e up to 690 V		\ I	7		Article No.	Price per PU	Article No. Pric. per Pl
Α	kW	А		NO	NC	V			
For scre	w fixing and sna	ap-on mou	nting on	TH 3	35 DIN	l rail			
Size S0									
9	4	40	11	1	1	24 110 230	3RT2023-1AB00 3RT2023-1AF00 3RT2023-1AP00		3RT2023-2AB00 3RT2023-2AF00 3RT2023-2AP00
12	5.5	40	11	1	1	24 110 230	3RT2024-1AB00 3RT2024-1AF00 3RT2024-1AP00		3RT2024-2AB00 3RT2024-2AF00 3RT2024-2AP00
17	7.5	40	11	1	1	24 110 230	3RT2025-1AB00 3RT2025-1AF00 3RT2025-1AP00		3RT2025-2AB00 3RT2025-2AF00 3RT2025-2AP00
25	11	40	11	1	1	24 110 230	3RT2026-1AB00 3RT2026-1AF00 3RT2026-1AP00		3RT2026-2AB00 3RT2026-2AF00 3RT2026-2AP00
32	15	50	11	1	1	24 110 230	3RT2027-1AB00 3RT2027-1AF00 3RT2027-1AP00		3RT2027-2AB00 3RT2027-2AF00 3RT2027-2AP00
38	18.5	50	11	1	1	24 110 230	3RT2028-1AB00 3RT2028-1AF00 3RT2028-1AP00		3RT2028-2AB00 3RT2028-2AF00 3RT2028-2AP00

Other voltages according to page 3/69 on request.

Power contactors for switching motors

AC-3e IE3/IE4 ready SIRIUS 3RT contactors, 3-pole up to 250 kW

AC operation ~

 $\begin{array}{ll} PU \text{ (UNIT, SET, M)} &= 1 \\ PS^* &= 1 \text{ unit} \\ PG &= 41B \end{array}$





3RT202.-1A.20

3D.	[202.	2 /	20
OII	202.	-27	.۷

Rated data AC-3 and t _u : 60 °C		AC-1, t _u : 40 °C	Auxiliary	conta	ects	Rated control supply voltage U_s	Screw terminals	+	Spring-loaded terminals
Opera- tional	Ratings of three-phase	Opera- tional	Ident. No.	Vers	ion	50/60 Hz AC			
current I _e up to 400 V	motors at 50 Hz and 400 V	current I _e up to 690 V		Y	7		Article No.	Price per PU	Article No. Pri
А	kW	А		NO	NC	V			
For scre	w fixing and sna	ap-on mou	nting on	TH 3	5 DIN	l rail			
Size S0									
9	4	40	11	1	1	24 110 230	3RT2023-1AC20 3RT2023-1AG20 3RT2023-1AL20		3RT2023-2AC20 3RT2023-2AG20 3RT2023-2AL20
12	5.5	40	11	1	1	24 110 230	3RT2024-1AC20 3RT2024-1AG20 3RT2024-1AL20		3RT2024-2AC20 3RT2024-2AG20 3RT2024-2AL20
17	7.5	40	11	1	1	24 110 230	3RT2025-1AC20 3RT2025-1AG20 3RT2025-1AL20		3RT2025-2AC20 3RT2025-2AG20 3RT2025-2AL20
25	11	40	11	1	1	24 110 230	3RT2026-1AC20 3RT2026-1AG20 3RT2026-1AL20		3RT2026-2AC20 3RT2026-2AG20 3RT2026-2AL20
32	15	50	11	1	1	24 110 230	3RT2027-1AC20 3RT2027-1AG20 3RT2027-1AL20		3RT2027-2AC20 3RT2027-2AG20 3RT2027-2AL20
38	18.5	50	11	1	1	24 110 230	3RT2028-1AC20 3RT2028-1AG20 3RT2028-1AL20		3RT2028-2AC20 3RT2028-2AG20 3RT2028-2AL20

Other voltages according to page 3/69 on request.

Power contactors for switching motors

SIRIUS 3RT contactors, 3-pole up to 250 kW IE3/IE4 ready AC-3

AC operation ~

 $\begin{array}{ll} PU \text{ (UNIT, SET, M)} &= 1 \\ PS^* &= 1 \text{ unit} \\ PG &= 41B \end{array}$









3RT202.-1A.04

3RT202.-2A.04

3RT202.-1CL24-3MA0

3RT202.-2CL24-3MA0

Rated data AC-3 and AC-3e, $t_{\rm u}$: 60 °C		Auxiliary contacts		Rated control supply voltage $U_{\rm s}$	Screw terminals	4	Spring-loaded terminals	8
Ratings of three-phase	Opera- tional	Ident. No.	Version	50 Hz AC				
motors at 50 Hz and	current I_e up to		\		Article No.	Price per PU	Article No.	Price per PU
400 V	690 V) (p 3 5		p
kW	Α							
	AC-3e, Ratings of three-phase motors at 50 Hz and 400 V kW	AC-3e, $AC-1$, t_0 : 40 °C Ratings of three-phase motors at 50 Hz and 400 V 690 V	AC-3e, $AC-1$, t_0 : 40 °C Ratings of three-phase motors at 50 Hz and 400 V 690 V kW A AC-1, t_0 : 40 °C Operational No. current I_e up to	AC-3e, $t_{\rm U}$: 40 °C Ratings of three-phase motors at 50 Hz and 400 V AV A NO NC	AC-3e, $AC-1$, t_{u} : 40 °C U_s supply voltage U_s Ratings of three-phase motors at 50 Hz and U_s supply voltage U_s supply	AC-3e, $AC-1$, $t_{\rm U}$: 40 °C $U_{\rm S}$ Supply voltage $U_{\rm S}$ Supply voltage $U_{\rm S}$ Acticle No. Article No.	AC-3e, $AC-1$, t_{u} : 40 °C U_s supply voltage	AC-3e, $AC-1$, t_{U} : 40 °C U_{S} Supply voltage U_{S} Ratings of three-phase motors at 50 Hz and 400 V G

For screw fixing and snap-on mounting on TH 35 DIN rail

_		~~
	170	SI

Size .	50							
With r	emovable au	xiliary switch	1					
9	4	40	22	2	2	24 230	3RT2023-1AB04 3RT2023-1AP04	3RT2023-2AB04 3RT2023-2AP04
12	5.5	40	22	2	2	24 110 230	3RT2024-1AB04 3RT2024-1AF04 3RT2024-1AP04	3RT2024-2AB04 3RT2024-2AF04 3RT2024-2AP04
17	7.5	40	22	2	2	24 110 230	3RT2025-1AB04 3RT2025-1AF04 3RT2025-1AP04	3RT2025-2AB04 3RT2025-2AF04 3RT2025-2AP04
25	11	40	22	2	2	24 110 230	3RT2026-1AB04 3RT2026-1AF04 3RT2026-1AP04	3RT2026-2AB04 3RT2026-2AF04 3RT2026-2AP04
32	15	50	22	2	2	24 110 230	3RT2027-1AB04 3RT2027-1AF04 3RT2027-1AP04	3RT2027-2AB04 3RT2027-2AF04 3RT2027-2AP04
38	18.5	50	22	2	2	24 110 230	3RT2028-1AB04 3RT2028-1AF04 3RT2028-1AP04	3RT2028-2AB04 3RT2028-2AF04 3RT2028-2AP04
With p	permanently r	nounted aux	iliary swit	ch and	varis	tor plugged in		
9	4	40	22	2	2	230	3RT2023-1CL24-3MA0	3RT2023-2CL24-3MA0
12	5.5	40	22	2	2	230	3RT2024-1CL24-3MA0	3RT2024-2CL24-3MA0
17	7.5	40	22	2	2	230	3RT2025-1CL24-3MA0	3RT2025-2CL24-3MA0
25	11	40	22	2	2	230	3RT2026-1CL24-3MA0	3RT2026-2CL24-3MA0
32	15	50	22	2	2	230	3RT2027-1CL24-3MA0	3RT2027-2CL24-3MA0
38	18.5	50	22	2	2	230	3RT2028-1CL24-3MA0	3RT2028-2CL24-3MA0

Other voltages according to page 3/69 on request.

Power contactors for switching motors

AC-3e IE3/IE4 ready SIRIUS 3RT contactors, 3-pole up to 250 kW

AC operation ~

 $\begin{array}{ll} PU \text{ (UNIT, SET, M)} &= 1 \\ PS^* &= 1 \text{ unit} \\ PG &= 41B \end{array}$











ОΓ	ı,	2	JO	 1	١.١	U	J

Rated data

3RT203.-3A.00

3RT203.-1A.04

Auxiliary contacts Rated control

3RT203.-3CL24-3MA0

Screw terminals

3RT203.-1CL24-3MA0

Spring-loaded terminals

AC-3 and t _u : 60 °C		AC-1, t _u : 40 °C				supply voltage $U_{\rm s}$. •	
Opera- tional	Ratings of three-phase	Opera- tional	Ident. No.	Ver	sion	50 Hz AC				
up to 400 V	motors at 50 Hz and 400 V	current I _e up to 690 V		\ \	7		Article No.	Price per PU	Article No.	Price per PU
A	kW	A		NO	NC	V				
For scr	rew fixing and	d snap-on	mounti	ina o						
Size S2	?									
41	18.5	60	11	1	1	24 110 230	3RT2035-1AB00 3RT2035-1AF00 3RT2035-1AP00		3RT2035-3AB00 3RT2035-3AF00 3RT2035-3AP00	
51	22	70	11	1	1	24 110 230	3RT2036-1AB00 3RT2036-1AF00 3RT2036-1AP00		3RT2036-3AB00 3RT2036-3AF00 3RT2036-3AP00	
65	30	80	11	1	1	24 110 230	3RT2037-1AB00 3RT2037-1AF00 3RT2037-1AP00		3RT2037-3AB00 3RT2037-3AF00 3RT2037-3AP00	
80	37	90	11	1	1	24 110 230	3RT2038-1AB00 3RT2038-1AF00 3RT2038-1AP00		3RT2038-3AB00 3RT2038-3AF00 3RT2038-3AP00	
With ren	novable auxilia	ry switch								
41	18.5	60	22	2	2	24 110 230	3RT2035-1AB04 3RT2035-1AF04 3RT2035-1AP04		- - -	
51	22	70	22	2	2	24 110 230	3RT2036-1AB04 3RT2036-1AF04 3RT2036-1AP04		 	
65	30	80	22	2	2	24 110 230	3RT2037-1AB04 3RT2037-1AF04 3RT2037-1AP04		 	
80	37	90	22	2	2	24 110 230	3RT2038-1AB04 3RT2038-1AF04 3RT2038-1AP04		 	
	rmanently mou r plugged in at			h and	integ	rated coil circuit				
41	18.5	60	22	2	2	230	3RT2035-1CL24-3MA	.0	3RT2035-3CL24-3MA	0
51	22	70	22	2	2	230	3RT2036-1CL24-3MA	.0	3RT2036-3CL24-3MA	0
65	30	80	22	2	2	230	3RT2037-1CL24-3MA	.0	3RT2037-3CL24-3MA	0
80	37	90	22	2	2	230	3RT2038-1CL24-3MA	.0	3RT2038-3CL24-3MA	0

Other voltages according to page 3/69 on request.

Power contactors for switching motors

SIRIUS 3RT contactors, 3-pole up to 250 kW IE3/IE4 ready AC-36

AC operation ~

 $\begin{array}{ll} PU \text{ (UNIT, SET, M)} &= 1 \\ PS^* &= 1 \text{ unit} \\ PG &= 41B \end{array}$









3RT204.-1A.00

Rated dat	Rated data							
AC-3 and t_u : 60 °C	AC t _u :							
Opera- tional current I _e up to	Ratings of three-phase motors at 50 Hz and	Op tio cu up						
400 V	400 V	69						

AC-1, t_u: 40 °C Operational current I_e up to 690 V

Auxiliary contacts R st U U Ident. No. Version 50 NC V

Rated control supply voltage $U_{\rm s}$ 50 Hz AC

Article No.

Price per PU

Spring-loaded terminals

Article No. Price per PU

For screw fixing and snap-on mounting on TH 35-15 and TH 75-15 DIN rails

11173	- 13 DIN IA	115						
Size S	33							
80	37	125	11	1	1	24 110 230	3RT2045-1AB00 3RT2045-1AF00 3RT2045-1AP00	3RT2045-3AB00 3RT2045-3AF00 3RT2045-3AP00
95	45	130	11	1	1	24 110 230	3RT2046-1AB00 3RT2046-1AF00 3RT2046-1AP00	3RT2046-3AB00 3RT2046-3AF00 3RT2046-3AP00
110	55	130	11	1	1	24 110 230	3RT2047-1AB00 3RT2047-1AF00 3RT2047-1AP00	3RT2047-3AB00 3RT2047-3AF00 3RT2047-3AP00
With re	emovable au	xiliary switch						
80	37	125	22	2	2	24 110 230	3RT2045-1AB04 3RT2045-1AF04 3RT2045-1AP04	=
95	45	130	22	2	2	24 110 230	3RT2046-1AB04 3RT2046-1AF04 3RT2046-1AP04	-
110	55	130	22	2	2	24 110 230	3RT2047-1AB04 3RT2047-1AF04 3RT2047-1AP04	=
		mounted auxi		ch and	integ	rated coil circuit		
80	37	125	22	2	2	230	3RT2045-1CL24-3MA0	
95	45	130	22	2	2	230	3RT2046-1CL24-3MA0	-
110	55	130	22	2	2	230	3RT2047-1CL24-3MA0	

Other voltages according to page 3/69 on request.

Power contactors for switching motors

AC-3e IE3/IE4 ready SIRIUS 3RT contactors, 3-pole up to 250 kW

AC operation <a>

 $\begin{array}{ll} PU \text{ (UNIT, SET, M)} &= 1 \\ PS^* &= 1 \text{ unit} \\ PG &= 41B \end{array}$









3RT203.-1A.20

Opera-

current

up to

400 V

Rated data Auxiliary contacts Rate AC-3 and AC-3e, t_{tj} : 60 °C AC-1, t_{tj} : 40 °C

I _e	Ratings of three-phase motors at 50 Hz and	Ope tion curr up t
	400 V	690

kW

AC-1, t_u: 40 °C

Operational current I_e
up to

690 V

A

3111203.	UA.ZU	
Auxiliary	contacts	Rated control supply voltage U_s
Ident. No.	Version	50/60 Hz AC
	\ \ \	

NO NC V

3RT204.-1A.20

Screw terminals

Article No.	Price per PU

(1)

3RT204.-3A.20

Spring-loaded terr	ninals
Article No.	Price per PU

For screw fixing ar	d snap-on mounting	g on TH 35 DIN rail
---------------------	--------------------	---------------------

Size :	S2							
41	18.5	60	11	1	1	24 110 230	3RT2035-1AC20 3RT2035-1AG20 3RT2035-1AL20	3RT2035-3AC20 3RT2035-3AG20 3RT2035-3AL20
51	22	70	11	1	1	24 110 230	3RT2036-1AC20 3RT2036-1AG20 3RT2036-1AL20	3RT2036-3AC20 3RT2036-3AG20 3RT2036-3AL20
65	30	80	11	1	1	24 110 230	3RT2037-1AC20 3RT2037-1AG20 3RT2037-1AL20	3RT2037-3AC20 3RT2037-3AG20 3RT2037-3AL20
80	37	90	11	1	1	24 110 230	3RT2038-1AC20 3RT2038-1AG20 3RT2038-1AL20	3RT2038-3AC20 3RT2038-3AG20 3RT2038-3AL20

For screw fixing and snap-on mounting on TH 35-15 and TH 75-15 DIN rails

Size S	53						
80	37	125	11	1	1	24 110 230	3RT2045-1AC20 3RT2045-3AC20 3RT2045-1AG20 3RT2045-1AL20 3RT2045-3AL20
95	45	130	11	1	1	24 110 230	3RT2046-1AC20 3RT2046-3AC20 3RT2046-1AG20 3RT2046-3AG20 3RT2046-1AL20 3RT2046-3AL20
110	55	130	11	1	1	24 110 230	3RT2047-1AC20 3RT2047-1AG20 3RT2047-1AL20 3RT2047-3AL20

Other voltages according to page 3/69 on request.

Power contactors for switching motors

SIRIUS 3RT contactors, 3-pole up to 250 kW IE3/IE4 ready

DC operation

PU (UNIT, SET, M) = 1= 1 unit= 41B





							3RT2011B		3RT2012B	
Rated data AC-3 and t_u : 60 °C		AC-1, t _u : 40 °C	Auxiliary	onta /	cts	Rated control supply voltage $U_{\rm S}$	Screw terminals	+	Spring-loaded terminals	<u></u>
Opera- tional	Ratings of three-phase	Opera- tional	Ident. No.	Versi	on	DC				
current I _e up to	motors at 50 Hz and	current I _e up to		ĺ.	4		Article No.	Price per PU	Article No. Pr	rice
400 V	400 V	690 V		}	1			perio	pei	10
Α	kW	А			NC	V				
For scre	w fixing and sna	ap-on mou	inting or	n TH 3	5 DI	N rail				
Size S00										
7	3	18	10	1		24 220	3RT2015-1BB41 3RT2015-1BM41		3RT2015-2BB41 3RT2015-2BM41	
			01		1	24 220	3RT2015-1BB42 3RT2015-1BM42		3RT2015-2BB42 3RT2015-2BM42	
9	4	22	10	1		24 220	3RT2016-1BB41 3RT2016-1BM41		3RT2016-2BB41 3RT2016-2BM41	
			01		1	24 220	3RT2016-1BB42 3RT2016-1BM42		3RT2016-2BB42 3RT2016-2BM42	
12	5.5	22	10	1		24 220	3RT2017-1BB41 3RT2017-1BM41		3RT2017-2BB41 3RT2017-2BM41	
			01		1	24 220	3RT2017-1BB42 3RT2017-1BM42		3RT2017-2BB42 3RT2017-2BM42	
16	7.5	22	10	1		24 220	3RT2018-1BB41 3RT2018-1BM41		3RT2018-2BB41 3RT2018-2BM41	
			01		1	24 220	3RT2018-1BB42 3RT2018-1BM42		3RT2018-2BB42 3RT2018-2BM42	
With integ	grated coil circuit (varistor inte	grated at	the fa	ctor	y)				
7	3	18	10 01	1	 1	24 24	3RT2015-1UB41 3RT2015-1UB42		3RT2015-2UB41 3RT2015-2UB42	
9	4	22	10 01	1	 1	24 24	3RT2016-1UB41 3RT2016-1UB42		3RT2016-2UB41 3RT2016-2UB42	
12	5.5	22	10 01	1	 1	24 24	3RT2017-1UB41 3RT2017-1UB42		3RT2017-2UB41 3RT2017-2UB42	
16	7.5	22	10 01	1	 1	24 24	3RT2018-1UB41 3RT2018-1UB42		3RT2018-2UB41 3RT2018-2UB42	
With integ	grated coil circuit (diode integ	rated at th	ne fact	ory)					
7	3	18	10 01	1	 1	24 24	3RT2015-1FB41 3RT2015-1FB42		3RT2015-2FB41 3RT2015-2FB42	
9	4	22	10 01	1	 1	24 24	3RT2016-1FB41 3RT2016-1FB42		3RT2016-2FB41 3RT2016-2FB42	
12	5.5	22	10 01	1	 1	24 24	3RT2017-1FB41 3RT2017-1FB42		3RT2017-2FB41 3RT2017-2FB42	
16	7.5	22	10 01	1	 1	24 24	3RT2018-1FB41 3RT2018-1FB42		3RT2018-2FB41 3RT2018-2FB42	

Other voltages according to page 3/69 on request.

Power contactors for switching motors

IE3/IE4 ready SIRIUS 3RT contactors, 3-pole up to 250 kW

DC operation

PU (UNIT, SET, M) = 1 PS* PG = 1 unit = 41B









3RT201.-1BB44-3MA0 3RT201.-2BB44-3MA0 3RT201.-1BB4.-0CC0

3RT201.-2BB4.-0CC0

Rated data AC-3 and t _u : 60 °C		AC-1, t _u : 40 °C	Auxiliary	contacts	Rated control supply voltage $U_{\rm S}$	Screw terminals	+	Spring-loaded te	rminals
	Ratings of three-phase	Opera- tional	Ident. No.	Version	DC				
current I _e up to	motors at 50 Hz and	current I _e up to		\		Article No.	Price per PU	Article No.	Price per PU
400 V	400 V	690 V) [
Α	kW	Α		NO NC	V				

For screw fixing and snap-on mounting on TH 35 DIN rail

Size S00

With p	ermanently m	ounted auxili	ary switch	1				
7	3	18	22	2	2	24	3RT2015-1BB44-3MA0	3RT2015-2BB44-3MA0
9	4	22	22	2	2	24	3RT2016-1BB44-3MA0	3RT2016-2BB44-3MA0
12	5.5	22	22	2	2	24	3RT2017-1BB44-3MA0	3RT2017-2BB44-3MA0
16	7.5	22	22	2	2	24	3RT2018-1BB44-3MA0	3RT2018-2BB44-3MA0
	ermanently mermanently mermanently mermanently		ary switch	and ii	ntegr	ated coil circuit		
7	3	18	22	2	2	24	3RT2015-1FB44-3MA0	3RT2015-2FB44-3MA0
9	4	22	22	2	2	24	3RT2016-1FB44-3MA0	3RT2016-2FB44-3MA0
12	5.5	22	22	2	2	24	3RT2017-1FB44-3MA0	3RT2017-2FB44-3MA0
16	7.5	22	22	2	2	24	3RT2018-1FB44-3MA0	3RT2018-2FB44-3MA0
With v	oltage tap-off	(only availab	le with 24	V DC o	coils)			
7	3	18	10 01	1	1	24 24	3RT2015-1BB41-0CC0 3RT2015-1BB42-0CC0	3RT2015-2BB41-0CC0 3RT2015-2BB42-0CC0
9	4	22	10 01	1	1	24 24	3RT2016-1BB41-0CC0 3RT2016-1BB42-0CC0	3RT2016-2BB41-0CC0 3RT2016-2BB42-0CC0
12	5.5	22	10 01	1	 1	24 24	3RT2017-1BB41-0CC0 3RT2017-1BB42-0CC0	3RT2017-2BB41-0CC0 3RT2017-2BB42-0CC0
16	7.5	22	10 01	1	 1	24 24	3RT2018-1BB41-0CC0 3RT2018-1BB42-0CC0	3RT2018-2BB41-0CC0 3RT2018-2BB42-0CC0

Other voltages according to page 3/69 on request.

Accessories and spare parts, see pages 3/71 to 3/126.

3/55

Power contactors for switching motors

SIRIUS 3RT contactors, 3-pole up to 250 kW IE3/IE4 ready AC-3

DC operation for direct control by PLC

- Coupling contactors with adapted power consumption
- Suitable for solid-state PLC/F-PLC outputs
- Cannot be expanded with auxiliary switches

 $\begin{array}{ll} PU \text{ (UNIT, SET, M)} &= 1 \\ PS^* &= 1 \text{ unit} \\ PG &= 41B \end{array}$





3RT201.-1.B4

Rated dat AC-3 and t_u : 60 °C		AC-1, t _u : 40 °C	Auxiliary	contacts	Rated control supply voltage $U_{\rm S}$	Screw terminals		Spring-loaded terminals	
Opera- tional	Ratings of three-phase	Opera- tional	Ident. No.	Version	DC				
current I _e up to	50 Hz and	current I _e up to		\		Article No.	Price per PU	Article No.	Price per PU
400 V	400 V	690 V							
Α	kW	Α		NO NC	V				

For screw fixing and snap-on mounting on TH 35 DIN rail

(canno	ot be expande	d with auxiliary	switches)					
Opera power	ting range 0.7 consumption	1.25 x <i>U</i>_s , of the solenoid	l coils 2.8 V	V at 24	V			
7	3	18	10 01	1	 1	24 24	3RT2015-1HB41 3RT2015-1HB42	3RT2015-2HB41 3RT2015-2HB42
9	4	22	10 01	1	 1	24 24	3RT2016-1HB41 3RT2016-1HB42	3RT2016-2HB41 3RT2016-2HB42
12	5.5	22	10 01	1	 1	24 24	3RT2017-1HB41 3RT2017-1HB42	3RT2017-2HB41 3RT2017-2HB42
Opera	ting range 0.8 5	5 1.85 x <i>U</i>_s, of the solenoid	l coils 1.6 V	V at 24	. V			
7	3	18	10 01	1	 1	24 24	3RT2015-1MB41-0KT0 3RT2015-1MB42-0KT0	3RT2015-2MB41-0KT0 3RT2015-2MB42-0KT0

24

24

24 24

9	4	22	10 01	1	 1	24 24	3RT2016-1MB41-0KT0 3RT2016-1MB42-0KT0	3RT2016-2MB41-0KT0 3RT2016-2MB42-0KT0
12	5.5	22	10 01	1	 1	24 24	3RT2017-1MB41-0KT0 3RT2017-1MB42-0KT0	3RT2017-2MB41-0KT0 3RT2017-2MB42-0KT0
With in	ntegrated coil	circuit (diode	integrate	d at th	e fact	tory)		
(canno	ot be expanded	d with auxiliary	switches)					
	ting range 0.7 consumption o		l coils 2.8 V	V at 24	٧			
7	3	18	10 01	1	1	24 24	3RT2015-1JB41 3RT2015-1JB42	3RT2015-2JB41 3RT2015-2JB42
9	4	22	10 01	1	 1	24 24	3RT2016-1JB41 3RT2016-1JB42	3RT2016-2JB41 3RT2016-2JB42
12	5.5	22	10 01	1	 1	24 24	3RT2017-1JB41 3RT2017-1JB42	3RT2017-2JB41 3RT2017-2JB42
	ting range 0.85 consumption o			V at 24	V			
7	3	18	10 01	1	 1	24 24	3RT2015-1VB41 3RT2015-1VB42	3RT2015-2VB41 3RT2015-2VB42

3RT2016-1VB41

3RT2016-1VB42

3RT2017-1VB41

3RT2017-1VB42

Other voltages according to page 3/69 on request.

22

22

10

01

10 01

Accessories and spare parts, see pages 3/71 to 3/126.

3RT2016-2VB41

3RT2016-2VB42

3RT2017-2VB41

3RT2017-2VB42

9

12

4

5.5

Power contactors for switching motors

AC-3e IE3/IE4 ready SIRIUS 3RT contactors, 3-pole up to 250 kW

DC operation for direct control by PLC

- Coupling contactors with adapted power consumption
- Suitable for solid-state PLC/F-PLC outputs
 Cannot be expanded with auxiliary switches

PU (UNIT, SET, M) = 1 PS* PG = 1 unit = 41B





3RT201.-1.B4

3RT2012.B	3	R٦	Г20	1	2.	В
-----------	---	----	-----	---	----	---

Rated data AC-3 and to tu: 60 °C		AC-1, t _u : 40 °C	Auxiliary	contacts	Rated control supply voltage $U_{\rm S}$	Screw terminals	+	Spring-loaded term	inals 💮
Opera- tional	Ratings of three-phase	Opera- tional	Ident. No.	Version	DC				
current I _e up to	motors at 50 Hz and	current I _e up to		\		Article No.	Price per PU	Article No.	Price per PU
400 V A	400 V kW	690 V A		I I NO NC	V				

For screw fixing and snap-on mounting on TH 35 DIN rail

Size S00

	ntegrated coil on the expanded	`		integra	ted at	the factory)		
Operat	ting range 0.7. consumption of	. 1.25 x <i>U</i> _s ,	,	t 24 V				
7	3	18	10 01	1	 1	24 24	3RT2015-1KB41 3RT2015-1KB42	3RT2015-2KB41 3RT2015-2KB42
9	4	22	10 01	1	 1	24 24	3RT2016-1KB41 3RT2016-1KB42	3RT2016-2KB41 3RT2016-2KB42
12	5.5	22	10 01	1	1	24 24	3RT2017-1KB41 3RT2017-1KB42	3RT2017-2KB41 3RT2017-2KB42
	ting range 0.85 consumption of		ils 1.6 W at	t 24 V				
7	3	18	10 01	1	1	24 24	3RT2015-1SB41 3RT2015-1SB42	3RT2015-2SB41 3RT2015-2SB42
)	4	22	10 01	1	1	24 24	3RT2016-1SB41 3RT2016-1SB42	3RT2016-2SB41 3RT2016-2SB42
12	5.5	22	10 01	1	 1	24 24	3RT2017-1SB41 3RT2017-1SB42	3RT2017-2SB41 3RT2017-2SB42

Other voltages according to page 3/69 on request.

Power contactors for switching motors

SIRIUS 3RT contactors, 3-pole up to 250 kW IE3/IE4 ready

DC operation

PU (UNIT, SET, M) = 1 PS* PG = 1 unit = 41B









3RT202.-1B.40 Rated data

Opera-

current $I_{\rm e}$

400 V

kW

tional

up to

400 V

Α

AC-3 and AC-3e, $t_{\rm u}$: 60 °C Ratings of three-phase motors at 50 Hz and

AC-1, t_u: 40 °C Operational current $I_{\rm e}$ up to 690 V Α

Auxiliary contacts Rated control supply voltage U_{s} Ident. Version DC No. NO NC

Screw terminals 1 Price per PU Article No.

Spring-loaded terminals

Price per PU Article No.

For screw fixing and	snap-on mounting on	TH 35 DIN rail
----------------------	---------------------	----------------

For S	crew lixing ar	iu snap-on n	nounting	OILIL	1 33 L	nn raii		
Size S	30							
9	4	40	11	1	1	24	3RT2023-1BB40	3RT2023-2BB40
12	5.5	40	11	1	1	24 220	3RT2024-1BB40 3RT2024-1BM40	3RT2024-2BB40 3RT2024-2BM40
17	7.5	40	11	1	1	24 220	3RT2025-1BB40 3RT2025-1BM40	3RT2025-2BB40 3RT2025-2BM40
25	11	40	11	1	1	24 220	3RT2026-1BB40 3RT2026-1BM40	3RT2026-2BB40 3RT2026-2BM40
32	15	50	11	1	1	24 220	3RT2027-1BB40 3RT2027-1BM40	3RT2027-2BB40 3RT2027-2BM40
38	18.5	50	11	1	1	24 220	3RT2028-1BB40 3RT2028-1BM40	3RT2028-2BB40 3RT2028-2BM40
With c	oil circuit plugg	jed into the fro	ont (varisto	or plug	ged in	at the factory)		
9	4	40	11	1	1	24	3RT2023-1DB40	3RT2023-2DB40
12	5.5	40	11	1	1	24	3RT2024-1DB40	3RT2024-2DB40
17	7.5	40	11	1	1	24	3RT2025-1DB40	3RT2025-2DB40
25	11	40	11	1	1	24	3RT2026-1DB40	3RT2026-2DB40
32	15	50	11	1	1	24	3RT2027-1DB40	3RT2027-2DB40
38	18.5	50	11	1	1	24	3RT2028-1DB40	3RT2028-2DB40
With c	oil circuit plugo /)	ged into the fro	ont (diode	asseml	bly plu	ugged in at the		
9	4	40	11	1	1	24	3RT2023-1FB40	3RT2023-2FB40
12	5.5	40	11	1	1	24	3RT2024-1FB40	3RT2024-2FB40
17	7.5	40	11	1	1	24	3RT2025-1FB40	3RT2025-2FB40
25	11	40	11	1	1	24	3RT2026-1FB40	3RT2026-2FB40
32	15	50	11	1	1	24	3RT2027-1FB40	3RT2027-2FB40
38	18.5	50	11	1	1	24	3RT2028-1FB40	3RT2028-2FB40
With re	emovable auxili	ary switch						
9	4	40	22	2	2	24	3RT2023-1BB44	3RT2023-2BB44
12	5.5	40	22	2	2	24	3RT2024-1BB44	3RT2024-2BB44
17	7.5	40	22	2	2	24	3RT2025-1BB44	3RT2025-2BB44
25	11	40	22	2	2	24	3RT2026-1BB44	3RT2026-2BB44
32	15	50	22	2	2	24	3RT2027-1BB44	3RT2027-2BB44
38	18.5	50	22	2	2	24	3RT2028-1BB44	3RT2028-2BB44

Other voltages according to page 3/69 on request.

Accessories and spare parts, see pages 3/71 to 3/126.

Power contactors for switching motors

AC-3e IE3/IE4 ready SIRIUS 3RT contactors, 3-pole up to 250 kW

DC operation

 $\begin{array}{ll} PU \text{ (UNIT, SET, M)} &= 1 \\ PS^* &= 1 \text{ unit} \\ PG &= 41B \end{array}$









3RT202.-1.B44-3MA0

3RT202.-2.B44-3MA0

3RT202.-1BB40-0CC0

3RT202.-2BB40-0CC0

Rated da	ta		Auxiliary	contacts	Rated control	Screw terminals		Spring-load	ded terminals	$\stackrel{\infty}{\square}$
AC-3 and $t_{\rm u}$: 60 °C	I AC-3e,	AC-1, t _u : 40 °C			supply voltage $U_{\rm S}$					
Opera- tional	Ratings of three-phase	Opera- tional	Ident. No.	Version	DC					
current I _e up to	motors at 50 Hz and	current I_e up to		\ \		Article No.	Price per PU	Article No.		Price per PU
400 V	400 V	690 V) [
Α	kW	Α		NO NC	V					

For screw fixing and snap-on mounting on TH 35 DIN rail

Size S0

			ch and	integ	rated coil circuit		
5.5	40	22	2	2	24	3RT2024-1DB44-3MA0	3RT2024-2DB44-3MA0
7.5	40	22	2	2	24	3RT2025-1DB44-3MA0	3RT2025-2DB44-3MA0
11	40	22	2	2	24	3RT2026-1DB44-3MA0	3RT2026-2DB44-3MA0
15	50	22	2	2	24	3RT2027-1DB44-3MA0	3RT2027-2DB44-3MA0
				integ	rated coil circuit		
4	40	22	2	2	24	3RT2023-1FB44-3MA0	3RT2023-2FB44-3MA0
5.5	40	22	2	2	24	3RT2024-1FB44-3MA0	3RT2024-2FB44-3MA0
7.5	40	22	2	2	24	3RT2025-1FB44-3MA0	3RT2025-2FB44-3MA0
11	40	22	2	2	24	3RT2026-1FB44-3MA0	3RT2026-2FB44-3MA0
15	50	22	2	2	24	3RT2027-1FB44-3MA0	3RT2027-2FB44-3MA0
18.5	50	22	2	2	24	3RT2028-1FB44-3MA0	3RT2028-2FB44-3MA0
oltage tap-off	ı						
4	40	11	1	1	24	3RT2023-1BB40-0CC0	3RT2023-2BB40-0CC0
5.5	40	11	1	1	24	3RT2024-1BB40-0CC0	3RT2024-2BB40-0CC0
7.5	40	11	1	1	24	3RT2025-1BB40-0CC0	3RT2025-2BB40-0CC0
11	40	11	1	1	24	3RT2026-1BB40-0CC0	3RT2026-2BB40-0CC0
15	50	11	1	1	24	3RT2027-1BB40-0CC0	3RT2027-2BB40-0CC0
18.5	50	11	1	1	24	3RT2028-1BB40-0CC0	3RT2028-2BB40-0CC0
	or integrated 5.5 7.5 11 15 ermanently n assembly pli 4 5.5 7.5 11 15 18.5 oltage tap-off 4 5.5 7.5 11 15	or integrated at the factor 5.5 40 7.5 40 11 40 15 50 ermanently mounted aux assembly plugged in at the second of the secon	or integrated at the factory) 5.5	or integrated at the factory) 5.5	or integrated at the factory) 5.5	5.5 40 22 2 2 24 7.5 40 22 2 2 24 11 40 22 2 2 24 15 50 22 2 2 24 ermanently mounted auxiliary switch and integrated coil circuit assembly plugged in at the factory) 4 40 22 2 2 24 5.5 40 22 2 2 24 7.5 40 22 2 2 24 11 40 22 2 2 24 15 50 22 2 2 24 18.5 50 22 2 2 2 18.5 50 22 2 2 2 20 11 1 1 24 5.5 40 11 1 1 24 5.5 40 11 1 1 <	or integrated at the factory) 5.5

Other voltages according to page 3/69 on request.

Power contactors for switching motors

SIRIUS 3RT contactors, 3-pole up to 250 kW IE3/IE4 ready AC-3

DC operation for direct control by PLC

- Coupling contactors with adapted power consumption
- Suitable for solid-state PLC/F-PLC outputs
- Cannot be expanded with auxiliary switches

 $\begin{array}{ll} PU \text{ (UNIT, SET, M)} &= 1 \\ PS^* &= 1 \text{ unit} \\ PG &= 41B \end{array}$





3RT202.-1KB40

ODI	-000	OLAD	
3HI	202.	-2KB	4(

Rated data	Rated data			contacts			Screw terminals	+	Spring-loaded terminals	3 00
AC-3 and A t _u : 60 °C	AC-3 and AC-3e, AC-1, t_{u} : 40 °C			supply voltage $U_{\rm S}$						Ш
Opera- tional	Ratings of three-phase	Opera- tional	Ident. No.	Version	DC					
current I _e up to	motors at 50 Hz and	current I_e up to		\ <u>\</u>			Article No.	Price per PU	Article No.	Price per PU
400 V	400 V	690 V) (·	·	
Α	kW	Α		NO NC	V					

For screw fixing and snap-on mounting on TH 35 DIN rail

Size S0

Size	5 0								
With ir	ntegrated coil ci	rcuit (varistor i	ntegrated	in elec					
(canno	t be expanded v	vith auxiliary swi	itches)						
	ting range 0.7 consumption of		ls 4.5 W at	24 V					
9	4	40	11	1	1	24	3RT2023-1KB40	3RT2023-2KB40	
12	5.5	40	11	1	1	24	3RT2024-1KB40	3RT2024-2KB40	Ī
17	7.5	40	11	1	1	24	3RT2025-1KB40	3RT2025-2KB40	
25	11	40	11	1	1	24	3RT2026-1KB40	3RT2026-2KB40	Ī
32	15	50	11	1	1	24	3RT2027-1KB40	3RT2027-2KB40	Ī

Other voltages according to page 3/69 on request.

Power contactors for switching motors

AC-3e IE3/IE4 ready SIRIUS 3RT contactors, 3-pole up to 250 kW

DC operation for direct control by PLC

- Coupling contactors with adapted power consumption
- Suitable for solid-state PLC/F-PLC outputs with 2 A
- Can be expanded using front or lateral auxiliary switch (1 x left and 1 x right)

PU (UNIT, SET, M) = 1 PS* = 1 unit PG = 41B









3RT203.-3KB40

3RT204.-1KB40

3RT204.-3KB40

Rated data AC-3 and tu: 60 °C	AC-3 and AC-3e, AC-1,		Auxiliary	contacts	Rated control supply voltage $U_{\rm S}$	Screw terminals	+	Spring-loaded terminals	s 👀
Opera- tional	Ratings of three-phase	Opera- tional	Ident. No.	Version	DC				
current I _e up to	motors at 50 Hz and	current $I_{\rm e}$ up to		\		Article No.	Price per PU	Article No.	Price per PU
400 V	400 V	690 V) [
Α	kW	А		NO NC					

For screw fixing and snap-on mounting on TH 35 DIN rail

Size S2

With in	tegrated coil ci	rcuit (varistor in	tegrated i	in elec				
	ing range 0.8 power of the so	1.2 x <i>U</i>_s, lenoid coils 21.5	W at 24 V					
41	18.5	60	11	1	1	24	3RT2035-1KB40	3RT2035-3KB40
51	22	70	11	1	1	24	3RT2036-1KB40	3RT2036-3KB40
65	30	80	11	1	1	24	3RT2037-1KB40	3RT2037-3KB40
80	37	90	11	1	1	24	3RT2038-1KB40	3RT2038-3KB40

For screw fixing and snap-on mounting on TH 35-15 and TH 75-15 DIN rails

Size S3

With i	ntegrated coil ci	rcuit (varistor in	tegrated	in elec	ctory)			
	ting range 0.8 g power of the so		at 24 V					
80	37	125	11	1	1	24	3RT2045-1KB40	3RT2045-3KB40
95	45	130	11	1	1	24	3RT2046-1KB40	3RT2046-3KB40

Other voltages according to page 3/69 on request.

Power contactors for switching motors

SIRIUS 3RT contactors, 3-pole up to 250 kW IE3/IE4 ready

AC/DC operation

- Extended operating range of the solenoid coil 0.7 to 1.3 x $U_{\rm s}$
- Power consumption reduced from closing power to holding power

PU (UNIT, SET, M) = 1PS* PG = 1 unit = 41B





3RT202.-1N.30

3B	T202.	-2N	3

Rated data AC-3 and t _u : 60 °C	AC-3 and AC-3e, AC-1, $t_{\rm U}$: 60 °C $t_{\rm U}$: 40 °C		Auxiliary	contacts	Rated control supply voltage $U_{\rm S}$	Screw terminals	+	Spring-loaded terminals
Opera- tional	Ratings of three-phase	Opera- tional	Ident. No.	Version	50/60 Hz AC or DC			
current I _e up to	motors at 50 Hz and	current I_e up to		\		Article No.	Price per PU	Article No. Price per PU
400 V	400 V	690 V		1 [
Α	kW	Α		NO NC	V			

For screw fixing and snap-on mounting on TH 35 DIN rail

Size S	50								
With ir	ntegrated coil c	ircuit (varisto	rintegrate	d in ele	ctronic	s at the factory)			
12	5.5	40	11	1	1	21 28 95 130 200 280	3RT2024-1NB30 3RT2024-1NF30 3RT2024-1NP30	3RT2024-2NB30 3RT2024-2NF30 3RT2024-2NP30	
17	7.5	40	11	1	1	21 28 95 130 200 280	3RT2025-1NB30 3RT2025-1NF30 3RT2025-1NP30	3RT2025-2NB30 3RT2025-2NF30 3RT2025-2NP30	
25	11	40	11	1	1	21 28 95 130 200 280	3RT2026-1NB30 3RT2026-1NF30 3RT2026-1NP30	3RT2026-2NB30 3RT2026-2NF30 3RT2026-2NP30	
32	15	50	11	1	1	21 28 95 130 200 280	3RT2027-1NB30 3RT2027-1NF30 3RT2027-1NP30	3RT2027-2NB30 3RT2027-2NF30 3RT2027-2NP30	
38	18.5	50	11	1	1	21 28 95 130 200 280	3RT2028-1NB30 3RT2028-1NF30 3RT2028-1NP30	3RT2028-2NB30 3RT2028-2NF30 3RT2028-2NP30	

Other voltages according to page 3/69 on request.

Power contactors for switching motors

AC-3e IE3/IE4 ready SIRIUS 3RT contactors, 3-pole up to 250 kW

AC/DC operation

- Extended operating range of the solenoid coil 0.8 to 1.1 x $U_{\rm s}$
- Power consumption reduced from closing power to holding power

 $\begin{array}{ll} PU \text{ (UNIT, SET, M)} &= 1 \\ PS^* &= 1 \text{ unit} \\ PG &= 41B \end{array}$











3RT2031N.30

3RT203.-3N.30

3RT203.-1N.34

3RT203.-1NB34-3MA0

3RT203.-3NB34-3MA0

Rated dat	ta		Auxiliar	y contacts			Screw terminals		Spring-loaded terminals	∞
AC-3 and $t_{\rm u}$: 60 °C	AC-3e,	AC-1, t _u : 40 °C			supply voltage $U_{\rm s}$					
Opera- tional	Ratings of three-phase	Opera- tional	Ident. No.	Version	50/60 Hz AC or DC					
up to	motors at 50 Hz and	current I _e up to		\			Article No.	Price per PU	Article No.	Price per PL
400 V	400 V	690 V								
A	kW	А		NO NC	V					

For screw fixing and snap-on mounting on TH 35 DIN rail

Size S2

Size 3	52							
With in		circuit (variste	or integra	ited in	elec	tronics at		
41	18.5	60	11	1	1	20 33 83 155 175 280	3RT2035-1NB30 3RT2035-1NF30 3RT2035-1NP30	3RT2035-3NB30 3RT2035-3NF30 3RT2035-3NP30
51	22	70	11	1	1	20 33 83 155 175 280	3RT2036-1NB30 3RT2036-1NF30 3RT2036-1NP30	3RT2036-3NB30 3RT2036-3NF30 3RT2036-3NP30
65	30	80	11	1	1	20 33 83 155 175 280	3RT2037-1NB30 3RT2037-1NF30 3RT2037-1NP30	3RT2037-3NB30 3RT2037-3NF30 3RT2037-3NP30
80	37	90	11	1	1	20 33 83 155 175 280	3RT2038-1NB30 3RT2038-1NF30 3RT2038-1NP30	3RT2038-3NB30 3RT2038-3NF30 3RT2038-3NP30
		iliary switch a in electronics			oil ci	rcuit		
41	18.5	60	22	2	2	20 33 83 155 175 280	3RT2035-1NB34 3RT2035-1NF34 3RT2035-1NP34	
51	22	70	22	2	2	20 33 83 155 175 280	3RT2036-1NB34 3RT2036-1NF34 3RT2036-1NP34	
65	30	80	22	2	2	20 33 83 155 175 280	3RT2037-1NB34 3RT2037-1NF34 3RT2037-1NP34	
80	37	90	22	2	2	20 33 83 155 175 280	3RT2038-1NB34 3RT2038-1NF34 3RT2038-1NP34	
		nounted auxilia			nteg	rated coil circuit		
41	18.5	60	22	2	2	20 33	3RT2035-1NB34-3MA0	3RT2035-3NB34-3MA0
51	22	70	22	2	2	20 33	3RT2036-1NB34-3MA0	3RT2036-3NB34-3MA0
65	30	80	22	2	2	20 33	3RT2037-1NB34-3MA0	3RT2037-3NB34-3MA0
80	37	90	22	2	2	20 33	3RT2038-1NB34-3MA0	3RT2038-3NB34-3MA0
	oltage tap-off onics at the fa		d coil circ	cuit (va	aristo	or integrated in		
41	18.5	60	11	1	1	20 33	3RT2035-1NB30-0CC0	3RT2035-3NB30-0CC0
51	22	70	11	1	1	20 33	3RT2036-1NB30-0CC0	3RT2036-3NB30-0CC0
65	30	80	11	1	1	20 33	3RT2037-1NB30-0CC0	3RT2037-3NB30-0CC0
80	37	90	11	1	1	20 33	3RT2038-1NB30-0CC0	3RT2038-3NB30-0CC0
				_				

Other voltages according to page 3/69 on request.

Power contactors for switching motors

SIRIUS 3RT contactors, 3-pole up to 250 kW IE3/IE4 ready AC-36

AC/DC operation

- Extended operating range of the solenoid coil 0.8 to 1.1 x $U_{\rm s}$
- Power consumption reduced from closing power to holding power

 $\begin{array}{ll} PU \text{ (UNIT, SET, M)} &= 1 \\ PS^* &= 1 \text{ unit} \\ PG &= 41B \end{array}$











41NB34-3MA0	3RT2043
-------------	---------

Rated dat AC-3 and t_u : 60 °C		AC-1, t _u : 40 °C	Auxiliar	y contacts	Rated control supply voltage $U_{\rm S}$	Screw terminals	+	Spring-loaded terminals	s <u> </u>
Opera- tional	Ratings of three-phase	Opera- tional	Ident. No.	Version	50/60 Hz AC or DC				
current I _e up to 400 V	motors at 50 Hz and 400 V	current I _e up to 690 V		\		Article No.	Price per PU	Article No.	Price per PU
Α	kW	Α		NO NC					

For screw fixing and snap-on mounting on TH 35-15 and TH 75-15 DIN rails

0.20								
With ir		il circuit (varisto	or integra	ted in	elect	tronics at		
80	37	125	11	1	1	20 33 83 155 175 280	3RT2045-1NB30 3RT2045-1NF30 3RT2045-1NP30	3RT2045-3NB30 3RT2045-3NF30 3RT2045-3NP30
95	45	130	11	1	1	20 33 83 155 175 280	3RT2046-1NB30 3RT2046-1NF30 3RT2046-1NP30	3RT2046-3NB30 3RT2046-3NF30 3RT2046-3NP30
110	55	130	11	1	1	20 33 83 155 175 280	3RT2047-1NB30 3RT2047-1NF30 3RT2047-1NP30	3RT2047-3NB30 3RT2047-3NF30 3RT2047-3NP30
		xiliary switch ar I in electronics			oil ci	rcuit		
80	37	125	22	2	2	20 33 83 155 175 280	3RT2045-1NB34 3RT2045-1NF34 3RT2045-1NP34	I
95	45	130	22	2	2	20 33 83 155 175 280	3RT2046-1NB34 3RT2046-1NF34 3RT2046-1NP34	r I
110	55	130	22	2	2	20 33 83 155 175 280	3RT2047-1NB34 3RT2047-1NF34 3RT2047-1NP34	Ī
		nounted auxilia I in electronics			ntegi	rated coil circuit		
80	37	125	22	2	2	20 33	3RT2045-1NB34-3MA0	3RT2045-3NB34-3MA0
95	45	130	22	2	2	20 33	3RT2046-1NB34-3MA0	3RT2046-3NB34-3MA0
110	55	130	22	2	2	20 33	3RT2047-1NB34-3MA0	3RT2047-3NB34-3MA0
	oltage tap-of onics at the fa	f and integrated actory)	d coil circ	uit (va	risto	r integrated in		
80	37	125	11	1	1	20 33	3RT2045-1NB30-0CC0	3RT2045-3NB30-0CC0
95	45	130	11	1	1	20 33	3RT2046-1NB30-0CC0	3RT2046-3NB30-0CC0
110	55	130	11	1	1	20 33	3RT2047-1NB30-0CC0	3RT2047-3NB30-0CC0

Other voltages according to page 3/69 on request.

Power contactors for switching motors

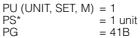
AC-3e IE3/IE4 ready SIRIUS 3RT contactors, 3-pole up to 250 kW

AC/DC operation

- Certified and fail-safe 24 V DC control input with max. 20 mA, e.g. for control via the fail-safe output module of a controller (F-PLC) or safety relay
- Achievable Safety Integrity Level (SIL) according to IEC 62061 and Performance Level (PL) according to ISO 13849-1 with corresponding fault diagnostics:
 - With one contactor: SIL 2 or PL c
 - With two contactors in series: SIL 3 or PL e
- Fail-safe applications can be implemented using this contactor.
- Extended operating range of the solenoid coil 0.8 to 1.1 x U_s
- Power consumption reduced from closing power to holding power

For more information, see

- Safety technology, page 11/1 onwards
- Guide of use for contactors in safety applications











3RT2031	IS.30
---------	-------

3RT203.-3S.30

3RT204.-1S.30

3RT204.-3S.30

Rated data	a		Auxiliary	contacts	Rated control		Screw terminals	+	Spring-loaded terminals	<u></u>
AC-3 and AC-3e, AC-1, $t_{\rm u}$: 60 °C $t_{\rm u}$: 40 °		AC-1, t _u : 40 °C			supply voltage $U_{\rm S}$					ш
	Ratings of three-phase	Opera- tional	Ident. No.	Version	50/60 Hz AC or DC					
current I _e up to	motors at 50 Hz and	current $I_{\rm e}$ up to		\			Article No.	Price per PU	Article No.	Price per PU
400 V	400 V	690 V) (·		
Α	kW	А		NO NC	V					

For screw fixing and snap-on mounting on TH 35 DIN rail

Size S2

With ir		circuit (varisto	or integra	ted in e	elect	ronics at		
41	18.5	60	01		1	21 33 83 150 175 280	3RT2035-1SB30 3RT2035-1SF30 3RT2035-1SP30	3RT2035-3SB30 3RT2035-3SF30 3RT2035-3SP30
51	22	70	01		1	21 33 83 150 175 280	3RT2036-1SB30 3RT2036-1SF30 3RT2036-1SP30	3RT2036-3SB30 3RT2036-3SF30 3RT2036-3SP30
65	30	80	01		1	21 33 83 150 175 280	3RT2037-1SB30 3RT2037-1SF30 3RT2037-1SP30	3RT2037-3SB30 3RT2037-3SF30 3RT2037-3SP30
80	37	90	01		1	21 33 83 150 175 280	3RT2038-1SB30 3RT2038-1SF30 3RT2038-1SP30	3RT2038-3SB30 3RT2038-3SF30 3RT2038-3SP30

For screw fixing and snap-on mounting on TH 35-15 and TH 75-15 DIN rails

Size S3

With in		l circuit (varisto	or integra	ted in	elec	ronics at		
80	37	125	01		1	21 33 83 150 175 280	3RT2045-1SB30 3RT2045-1SF30 3RT2045-1SP30	3RT2045-3SB30 3RT2045-3SF30 3RT2045-3SP30
95	45	130	01		1	21 33 83 150 175 280	3RT2046-1SB30 3RT2046-1SF30 3RT2046-1SP30	3RT2046-3SB30 3RT2046-3SF30 3RT2046-3SP30
110	55	130	01		1	21 33 83 150 175 280	3RT2047-1SB30 3RT2047-1SF30 3RT2047-1SP30	3RT2047-3SB30 3RT2047-3SF30 3RT2047-3SP30

Power contactors for switching motors

SIRIUS 3RT contactors, 3-pole up to 250 kW IE3/IE4 ready AC-

AC/DC operation

- Standard operating mechanism 3RT10..-.A
- For screw fixing
- Auxiliary and control conductors: Screw terminals or spring-loaded terminals
- Main conductors: Busbar connections; a connection kit with screws, spring washers and nuts is enclosed.

 $\begin{array}{ll} PU \text{ (UNIT, SET, M)} &= 1 \\ PS^* &= 1 \text{ unit} \\ PG &= 41B \end{array}$







3RT106.-6A.36



3RT107.-6A.36



3RT107.-2A.36

Siz	AC-3 and	Rated data AC-3 and AC-3e, t _u : 60 °C					liary acts, al	Rated control supply voltage $U_{\rm S}$	Screw terminals	+	Spring-loaded to	erminals
	Opera- tional	Opera- Ratings of three-phase motors		t _u : 40 °C Opera- tional	Version		50/60 Hz AC or DC					
	current I_{ϵ} up to	at 50 I	Hz and		current I _e up to	I I _e			Article No.	Price per PU	Article No.	Price per PU
	500 V	400 V 500 V 690 V		690 V	' '							
	А	kW	kW	kW	Α	NO	NC	V				

Standard Operating			
(power consumption	n reduced from clo	sing power to	holding power

With	integrate	ed coil c	ircuit (\	/aristor i	ntegrated at t	he fac	tory)			
S6	115	55	75	110	160	2	2	110 127 220 240	3RT1054-6AF36 3RT1054-6AP36	3RT1054-2AF36 3RT1054-2AP36
	150	75	90	132	185	2	2	110 127 220 240	3RT1055-6AF36 3RT1055-6AP36	3RT1055-2AF36 3RT1055-2AP36
	185	90	132	160	215	2	2	110 127 220 240	3RT1056-6AF36 3RT1056-6AP36	3RT1056-2AF36 3RT1056-2AP36
S10	225	110	160	200	275	2	2	110 127 220 240	3RT1064-6AF36 3RT1064-6AP36	3RT1064-2AF36 3RT1064-2AP36
	265	132	160	250	330	2	2	110 127 220 240	3RT1065-6AF36 3RT1065-6AP36	3RT1065-2AF36 3RT1065-2AP36
	300	160	200	250	330	2	2	110 127 220 240	3RT1066-6AF36 3RT1066-6AP36	3RT1066-2AF36 3RT1066-2AP36
S12	400	200	250	400	430	2	2	110 127 220 240	3RT1075-6AF36 3RT1075-6AP36	3RT1075-2AF36 3RT1075-2AP36
	500	250	315	400	610	2	2	110 127 220 240	3RT1076-6AF36 3RT1076-6AP36	3RT1076-2AF36 3RT1076-2AP36

Other voltages according to page 3/70 on request.

Power contactors for switching motors

IE3/IE4 ready SIRIUS 3RT contactors, 3-pole up to 250 kW

AC/DC operation

- Certified and fail-safe 24 V DC control input with max. 20 mA, e.g. for control via the fail-safe output module of a controller (F-PLC) or safety relay
- Achievable Safety Integrity Level (SIL) according to IEC 62061 and Performance Level (PL) according to ISO 13849-1 with corresponding fault diagnostics:
 - With one contactor: SIL 2 or PL c
 - With two contactors in series: SIL 3 or PL e
 - Fail-safe applications can be implemented using this contactor.
- Version with removable lateral auxiliary switches or permanently mounted auxiliary switches
- For screw fixing
- Auxiliary and control conductors: Screw terminals
- Main conductors: Busbar connections; a connection kit with screws, spring washers and nuts is enclosed.

For more information, see

- Safety technology, page 11/1 onwards
- Guide of use for contactors in safety applications











3RT105.-6S.36

3RT106.-6S.36

3RT105.-6S.36-3PA0

3RT107.-6S.36-3PA0

S	ize	Rated data according to IEC 60947-4-1 AC-3 and AC-3e, $t_{\rm u}$: 60 °C				Rated control supply voltage $U_{\rm S}$	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
		Operational current I _e	Ratings of three-phase motors	Versio	n	50/60 Hz AC or DC					
		up to	at 50 Hz and	ı,	4		Article No.	Price per PU			
		500 V	400 V	1	1						
_		Α	kW	NO	NC	V					

Solid-state operating mechanism

With two removable laterally mounted auxiliary switches

With in	tegrated coil	circuit (varistor int	egrated in electr	onics a	t the factory)				
S6	115	55	2	2	96 127 200 277	3RT1054-6SF36 3RT1054-6SP36	1 1	1 unit 1 unit	41B 41B
	150	75	2	2	96 127 200 277	3RT1055-6SF36 3RT1055-6SP36	1 1	1 unit 1 unit	41B 41B
	185	90	2	2	96 127 200 277	3RT1056-6SF36 3RT1056-6SP36	1 1	1 unit 1 unit	41B 41B
S10	225	110	2	2	96 127 200 277	3RT1064-6SF36 3RT1064-6SP36	1 1	1 unit 1 unit	41B 41B
	265	132	2	2	96 127 200 277	3RT1065-6SF36 3RT1065-6SP36	1 1	1 unit 1 unit	41B 41B
	300	160	2	2	96 127 200 277	3RT1066-6SF36 3RT1066-6SP36	1 1	1 unit 1 unit	41B 41B
S12	400	200	2	2	96 127 200 277	3RT1075-6SF36 3RT1075-6SP36	1 1	1 unit 1 unit	41B 41B
	500	250	2	2	96 127 200 277	3RT1076-6SF36 3RT1076-6SP36	1 1	1 unit 1 unit	41B 41B

With t	wo perman	ently laterally mo	ounted auxiliar	y swite	ches				
With in	tegrated coil	circuit (varistor int	egrated in electro	onics a	t the factory)				
S6	115	55	2	2	96 127 200 277	3RT1054-6SF36-3PA0 3RT1054-6SP36-3PA0	1 1	1 unit 1 unit	41B 41B
	150	75	2	2	96 127 200 277	3RT1055-6SF36-3PA0 3RT1055-6SP36-3PA0	1 1	1 unit 1 unit	41B 41B
	185	90	2	2	96 127 200 277	3RT1056-6SF36-3PA0 3RT1056-6SP36-3PA0	1 1	1 unit 1 unit	41B 41B
S10	225	110	2	2	96 127 200 277	3RT1064-6SF36-3PA0 3RT1064-6SP36-3PA0	1	1 unit 1 unit	41B 41B
	265	132	2	2	96 127 200 277	3RT1065-6SF36-3PA0 3RT1065-6SP36-3PA0	1 1	1 unit 1 unit	41B 41B
	300	160	2	2	96 127 200 277	3RT1066-6SF36-3PA0 3RT1066-6SP36-3PA0	1 1	1 unit 1 unit	41B 41B
S12	400	200	2	2	96 127 200 277	3RT1075-6SF36-3PA0 3RT1075-6SP36-3PA0	1 1	1 unit 1 unit	41B 41B
	500	250	2	2	96 127 200 277	3RT1076-6SF36-3PA0 3RT1076-6SP36-3PA0	1 1	1 unit 1 unit	41B 41B

Power contactors for switching motors

SIRIUS 3RT contactors, 3-pole up to 250 kW IE3/IE4 ready AC-3

AC/DC operation

- Solid-state operating mechanism
- 3RT10..-.N with 24 V DC control signal input
- 3RT10..-P with 24 V DC control signal input and with remaining lifetime indicator (RLT)
- For screw fixing
- Auxiliary and control conductors: Screw terminals or spring-loaded terminals
- Main conductors: Busbar connections; a connection kit with screws, spring washers and nuts is enclosed.

 $\begin{array}{ll} PU \text{ (UNIT, SET, M)} &= 1 \\ PS^* &= 1 \text{ unit} \\ PG &= 41B \end{array}$











3RT105.-6N.36

3RT106.-2N.36

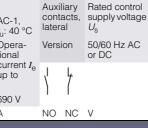
3RT107.-6N.36

3RT107.-6P.35

3RT107.-2N.36

Size	Size Rated data					
	AC-3 and $t_{\rm u}$: 60 °C		$t_{\rm u}$			
	Operational Ratings of three-phase motors current $I_{\rm e}$ at 50 Hz and up to				O tid CI U	
	500 V	400 V	500 V	690 V	69	

kW



Article No.

Price per PU



Solid-state operating mechanism

With 24 V DC control signal input e.g. for control by PLC

S6	115	55	75	110	160	2	2	96 127	3RT1054-6NF36	3RT1054-2NF36
								200 277	3RT1054-6NP36	3RT1054-2NP36
	150	75	90	132	185	2	2	96 127	3RT1055-6NF36	3RT1055-2NF36
								200 277	3RT1055-6NP36	3RT1055-2NP36
	185	90	132	160	215	2	2	96 127	3RT1056-6NF36	3RT1056-2NF36
								200 277	3RT1056-6NP36	3RT1056-2NP36
S10	225	110	160	200	275	2	2	96 127	3RT1064-6NF36	3RT1064-2NF36
								200 277	3RT1064-6NP36	3RT1064-2NP36
	265	132	160	250	330	2	2	96 127	3RT1065-6NF36	3RT1065-2NF36
								200 277	3RT1065-6NP36	3RT1065-2NP36
	300	160	200	250	330	2	2	96 127	3RT1066-6NF36	3RT1066-2NF36
								200 277	3RT1066-6NP36	3RT1066-2NP36
S12	400	200	250	400	430	2	2	96 127	3RT1075-6NF36	3RT1075-2NF36
								200 277	3RT1075-6NP36	3RT1075-2NP36
	500	250	315	400	610	2	2	96 127	3RT1076-6NF36	3RT1076-2NF36
			2.0		0	_	_	200 277	3RT1076-6NP36	3RT1076-2NP36

For 24 V DC control signal input · with remaining lifetime indicator (RLT) e.g. for control by PLC

S6	115	55	75	110	160	1	1	96 127 200 277	3RT1054-6PF35 3RT1054-6PP35	
	150	75	90	132	185	1	1	96 127 200 277	3RT1055-6PF35 3RT1055-6PP35	<u>-</u>
	185	90	132	160	215	1	1	96 127 200 277	3RT1056-6PF35 3RT1056-6PP35	_
10	225	110	160	200	275	1	1	96 127 200 277	3RT1064-6PF35 3RT1064-6PP35	<u>-</u>
	265	132	160	250	330	1	1	96 127 200 277	3RT1065-6PF35 3RT1065-6PP35	=
	300	160	200	250	330	1	1	96 127 200 277	3RT1066-6PF35 3RT1066-6PP35	<u>-</u>
12	400	200	250	400	430	1	1	96 127 200 277	3RT1075-6PF35 3RT1075-6PP35	
	500	250	315	400	610	1	1	96 127 200 277	3RT1076-6PF35 3RT1076-6PP35	

Other voltages according to page 3/70 on request.

Power contactors for switching motors

SIRIUS 3RT contactors, 3-pole up to 250 kW

Options

Rated control supply voltages for 3RT20 contactors, possible on request (change of the 10th and 11th digits of the article number)

Delivery time on request

Rated control supply voltage $U_{\rm s}$	Contactor type Size		3RT202 S0	3RT203 S2	3RT204 S3
Sizes S00 to S3					
AC operation ¹⁾		'			
Solenoid coils for 50 H (exception: Size S00: 50					
24 V AC 42 V AC 48 V AC 110 V AC 230 V AC 240 V AC 400 V AC		B0 D0 H0 F0 P0 U0 V0	B0 D0 H0 F0 P0 U0 V0	B0 D0 H0 F0 P0 U0 V0	B0 D0 H0 F0 P0 U0 V0
Solenoid coils for 50 a	ınd 60 Hz ²⁾				
24 V AC 42 V AC 48 V AC 110 V AC 220 V AC 230 V AC		B0 D0 H0 F0 N2 P0	C2 D2 H2 G2 N2 L2	C2 D2 H2 G2 N2 L2	C2 D2 H2 G2 N2 L2
Solenoid coils (for US	A and Canada ³⁾) 50 Hz				
	120 V AC 240 V AC	K6 P6	K6 P6	K6 P6	K6 P6
Solenoid coils (for Jap 50/60 Hz ⁴⁾	oan) 60 Hz ⁵⁾				
200 V AC 2	110 V AC 220 V AC 140 V AC	G6 N6 R6	G6 N6 R6	G6 N6 R6	G6 N6 R6
DC operation1)					
12 V DC 24 V DC 42 V DC 48 V DC 60 V DC 110 V DC 125 V DC 220 V DC 230 V DC		A4 B4 D4 W4 E4 F4 G4 M4 P4	A4 B4 D4 W4 E4 F4 G4 M4	 	

Examples

AC operation 3RT2023-1AP00 Contactor with screw terminals; with solenoid coil for 50 Hz for rated control supply voltage of 230 V AC Contactor with screw terminals; with solenoid coil for 50/60 Hz for rated control supply voltage of 110 V AC 3RT2023-1AG20 3RT2025-2B**B4**0 Contactor with spring-loaded terminals; for rated control supply voltage 24 V DC DC operation 3RT2025-2B**G4**0 Contactor with spring-loaded terminals; for rated control supply voltage 125 V DC

Rated control supply voltage	Contactor type	3RT202N	Rated control supply voltage	Contactor type	3RT203N	3RT204N
$U_{\rm smin}$ to $U_{\rm smax}^{1)}$	Size	S0	$U_{\rm s min}$ to $U_{\rm s max}^{1)}$	Size	S2	S3
Sizes S00 to S3						
AC/DC operation (50/60 Hz	AC or DC)					
21 28 V AC/DC 95 130 V AC/DC 200 280 V AC/DC ²⁾		B3 F3 P3	20 33 V AC/DC 48 80 V AC/DC 83 155 V AC/DC 175 280 V AC/DC		B3 E3 F3 P3	B3 E3 F3 P3

¹⁾ For deviating coil voltages and operating ranges of sizes S00 and S0, a SITOP 24 V DC power supply with wide-range input can be used for the coil control, see page 15/1 or Catalog KT 10.1.

²⁾ Coil operating range

⁻ at 50 Hz: 0.8 to 1.1 x U_s

⁻ at 60 Hz: 0.85 to 1.1 x $U_{\rm s}$

³⁾ Coil operating range

Size S00:

at 50 Hz: 0.85 to 1.1 x U_s,

at 60 Hz: 0.8 to 1.1 x U_s,

⁻ Sizes S0 to S3: at 50 Hz and 60 Hz: 0.8 to 1.1 x U_s.

⁴⁾ Coil operating range

⁻ Size S00:

at 50/60 Hz: 0.85 to 1.1 x U_s,

⁻ Size S0:

at 50 Hz: 0.8 to 1.1 x $U_{\rm s}$, at 60 Hz: 0.85 to 1.1 x $U_{\rm s}$.

⁵⁾ Coil operating range at 60 Hz: 0.8 to 1.1 x $U_{\rm s}$.

¹⁾ Coil operating range

⁻ Size S0: 0.7 x $U_{\rm s~min}$ to 1.3 x $U_{\rm s~max}$,

⁻ Sizes S2 and S3: 0.8 x $U_{\rm s\,min}$ to 1.1 x $U_{\rm s\,max}$.

²⁾ The following applies to S0 and $U_{\rm S\,max}$ = 280 V: upper limit = 1.1 x $U_{\rm S\,max}$

Power contactors for switching motors

SIRIUS 3RT contactors, 3-pole up to 250 kW

Rated control supply voltages for 3RT10 contactors, possible on request (change of the 10th and 11th digits of the article number)

Delivery time on request

Rated control supply voltage	type	3RT105A, 3RT106A, 3RT107A	Rated control supply voltage	type	3RT106N, 3RT107N	3RT105P, 3RT105S, 3RT106P, 3RT106S, 3RT107P, 3RT107S
$U_{\rm smin}$ to $U_{\rm smax}$	Sizes	S6 to S12	$U_{\rm s min}$ to $U_{\rm s max}$	Sizes	S6 to S12	

Sizes S6 to S12

AC/DC operation (50/60 Hz AC or DC) and operating range 0.8 x U_{s min} to 1.1 x U_{s max}

Standard operating mechanism		Solid-state operating mechanism		
23 26 V AC/DC 42 48 V AC/DC 110 127 V AC/DC 200 220 V AC/DC 220 240 V AC/DC	D3	21 27.3 V AC/DC 96 127 V AC/DC 200 277 V AC/DC	B3 F3 P3	 F3 P3
240 277 V AC/DC 380 420 V AC/DC 440 480 V AC/DC 500 550 V AC/DC 575 600 V AC/DC	U3 V3 R3 S3 T3			

Switching devices – Contactors and contactor assemblies – for switching motors Power contactors for switching motors

Accessories for SIRIUS 3RT contactors and SIRIUS 3RH2 contactor relays > General data

Overview

Extensive accessories and spare parts are available for SIRIUS 3RT power contactors and SIRIUS 3RH2 contactor relays.

These components are easily fitted to the contactors without the use of any tools according to requirements.

Overview graphics with mountable accessories:

- 3RT2 contactors, see pages 3/8 to 3/11
- 3RT10, 3RT12 and 3RT14 contactors, see pages 3/12 to 3/16
- 3RH2 contactor relays, see page 5/5

More information

TIA Selection Tool Cloud (TST Cloud), see www.siemens.com/tstcloud/?node=Contactor

Version	For contactors		Selection and	
	3RT2, sizes S00 to S3; 3RH2, size S00	3RT105 to 3RT107, 3RT126 and 3RT127, 3RT145 to 3RT147; sizes S6 to S12	ordering data	
Accessories for 3RT contactors and 3RH2 contactor relays	0.20 000	0.200 00 10 0.12	. ugo	
Auxiliary switches				
Instantaneous	3RH29.1	3RH19.1	3/83 3/99	
Delayed			5,55 5,55	
Pneumatic time-delay auxiliary switches	3RT2927-2P1		3/100	
Solid-state time-delay auxiliary switches	3RA2813, 3RA2814, 3RA2815	3RT1926-2E/-2E/-2G	3/100, 3/101	
Surge suppressors			5, 100, 5, 101	
• Without LED	3RT29.6-1B/-1C/-1D/-1E	3RT1956-1C	3/102, 3/103	
• With LED	3RT29.6-1J/-1L/-1M		3/103	
Modules for contactor control	0.1120.0 10, 12, 111		0, 100	
Coupling links for control by PLC	3RH29.4GP11		3/104	
3RA28 function modules	011120.4 .GI 11		0/104	
For direct on-line starting: ON-delay or OFF-delay	3RA2811, 3RA2812, 3RA2831, 3RA2832		3/105	
For star-delta (wye-delta) starting	3RA2816		3/105	
3RA27 function modules for IO-Link or AS-Interface				
For direct-on-line, reversing or star-delta (wye-delta) starting	3RA271A/B/C		3/106, 3/107	
Mechanical latching blocks	3RT2926-3A.31		3/108	
OFF-delay devices for contactors with AC/DC and DC operation	3RT2916-2B.01		3/108	
Link modules				
Link modules from motor starter protector to contactor	3RA.9.1		7/61	
Safety main current connectors for two contactors	3RA29.6-1A		3/109	
Assembly kits				
For reversing contactor assemblies	3RA29.3-2AA.	3RA19.3-2A	3/109	
For contactor assemblies for star-delta (wye-delta) starting	3RA292BB., 3RA29.3-2C	3RA1953-3G, 3RA19.3-2./-3.	3/110 3/112	
Single wiring modules	3RA.9.3-3.A.	3RA19.3-3.	3/113	
Star jumpers (links for paralleling), 3-pole	3RT.9.6-4BA3.	3RT19.6-4BA31	3/113	
Mechanical interlock kits for two contactors	3RA29.2-2H		3/114	
Mechanical interlocks for contactor assemblies	3RA2934-2B	3RA1954-2.	3/114	
Mechanical connectors for contactor assemblies	3RA29.2-2.	3RA1932-2D	3/114	
Connection modules/adapters	- · · · · · · · · · · · · · · · · · · ·		9,	
Links for paralleling for main conducting paths	3RT.9.6-4BB.1		3/115	
1-phase infeed terminals	3RA2943-3L		3/116	
3-phase infeed terminals	3RA2913-3K, 3RV29.5-5A.		3/116	
With increased clearances and creepage distances	3RV2935-5E		3/116	
3-phase busbars	3RV1915-1AB		3/116	
Terminal blocks for connecting auxiliary conductors to main terminals			-,	
Box terminal blocks	3RT2946-4G	3RT194G	3/116	
Box terminal brooke Box terminal for auxiliary conductor connection, 1-pole		3TX7500-0A	3/116	
Auxiliary conductor terminals, 3-pole	3RT2946-4F		3/116	
Solder pin adapters for mounting contactors on printed circuit boards	3RT1916-4KA.		3/117	
Coil connection modules for connections from top or from bottom	3RT2926-4R.1.		3/117	
Connection module (adapter and motor feeder connector) for contactors with screw terminals			5,	
Adapters	3RT19.6-4RD01		3/117	
Motor feeder connector	3RT1900-4RE01		3/117	

Power contactors for switching motors

Accessories for SIRIUS 3RT contactors and SIRIUS 3RH2 contactor relays > General data

Version	For contactors		Selection and
	3RT2, sizes S00 to S3; 3RH2,	3RT105 to 3RT107, 3RT126 and 3RT127, 3RT145 to 3RT147;	ordering data
	size S00	sizes S6 to S12	Page
Accessories for 3RT contactors and 3RH2 contactor relays (c	ontinued)		
Covers			
Terminal covers	3RT1946-4EA1, 3RT29.6-4EA.	3RT1956-4EA., 3RT1966-4EA., 3TX65.6-3B	3/118
Sealable covers	3RT2916-4MA10	3RT1926-4MA10	3/118
Miscellaneous accessories			
Base plates			
For reversing contactor assemblies		3RT19.2-2A	3/119
• For contactor assemblies for star-delta (wye-delta) starting	3RA29.2-2F	3RA19.2-2.	3/119
Adapters for screw fixing	3RT1926-4P		3/119
Connection kit for one complete contactor		3RT194PA00	3/119
EMC suppression modules	3RT2916-1P		3/119
Additional load modules	3RT2916-1GA00		3/120
LED modules for displaying contactor operation	3RT2926-1QT00	3RT1926-1QT00	3/120
Control kit	3RT29.6-4MC00		3/120
Insulation stop for securely holding back the conductor insulation for conductors up to 1 \mbox{mm}^2	3RT2916-4JA02	3RT1916-4JA02	3/121
Tools for opening spring-loaded terminals	3RA2908-1A	3RA2908-1A	3/121
Blank labels	3RT2900-1SB.0	3RT2900-1SB.0	3/121
Spare parts for 3RT2 contactors			
Solenoid coils	3RT2951		3/122, 3/123
Withdrawable coils		3RT195	3/124
Connection plugs for solid-state operating mechanisms		3RT1955-4NQ02	3/125
Contacts with fixing parts	3RT296.	3RT196.	3/125
Arc chutes		3RT197.	3/126

Power contactors for switching motors

Accessories for SIRIUS 3RT contactors and SIRIUS 3RH2 contactor relays > General data

Auxiliary switches

The auxiliary switches can be designed as force-guided contacts in 3RH contactor relays or also as mirror contacts in the case of 3RT power contactors.

For more information on force-guided operation and mirror contacts, see Manuals \rightarrow "More information", page 3/78, and in the selection and ordering data, page 3/83 onwards.

Solid-state time-delay auxiliary switches for mounting on 3RT2 contactors and 3RH2 contactor relays

See pages 3/78 and 3/100

The 3RA28 solid-state time-delay auxiliary switches which can be mounted on the contactor are designed for applications in the range from 24 to 240 V AC/DC (wide voltage range). Both the electrical and mechanical connection are made by simple snapping on and locking.

The time-delay auxiliary switch is supplied with power directly by two plug-in contacts through the coil terminals of the contactor, in parallel with A./A2.

A protection circuit (varistor) is integrated in each module.

A sealable cover is available to protect against careless adjustment of the set times.

Note:

Mounting more auxiliary switches on the contactor is not permitted.

Surge suppressors

- Without LED (also for spring-loaded terminals)
 Sizes S00 to S3, see page 3/102
- With LED (also for spring-loaded terminals)
 Sizes S00 to S3, see page 3/103

All 3RT2 contactors and 3RH2 contactor relays can be retrofitted with RC elements or varistors for damping switching overvoltages in the coil. Diodes or diode assemblies (combination of interference suppression diode and Zener diode for short break times) can also be used.

The surge suppressors are plugged onto the front of size S00 contactors. Space is provided for them next to a snap-on auxiliary switch.

Varistors, RC elements or diode assemblies can be plugged onto the front of size S0 to S3 contactors. Exception: For size S3, the RC element is inserted on the front into the recesses to the left of the connection block.

Coupling contactors are supplied either unconnected or with a suppressor diode, varistor or diode connected as standard, according to the version.

Note:

The break times of the contactor, the opening delay times of the NO contacts and the closing delay times of the NC contacts increase with damping.

For more detailed information about how damping affects the time response, see Equipment Manual.

Coupling links for control by PLC

See pages 3/80 and 3/104

- Operation with 24 V DC
- Operating range 17 to 30 V
- Low power consumption of 0.5 W
- · An LED indicates the switching state.

The 3RH2924-1GP11 coupling link has an integrated surge suppressor (varistor) for the contactor coil being switched and is mounted on the size S0 contactor coil via a coil connection module.

Power contactors for switching motors

Accessories for SIRIUS 3RT contactors and SIRIUS 3RH2 contactor relays > General data

3RA28 function modules for mounting on 3RT2 contactors and 3RH2 contactor relays

See pages 3/81 and 3/105

Simply by being plugged in place, the SIRIUS function modules enable different functionalities required for the assembly of starters to be realized in the feeder. The function modules and wiring kits thus help to reduce the wiring work within the feeder practically to zero.

Protection of the device connections

The specifications for short-circuit protection (fuses, motor starter protectors/circuit breakers, or miniature circuit breakers) are available for the device connections of the main circuit and the auxiliary circuit.

In order to ensure a holistic view for the protection of the device connections, the manufacturer is obliged to provide all relevant information for short-circuit protection and overcurrent protection.

For more information, for example if device connections for the control supply voltage, the supply voltage, or digital inputs/digital outputs are not connected to self-limiting current sources or energy sources, see Equipment Manual or the technical product data sheet.

SIRIUS function modules for direct-on-line starting

The electronic timing relays which can be mounted on the contactor are available in these versions:

- Sizes S00 and S0 for applications in the range from 24 to 240 V AC/DC (wide voltage range)
- Sizes S2 and S3 for applications in either the range from 24 to 90 V AC/DC or 90 to 240 V AC/DC

Both the electrical and mechanical connection are made by simple snapping on and locking.

A protection circuit (varistor) is integrated in each module.

The electronic timing relay with semiconductor output uses two contact legs to actuate the contactor underneath by means of a semiconductor after the set time *t* has elapsed.

The switching state feedback is performed by a mechanical switching state indicator (plunger). In addition, the auxiliary switches in the contactors are freely accessible and can be used for feedbacks to the control system or for signal lamps.

A sealable cover is available to protect against careless adjustment of the set times.

The snap-on function modules for direct-on-line starting are used above all for realizing time functions independently of the control system.

With the OFF-delay variant of the timing relay it is possible for example for the fan motor for cooling a main drive to be switched off with a delay so that sufficient cooling after operation is guaranteed; the programmer of the control system does not need to worry about such technical details of the plant.

The ON-delay timing relays enable for example the time-delayed starting of several drives so that the summation starting current does not rise too high, which could result in voltage failure.

The use of snap-on function modules for direct-on-line starting results in the following advantages:

- Reduction of control current wiring
- Prevention of wiring errors
- Reduction of testing costs
- Implementation of time functions independently of the control system
- Less space required in the control cabinet compared to a separate timing relay
- No additive protection circuit required (varistor integrated)

Assembly of reversing starters

We offer ready-made wiring kits for the assembly of reversing starters. Use of these wiring kits offers further advantages, see page 3/149.

SIRIUS function modules for star-delta (wye-delta) starting

Both interlocking and time functions are required for the assembly of star-delta (wye-delta) starters. With the function modules for star-delta (wye-delta) starting and the matching link modules for the main circuit, these starters can be assembled easily and with absolutely no errors.

The entire sequence in the control circuit is integrated in the snap-on modules. This covers:

- An adjustable star time t from 0.5 to 60 s
- A non-adjustable dead interval of 50 ms
- Electrical contacting of the contactors by means of coil pick-off (contact legs)
- Feedback of the switching state at the contactor using a mechanical switch position indicator (plunger)
- Electrical interlocking between the contactors

These modules do not require their own terminals and can therefore be used for contactors with both screw and springloaded terminals in all the sizes S00 to S3. To start the star-delta (wye-delta) starter, only the first of the three contactors (line contactor) is actuated, like in the case of a direct-on-line starter. All other functions then take place inside the individual modules.

This also offers advantages if the time function was previously implemented in a controller, as it again results in a significant reduction in the number of PLC outputs, the programming work and the wiring outlay.

The kits for the main circuit include the mechanical interlock, the star jumper, the wiring modules at the top and at the bottom, and the required connectors or connecting clips.

A protection circuit (varistor) is integrated in the basic module.

The function modules for star-delta (wye-delta) starting are mostly used where current-limiting measures for starting a drive are required and a high level of availability is essential at the same time. This technology has been used with success for several decades and has the additional advantage of requiring relatively little know-how. Through the use of function modules, the assembly work with simple standard components is even easier and absolutely error-free.

The use of function modules for star-delta (wye-delta) starting results in the following advantages:

- Operation solely through the line contactor A1/A2 no further control current wiring needed
- Prevention of wiring errors
- Reduction of testing costs
- Integrated electrical interlocking saves costs and prevents errors
- Less space needed in the control cabinet compared to using a separate timing relay
- Adjustable starting in star mode from 0.5 to 60 s
- Independent of the contactor's control supply voltage (24 to 240 V AC/DC)
- Varistor integrated no additive protection circuit required
- Mechanically coded assembly enables easy configuration and reliable wiring
- Fewer versions one module kit for screw and spring-loaded connection and for all the contactor sizes S00 to S3
- Mechanical interlocking (with wiring kit for the main circuit)

Switching devices – Contactors and contactor assemblies – for switching motors Power contactors for switching motors

Accessories for SIRIUS 3RT contactors and SIRIUS 3RH2 contactor relays > General data

SIRIUS 3RA27 function modules for IO-Link or AS-Interface for mounting on 3RT2 contactors

See pages 3/82 and 3/106

The SIRIUS 3RA27 function modules enable the assembly of starters and contactor assemblies for direct-on-line, reversing and star-delta (wye-delta) starting without any additional, complicated wiring of the individual components. They include the key control functions, e.g. timing and interlocking, required for the particular feeder and can be connected to the control system via either IO-Link or AS-Interface.

The electrical and mechanical connection to the contactor is established by snapping on and locking the respective modules. An additive protection circuit for the individual contactors can be dispensed with completely because a varistor is integrated in the modules. Feedback from the contactor contacts is performed with Hall sensors which provide reliable feedback on the switching state even under extremely dusty conditions.

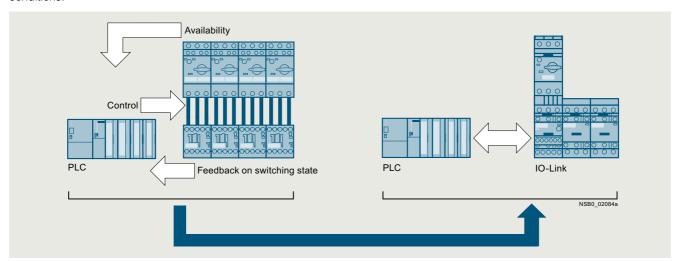
The starters are connected to the higher-level control system through IO-Link, with the possibility of connecting up to four starters as a group to one port of the IO-Link master.

Optionally, the connection can be made via AS-Interface (specification V2.1 or higher, in A/B technology). As a result, up to 62 starters can be connected to one master and the address is entered in the normal manner with an addressing unit.

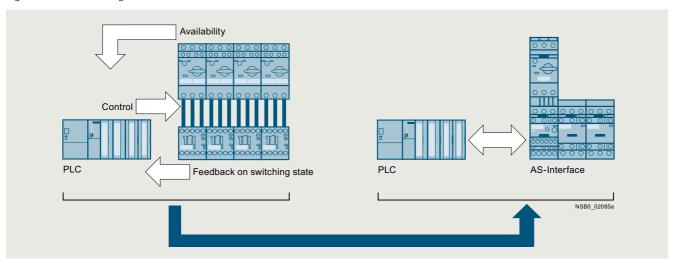
Through this type of connection to the control system, a maximum of wiring is saved. In the case of AS-Interface, the wiring amounts to the supply voltage and the two individual wires for AS-Interface.

The following essential signals are thus transmitted:

- Availability of the feeder in response to an indirect inquiry from the motor starter protector/circuit breaker
- Starter control
- Feedback on switching state of the starter



Signal transmission through IO-Link



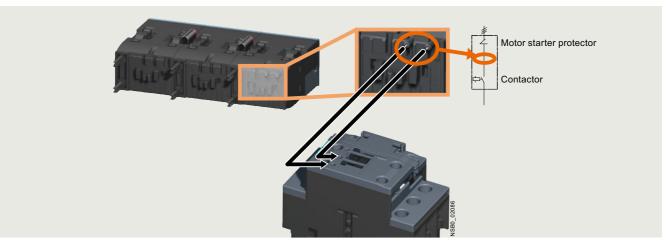
Signal transmission through AS-Interface

Power contactors for switching motors

Accessories for SIRIUS 3RT contactors and SIRIUS 3RH2 contactor relays > General data

The inquiry from the motor starter protector/circuit breaker does not take place through additive wiring between the auxiliary switch and the module but by means of a voltage inquiry at the contactor input.

This requires special versions of the 3RT20..-....-OCC0 contactors with voltage tap-off (see pages 3/55, 3/59, 3/63 and 3/64).



Availability signal through voltage tap-off

The following benefits result from the use of SIRIUS 3RA27 function modules:

- Reduction of control current wiring. In the case of IO-Link to no more than three cables for four feeders.
- Elimination of testing costs and wiring errors
- · Reduction of configuration work
- · Parameter server functionality
- Integration in TIA means unambiguous IO-Link diagnostics if a fault occurs
- Dispensing with IO modules saves space in the control cabinet
- All essential timing and interlocking functions for reversing duty and star-delta (wye-delta) starting are integrated
- No additive protection circuit required

For more information on IO-Link and AS-Interface, see "Industrial communication", page 2/1 onwards.

Protection of the device connections

The specifications for short-circuit protection (fuses, motor starter protectors/circuit breakers, or miniature circuit breakers) are available for the device connections of the main circuit and the auxiliary circuit.

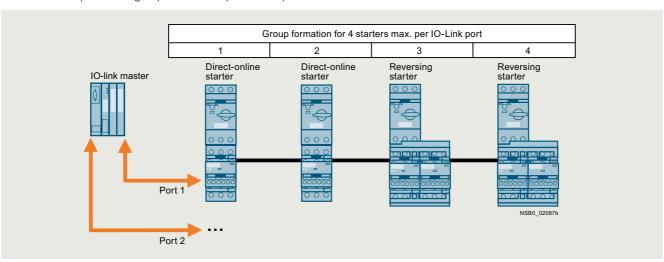
In order to ensure a holistic view for the protection of the device connections, the manufacturer is obliged to provide all relevant information for short-circuit protection and overcurrent protection.

For more information, for example if device connections for the control supply voltage, the supply voltage, or digital inputs/digital outputs are not connected to self-limiting current sources or energy sources, see Equipment Manual or the technical product data sheet.

SIRIUS 3RA2711 function modules for IO-Link for mounting on 3RT2 contactors

By grouping up to four starters, it is possible to connect up to 16 starters to one master of the ET 200SP or S7-1200. In this case all the signals of the individual controls are made available directly in the process image of the input through only three individual wires per starter group. If the same potential is present

at the ET 200SP or S7-1200 master and at the switching devices, the wiring can be further reduced by connecting the supply voltage of the contactor coils to the communication wires via jumpers.



Group formation with IO-Link

Switching devices – Contactors and contactor assemblies – for switching motors Power contactors for switching motors

Accessories for SIRIUS 3RT contactors and SIRIUS 3RH2 contactor relays > General data

In case of a malfunction, the corresponding error signals are also sent directly to the PLC in acyclic mode. This is in addition to transmission of the switching signals and status signals.

Possible error signals:

- · Switching element defective
- No main voltage (motor starter protectors/circuit breakers tripped)
- No control supply voltage
- · Limit position on the right/on the left
- Manual mode
- Process mapping error

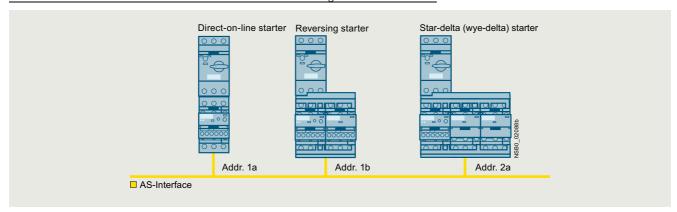
This easy integration of the starters in the TIA world does not limit the flexibility in the field in the least. For example, all function modules have special terminals in order to enable direct local disconnection. These terminals can be connected for example to a position switch. The input interrupts the voltage supply to the

contactor coil directly, i.e. without going through the PLC. These terminals are jumpered in the delivery state.

Local manual operation of the complete starter group is also straightforward using a handheld device. The latter is easily connected to the last starter and can be built into the front panel of the control cabinet if required. This offers significant advantages particularly for commissioning.

SIRIUS function modules with IO-Link are used above all in machines and plants in which there are several motor feeders in one control cabinet. Using IO-Link, the connection of these feeders to the automation level is easy, quick and error-free. And with IO modules no longer needed, the width of the PLC is far smaller.

SIRIUS 3RA2712 function modules for AS-Interface for mounting on 3RT2 contactors



Topology with AS-Interface

This easy integration of the starters in the TIA world does not limit the flexibility in the field in the least. For example, all function modules have special terminals in order to enable direct local disconnection. These terminals can be connected for example to a position switch. The input interrupts the voltage supply to the contactor coil directly, i.e. without going through the PLC. These terminals are jumpered in the delivery state.

SIRIUS function modules with AS-Interface are recommended above all in machines and plants requiring easy connection of several different sensors and actuators both inside and outside the control cabinet to the higher-level control system. And with IO modules no longer needed, the width of the PLC is far smaller.

Power contactors for switching motors

Accessories for SIRIUS 3RT contactors and SIRIUS 3RH2 contactor relays > General data

Technical specifications

More information TIA Selection Tool Cloud (TST Cloud), see **FAQs** www.siemens.com/tstcloud/?node=Contactor • SIRIUS 3RT2 contactors and SIRIUS 3RH2 contactor relays, see Technical specifications https://support.industry.siemens.com/cs/ww/en/ps/16208/faq • SIRIUS 3RT2 contactors and SIRIUS 3RH2 contactor relays, see • SIRIUS 3RT1 contactors, see https://support.industry.siemens.com/cs/ww/en/ps/16209/faq https://support.industry.siemens.com/cs/ww/en/ps/16208/td System Manual for modular system, see • SIRIUS 3RT1 contactors, see https://support.industry.siemens.com/cs/ww/en/view/60311318 https://support.industry.siemens.com/cs/ww/en/ps/16209/td Equipment Manual, see https://support.industry.siemens.com/cs/ww/en/view/60306557

Solid-state time-delay auxiliary switches for mounting on 3RT201 to 3RT204 (sizes S00 to S3) and 3RH2 contactor relays (size S00)

Туре			3RA2813	3RA2814	3RA2815
Function			ON-delay	OFF-delay with control signal	OFF-delay without control signal
General data					
Dimensions (basic unit with mounted solid-state time-delay aux	iliary switch)		See 3RT2 contactor re	ors (pages 3/29, 3/32, 3/35, 3/ lays (page 5/8)	'38) and
Rated insulation voltage <i>U</i> _i Pollution degree 3, overvoltage category III		V AC	300		
Rated impulse withstand voltage U _{imp}		kV AC	4		
Permissible ambient temperature					
During operation		°C	-25 +60		
During storage		°C	-40 +80		
Electromagnetic compatibility (EMC)			IEC 61000-6-2, IEC	C 61000-6-4, IEC 61812-1, IEC	C 60947-4-1
Overvoltage protection			Varistor integrated		
Control					
Operating range of excitation			$0.85 \dots 1.1 \times U_{\rm S}, \\ 0.95 \dots 1.05 \ {\rm times}$	the rated frequency	
Rated power		W	1		
 Power consumption at 230 V AC, 50 Hz 		VA	2		
Recovery time		ms	150		
Minimum ON duration		ms		35	200
Setting accuracy, typ., with reference to upper lim	it of scale		± 15%		
Repeat accuracy, max.			± 1%		
Load side					
Rated operational currents I _e					
• AC-15 at 24 250 V, 50 Hz		Α	3		
• DC-13	- at 24 V	Α	1		
	- at 125 V - at 250 V	A	0.2 0.1		
Mechanical endurance	- at 250 v	A	10 x 10 ⁶		
mechanical endurance		ing cycles	10 X 10		
Electrical endurance at AC-15, 250 V, 3 A		Operat- ing cycles	100 000		
Residual current, max.		mA			
Voltage drop, max., with conducting output		VA			
Short-circuit protection					
• Fuse link, operational class gG: DIAZED, type 55	SB	Α	4		

Power contactors for switching motors

Accessories for SIRIUS 3RT contactors and SIRIUS 3RH2 contactor relays > General data

Туре		3RA2813	3RA2814	3RA2815		
Function		ON-delay	OFF-delay with control signal	OFF-delay without control signal		
Conductor cross-sections						
Connection type (1 or 2 conductors can be connected)		Screw terminals				
 Solid Finely stranded with end sleeve (DIN 46228) AWG cables, solid or stranded Terminal screws 	mm ² mm ² AWG	1 x (0.5 4), 2 x (0.5 2.5) 1 x (0.5 2.5), 2 x (0.5 1.5) 2 x (20 14) M3 (for standard screwdriver size 2 or Pozidriv 2)				
Tightening torque	Nm	0.8 1.2				
Connection type (1 or 2 conductors can be connected)		Spring-loaded ter	minals			
 Solid Finely stranded with end sleeve (DIN 46228) Finely stranded without end sleeve AWG cables, solid or stranded Operating devices 	mm ² mm ² mm ² AWG mm	2 x (0.25 1.5) 2 x (0.25 1.5) 2 x (0.25 1.5) 2 x (0.25 1.5) 2 x (24 16) 3.0 x 0.5				

Туре		3RT1926-2E, 3RT1926-2F, 3RT1926-2G	Туре		3RT1926-2E, 3RT1926-2F, 3RT1926-2G
Sizes		S6 to S12	Sizes		S6 to S12
General data			Load side		
Dimensions (W x H x D)	mm	33 x 46 x 73	Rated operational currents I _e		
Rated insulation voltage <i>U</i> i	V AC	300	• AC-15, 230 V, 50 Hz	Α	3
Pollution degree 3, povervoltage category III according to			• DC-13, 24 V	Α	1
IEC 60664-1			• DC-13, 110 V	Α	0.2
Permissible ambient temperature			• DC-13, 230 V	Α	0.1
 During operation 	°C	-25 +60	Short-circuit protection		
During storage	°C	-40 +85	Fuse link, operational class gG:	Α	4
Electromagnetic compatibility		IEC 61812-1	DIAZED, type 5SB		6
(EMC)			Mechanical endurance	Operat- ina	10 x 10 ⁶
Control				cycles	
Operating range of excitation		0.85 1.1 x <i>U</i> _s , 0.95 1.05 times the	Conductor cross-sections	-	
		rated frequency	Connection type		Screw terminal
Rated power	W	2	(1 or 2 conductors can be connecte	,	
Power consumption at 230 V AC, 50 Hz	VA	4	• Solid	mm ²	2 x (0.5 1.5), 2 x (0.75 4)
Recovery time	ms	150	Finely stranded with end sleeve	mm ²	2 x (0.5 2.5)
Minimum ON duration	ms	200	 AWG cables, solid or stranded 	AWG	2 x (18 14)
	***	(with OFF-delay)	Terminal screws		M3
Setting accuracy, typ., with reference to upper limit of scale	%	± 15	Tightening torque	Nm	0.8 1.2
Repeat accuracy, max.	%	± 1			

Power contactors for switching motors

Accessories for SIRIUS 3RT contactors and SIRIUS 3RH2 contactor relays > General data

Coupling links for control by PLC

Туре		3RH2924-1GP11	3RH2914GP11
Mounting on contactors of size		\$0	S00 to S3
General data			
Standards		IEC 60947	
Rated insulation voltage <i>U</i> _i (pollution degree 3)	V	300	
Protective separation between coil and contacts according to IEC 60947-1, Annex N	V AC	Up to 300	
Permissible ambient temperature			
During operation	°C	-25 +60	
During storage	°C	-40 +80	
Control side			
Rated control supply voltage U _s	V DC	24	
Operating range	V DC	17 30	
Power consumption at U _s	W	0.5	
Nominal current input	mA	20	
Release voltage	V	≥ 4	
Function display		Yellow LED	
Protection circuit		Varistor	
Load side			_
Mechanical endurance	Operating cycles	20 million	10 million
Electrical endurance at $I_{\mathbf{e}}$	Operating cycles	0.1 million	
Switching frequency	1/h	5 000	
Make-time	ms	Approx. 7	
Break-time	ms	Approx. 4	
Bounce time	ms	Approx. 2	
Contact material		AgSnO2	
Switching voltage	V AC/DC	24 250	
Rated operational current I_e			
 AC-15/AC-14 at 230 V 	Α	3	
• DC-13 at 230 V	Α	0.1	
Permissible residual current of the electronics (with 0 signal)	mA	2.5	
Conductor cross-sections			
Connection type (1 or 2 conductors can be connected)		Screw terminals	
• Solid	mm ²	2 x (0.5 2.5)	
 Finely stranded with end sleeve (DIN 46228) 	mm^2	2 x (0.5 1.5)	
Terminal screws		M3	
Connection type (1 or 2 conductors can be connected)		Spring-loaded terminals	
• Solid	mm^2		2 x (0.25 1.5)
 Finely stranded with end sleeve (DIN 46228) 	mm ²		2 x (0.25 1.5)
Finely stranded without end sleeve	mm^2		2 x (0.25 1.5)
AWG cables, solid or stranded	AWG		2 x (24 16)
Operating devices	mm		3.0 x 0.5

Power contactors for switching motors

Accessories for SIRIUS 3RT contactors and SIRIUS 3RH2 contactor relays > General data

3RA28 function modules for mounting on 3RT2 contactors and 3RH2 contactor relays

Type Mounting on contactors of size Function		3RA2811 S00, S0 For direct-o	3RA2831 S2, S3 n-line starting	3RA2812 S00, S0	3RA2832 S2, S3	3RA2816 S00 to S3 For star-delta (wye-delta) starting		
		ON-delay		OFF-delay with control	l signal			
General data					<u> </u>			
Dimensions (basic unit with mounted function module)		See 3RT2 contactors (pages 3/29, 3/32, 3/35, 3/38) and 3RH2 contactor relays (page 5/8)						
Rated insulation voltage <i>U</i> _i Pollution degree 3, overvoltage category III	VAC	300						
Rated impulse withstand voltage U_{imp}	kV AC	4						
Overvoltage protection		Varistor integ	rated					
Recovery time	ms	50				150		
Minimum ON duration	ms			35				
Setting accuracy, typ., with reference to upper limit of scale		± 15%						
Repeat accuracy, max.		± 1%						
Permissible ambient temperature								
During operation	°C	-25 +60						
During storage	°C	-40 +80						
Electromagnetic compatibility (EMC)		IEC 61000-6	-2, IEC 61000-	6-4, IEC 6181	2-1, IEC 60947	-4-1		
Control side								
Operating range of excitation			$U_{\rm s}$, times the rated	d frequency				
Rated power	W	1						
Power consumption at 230 V AC, 50 Hz	VA	1				2		
Load side		6				6		
Mechanical endurance	Operating cycles	100 x 10 ⁶				10 x 10 ⁶		
Electrical endurance								
With 3RT2028 contactor	Operating cycles	100 000						
• At AC-15, 250 V, 3 A	Operating cycles					100 000		
Residual current, max.	mA	5						
Voltage drop, max. with conducting output	VA	3.5						
Short-circuit protection								
Version of the fuse link required for short-circuit protection of the auxiliary switch	А					Fuse gL/gG: 4		
Conductor cross-sections								
Connection type (1 or 2 conductors can be connected)		Screw	terminals					
• Solid	mm ²		, 2 x (0.5 2.5					
 Finely stranded with end sleeve (DIN 46228) 	mm ²		5), 2 x (0.5 1	1.5)				
AWG cables, solid or stranded	AWG	2 x (20 14)						
Terminal screws		,	dard screwdriv	er size 2 or Po	ozidriv 2)			
Tightening torque Connection type	Nm		-loaded termin	nals				
(1 or 2 conductors can be connected)								
Operating devices Calid	mm	3.0 x 0.5						
Solid Finally stranded with and sleave (DIN 46228)	mm ² mm ²	2 x (0.25 1.5)						
Finely stranded with end sleeve (DIN 46228) Finely stranded without and sleeve	mm ²	2 x (0.25 1.5) 2 x (0.25 1.5)						
 Finely stranded without end sleeve AWG cables, solid or stranded 	mm- AWG	2 x (0.25 16)	· ·					
- Avva capies, soliu di stianueu	AVVG	2 x (24 10)	,					

Power contactors for switching motors

Accessories for SIRIUS 3RT contactors and SIRIUS 3RH2 contactor relays > General data

3RA27 function modules for IO-Link for mounting on 3RT2 contactors

Туре			3RA2711
General data			
Dimensions			See 3RT2 contactors: pages 3/29, 3/32, 3/35 and 3/38
Suitable for IO-Link masters according to specificat	ion		1.1
Permissible ambient temperature			
During operation	According to IEC 60947-1	°C	-25 +60
During storage	According to IEC 60721-3-1	°C	-40 +80
During transport	According to IEC 60721-3-2	°C	-40 +80
Operational voltage U _{Hi}		V DC	24 ± 20%
Max. length of the cables for the input Y1-Y2		m	30
Electromagnetic compatibility (EMC)			IEC 61000-6-2, IEC 61000-6-4, IEC 60947-4-1
Conductor cross-sections			
Connection type (1 or 2 conductors can be connected)			Screw terminals
• Solid		mm ²	1 x (0.5 4), 2 x (0.5 2.5)
Finely stranded with end sleeve (DIN 46228)AWG cables, solid or stranded		mm ² AWG	1 x (0.5 2.5), 2 x (0.5 1.5) 2 x (20 14)
Terminal screws			M3 (for standard screwdriver Ø 6 mm or Pozidriv 2)
Tightening torque of the terminal screws		Nm	0.8 1.2
Connection type (1 or 2 conductors can be connected)			Spring-loaded terminals
 Operating devices Solid Finely stranded with end sleeve (DIN 46228) Finely stranded without end sleeve AWG cables, solid or stranded 		mm mm ² mm ² mm ² AWG	3.0 x 0.5 2 x (0.25 1.5) 2 x (0.25 1.5) 2 x (0.25 1.5) 2 x (24 16)

3RA27 function modules for AS-Interface for mounting on 3RT2 contactors

Type			3RA2712				
General data							
Dimensions			See 3RT2 contactors: pages 3/29, 3/32, 3/35 and 3/38				
Slave type			A/B slave				
Suitable for AS-i masters according to specific	ation		2.1 or higher				
AS-i slave profile IO.ID.ID2			7.A.E				
ID1 code (factory setting)			7				
Permissible ambient temperature							
During operation	According to IEC 60947-1	°C	-25 +60				
During storage	According to IEC 60721-3-1	°C	-40 +80				
During transport	According to IEC 60721-3-2	°C	-40 +80				
Operational voltage							
AS-Interface		V	26.5 31.6				
AUX PWR 24 V DC		V	24 ± 20%				
Current consumption, max.							
AS-InterfaceAUX PWR		mA	30				
- Maximum pickup/hold current	Size S00	mA	200/200				
	Size S0	mA	300/300				
	Size S2 Size S3	mA mA	1 300/50 4 000/70				
Max. length of the cables for the input Y1-Y2		m	30				
Electromagnetic compatibility (EMC)			IEC 61000-6-2, IEC 61000-6-4, IEC 60947-4-1				
Conductor cross-sections							
Connection type (1 or 2 conductors can be connected)			Screw terminals				
• Solid		mm ²	1 x (0.5 4), 2 x (0.5 2.5)				
• Finely stranded with end sleeve (DIN 46228)		mm ²	1 x (0.5 2.5), 2 x (0.5 1.5)				
 AWG cables, solid or stranded Terminal screws 		AWG	2 x (20 14) M3 (for standard screwdriver Ø 6 mm or Pozidriv 2)				
Tightening torque of the terminal screws		Nm	0.8 1.2				
Connection type (1 or 2 conductors can be connected)			Spring-loaded terminals				
Operating devices		mm	3.0 x 0.5				
Solid Finally stranded with and classes (DIN 46228)		mm ²	2 x (0.25 1.5)				
 Finely stranded with end sleeve (DIN 46228) Finely stranded without end sleeve 		mm ² mm ²	2 x (0.25 1.5) 2 x (0.25 1.5)				
AWG cables, solid or stranded		AWG	2 x (24 16)				

Switching devices – Contactors and contactor assemblies – for switching motors Power contactors for switching motors

Accessories for SIRIUS 3RT contactors and SIRIUS 3RH2 contactor relays > Auxiliary switches, instantaneous

Overview

Auxiliary switch: Terminal designations and identification numbers for auxiliary contacts

Terminal designations

The terminal designations are 2-digit, e.g. 13, 14, 21, 22:

- Tens digit: Sequence digit
 - Related terminals have the same sequence digit
- Units digit: Function digit
 - 1-2 for normally closed contacts (NC)
 - 3-4 for normally open contacts (NO)

Identification numbers

The identification number indicates the number and type of the auxiliary contacts, e.g. 40, 31, 22, 13:

- 1st digit: number of normally open contacts (NO)
- 2nd digit: number of normally closed contacts (NC)

Examples:

- 31 = 3 NO + 1 NC
- 40 = 4 NO

Selection aid for mountable auxiliary switches for power contactors and contactor relays

The auxiliary switches of the 3RH29 series for mounting on the front and side can be used for 3RT2 power contactors as well as for 3RH2 contactor relays.

The possible combinations of basic unit and mounted auxiliary switch can be found in the tables, see the following pages.

Where the columns and lines intersect (blue or green in the example) you will find the identification number for the combination of basic unit (column) and auxiliary switch (line).

Additional auxilia	ry switch	3-pole c	3-pole contactors					
Article number	Auxiliary contacts	3RT201	3RT201	3RT202 to 3RT204				
	Version	S00	S00	S0 to S3				
	NO NC	10	01	11				
	\	\\ \rightarrow \left \frac{ 13}{14}	21 - - 22	13 21				
			5. 6. 7. 8.					
			ng to EN	50012''				
	es without NO contact							
3RH2911-□HA01	1 .1 * - .2	11	02	12				
3RH2911-□HA02	- 2 .1 .1 	12	03	13				
3RH2911-□HA03	3 .1 .1 .1 	13	04	14				
3RH2911-□FA04	4 1 1 1 1 1 1 1 1 1	14		1 1001				
Auxiliary switch	with 1 NO contact							
3RH2911-□HA10	1 .3 .4	20	11	21				
1	For screw terminals							
2	For spring-loaded terming	nals						

¹⁾ Combinations according to EN 50012, EN 50011 and IEC 60947-5-1 are in bold print. All combinations comply with EN 50005.

Example 1

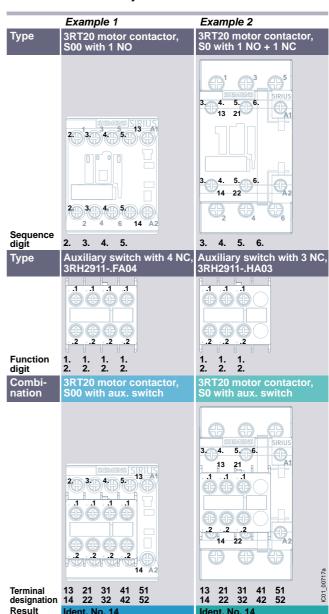
Basic unit: 3-pole 3RT2017 motor contactor with 1 NO

Required: 1 NO + 4 NC (Ident. No. 14) Result: 3RH2911-.FA04 auxiliary switch

Example 2

Basic unit: 3-pole 3RT2023 motor contactor with 1 NO + 1 NC

Required: 1 NO + 4 NC (Ident. No. 14) Result: 3RH2911-.HA03 auxiliary switch



Power contactors for switching motors

Accessories for SIRIUS 3RT contactors and SIRIUS 3RH2 contactor relays > Auxiliary switches, instantaneous

Additional auxilia	rv sv	vitches		3-pole contactors			4-pole contactors				Contactor relays		
Article number	-	liary co		S00	omacion	S0 to S3	S00	Jillaotois	S0 to S3		S00	iuys	
	Vers			3RT201		3RT202, 3RT203, 3RT204, 3RT244		3RT251		3RT253,	3RH21, 3RH2	24	
	NO	NC		10	01	11		-	11	11	40E	31E	22E
	1	<u> </u>		13	21	13 21			13 21	13 21	13 23 33 43 14 24 34 44	13 21 33 43	13 21 31 43
					5. 6. 7. 8.				3. 4. 5. 6.	3. 4. 5. 6.	5. 6. 7. 8.	5. 6. 7. 8.	5. 6. 7. 8.
A 111 10					ng to EN	50012"	Accordin	g to EN 5	50012"		According to	EN 50011"	
Auxiliary switches, front													
Without NO co. 3RH2911-□HA01			.1	11	02	12	01	01	12	12	41X	32X	23X
SHIZ911-⊔HAUI		7	.2	"	02	12	U I	01	12	12	418	328	238
3RH2911-□HA02		<i>*</i>		12	03	13	02	02	13		42E	33X	24
3RH2911-□HA03		3 1.1		13	04	14	03				43	34	
3RH2911-□FA04		<u> </u>	2 .2 .2 .1 .1 .1 	14							44E		
With 1 NO cont	tact												
3RH2911-□HA10		 _	.3	20	11	21	10	10	21	21	50E	41E	32E
3RH2911-□HA11	1	1 1.1	1.4	21	12	22	11	11	22	22	51X	42X	33X
3RH2911-□HA12	1	1.2 2 .1 <i>F</i>	.1 .3	22	13	23	12	12	23		52	43	34
3RH2911-□HA13	1	3 .1 3 .1		23	14	24	13				53X	44X	
With 2 NO cont	tacts		. 1.2 1.2 1.4										
3RH2911-□HA20			3 .3	30	21	31	20	20	31	31	60E	51X	42X
3RH2911-□HA21	2		3 3	31	22	32	21	21	32	32	61	52	43
3RH2911-□HA22	2	2 1.1	1 1 1 3 1 3	32	23	33	22	22	33		62X	53	44X
3RH2911-□FA22	2	2	2 .2 .4 .4 .3 .1 .1 .3 .4 .2 .2 .4	32	23	33	22	22	33		62X	53	44X
With 3 NO cont	tacts	i											
3RH2911-□HA30	3		3 .3 .3	40	31	41	30	30	41	41	70	61	52
3RH2911-□HA31	3	1 1.1	3 3 3	41	32	42	31	31	42	42	71X	62X	53X
With 4 NO cont	tacts	1											
3RH2911-□FA40			3 .3 .3 .3 .4 .4	50	41	51	40	40	51	51	80E	71X	62X
1) Combinations a													

¹⁾ Combinations according to EN 50012, EN 50011 or IEC 60947-5-1 are in **bold** print. All combinations comply with EN 50005.

Power contactors for switching motors

Accessories for SIRIUS 3RT contactors and SIRIUS 3RH2 contactor relays > Auxiliary switches, instantaneous

Additional auxiliary switches			3-pole o	ontactor	s	4-pole co	ontactors			Contactor re	lavs			
Article number	-		contacts	S00		S0 to S3	S00 S0 to S3				S00			
		rsion		3RT201	3RT201 3RT202, 3RT203, 3RT204, 3RT244		3RT231	3RT251	3RT233,	3RT252, 3RT253, 3RT254	3RH21, 3RH24			
	NC	NC		S00		S0 to S3	S00		S0 to S3		40E	31E	22E	
	1	<u> </u>		13	21	13 21			13 21	13 21	13 23 33 43 14 24 34 44	13 21 33 43	13 21 31 43	
					5. 6. 7. 8. ing to EN	3. 4. 5. 6. 50005		1. 2. 3. 4. ng to EN 5	3. 4. 5. 6. 50005	3. 4. 5. 6.	5. 6. 7. 8. According to	5. 6. 7. 8. FN 50005	5. 6. 7. 8.	
Auxiliary switch	hes	s, froi	nt (continued		ing to En		Accordin	.g .o o			According to	211 00000		
With make-bef														
3RH2911-□FB11	1	1	.7 .5 	21	12	22	11	11	22	22	51	42	33	
3RH2911-□FB22	2	2	.3 .1 .5 .7	32	23	33	22	22	33		62	53	44	
3RH2911-□FC22	2	2	1.4 1.2 1.6 1.8 1.7 1.7 1.5	32	23	33	22	22	33		62	53	44	
Complete insc	rint	ion w	l.8 l.8 l.6 l.6	from to	n or hot	tom								
3RH2911-1AA10				20	11	21	10	10	21	21	50	41	32	
3RH2911-1BA10	1		74 73	20	11	21	10	10	21	21	50	41	32	
3RH2911-1AA01		1	74 71 •	11	02	12	01	01	12	12	41	32	23	
3RH2911-1BA01		1	72 71 -	11	02	12	01	01	12	12	41	32	23	
3RH2911-1LA11	1	1	72 73 81 	21	12	22	11	11	22	22	51	42	33	
3RH2911-1MA11	1	1	74 82 73 81	21	12	22	11	11	22	22	51	42	33	
3RH2911-1LA20	2		74 82 73 83 - 1 84 84 84 84 84 84 84	30	21	31	20	20	31	31	60	51	42	
3RH2911-1MA20	2		73 83 	30	21	31	20	20	31	31	60	51	42	

¹⁾ Make-before-break contacts have no mirror contact function.

Power contactors for switching motors

Accessories for SIRIUS 3RT contactors and SIRIUS 3RH2 contactor relays > Auxiliary switches, instantaneous

Additional auxilia	ary s	witch	es	3-pole c	ontactors	3	4-pole co	ontactors			Contactor relays		
Article number	Au	xiliary	contacts	S00		S0 to S3	S00		S0 to S3		S00		
	Version		3RT201		3RT202, 3RT203, 3RT204, 3RT244	3RT231	3RT251	3RT232, 3RT233, 3RT234	3RT253,	3RH21, 3RH2	24		
	NC	NC		10	01	11			11	11	40E	31E	22E
	\ \	7		13	21	13 21			13 21	13 21	13 23 33 43 14 24 34 44	13 21 33 43	13 21 31 43
					5. 6. 7. 8. ng to EN			1. 2. 3. 4. ng to EN 5	3. 4. 5. 6.	3. 4. 5. 6.	5. 6. 7. 8. According to	5. 6. 7. 8. FN 50011 ¹)	5. 6. 7. 8.
Auxiliary switch (continued)	hes	s, froi	nt	Accordi	ig to Liv	30003	Accordin	ig to Live	,0000		According to	214 00011	
With complete	ins	cripti	ion (for conta	ctor rela	ys) ²⁾								
3RH2911-□GA40	4		53 63 73 83								80E		
3RH2911-□GA31	3	1	53 61 73 83								71E		
3RH2911-□GA22	2	2	53 61 71 83								62E		
3RH2911-□GA13	1	3	53 61 71 81								53E		
3RH2911-□GA04		4									44E		
Complete insc	rint	ion											
3RH2911-□XA40 -0MA0			53 63 73 83	50	41	51	40	40	51	51	80E	71X	62X
3RH2911-□XA31 -0MA0	3	1	53 61 73 83 	41	32	42	31	31	42	42	71E	62X	53
3RH2911-□XA22 -0MA0	2	2	53 61 71 83	32	23	33	22	22	33		62E	53	44X
3RH2911-□XA04 -0MA0		4	51 61 71 81 52 62 72 82	14							44E	-	
1)													

Combinations according to EN 50011 or IEC 60947-5-1 are in **bold** print. All combinations comply with EN 50005.
 For selection and ordering data, see page 3/93.

Switching devices – Contactors and contactor assemblies – for switching motors Power contactors for switching motors

•	.000		1100	101 0	inios sni (Jonitadi	oro arre		OHHIL	comac	tor rela	y5 > Ac	ixilial y SWI	torico, iriot	amanoodo
Addition	al au	xiliary	/ swit	ches		3-pole o	ontactor	s	4-pole c	ontactor	s		Contactor re	lays	
Article	Au	xiliary	conta	acts		S00		S0 to S3	S00		S0 to S3		S00		
number	Ver	sion				3RT201		3RT202,	3RT231	3RT251			3RH21, 3RH2	.4	
				d-state				3RT203, 3RT204,				3RT253, 3RT254			
	tior	ıaı	com	patible				3RT244				••			
	NC	NC	NO	NC		10	01	11			11	11	40E	31E	22E
	I,	Ļ	Ţ	T_		13	21	13 21			13 21	13 21	13 23 33 43	13 21 33 43	13 21 31 43
	1	- (7		-/-	7-	\ 			\\ \	\ \	H-H-H-/	\ 	\
				4		14	22	14 22			14 22	14 22	14 24 34 44	14 22 34 44	14 22 32 44
						2. 3. 4. 5.	5. 6. 7. 8.	3. 4. 5. 6.	1. 2. 3. 4.	1. 2. 3. 4.	3. 4. 5. 6.	3. 4. 5. 6.	5. 6. 7. 8.	5. 6. 7. 8.	5. 6. 7. 8.
						Accordi	ng to EN	50005	Accordi	ng to EN	50005		According to	EN 50011 ¹⁾	
				`	continued)										
Solid-s		•													
3RH2911 2NE21 ²⁾	- 1		1	1	.3 .1	31	22	32	21	21	32	32	61	52	43
ZIVLZI					71-7-7										
					1.4 1.4 1.2										
3RH2911 1NE22 ²⁾	I - 1	1	1	1	.3 .3 .1 .1	32	23	33	22	22	33		62	53	44
INEZZ /					14-7-17										
					1.4 1.4 1.2 1.2										
3RH2911 □NF02 ²⁾				2	1.1	12	03	13	02	02	13		42	33	24
□INFU2-					171 171										
					1.2										
3RH2911 □NF11 ²⁾			1	1	1.3	21	12	22	11	11	22	22	51	42	33
					1/1/1										
					T.4 T.2										
3RH2911			2		1.3	30	21	31	20	20	31	31	60	51	42
□NF20					1. H										
					1.4										
3RH2911	2			2	1.1 .3 .3 .1	32	23	33	22	22	33		62	53	44
2NF22 ²⁾					1717-4-1										
					1.2 .4 .4 .2										
3RH2911	- 1	2	1		.3 .1 .1 .3	32	23	33	22	22	33				
2NL22 ³⁾					N-1-7-7-7-1										
					1.4 .2 .2 .4										
3RH2911	3		1		.3 .3 .3 .3	50	41	51	40	40	51	51			
2NL40					14-4-4										
					H.4 .4 .4 .4										
3RH2911	2	1	1		.3 .3 .3 .1	41	32	42	31	31	42	42			
2NM31 ³⁾					14-14-1										

¹⁾ Combinations according to EN 50011 or IEC 60947-5-1 are in **bold** print. All combinations comply with EN 50005.

²⁾ The internal circuit diagrams shown apply to sizes S0 to S3 (incl. mirror contacts). If size S00 is used, the mirror contact function is not needed.

³⁾ Sizes S00 to S3: No mirror contact function.

Power contactors for switching motors

Additional auxilia	Additional auxiliary switches				3-pole contactors			4-pole contactors				Contactor relays		
Article number		kiliary ntacts			S00		S0 to S3	S00		S0 to S3		S00		
		sion			3RT201		3RT202, 3RT203, 3RT204, 3RT244	3RT231	3RT251	3RT232, 3RT233, 3RT234	3RT253,	3RH21		
	NO	NC			10	01	11		-	11	11	40E	31E	22E
	\	7			$\frac{13}{14}$	21	13 21			13 21	13 21	13 23 33 43 14 24 34 44	13 21 33 43	13 21 31 43
					2. 3. 4. 5.					3. 4. 5. 6.	3. 4. 5. 6.	5. 6. 7. 8.	5. 6. 7. 8.	5. 6. 7. 8.
Lateral auxiliar	y s	witc	hes		Accordi	ng to EN	500127	Accordin	ng to EN 5	00012"		According to	EN 500117	
For size S00			Left	Right										
3RH2911-□DA02		2		21 31	12			02	02					
3RH2911-□DA02		2	41 51	21 31	14									
+ 3RH2911-□DA02		2	F7	22 32										
3RH2911-□DA11	1	1		21 33	21			11	11					
3RH2911-□DA11	1	1	41 53	21 33	32			22	22					
+ 3RH2911-□DA11	1	1	42 54	22 34										
3RH2911-□DA20	2		-	23 33	30			20	20					
3RH2911-□DA20	2		43 53	23 33	50			40	40					
+ 3RH2911-□DA20	2		44 54	24 34										
3RH2911-□DA20	2		43 53	21 33	41			31	31					
+ 3RH2911-□DA11		1	44 54	22 34										
3RH2911-□DA20 + 3RH2911-□DA02		2	43 53	21 31	32			22	22					
3RH2911-□DA11	1	1	44 54 41 53	22 32 21 31	23			13						
+ 3RH2911-□DA02		2	42 54	22 32										
For sizes S0 to 3RH2921-□DA02			Left 	Right 31 41 41 42 42	12	03	13	02	02	13				
3RH2921-□DA02		2	51 61	31 41	14									
+ 3RH2921-□DA02		2	52 62	32 42										
3RH2921-□DA11	1	1		31 43	21	12	22	11	11	22	22			
3RH2921-□DA11 + 3RH2921-□DA11		1	51 63	31 43	32	23	33	22	22				-	
3RH2921-□DA20			52 64 	32 44 33 43 \-\	30	21	31	20	20	31	31			
3RH2921-□DA20 + 3RH2921-□DA20			53 63	34 44 33 43 \-\	50	41	51	40	40					
1) Combinations as			154 64	134 44	50044	150,000						EN FRANCE		

¹⁾ Combinations according to EN 50012, EN 50011 or IEC 60947-5-1 are in **bold** print. All combinations comply with EN 50005.

Power contactors for switching motors

Additional auxilia	ry sv	witche	es		3-pole c	ontactors	s	4-pole c	ontactor	s		Contactor re	lays	
Article number	Aux	xiliary	contacts		S00		S0 to S3	S00		S0 to S3		S00		
	Ver	rsion			3RT 3RT 3RT		3RT202, 3RT203, 3RT204, 3RT244	3RT231	3RT251	3RT232, 3RT233, 3RT234	3RT253,	3RH21		
	NO	NC			10	01	11			11	11	40E	31E	22E
	\ I	7			\\ \frac{ 13}{14}	21	13 21			13 21	13 21	13 23 33 43 14 24 34 44	13 21 33 43	13 21 31 43
						5. 6. 7. 8. ng to EN			1. 2. 3. 4. ng to EN	3. 4. 5. 6. 50012¹⁾	3. 4. 5. 6.	5. 6. 7. 8. According to	5. 6. 7. 8. EN 50011 ¹⁾	5. 6. 7. 8.
Lateral auxiliary switches (continued)														
For sizes S00 to		3	Left	Right										
3RH2921-□DA20	2		53 63	31 43	41	32	42	31	31					
3RH2921-□DA11	1	1	54 64	32 44										
3RH2921-□DA20	2		53 63	31 41	32	23	33	22	22					
+ 3RH2921-□DA02		2	54 64	32 42										
3RH2921-□DA11	1	1	51 63	31 41	23	14	24	13						
+ 3RH2921-□DA02		2	52 64	32 42										
For contactor rela	ys ²⁾)	Left											
3RH2921-□DA02		2	51 61 									42 Z	33X	24
3RH2921-□DA11	1	1	51 63 52 64									51X	42X	33X
3RH2921-□DA20	2		53 63 - 1 54 64									60Z	51X	42X

¹⁾ Combinations according to EN 50012, EN 50011 or IEC 60947-5-1 are in **bold** print. All combinations comply with EN 50005.

²⁾ Without force-guided operation.

Power contactors for switching motors

Additional auxilia	Additional auxiliary switches				3-pole c	ontactors	3	4-pole c	ontactors	 S		Contactor re	lays	
Article number	Auxi	liary co	ontacts		S00		S0 to S3	S00		S0 to S3		S00	•	
	com	d-state patible			3RT201		3RT202, 3RT203, 3RT204, 3RT244	3RT231	3RT251	3RT234	3RT253, 3RT254			
	NO	NC			10	01	11			11	11	40E	31E	22E
					13	21	13 21			13 21	13 21	13 23 33 43 14 24 34 44	13 21 33 43	13 21 31 43
						5. 6. 7. 8.		1. 2. 3. 4. 1. 2. 3. 4. 3. 4. 5. 6. 3. 4. 5. 6. According to EN 50012¹⁾			5. 6. 7. 8. 5. 6. 7. 8. 5. 6. 7. 8. According to EN 50011¹⁾			
I at and a second		de a la a	-		Accordi	ng to EN	50012''	Accordi	ng to EN	50012"		According to	EN 50011"	
Lateral auxiliar (continued)			S											
Solid-state con	npat	ible												
For size S00			Left	Right										
3RH2911-2DE11	1	1		23 31 • 24 32	21			11	11					
3RH2911-2DE11	1	1	_ 41_ 53	23 31	32			22	22					
+ 3RH2911-2DE11	1	1	42 54	24 32										
For sizes S00 to	S3		Left	Right										
3RH2921-2DE11	1	1		33 41 		12	22	11	11	22	22			
3RH2921-2DE11	1	1	<u> 51 63</u>	33 41	32	23	33	22	22					
+ 3RH2921-2DE11	1	1		14 4										
	ľ	•	52 64	34 42										
For contactor rela	ays ²⁾		Left											
3RH2921-2DE11		1										51X	42X	33X
			52 64											

¹⁾ Combinations according to EN 50012, EN 50011 or IEC 60947-5-1 are in **bold** print. All combinations comply with EN 50005.

 $^{^{2)}\,}$ Without force-guided operation.

Power contactors for switching motors

Accessories for SIRIUS 3RT contactors and SIRIUS 3RH2 contactor relays > Auxiliary switches, instantaneous

Selection and ordering data

Auxiliary contacts

Version

 $\begin{array}{ll} PU \text{ (UNIT, SET, M)} &= 1 \\ PS^* &= 1 \text{ unit} \\ PG &= 41B \end{array}$

For contactors/

contactor relays¹⁾





3RI	+291	1-1	HA ₂
-----	------	-----	-----------------

3RH2911-1HA22		3RH2911-2HA22	
Screw terminals		Spring-loaded terminals	0
Article No.	Price per PU	Article No. Pric	

Type	NO	NC			
Auxiliary swi	tches f	or sna	pping onto the front		
Sizes S00 to	S3				
3RT2.1, 3RT2.2, 3RT2.3, 3RT2.4,		1	1.1	3RH2911-1HA01	3RH2911-2HA01
3RH21, 3RH24		2	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	3RH2911-1HA02	3RH2911-2HA02
		3	1	3RH2911-1HA03	3RH2911-2HA03
	1		\frac{\sqrt{3}}{4}	3RH2911-1HA10	3RH2911-2HA10
	1	1	$\begin{bmatrix} 1 \\ 2 \end{bmatrix}$	3RH2911-1HA11	3RH2911-2HA11
	1	2	1 1 3	3RH2911-1HA12	3RH2911-2HA12
	1	3	1 1 1 3	3RH2911-1HA13	3RH2911-2HA13
	2		\[\langle \frac{1}{1.4} \rangle \frac{1}{1.4} \]	3RH2911-1HA20	3RH2911-2HA20
	2	1	$\begin{bmatrix} 1 & 3 & 3 \\ 2 & 4 & 4 \end{bmatrix}$	3RH2911-1HA21	3RH2911-2HA21
	2	2	1 1 3 3	3RH2911-1HA22	3RH2911-2HA22
	3		$\begin{vmatrix} .3 & .3 & .3 \\ .4 & .4 & .4 \end{vmatrix}$	3RH2911-1HA30	3RH2911-2HA30
	3	1	$\begin{bmatrix} 1 & 3 & 3 & 3 \\ 2 & 4 & 4 & 4 \end{bmatrix}$	3RH2911-1HA31	3RH2911-2HA31

¹⁾ For detailed information on use, see page 3/84.

Power contactors for switching motors

Accessories for SIRIUS 3RT contactors and SIRIUS 3RH2 contactor relays > Auxiliary switches, instantaneous

 $\begin{array}{ll} PU \text{ (UNIT, SET, M)} &= 1 \\ PS^* &= 1 \text{ unit} \\ PG &= 41B \end{array}$













3RH2911-1FC22	3RH2911-1FC22 3RH2911-		-2FC22 3RH2911-1AA01 3R			3RH2911-1LA11		3RH2911-1	MA11
For contactors/ contactor relays ¹⁾	Connections Position	Auxiliary cont Version	acts		Screw term	inals	5	Spring-loaded t	erminals
Туре		NO NC NO) D NC		Article No.	Price per PU		Article No.	Price per PU
Auxiliary switch	hes for snapping	g onto the fro	ont						

,		
Sizes S00 to S3		

Sizes Suu to St	5							
3RT2.1, 3RT2.2, 3RT2.3, 3RT2.4,		4				3 3 3 3	3RH2911-1FA40	3RH2911-2FA40
3RH21, 3RH24		2	2			.3 .1 .1 .3 -\$ -\$ -\$ -\$ -\$ -\$ -\$ -\$ -\$ -\$ -\$ -\$ -\$ -	3RH2911-1FA22	3RH2911-2FA22
			4			.1 .1 .1 .1 .1	3RH2911-1FA04	3RH2911-2FA04
				1	1	1.5 	3RH2911-1FB11	3RH2911-2FB11
		1	1	1	1	3 1 5 7	3RH2911-1FB22	3RH2911-2FB22
				2	2	7 .7 .5 .5 .5 .8 .8 .6 .6	3RH2911-1FC22	3RH2911-2FC22
1-pole and 2-pole	auxiliary switches	, cabl	le ent	ry fro	m top	or bottom		
3RT2.1,	Тор	1				73	3RH2911-1AA10	
3RT2.2, 3RT2.3, 3RT2.4,	Bottom	1				74	3RH2911-1BA10	
3RH21,	Тор		1			71	3RH2911-1AA01	
3RH24	Bottom		1			72	3RH2911-1BA01	-
	Тор	1	1			73 81	3RH2911-1LA11	
	Bottom	1	1			74 82	3RH2911-1MA11	
	Тор	2				73 83	3RH2911-1LA20	-
	Bottom	2				\ - \	3RH2911-1MA20	-

¹⁾ For detailed information on use, see pages 3/84 and 3/85.

Power contactors for switching motors

Accessories for SIRIUS 3RT contactors and SIRIUS 3RH2 contactor relays > Auxiliary switches, instantaneous

PU (UNIT, SET, M) = 1 PS* = 1 PG = 4 = 1 unit = 41B





3RH2011-1GA22

				3RH2911-1GA22		3RH2911-2GA22	
For contactor relays ¹⁾	Contactor relay with auxiliary switch	Auxilia	ary contacts	Screw terminals	+	Spring-loaded terminals	<u></u>
	Ident. No.	Versio	n				
		1	†	Article No.	Price per PU	Article No.	Price per PU
Туре		NO	NC				
Auxiliary switch	ches for snapping of	onto tl	he front				
Size S00							
Blocks for the as	sembly of contactor	relays	with 8 contacts				
3RH2140, 3RH2440, Ident. No. 40E	80E	4	53 63 73 83 54 64 74 84	3RH2911-1GA40		3RH2911-2GA40	
	71E	3	1 53 61 73 83	3RH2911-1GA31		3RH2911-2GA31	
	62E	2	2 53 61 71 83 62 72 84	3RH2911-1GA22		3RH2911-2GA22	

Auxiliary

53E

44E

3

4

PU (UNIT, SET, M) = 1 PS* = 1 PG = 4 = 1 unit = 41B

For contactors/



3RH2911-1GA13

3RH2911-1GA04



3RH2911-2GA13

3RH2911-2GA04

3RH2911-1XA22-0MA0

Screw terminals

3RH2911-2XA22-0MA0 Spring-loaded terminals

contactor relays ¹⁾	contac							
	\ \	7			Article No.	Price per PU	Article No.	Price per PU
Туре	NO	NC						
Auxiliary switch	hes for	snapp	ing onto the fron	it				
Sizes S00 to S	3		S00	S0 S3				
3RT2.1, 3RT2.2, 3RT2.3, 3RT2.4,	4		53 63 73 83 54 64 74 84	53 63 73 83 54 64 74 84	3RH2911-1XA40-0MA	0	3RH2911-2XA40-0MA0	
3RT2.4, 3RH21 ²), 3RH24 ²)	3	1	53 61 73 83 54 62 74 84	53 61 73 83 	3RH2911-1XA31-0MA	0	3RH2911-2XA31-0MA0	
	2	2	53 61 71 83 + + + + + + + + + + + + + + + + + + +	53 61 71 83 	3RH2911-1XA22-0MA	0	3RH2911-2XA22-0MA0	
		4	51 61 71 81 4 4 4 4 52 62 72 82	51 61 71 81 	3RH2911-1XA04-0MA	0	3RH2911-2XA04-0MA0	

¹⁾ For detailed information on use, see page 3/86.

00

¹⁾ For detailed information on use, see page 3/86.

For size S00, force-guided operation only applies for the 3RH contactor relay, and there is no force-guided operation for 3RT2 power contactors.

Power contactors for switching motors

Accessories for SIRIUS 3RT contactors and SIRIUS 3RH2 contactor relays > Auxiliary switches, instantaneous

 $\begin{array}{ll} PU \text{ (UNIT, SET, M)} &= 1 \\ PS^* &= 1 \text{ unit} \\ PG &= 41B \end{array}$













3RH1921-1XA22-0MA0

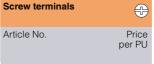
3RH1921-2XA22-0MA0

3RH1921-1CA10 3RH1921-1CD10

3RH1921-2CA10 3RH1921-2CA01

For	Auxiliary conta	Auxiliary contacts								
contactors	Ident. No.	Version								
		١	<u>Ļ</u>	۱	<u> </u>					
		Ì)	1					
Type		NO	NC	NO	NC					

	30
	Art



Spring-loaded terminals	E E
Article No.	Price per PL

Auxiliary switches for snapping onto the front

				_
Sizes	S6	to	S12	2

Sizes S6	to S12							
	4-pole au	uxiliary sw	vitches					
	 Accord 	ling to EN	50012					
3RT1.5 3RT1.7	22	2	2			53 61 71 83 	3RH1921-1XA22-0MA0	3RH1921-2XA22-0MA0
	1-pole au	uxiliary sw	vitches					
	• Accord	ling to EN	50005	and EN	50012			
3RT1.5 3RT1.7	10	1				.3 	3RH1921-1CA10	3RH1921-2CA10
	01		1			.1 - - .2	3RH1921-1CA01	3RH1921-2CA01
	10			1 (lead- ing)		.7 	3RH1921-1CD10	-
	01				1 (lag- ging)	.5 -7 .6	3RH1921-1CD01	-

Power contactors for switching motors

Accessories for SIRIUS 3RT contactors and SIRIUS 3RH2 contactor relays > Auxiliary switches, instantaneous

PU (UNIT, SET, M) = 1 PS* = 1 unit PG = 41B





3RH2911-1DA02

3RH2911-2DA02

		OTTI LOTTI IBRIOL	OTTI EDITOL
For contactors/ contactor relays ¹⁾	Auxiliary contacts Version	Screw terminals	Spring-loaded terminals
Туре	NO NC	Article No. Pric	

Laterally mountable auxiliary switches, mounting on the right and/or the left, 2-pole

2-poie						
Size S00			Left	Right	_	
3RT2.1		2	41 51 + -	21 31 2	3RH2911-1DA02	3RH2911-2DA02
			42 52	22 32		
	1	1	41 53	21 33 <u>*</u> \	3RH2911-1DA11	3RH2911-2DA11
			42 54	22 34		
	2		43 53	23 33	3RH2911-1DA20	3RH2911-2DA20
			//	1-4		
			44 54	24 34		
3RH21, 3RH24		2	51 61 <i>t </i>		3RH2921-1DA02	3RH2921-2DA02
			52 62			
	1	1	51 63 ± 1		3RH2921-1DA11	3RH2921-2DA11
			52 64			
	2		53 63		3RH2921-1DA20	3RH2921-2DA20
			54 64			
Sizes S0 to	2 53		Left	Right		
3RT2.2 ²⁾ ,		2	51 61	31 41 2 2	3RH2921-1DA02	3RH2921-2DA02
3RT2.2 ²⁾ , 3RT2.3 ³⁾ , 3RT2.4 ³⁾			()	((
			152 162	l32 l42		
	1	1	51 63 2 \	31 43	3RH2921-1DA11	3RH2921-2DA11
			52 64	32 44		
	2		53 63	33 43	3RH2921-1DA20	3RH2921-2DA20
			54 64	_34\\\44		
			104 104	134 144		

¹⁾ For detailed information on use, see pages 3/88 and 3/90.

²⁾ With 3RT232. and 3RT252. contactors, mountable only on the right.

^{3) 3}RH2921-1DA. lateral auxiliary switches can only be mounted on 3RT26 capacitor contactors of sizes S2 and S3.

Power contactors for switching motors

Accessories for SIRIUS 3RT contactors and SIRIUS 3RH2 contactor relays > Auxiliary switches, instantaneous

PU (UNIT, SET, M) = 1 PS* = 1 unit PG = 41B











For contacto	rs Auxilia Versio		cts		Screw terminals	+	Spring-loaded terminals	***
	\	7			Article No.	Price per PU	Article No.	Price per PU
Туре	NO	NC						
Lateral au mounting 2-pole	xiliary s on the r	witches right or	s, left,					
Sizes S6 to	o S12		Left	Right				
		uxiliary						
		_	EN 50012					
3RT1.5 3RT1.7	1	1	21 13 22 14	31 43 2 44	3RH1921-1DA11		3RH1921-2DA11	
	• Acc	ordina ta	EN 50005	102 177				
3RT1.5 3RT1.7	2		53 63 	73 83 	3RH1921-1EA20		3RH1921-2EA20	
	1	1	154 164	174 84	3RH1921-1EA11			
	,	'	51 63 52 64	71 83 72 84	31111321-1EAT1			
		2	51 61 	71 81 	3RH1921-1EA02		3RH1921-2EA02	
	Secon	d auxilia	ary switch					
	• Acc	ording to	EN 50012					
3RT1.5 3RT1.7	1	1	61 53 62 54	71 83 72 84	3RH1921-1JA11		3RH1921-2JA11	
	• Acc	ording to	EN 50005					
3RT1.5 3RT1.7	2		153 163 154 164	173 183 \\ 174 184	3RH1921-1KA20		3RH1921-2KA20	
	1	1	151 163 152 164	171 183 	3RH1921-1KA11		-	
		2	1152 1164 151 161 7 7 152 162	172 1184 171 181 7 7 172 182	3RH1921-1KA02		3RH1921-2KA02	

Power contactors for switching motors

Accessories for SIRIUS 3RT contactors and SIRIUS 3RH2 contactor relays > Auxiliary switches, instantaneous

PU (UNIT, SET, M) = 1 PS* = 1 unit PG = 41B





3RH2911-1N

3RH2911-2NF

For contactors ¹⁾	Contacts Version		Screw terminals		Spring-loaded termin	nals 🚃
	Conven- tional	Solid-state compatible				
	\		Article No.	Price per PU	Article No.	Price per PU
Туре	NO NC	NO NC				

Auxiliary switches for snapping onto the front

Solid-state compatible (encapsulated) auxiliary switches

- \bullet Rated operational currents $I_{\rm e}/{\rm AC}\text{-}14$ and DC-13 from 1 to 300 mA at 3 to 60 V
- Hard gold-plated contacts for increased contact reliability
- Auxiliary switches for snapping onto the front for 3RT2.2 to 3RT2.4 contactors are designed as mirror contacts according to IEC 60947-4-1, Annex F.

Sizes S00					S00	S0 S3			
3RT2.1, 3RT2.2, 3RT2.3, 3RT2.4	1		1	1	1.4 - 1.2	3 .1 .1 .4 .2		-	3RH2911-2NE21
	1	1	1	1	1.4 1.4 1.2 1.2	1.4 1.4 1.2 1.2		3RH2911-1NE22	-
				2	1.1	1.2		3RH2911-1NF02	3RH2911-2NF02
			1	1	1.3	1.3		3RH2911-1NF11	3RH2911-2NF11
			2		1.3	1.3		3RH2911-1NF20	3RH2911-2NF20
	2			2	1.1 .3 .3 .1 .7 .2 .4 .2	1.2 .4 .4 .2	NEW		3RH2911-2NF22
	1	2 ²⁾	1		.3 .1 .1 .3 .4 .2 .2 .4	3 1 1 3 1 1 3 1 1 1	NEW		3RH2911-2NL22
	3		1		3 3 3	1.3 .3 .3 .3 .3 .4 .4	NEW	-	3RH2911-2NL40
	2	1 ²⁾	1		3 3 1 1 1 1 1 1 1 1	1.3 .3 .1 .1 .1 .1 .1 .1	NEW	-	3RH2911-2NM31
4)									

¹⁾ For detailed information on use, see page 3/86.

²⁾ The NC contacts have no mirror contact function.

Power contactors for switching motors

Accessories for SIRIUS 3RT contactors and SIRIUS 3RH2 contactor relays > Auxiliary switches, instantaneous

PU (UNIT, SET, M) = 1 PS* PG = 1 unit = 41B





3RH2911-1NF11

3RH2911-2NF11

For contactor relays ¹⁾	Contacts Version		Screw terminals	+	Spring-loaded terminal	s 🔐
	Conventional	Solid-state compatible				
Type	NO NC	NO NC	Article No.	Price per PU	Article No.	Price per PU

Auxiliary switches for snapping onto the front

Solid-state compatible (encapsulated) auxiliary switches

- \bullet Rated operational currents $I_{\rm e}/{\rm AC}$ -14 and DC-13 from 1 to 300 mA at 3 to 60 V

 Hard gold- 	Hard gold-plated contacts for increased contact reliability										
Size S00											
3RH21, 3RH24	1		1	1	1.3 .1 .1 .1 .1 .1 .1 .1		+	3RH2911-2NE21			
	1	1	1	1	3 3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		3RH2911-1NE22	-			
				2	1.2		3RH2911-1NF02	3RH2911-2NF02			
			1	1	1.3		3RH2911-1NF11	3RH2911-2NF11			
			2		.4		3RH2911-1NF20	3RH2911-2NF20			
1)	2			2	1 1 3 13 11 1 1 1 1 1 1 1 1 1 1 1 1 1 1	NEW	-	3RH2911-2NF22			

¹⁾ For detailed information on use, see page 3/86.

Power contactors for switching motors

Accessories for SIRIUS 3RT contactors and SIRIUS 3RH2 contactor relays > Auxiliary switches, instantaneous

PU (UNIT, SET, M) = 1 PS* = 1 unit PG = 41B





3RH2911-2DE11

3RH1921-2JE11

			***************************************		************
For contactors/ contactor relays ¹⁾	Size	Contacts Version Solid-state compatible	Screw terminals	+	Spring-loaded terminals
Туре		NO NC	Article No.	Price per PU	Article No. Price per PU

Lateral auxiliary switches, mounting on the right and/or the left, according to EN 50012

Solid-state compatible (encapsulated) auxiliary switches

- \bullet Rated operational currents $I_{\rm e}/{\rm AC}$ -14 and DC-13 from 1 to 300 mA at 3 to 60 V
- Hard gold-plated contacts for increased contact reliability
- Laterally mountable auxiliary switches for 3RT2.1 to 3RT2.4 and 3RT1.5 to 3RT1.7 contactors are designed as mirror contacts according to IEC 60947-4-1, Annex F.

Sizes S00 t	o S3			Left	Right		
		Auxiliar	y switches	3			
3RT2.1	S00	1	1	41 53 • 42 54	7	-	3RH2911-2DE11
3RH21, 3RH24	S00	1	1	51 63 		-	3RH2921-2DE11
3RT2.2, 3RT2.3, 3RT2.4	S0 S3	1	1	51 63 		-	3RH2921-2DE11
Sizes S6 to	S12			Left	Right		
		First au	xiliary swi	tch			
3RT1.5	S6 S12	! 1	1	<u> 21 13</u>	31 43		3RH1921-2DE11
3RT1.7				22 14	32 44		
		Second	auxiliary	switch			
3RT1.5	S6 S12	1	1	<u> 61 5</u> 3	71 83	-	3RH1921-2JE11
3RT1.7				62 54	7 72 84		
43							

¹⁾ Applies for 3RT2 contactors and 3RH2 contactor relays: For detailed information on use, see page 3/90.

Power contactors for switching motors

Accessories for SIRIUS 3RT contactors and SIRIUS 3RH2 contactor relays > Auxiliary switches, delayed

Selection and ordering data

For contactors	Time range t	Screw terminals		PU (UNIT, SET, M)	PS*	PG
Туре	s	Article No.	Price per PU			

Pneumatic time-delay auxiliary switches for mounting on 3RT2 contactors

Size S0



Auxiliary contacts	1 NO and 1 NC ¹⁾				
ON-delay					
3RT202 ²⁾	1 30	3RT2927-2PA01	1	1 unit	41B
	10 180	3RT2927-2PA11	1	1 unit	41B
OFF-delay					
3RT202 ²⁾	1 30	3RT2927-2PR01	1	1 unit	41B
	10 180	3RT2927-2PR11	1	1 unit	41B

¹⁾ In addition to these, no other auxiliary contacts are permitted

PU (UNIT, SET, M) = 1 PS* = 1 unit PG = 41B





3RA2813-1FW10

3RA2813-2AW10

For contactors	Rated control supply voltage U_s^{1}	Time range t	Output/ auxiliary contacts	Screw terminals	+	Spring-loaded termin	nals ∞
Туре	V	S		Article No.	Price per PU	Article No.	Price per PU

Solid-state time-delay auxiliary switches²⁾ for mounting on 3RT2 contactors and 3RH2 contactor relays

Sizes S00 to S3

		r or contactor relay	d-state time-delay auxiliary y underneath is established ocked.		
	ON-delay (varistor integrated)				
3RT2 ³⁾⁴⁾ ,	24 240 AC/DC	0.05 100	1 CO	3RA2813-1AW10	3RA2813-2AW10
3RH21 ³⁾ , 3RH24		(1, 10, 100; selectable)	1 NO + 1 NC	3RA2813-1FW10	3RA2813-2FW10
	OFF-delay with control (varistor integrated)	signal			
3RT2 ³⁾⁴⁾ ,	24 240 AC/DC	0.05 100	1 CO	3RA2814-1AW10	3RA2814-2AW10
3RH21 ³⁾ , 3RH24		(1, 10, 100; selectable)	1 NO + 1 NC	3RA2814-1FW10	3RA2814-2FW10
	OFF-delay without con (varistor integrated)	trol signal ⁵⁾			
3RT2 ³⁾⁴⁾ ,	24 240 AC/DC	0.05 100	1 CO	3RA2815-1AW10	3RA2815-2AW10
3RH21 ³⁾ , 3RH24		(1, 10, 100; selectable)	1 NO + 1 NC	3RA2815-1FW10	3RA2815-2FW10

 $^{^{\}rm 1)}$ AC voltage values apply for 50 Hz and 60 Hz.

Technical specifications, see page 3/78.

²⁾ Cannot be fitted onto coupling contactors and coupling contactor relays.

²⁾ The solid-state time-delay auxiliary switches are also available as 3RA28 function modules for mounting on 3RT2 contactors and 3RH2 contactor relays, see page 3/105.

³⁾ Cannot be fitted onto coupling contactors and coupling contactor relays.

⁴⁾ From product version E04 onwards, 3RA281. solid-state time-delay auxiliary switches can be used for 3RT2.4 contactors.

⁵⁾ Setting of output contacts in as-supplied state not defined (bistable relay). Application of the control supply voltage once results in contact changeover to the correct setting.

Switching devices - Contactors and contactor assemblies - for switching motors Power contactors for switching motors

	For contactors	Auxiliary contacts	Rated control supply voltage $U_{\rm S}^{-1}$	Time range t	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
	Туре		V	S	Article No.	Price per PU			
Solid-state time for mounting									
Sizes S6 to S1	2				•				
		ON-delay ²⁾							
e e e	3RT10, 3RT14	1 NO + 1 NC	24 AC/DC	0.05 1 0.5 10 5 100	3RT1926-2EJ11 3RT1926-2EJ21 3RT1926-2EJ31		1 1 1	1 unit 1 unit 1 unit	41H 41H 41H
9 9 9			100 127 AC	0.05 1 0.5 10 5 100	3RT1926-2EC11 3RT1926-2EC21 3RT1926-2EC31		1 1 1	1 unit 1 unit 1 unit	41H 41H 41H
3RT1926-2E1, 3RT1926-2F1			200 240 AC	0.05 1 0.5 10 5 100	3RT1926-2ED11 3RT1926-2ED21 3RT1926-2ED31		1 1 1	1 unit 1 unit 1 unit	41H 41H 41H
		OFF-delay without	t control signal ²⁾³⁾						
	3RT10, 3RT14	1 NO + 1 NC	24 AC/DC	0.05 1 0.5 10 5 100	3RT1926-2FJ11 3RT1926-2FJ21 3RT1926-2FJ31		1 1 1	1 unit 1 unit 1 unit	41H 41H 41H
			100 127 AC/DC	0.05 1 0.5 10 5 100	3RT1926-2FK11 3RT1926-2FK21 3RT1926-2FK31		1 1 1	1 unit 1 unit 1 unit	41H 41H 41H
			200 240 AC/DC	0.05 1 0.5 10 5 100	3RT1926-2FL11 3RT1926-2FL21 3RT1926-2FL31		1 1 1	1 unit 1 unit 1 unit	41H 41H 41H
		Star-delta (wye-de	lta) starting (varisto	or integrated) ²⁾					
-11-11	3RT10,	1 NO delayed +	24 AC/DC	1.5 30	3RT1926-2GJ51		1	1 unit	41H
6 6 6	3RT14	1 NO instantaneous, dead time 50 ms	100 127 AC	1.5 30	3RT1926-2GC51		1	1 unit	41H
SIEMENS O			200 240 AC	1.5 30	3RT1926-2GD51		1	1 unit	41H
3RT1926-2G.51									

AC voltage values apply for 50 and 60 Hz.
 Connecting terminals A1 and A2 for the control supply voltage of the solid-state time-delay auxiliary switch must be connected to the associated contactor by means of cables.

³⁾ Setting of output contacts in as-supplied state not defined (bistable relay). Application of the control supply voltage once results in contact changeover to the correct setting.

Power contactors for switching motors

Accessories for SIRIUS 3RT contactors and SIRIUS 3RH2 contactor relays > Surge suppressors

Selection and	orderin	ng data							
ociconon and		-							
	For contactors	Version	Rated control sup AC operation	ply voltage $U_s^{(1)}$ DC operation	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	Туре		V AC	V DC			, ,		
Surge suppres	ssors wi	ithout LED (also fo	r spring-loaded	terminals)					
	Size St								
		For plugging onto the (with or without auxi		actors					
The state of the s		Varistors	24 48	24 70	3RT2916-1BB00		1	1 unit	41B
	3RH2		48 127 127 240	70 150 150 250	3RT2916-1BC00 3RT2916-1BD00		1	1 unit 1 unit	41B 41B
			240 400		3RT2916-1BE00		1	1 unit	41B
3RT2916-1B.00	3RT2 1	RC elements	400 600 24 48	 24 70	3RT2916-1BF00 3RT2916-1CB00		1	1 unit 1 unit	41B 41B
	3RH2	no cicinents	48 127	70 150	3RT2916-1CC00		1	1 unit	41B
			127 240 240 400	150 250 	3RT2916-1CD00 3RT2916-1CE00		1 1	1 unit 1 unit	41B 41B
			400 600		3RT2916-1CF00		1	1 unit	41B
	3RT2.1, 3RH2	Interference suppression diode		12 250	3RT2916-1DG00		1	1 unit	41B
	3RT2.1,	Diode assembly		12 250	3RT2916-1EH00		1	1 unit	41B
	3RH2	(diode and Zener diode) for DC							
	Ci C(operation							
	Size St	, For plugging into the	e front of the conta	actors					
		(before mounting the		101013					
	3RT2.2	Varistors ²⁾	24 48 48 127	24 70 70 150	3RT2926-1BB00 3RT2926-1BC00		1 1	1 unit 1 unit	41B 41B
			127 240	150 250	3RT2926-1BD00		1	1 unit	41B
2DT2000 45 00			240 400 400 600		3RT2926-1BE00 3RT2926-1BF00		1 1	1 unit 1 unit	41B 41B
3RT2926-1E.00	3RT2.2	RC elements	24 48	24 70	3RT2926-1CB00		1	1 unit	41B
			48 127 127 240	70 150 150 250	3RT2926-1CC00 3RT2926-1CD00		1 1	1 unit 1 unit	41B 41B
			240 400		3RT2926-1CE00		1	1 unit	41B
	3RT2.2	Diode assemblies	400 600	 24	3RT2926-1CF00 3RT2926-1ER00		1	1 unit 1 unit	41B 41B
	J111Z.Z	for DC operation		30 250	3RT2926-1ES00		1	1 unit	41B
	Size S2								
		For plugging into the (before mounting the		ectors					
0.46	3RT2.3	Varistors ²⁾	24 48	24 70	3RT2936-1BB00		1	1 unit	41B
9764-1			48 127 127 240	70 150 150 250	3RT2936-1BC00 3RT2936-1BD00		1 1	1 unit 1 unit	41B 41B
			240 400		3RT2936-1BE00		1	1 unit	41B
3RT2936-1BF00	anto a	DC alamanta	400 600	 24 70	3RT2936-1BF00 3RT2936-1CB00		1	1 unit	41B
	3RT2.3	RC elements	24 48 48 127	70 150	3RT2936-1CC00		1	1 unit 1 unit	41B 41B
			127 240 240 400	150 250 	3RT2936-1CD00 3RT2936-1CE00		1	1 unit 1 unit	41B 41B
			400 600		3RT2936-1CF00		i	1 unit	41B
	3RT2.3	Diode assemblies for DC operation		24 30 250	3RT2936-1ER00 3RT2936-1ES00		1 1	1 unit 1 unit	41B 41B
	Size S3	'		00 200	01112000 12000			T GITTE	
		For plugging into the (before mounting the	auxiliary switch)						
-1 CROC	3RT2.4	Varistors ²⁾	24 48 48 127	24 70 70 150	3RT2936-1BB00 3RT2936-1BC00		1	1 unit 1 unit	41B 41B
25 8 27 4			127 240 240 400	150 250	3RT2936-1BD00		1 1	1 unit	41B
3RT2936-1ER00			400 600		3RT2936-1BE00 3RT2936-1BF00		1	1 unit 1 unit	41B 41B
l	3RT2.4	Diode assemblies		24	3RT2936-1ER00		1	1 unit	41B
SIEMENS		for DC operation For plugging into the the connection block and A2, the connection (see also overview g	c for auxiliary switeing cables are wire	ches and coils A1 ed to A1 and A2,	3RT2936-1ES00		1	1 unit	<u>41B</u>
	3RT2.4	RC elements	24 48	24 70	3RT2946-1CB00		1	1 unit	41B
A2			48 127 127 240	70 150 150 250	3RT2946-1CC00 3RT2946-1CD00		1 1	1 unit 1 unit	41B 41B
			240 400		3RT2946-1CE00		1	1 unit	41B
I 3RT2946-1C.00			400 600		3RT2946-1CF00		1	1 unit	41B
43							•		

 $^{^{\}rm 1)}$ Can be used for AC operation for 50/60 Hz. Other voltages on request.

 $^{^{2)}\,}$ The varistor is already integrated on the DC and AC/DC contactors.

Switching devices - Contactors and contactor assemblies - for switching motors Power contactors for switching motors

Accessories for SIRIUS 3RT contactors and SIRIUS 3RH2 contactor relays > Surge suppressors

	For con-	Version	Rated control supp	ply voltage U _s 1)	Article No.	Price	PU	PS*	PG
	tactors		AC operation	DC operation		per PU	(UNIT, SET, M)		
	Туре		V AC	V DC					
Surge suppresso	ors withou	t LED							
	Sizes St	6 to S12							
TIENTENE		For connectin with	g to withdrawable	coil for contactors	Screw terminals	+			
		 Standard ope 	erating mechanism						
	3RT1.5		perating mechanis 24 48	ms 3H11N 24 70	3RT1956-1CB00		1	1 unit	41B
	3RT1.7	To elements	48 127	70 150	3RT1956-1CC00		1	1 unit	41B
3RT1956-1C.00		보	127 240 240 400	150 250 	3RT1956-1CD00 3RT1956-1CE00		1 1	1 unit 1 unit	41B 41B
0.11.1000 10.00		□	400 600		3RT1956-1CF00		1	1 unit	41B
MEASURE					Spring-loaded term	inals 💮			
	3RT1.5	RC elements	24 48	24 70	3RT1956-1CB02		1	1 unit	41B
12-41	3RT1.7	<u>Г</u>	48 127 127 240	70 150 150 250	3RT1956-1CC02 3RT1956-1CD02		1 1	1 unit 1 unit	41B 41B
V		-	240 400		3RT1956-1CE02		1	1 unit	41B
3RT1956-1C.02		L <u></u>	400 600		3RT1956-1CF02		1	1 unit	41B
1) Can be used for A	C operation	for 50/60 Hz. Otl	ner voltages on requ	iest.					
	For con-	Version	Rated control supp		Article No.	Price	PU	PS*	PG
	tactors		voltage $U_s^{1)}$	sumption P of LED		per PU	(UNIT, SET, M)		
			operation oper	ation at U _s					
	Туре		V AC V DC						
Surge suppresso		•	oring-loaded tern	ninals)					
_	Size S0		anta tha frant of the						
			onto the front of the ut auxiliary switche						
	3RT2.1,	Varistors		24 10 120	3RT2916-1JJ00		1	1 unit	41B
	3RH2			70 20 470 150 50 700	3RT2916-1JK00 3RT2916-1JL00		1 1	1 unit 1 unit	41B 41B
				250 160 950	3RT2916-1JP00		1	1 unit	41B
3RT2916-1J.00	3RT2.1, 3RH2	Interference suppression		70 20 470 150 50 700	3RT2916-1LM00 3RT2916-1LN00		1 1	1 unit 1 unit	41B 41B
	011112	diodes		250 160 950	3RT2916-1LP00		1	1 unit	41B
	Size S0								
1			nto the front of the ing the auxiliary sv						
	3RT2.2	Varistors		24 10 120	3RT2926-1JJ00		1	1 unit	41B
				70 20 470 150 50 700	3RT2926-1JK00 3RT2926-1JL00		1 1	1 unit 1 unit	41B 41B
7	3RT2.2	Diode	24	20 470	3RT2926-1MR00		1	1 unit	41B
3RT2926-1MR00	0'	assembly							
	Sizes Sz	2 <i>and S3</i> For plugging i	nto the front of the	contactors					
0.2/		(before mount	ing the auxiliary sv						
1,1,100 2,557 2,47	3RT2.3, 3RT2.4	Varistors ²⁾		24 10 120 70 20 470	3RT2936-1JJ00 3RT2936-1JK00		1 1	1 unit 1 unit	41B 41B
25 50 50 50 50 50 50 50 50 50 50 50 50 50	J∏1∠.4			150 50 700	3RT2936-1JL00		1	1 unit 1 unit	41B 41B
0DT0000 1 1 100									
3RT2936-1JJ00									

¹⁾ Can be used for AC operation for 50/60 Hz. Other voltages on request.

²⁾ The varistor without LED is already integrated on the DC and AC/DC contactors.

Power contactors for switching motors

Accessories for SIRIUS 3RT contactors and SIRIUS 3RH2 contactor relays > Modules for contactor control

Selection and ord	ering data						
	For contactors	Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	Туре						
Coupling links for	control by PL	С					
			Screw terminals	(1)			
	Size S0						
****		For mounting on the coil terminals of the contactors (for contactors with screw terminals only) With LED for the switching state and with integrated varistor for damping switching overvoltages					
3RH2924-1GP11	3RT2.2	• 24 V DC control, 17 30 V DC operating range	3RH2924-1GP11		1	1 unit	41B
	Sizes S00 to	S3					
		For mounting on the front of contactors with AC, DC or AC/DC operation					
SECOND PLANTS	3RT2.1, 3RT2.2, 3RT2.3, 3RT2.4 3RH2	• 24 V DC control, 17 30 V DC operating range	3RH2914-1GP11		1	1 unit	41B
3RH2914-1GP11			Spring-loaded termin	als 💮			
3RH2914-2GP11	3RT2.1, 3RT2.2, 3RT2.3, 3RT2.4 3RH2	• 24 V DC control, 17 30 V DC operating range	3RH2914-2GP11		1	1 unit	41B

Technical specifications, see page 3/80.

Power contactors for switching motors

Accessories for SIRIUS 3RT contactors and SIRIUS 3RH2 contactor relays > Modules for contactor control

PU (UNIT, SET, M) = 1 PS* PG = 1 unit = 41B

More information

Equipment Manual for 3RA28 function modules, see https://support.industry.siemens.com/cs/ww/en/view/60279150







3RA2811-20	3RA2811-2CW10			V10	3RA2816-0EW20			
For contactors	Size	Version	Rated control supply voltage $U_s^{1)}$	Time range <i>t</i>	Screw terminals	+	Spring-loaded termi	nals 🚃
Туре			V AC/DC	S	Article No.	Price per PU	Article No.	Price per PU
3RA28 fu 3RH2 con		dules for mounting on ays	3RT2 contacto	ers and				
For direct	-on-line s	tarting						
3RT2.1 ²⁾ , 3RT2.2 ²⁾ , 3RH21 ²⁾ ,	S00, S0	ON-delay two-wire design, varistor integrated	24 240	0.05 100 (1, 10, 100; selectable)	3RA2811-1CW10		3RA2811-2CW10	

3RT2.2 ²⁾ , 3RH21 ²⁾ ,	300, 30	two-wire design, varistor integrated	24 240	(1, 10, 100; selectable)	SHAZOTI-TOWTO	31A2011-20W10
3RH24 3RT2.3 ²⁾ 3RT2.4 ²⁾³⁾	S2, S3	The electrical connection between the function module and the contactor underneath is established automatically when it is snapped on and locked.	24 90 90 240	0.05 100 (1, 10, 100; selectable)	3RA2831-1DG10 3RA2831-1DH10	3RA2831-2DG10 3RA2831-2DH10
3RT2.1 ²⁾ , 3RT2.2 ²⁾ , 3RH21 ²⁾ , 3RH24	S00, S0	OFF-delay with control signal, varistor integrated The electrical connection	24 240	0.05 100 (1, 10, 100; selectable)	3RA2812-1DW10	3RA2812-2DW10
3RT2.3 ²⁾ , 3RT2.4 ²⁾³)	S2, S3	between the function module and the contactor underneath is established automatically when it is snapped on and locked.	24 90 90 240	0.05 100 (1, 10, 100; selectable)	3RA2832-1DG10 3RA2832-1DH10	3RA2832-2DG10 3RA2832-2DH10

		snapped on and locked.				
For star-c	delta (wye-	delta) starting				
3RT2.1,	S00 S3	Varistor integrated	24 240	0.5 60 (10, 30, 60; selectable)	3RA2816-0EW20	3RA2816-0EW20
3RT2.2, 3RT2.3 ²⁾ 3RT2.4 ²⁾ ⁴⁾		Comprising one basic module and two coupling modules				
		The electrical connection between the function module and the contactor assembly is established automatically by snapping on and plugging in the connecting cables.				

Accessories

3RA2910-0 3RA2910-0 S00 ... S3 Cover, sealable

Technical specifications, see page 3/81.

Assembly of reversing starters

We offer ready-made wiring kits for the assembly of reversing starters. Use of these wiring kits offers further advantages, see page 3/149.

 $^{^{\}rm 1)}$ AC voltage values apply for 50 and 60 Hz.

²⁾ Cannot be fitted onto coupling contactors and coupling contactor relays.

³⁾ From product version E03 onwards, 3RA283. function modules can be used for 3RT2.4 contactors.

⁴⁾ From product version E04 onwards, 3RA2816 function modules can be used for 3RT2.4 contactors.

Power contactors for switching motors

Accessories for SIRIUS 3RT contactors and SIRIUS 3RH2 contactor relays > Modules for contactor control

PU (UNIT, SET, M) = 1 PS* = 1 unit PG = 41B

More information

Equipment Manual for 3RA2711 function modules for IO-Link, see https://support.industry.siemens.com/cs/ww/en/view/39319600
Equipment Manual for 3RA2712 function modules for AS-Interface, see https://support.industry.siemens.com/cs/ww/en/view/39318922













3RA2711-	1AA00	3RA2711-2AA00 3RA2711-1BA00	3RA2712-1CA00
For con-	Size	Version	

3RA2711-2BA00

3RA2711-2CA00

For con- Siz tactors	e Version	Screw terminals	+	Spring-loaded terminals		
Туре		Article No.	Price per PU	Article No. Price per PU		
SIRIUS 3RA	27 function modules for direct-on-line starting					
3RT201 S00	IO-Link connection Includes one module connector for creating an IO-Link group	3RA2711-1AA00		3RA2711-2AA00		
3RT204 ¹⁾ S3	AS-Interface connection	3RA2712-1AA00		3RA2712-2AA00		
SIRIUS 3RA	27 function modules for reversing starting ²⁾					
3RT201 S00 3RT204 ¹⁾ S3	IO-Link connection Comprising one basic and one coupling module and an additional module connector ³⁾ for creating an IO-Link group	3RA2711-1BA00		3RA2711-2BA00		
	AS-Interface connection Comprising one basic and one coupling module	3RA2712-1BA00		3RA2712-2BA00		
	Assembly kits for making 3-pole contactor assemblies					
	see page 3/109					
SIRIUS 3RA	27 function modules for star-delta (wye-delta) starting ⁴⁾					
3RT201 S00 3RT204 ¹⁾ S3	IO-Link connection Comprising one basic and two coupling modules and an additional module connector ³⁾ for creating an IO-Link group	3RA2711-1CA00		3RA2711-2CA00		
	AS-Interface connection Comprising one basic and two coupling modules	3RA2712-1CA00		3RA2712-2CA00		
	Assembly kits for making 3-pole contactor assemblies					
	see page 3/110 onwards					

¹⁾ From product version E06 onwards, 3RA271. function modules can be used for 3RT2.4 contactors.

Technical specifications for 3RA27 function modules, see page 3/82.

For contactors with voltage tap-off, see pages 3/55, 3/59, 3/63 and 3/64.

For IO-Link masters and AS-Interface masters, routers and power supply units, see "Industrial communication", page 2/1 onwards.

²⁾ For prewired reversing contactor assemblies with voltage tap-off, see pages 3/150 to 3/153. When these contactor assemblies are used, the assembly kit for the wiring is already integrated.

^{3) 3}RA2711-0EE17 module connectors for size S3 must be ordered separately, see page 3/107.

⁴⁾ For complete contactor assemblies for star-delta (wye-delta) starting including function modules, see pages 3/168 to 3/171.

Switching devices – Contactors and contactor assemblies – for switching motors Power contactors for switching motors

Accessories for SIRIUS 3RT contactors and SIRIUS 3RH2 contactor relays > Modules for contactor control

	-		=9-)	6	6	CENTE 1	SELECT	SLICT .
3RA2711-0EE10	3RA2711-0EE06	3RA2711-0EE15	3RA2910-0	3RA2711-0EE11		3RA69	935-0A	
For function modules	Version			Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Туре								
Accessories f	or 3RA27 function modules							
3RA271A00	Module connector set Comprising: • Two module connectors (14-pole • Two interface covers	e, short)		3RA2711-0EE10		1	1 unit	41B
3RA271A00	Module connectors							
	• 14-pole - 6 cm - 9 cm - 13 cm - 26 cm - 33.5 cm			3RA2711-0EE17 3RA2711-0EE06 3RA2711-0EE18 3RA2711-0EE07 3RA2711-0EE08		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41B 41B 41B 41B 41B
	10-pole, 9 cm for the additional auxiliary voltage Note:		00.407.4	3RA2711-0EE16		'	1 unit	410
	Selection of module connectors, s function modules for IO-Link.	ee Equipment Manual fo						
3RA271A00	Interface covers (Set of 5)			3RA2711-0EE15		1	1 unit	41B
3RA271A00	Covers, sealable			3RA2910-0		1	5 units	41B
Operator pane	els for communication via IO-	Link						
3RA2711A00	Operator panel (set) Comprising: • 1 x operator panel • 1 x enabling module • 1 x interface cover • 1 x fixing terminal			3RA6935-0A		1	1 unit	42F
3RA2711A00	Connecting cable For connecting the operator panel	to the coupling module		3RA2711-0EE11		1	1 unit	41B
3RA2711A00	Length 2 m, 10- to 14-pole Enabling module (replacement)			3RA6936-0A		1	1 unit	42F
3RA2711A00	Interface covers (replacement)			3RA6936-0B		1	5 units	42F
JIMZ1 11MUU	interiace covers (replacement)			311A0330-0D		'	J uriits	446

Power contactors for switching motors

Accessories for SIRIUS 3RT contactors and SIRIUS 3RH2 contactor relays > Modules for contactor control

For contactors	Rated control supply voltage $U_{\rm S}$	Time range t	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
Туре	V	S	Article No.	Price per PU			

Mechanical latching blocks

(no switching state change in the event of voltage drop)

Size S0

3RT2926-3A.31

For snapping onto the front of contactors

The contactor remains in the energized state in the event of voltage drop.

3RT202, 24 AC/DC 3RT2926-3AB31 41B 1 1 unit 110 AC/DC 3RT2926-3AF31 1 1 unit 41B 3RT252 230 AC/DC 3RT2926-3AP31 1 unit 41B

3RT2916-2BK01

3RT2916-2BL01

3RT2916-2BE01

41B

41B

41B

1 unit

1 unit

1 unit

OFF-delay devices for contactors with AC/DC and DC operation

Sizes S00 to S3



Non-adjustable delay time

3RT2011BF4., 3RT2021BF4., 3RT2031NF3., 3RH21BF40	110 AC/DC	S00: > 0.1 S0: > 0.08 S2: > 0.25
3RT2011BM4./-1BP4., 3RT2021BM4./-1BP4., 3RT2031NP3., 3RH21BM40/-1BP40	220/230 AC/DC	S00: > 0.5 S0: > 0.3 S2: > 0.8
3RT2011BB4., 3RT2021BB4., 3RT2031NB3., 3RT2041NB3., 3RT2441NB3., 3RH21BB40	24 DC	S00: > 0.2 S0: > 0.1 S2: > 0.1 S3: > 0.05

* You can order this quantity or a multiple thereof.
Illustrations are approximate

Switching devices – Contactors and contactor assemblies – for switching motors Power contactors for switching motors

Accessories for SIRIUS 3RT contactors and SIRIUS 3RH2 contactor relays > Link modules

Selection and ordering data

	For contactors	Size	Version	Screw terminals		PU (UNIT, SET, M)	PS*	PG
	Type			Article No.	Price per PU			
Safety main circu	uit connecto	rs for two	contactors					,
200	3RT2.1	S00	For series connection of two contactors	3RA2916-1A		1	1 unit	41B
TYY!	3RT2.2	S0		3RA2926-1A		1	1 unit	41B
	3RT2.3	S2		3RA2936-1A		1	1 unit	41B
3RA2926-1A								

PU (UNIT, SET, M) = 1

PS* = 1 unit (unless otherwise specified)

PG = 41B

For contactors	Size	Version		Article No.	Price per PU	Article No.	Prid per F	
Type								

Assembly kits for reversing contactor assemblies

for making 3-pole	contac	tor asser	mblies		
				Screw terminals	Spring-loaded terminals
3RA2913-2AA1	3RT201	S00-S00	The assembly kit contains: Mechanical interlock, two connecting clips for two contactors, wiring modules on the top and bottom		
			 For main, auxiliary and control circuits 	3RA2913-2AA1	3RA2913-2AA2
3RA2923-2AA1	3RT202	S0-S0	The assembly kit contains: Mechanical interlock, two connecting clips for two contactors, wiring modules on the top and bottom		
3NA2923-2AA I			 For main, auxiliary and control circuits¹⁾ 	3RA2923-2AA1	
Transis.			 Only for main circuit²⁾ 		3RA2923-2AA2
3RA2933-2AA1	3RT203	S2-S2	The assembly kit contains: Two connectors for two contactors, wiring modules on the top and bottom (3RA2934-2B mechanical interlock must be ordered separately, see page 3/114)		
441-444			 For main and auxiliary circuits 	3RA2933-2AA1	
			 Only for main circuit³⁾ 		3RA2933-2AA2
3RA2943-2AA1	3RT204	S3-S3	The assembly kit contains: Two connectors for two contactors, wiring modules on the top and bottom (3RA2934-2B mechanical interlock must be ordered separately, see page 3/114)		
			For main and auxiliary circuits	3RA2943-2AA1	
			Only for main circuit ³⁾		3RA2943-2AA2
200 000	3RT1.5	S6-S6	The assembly kit contains:	3RA1953-2A	3RA1953-2A
3RA1953-2A	3RT1.6	S10-S10	Wiring modules on the top and bottom	3RA1963-2A	3RA1963-2A
9 9 9	3RT1.7	S12-S12	and bottom	3RA1973-2A	3RA1973-2A
0,0					
माना विकास					
3RA1963-2A					
9 9 0					
9 10 10					
0044070.04					
3RA1973-2A					

¹⁾ Use of the 3RA2923-2AA1 assembly kit in conjunction with 3RT202.-....-3MA0 contactors is limited because the auxiliary switches in the basic unit are not allowed to be used on account of the permanently mounted auxiliary switch.

²⁾ Version in size S0 with spring-loaded terminals: Only the wiring modules for the main circuit are included. No connecting clips are included for the auxiliary and control circuit.

³⁾ Version in sizes S2 and S3 with spring-loaded terminals in the auxiliary and control circuits: Only the wiring modules for the main circuit are included. A cable set is included for the auxiliary circuit.

Power contactors for switching motors

Accessories for SIRIUS 3RT contactors and SIRIUS 3RH2 contactor relays > Link modules

PU (UNIT, SET, M) = 1

= 1 unit (unless otherwise specified) PS*

PG .	= 41B	,			
	For Size contactors	Version	Article No.	Price per PU	Article No. Price per PU
Assembly kits ¹		mblies for star-delta (wye-delta) r assemblies			
g	g - 		Screw terminals	+	Spring-loaded terminals
RA2913-2BB1	3RT201 S00-S00- S00	The assembly kit contains: Mechanical interlock, four connecting clips for three contactors, a star jumper, wiring modules on the top and bottom			
		 For main, auxiliary and control circuits 	3RA2913-2BB1		3RA2913-2BB2
	3RT202 \$0-\$0-\$0	The assembly kit contains: Mechanical interlock, four connecting clips for three contactors, a star jumper, wiring modules on the top and bottom			
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	7	 For main, auxiliary and control circuits 	3RA2923-2BB1		
A2923-2BB1		Only for main circuit			3RA2923-2BB2
, AAAAAA IIII	3RT202 S0-S0-S0	The assembly kit contains: Mechanical interlock, four connecting clips for three contactors, a star jumper, wiring modules on the top and bottom, 3-phase infeed terminal			
TITLE T	_	 For main, auxiliary and control circuits 	3RA2924-2BB1		-
A2924-2BB1	3RT203 S2-S2-S0	The assembly kit ²⁾ contains: Two connectors for three contactors,	3RA2933-2C		3RA2933-2C
		an S0 star jumper, a spacer, wiring modules on the top and bottom (S2-S0) for the main circuit, a cable set for the auxiliary circuit, a cable for connecting the A2 coil contact of the line contactor to the A2 coil contact of the delta contactor			
A2933-2C					
min W	3RT203 S2-S2-S2	The assembly kit ²⁾ contains: Four connectors for three contactors, an S2 star jumper, a cable for connecting the A2 coil contact of the line contactor to the A2 coil contact of the delta contactor and			
RA2933-2BB1		Wiring modules on the top and bottom for the main circuit and the auxiliary circuit	3RA2933-2BB1		-
		Wiring modules on the top and bottom for the main circuit, a cable set for the auxiliary circuit.			3RA2933-2BB2

¹⁾ When using the function modules for contactor assemblies for star-delta (wye-delta) starting, the wiring modules for the auxiliary current are not required.

set for the auxiliary circuit

 $^{^{2)}\,}$ The 3RA2934-2B mechanical interlock for sizes S2 and S3 must be ordered separately, see page 3/114.

Power contactors for switching motors

Accessories for SIRIUS 3RT contactors and SIRIUS 3RH2 contactor relays > Link modules

PU (UNIT, SET, M) = 1 PS* = 1 PG = 4 = 1 unit (unless otherwise specified)

= 41B

	For contactors	Size	Version	Article No.	Price per PU	Article No.	Price per PU
	Type						
Assembly kits ¹⁾ starting for mak	for containg 3-pole	ctor assen	nblies for star-delta (wye-delta) r assemblies (continued)				
3RA2943-2C	3RT204	S3-S3-S2	The assembly kit ²⁾ contains: Two connectors for three contactors, an S2 star jumper, a spacer, wiring modules on the top and bottom (S3-S2) for the main circuit, a cable set for the auxiliary circuit, a cable for connecting the A2 coil contact of the line contactor to the A2 coil contact of the delta contactor	3RA2943-2C		3RA2943-2C	
				Screw terminals	+	Spring-loaded tern	ninals 💮
3RA2943-2BB1	3RT204	S3-S3-S3	The assembly kit ²⁾ contains: Four connectors for three contactors, an S3 star jumper, a cable for connecting the A2 coil contact of the line contactor to the A2 coil contact of the delta contactor and				
			 Wiring modules on the top and bottom for the main circuit and the auxiliary circuit 	3RA2943-2BB1		-	
			Wiring modules on the top and bottom for the main circuit, a cable set for the auxiliary circuit	-		3RA2943-2BB2	

¹⁾ When using the function modules for contactor assemblies for star-delta (wye-delta) starting, the wiring modules for the auxiliary current are not required.

²⁾ The 3RA2934-2B mechanical interlock for sizes S2 and S3 must be ordered separately, see page 3/114.

Power contactors for switching motors

Accessories for SIRIUS 3RT contactors and SIRIUS 3RH2 contactor relays > Link modules

	For	Size	Version	Article No.	Price	PU	PS*	PG
	contactors	3120		Audolo 140.	per PU	(UNIT, SET, M)	. 0	
	Туре					. ,		
Assembly kits for constarting for making 3-p	tactor asser pole contact	nblies for sta or assemb <u>lie</u>	r-delta (wye-delta) es					
	_		The assembly kit contains: link rails at bottom (a double infeed between the line contactor and the delta contactor is recommended.)					
3RA1953-3G	3RT1.5, 3RT204	S6-S6-S3 For connection with box terminal only	The S3 star jumper must be ordered separately, see page 3/113.	3RA1953-3G		1	1 unit	41B
	3RT1.5	S6-S6-S6 For connection with box terminal only		3RA1953-2B		1	1 unit	41B
3RA1953-2B								
	3RT1.5	S6-S6-S6 For connection without box terminal		3RA1953-2N		1	1 unit	41B
3RA1953-2N	3RT1.6,	\$10-\$10-\$6	The S6 star jumper must	3RA1963-3E		1	1 unit	41B
3RA1963-3E	3RT1.5	For connection with box terminal only	be ordered separately, see page 3/113.	3HA1303-3E		'	i uiiit	410
	3RT1.6	S10-S10-S10 For connection without box terminal		3RA1963-2B		1	1 unit	41B
3RA1963-2B								
3RA1973-3E	3RT1.7, 3RT1.6	S12-S12-S10 For connection with box terminal only	The S10 star jumper must be ordered separately, see page 3/113.	3RA1973-3E		1	1 unit	41B
	3RT1.7	S12-S12-S12 For connection without box terminal		3RA1973-2B		1	1 unit	41B
3RA1973-2B								

Power contactors for switching motors

Accessories for SIRIUS 3RT contactors and SIRIUS 3RH2 contactor relays > Link modules

PU (UNIT, SET, M) = 1 PS* = 1 unit (unless otherwise specified)

	1 unit (un 41B	less othe	erwise specified)					
	For contactors Type	- Size	Version		Article No.	Price per PU	Article No.	Price per PU
Single wiring module for making 3-pole co	es entactor a	ssemblie	es.					
ioi maiang o polo co	maotor a	0001110110			Screw terminals	(1)	Spring-loaded terr	minals
11	3RT201	S00-S00	• Top (in-phase)	PS = 5 units	3RA2913-3DA1		3RA2913-3DA2	
3RA2913-3DA1			Bottom (with phase reversal)	PS = 5 units	3RA2913-3EA1		3RA2913-3EA2	
SHAZƏTO-ODAT	3RT202	S0-S0	• Top (in-phase)	PS = 5 units	3RA2923-3DA1		3RA2923-3DA2	
3RA2923-3DA1			Bottom (with phase reversal)	PS = 5 units	3RA2923-3EA1		3RA2923-3EA2	
	3RT203	S2-S2	Top (in-phase), contactor clearance 10 mm	o unito	3RA1933-3D		3RA1933-3D	
3RA1933-3D			Bottom (with phase reversal), contactor clearance 10 mm		3RA1933-3E		3RA1933-3E	
11111	3RT204	S3-S3	Top (in-phase), contactor clearance 10 mm		3RA1943-3D		3RA1943-3D	
3RA1943-3E			 Bottom (with phase reversal), contactor clearance 10 mm 		3RA1943-3E		3RA1943-3E	
000 77	3RT1.5	S6-S6	Top (in-phase, for connection with box terminal), contactor clearance 10 mm		3RA1953-3D		3RA1953-3D	
3RA1953-3D			Top (with phase reversal, for connection without box terminal), contactor clearance 10 mm		3RA1953-3P		3RA1953-3P	
Star jumpers (links f	or paralle	ling), 3-p	oole					
					Screw terminals	+	Spring-loaded terr	minals \bigcirc
OPT-1010 APAGE	3RT201	S00	With through-hole The links for paralleling can be reduced by one pole.		3RT1916-4BA31		3RT2916-4BA32	
3RT1916-4BA31	3RT202	S0	- Without connecting terminal		3RT1926-4BA31		3RT2926-4BA32	
3RT2926-4BA32								
3RT1936-4BA31	3RT203	S2	-		3RT1936-4BA31		3RT1936-4BA31	
3RT1946-4BA31	3RT204	S3	-		3RT1946-4BA31		3RT1946-4BA31	
3RT1956-4BA31	3RT1.5	S6	-		3RT1956-4BA31		3RT1956-4BA31	
	3RT1.6, 3RT1.7		-		3RT1966-4BA31		3RT1966-4BA31	

Power contactors for switching motors

Accessories for SIRIUS 3RT contactors and SIRIUS 3RH2 contactor relays > Link modules

	For con-	Size	Version	Article No.	Price	PU	PS*	PG
	tactors				per PU	(UNIT, SET, M)		
	Туре							
cal inter ng 3- an	lock ass d 4-pole	embly kits contactor a	for two contactors assemblies					
	3RT201, 3RT231	S00-S00	The interlocking assembly kits can be used without a contactor clearance. One assembly kit consists of a mechanical interlock and two connecting clips.	3RA2912-2H		1	10 units	41B
2H								
M	3RT202, 3RT232	S0-S0		3RA2922-2H		1	10 units	41B
	For con-	Size	Version	Article No.	Price	PU	PS*	PG
	tactors	OIZ0	VOIGION	7 11 11010 140.	per PU	(UNIT, SET, M)	10	1 4
	Туре							
cal inter	locks for	contactor	assemblies					
			A contactor clearance of 10 mm must be considered when using the following mechanical interlocks.					
2	3RT202, 3RT203	S2-S2, S3-S3	Mechanical interlock	3RA2934-2B		1	1 unit	41B
			Note:					
0 0 0	3RT202, 3RT203, 3RT204	\$2-\$2-\$0, \$2-\$2-\$2, \$3-\$3-\$2, \$3-\$3-\$3	The mechanical interlock for sizes S2 and S3 must be ordered separately.					
3								
	3RT1.5 with	S6 (3RT1)-	Adapter in addition to the mechanical interlock	3RA1954-2G		1	1 unit	41B
	3RT204 ¹⁾	S6 (3RT1)- S3 (3RT2) ¹⁾	The mechanical interlock is only possible together with this 3RA1954-2G adapter and the 3RA1954-2A mechanical interlock.					
			Two connectors are included with the adapter, the interlock must be ordered separately.					
	3RT1.5	S6	Mechanical interlock	3RA1954-2A		1	1 unit	41B
1	3RT1.6 3RT1.7	S10 S12	Without auxiliary contacts; contactors in sizes S6, S10 and S12 can be interlocked with each other as required. No adaption of mounting depth is necessary.					
al conr	nectors f	or contacto	or assemblies					
			Two connectors are required for each assembly. The contactor clearance must be considered when selecting the connectors.					
2			3-pole version					
	3RT203, 3RT204	S2-S2, S3-S3	Without contactor clearance	3RA2932-2C			10 units	41B
'D	3RT105	S6-S6	With 10 mm contactor clearance With 10 mm contactor clearance (1 unit corresponds to 2 parts for 1 assembly)	3RA2932-2D 3RA1932-2D		1	10 units 10 units	41B 41B
			4-pole version					
	3RT233 3RT234	S2-S2 S3-S3	With 20 mm contactor clearance With 10 mm contactor clearance	3RA2932-2G 3RA2942-2G		1	10 units	41B 41B
; ; 2G	3RT234	S3-S3	With 10 mm contactor clearance	3RA2942-2G		1	10 units	41B

¹⁾ The 3RA1954-2G adapter cannot be used in conjunction with 3RT204..-.KB coupling contactors, size S3.

Switching devices – Contactors and contactor assemblies – for switching motors Power contactors for switching motors

Accessories for SIRIUS 3RT contactors and SIRIUS 3RH2 contactor relays > Connection modules/adapters

Selection and	ordering	g data	1					
	For contactors	Size	Version	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
	Type			Article No.	Price per PU			
Links for paral		r mair	conducting paths		'			
			The links for paralleling (insulated) can be reduced by one pole. With connecting terminal					
			3-pole					
3RT1916-4BB31	3RT201	S00	Max. conductor cross-section: 25 mm², stranded	3RT1916-4BB31		1	1 unit	41B
3RT2926-4BB31	3RT202	S0	Max. conductor cross-section: 50 mm², stranded	3RT2926-4BB31		1	1 unit	41B
3RT1936-4BB31	3RT203	S2	Max. conductor cross-section: 120 mm², stranded	3RT1936-4BB31		1	1 unit	41B
3RT1946-4BB31	3RT204, 3RT244	S3	Max. conductor cross-section: 185 mm², stranded A cover is included for touch protection (can only be used when box terminal is removed).	3RT1946-4BB31		1	1 unit	41B
	-		4-pole					
3RT1916-4BB41	3RT231, 3RT251	S00	Max. conductor cross-section: 25 mm², stranded	3RT1916-4BB41		1	1 unit	41B

Power contactors for switching motors

Accessories for SIRIUS 3RT contactors and SIRIUS 3RH2 contactor relays > Connection modules/adapters

	For con-	Size	Version	Article No. Price		PS*	PG
	tactors			per Pl	J (UNIT, SET, M)		
	Туре				OL1, IVI)		
1-phase infeed te							
A A	3RT204,	S3	Conductor cross-section: 95 mm ²	3RA2943-3L	1	1 unit	41B
	3RT244,	00	Conductor Grood Goothorn, So mini	011/12010 02	· ·	1 dilit	115
	3RT264						
3RA2943-3L							
3-phase infeed te	rminals						
o priace inicoa to	3RT201	SOO	Max. conductor cross-section:	3RA2913-3K	1	10 units	41B
235	0111201	000	Up to 10 mm ² , AWG 12 8	STIAZSTO SK	· '	TO diffits	710
0(0)0)							
3RA2913-3K							
	3RT202,	S0	Max. conductor cross-section:	3RV2925-5AB	1	1 unit	41E
9.6.6	3RT262		Up to 25 mm ² , AWG 10 2/0				
3RV2925-5AB							
	3RT203,	S2	Max. conductor cross-section:	3RV2935-5A	1	1 unit	41E
	3RT263		Up to 70 mm ² , AWG 10 2/0				
000							
3RV2935-5A							
	rminals v	with inc	reased clearances and creepage				
distances					_		
	3RT203	S2	Max. conductor cross-section: Up to 70 mm ² , AWG 10 2/0	3RV2935-5E	1	1 unit	41E
			ορ το 10 mm , Awa 10 2/0				
000							
3RV2935-5E							
3-phase busbars							
	3RT202	S0	Bridging phase-by-phase of all input	3RV1915-1AB	1	1 unit	41E
			terminals of the line contactor (Q11)				
44444			and delta contactor (Q13)				
3RV1915-1AB		**					
Terminal blocks t	or conne	ecting a	uxiliary conductors to main terminals				
			Box terminal blocks				
			For round and ribbon cables				
			(Connectable cross-sections of the contactors for size S3, see page 3/40 and				
			for sizes 6 to S12, see page 3/44)				
	3RT204	S3	• 3-pole, for connection of main contacts,	3RT2946-4G	1	1 unit	41B
11-11-			2.5 to 70 mm ²				
6 6 6							
3RT2946-4G	0DT4 5	00	- Ha to 70 mm²	0PT4055 40		4 9	445
Alle Alle IV	3RT1.5	56	Up to 70 mm ² , as standard on 3RT1054-1 contactor (55 kW)	3RT1955-4G	1	1 unit	41B
AN AN I			• Up to 120 mm ²	3RT1956-4G	1	1 unit	41B
ODT-1050 10			•				
3RT1956-4G	0DT4 0	046	. Ha to 040 mm²	0PT4000 40		4 9	445
4/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1	3RT1.6, 3RT1.7		 Up to 240 mm², with auxiliary conductor connection 	3RT1966-4G	1	1 unit	41B
15/1-15/			up to 2.5 mm ²				
0DT1000 10							
3RT1966-4G	0DT4 5	00	Devidencia of few conditions and the few	0TY7500 0A		4 9	445
	3RT1.5	S6	Box terminal for auxiliary conductor connection, 1-pole	3TX7500-0A	1	1 unit	41B
			For connection of auxiliary and control				
3TX7500-0A			cables (0.5 2.5 mm ²) to the main				
	ODTS:		conductor terminals	ADT0040			
	3RT204	S3	Auxiliary conductor terminal, 3-pole	3RT2946-4F	1	1 unit	41B
Telef			For connection of auxiliary and control cables (0.5 2.5 mm ²) to the main				
3RT2946-4F			conductor terminals				
					_		

Switching devices – Contactors and contactor assemblies – for switching motors Power contactors for switching motors

Accessories for SIRIUS 3RT contactors and SIRIUS 3RH2 contactor relays > Connection modules/adapters

	For contactors	Size	Version	Article No.	Price per PU	PU (UNIT,	PS*	PG
						SÈT, M)		
Solder nin adapters	Type s for mount	ing conta	ctors on printed circuit boards					
up to 5.5 kW/12 A	5 101 III Gail	9 00						
				Screw terminals	+			
	3RT2.1, 3RH21	\$00	Assembly kit for soldering contactors with an integrated auxiliary contact onto a printed circuit board Note: One kit is required for one contactor.	3RT1916-4KA1		1	4 units	41B
3RT1916-4KA1								
	3RT2.1, 3RH21	S00	Assembly kit for soldering contactors with 4-pole mounted auxiliary switch onto a printed circuit board Note: One kit is required for one contactor.	3RT1916-4KA2		1	4 units	41B
3RT1916-4KA2	adulas for s	o a pro atio	ns from top or from bottom					
Con connection in	3RT2.2,		Connection from top	3RT2926-4RA11		1	1 unit	41B
	3RT2.3, 3RT2.4		Connection from below Connection diagonally	3RT2926-4RB11 3RT2926-4RC11 Spring-loaded termi	nals 💮	1	1 unit 1 unit	41B 41B
3RT2926-4RA11 3RT2926-4RA12	3RT2.2	SO	Connection from top Connection from below	3RT2926-4RA12 3RT2926-4RB12		1	1 unit 1 unit	41B 41B
	For contactors	Size	Version	Screw terminals		PU (UNIT, SET, M)	PS*	PG
	Type			Article No.	Price per PU			
Connection module for contactors with	es (adapter	and moto	or feeder connector)					
			The connection module comprises an adapter and a motor feeder connector. Adapters					
3RT1926-4RD01	3RT201, 3RH2	S00	Ambient temperature $t_{\rm u \; max.} = 60 \; ^{\circ}{\rm C}$ • Rated operational current $I_{\rm e}$ at AC-3/AC-3e/400 V: 20 A	3RT1916-4RD01		1	1 unit	41B
- - -	3RT202	S0	 Rated operational current I_e at AC-3/AC-3e/400 V: 25 A 	3RT1926-4RD01		1	1 unit	41B
3RT1900-4RE01	3RT201, 3RT202, 3RH2	S00, S0	Motor feeder connector	3RT1900-4RE01		1	1 unit	41B

^{*} You can order this quantity or a multiple thereof. Illustrations are approximate

Power contactors for switching motors

Accessories for SIRIUS 3RT contactors and SIRIUS 3RH2 contactor relays > Covers

For contactors Size Version Article No. Price PU (UNIT, SET, M) Type	PG 41B 41B 41B 41B
Type Covers for contactors with screw terminals (box terminals) (2 units required per contactor) 3RT203 S2 • For 3-pole contactors 3RT2936-4EA2 1 1 unit	41B 41B 41B
Type Covers for contactors with screw terminals (box terminals) (2 units required per contactor) 3RT203 S2 • For 3-pole contactors 3RT2936-4EA2 1 1 unit	41B 41B
Covers for contactors with screw terminals (box terminals) (2 units required per contactor) 3RT203 S2 • For 3-pole contactors 3RT2936-4EA2 1 1 unit	41B 41B
screw terminals (box terminals) (2 units required per contactor) 3RT203 S2 • For 3-pole contactors 3RT2936-4EA2 1 1 unit	41B 41B
	41B 41B
3RT2936-4EA2 3RT2946-4EA2	
3RT1.5 S6 ¹⁾ 3RT1956-4EA2 1 1 unit 3RT1.6, S10 ¹⁾ , 3RT1966-4EA2 1 1 unit	710
3RT1956-4EA2 3RT1966-4EA2 3RT233, S2 • For 4-pole contactors 3RT2936-4EA4 1 1 unit (Scope of supply:	41B
3RT234, S3 one 3-pole and two 1-pole terminal covers are supplied) 3RT2946-4EA4 1 1 unit	41B
3RT2936-4EA4 3RT2946-4EA4 Covers for contactors with cable lugs and busbar connections	
For complying with the phase clearances and as touch protection if box terminal is removed (2 units required per contactor)	
3RT1946-4EA1 3RT2.4 \$3 - Length: 100 mm 3RT1946-4EA1 1 1 unit 3RT1.5 \$6^{1)} - Length: 100 mm 3RT1956-4EA1 1 1 unit 3RT1.6, \$10^{1)}, - Length: 120 mm 3RT1966-4EA1 1 1 unit 1 unit	41B 41B 41B
• For the assembly kits for 3RA1953 contactor assemblies for star-delta (wye-delta) starting (see page 3/112) or for the 3RA1953-3. single wiring modules. (see page 3/113)	
3RT1956-4EA4 3RT1.5 • For the assembly kits for reversing contactor assemblies and contactor assemblies for star-delta (wye-delta) starting	41B
3RT1966-4EA3 3RT1.6, S10, - Length: 42 mm 3RT1966-4EA3 1 1 unit	41B
Terminal covers for busbar connections • Cover the three busbar connections, between the contactor and 3RB2 overload relay 3RT1956-4EA3 3RT1966-4EA3	
3RT1.5 S6 - Length: 27 mm 3RT1956-4EA3 1 1 unit	41B
3RT1.6, S10, 3RT1.7 S12 • Can be screwed on free screw end; covers one busbar connection (1 set = 6 units)	41B
3RT1.5 S6 - M8 3TX6526-3B 1 1 unit	41B
3RT1.6, S10, - M10 3TX6526-3B 3TX6546-3B 3RT1.7 S12 1 unit Sealable covers	41B
3RT2.1, 3RT2.2, 3RT2.3, 3RT2.4, 3RT2.4, 3RH2 ²) SO For preventing manual operation (Not suitable for coupling contactors of size S00/S0) 3RT2.4, 3RH2 ²) 3RT2.4, 3RH2 ²)	41B
3RT2916-4MA10 3RT1926-4MA10	41B

¹⁾ Also fits on contactors of sizes S6 to S12 with box terminals.

²⁾ Exception: Contactors and contactor relays with auxiliary switch mounted on the front.

Power contactors for switching motors

Accessories for SIRIUS 3RT contactors and SIRIUS 3RH2 contactor relays > Miscellaneous accessories

	For con-	Size	Version	Article No.	Price	PU	PS*	PG
	tactors	Size	version	Article No.	per PU	(UNIT, SET, M)	гэ	ru
	Туре							
ase plates	-		-t					
		•	ctor assemblies	2041052.24		l 4	1 unit	/1D
	3RT1.5 3RT1.6	S6 S10	For customer assembly of reversing contactor assemblies	3RA1952-2A 3RA1962-2A		1	1 unit 1 unit	41B 41B
	3RT1.7	S12	-	3RA1972-2A		1	1 unit	41B
	0111111	0.2		OHATOTE EA			T GITTE	115
N S								
RA1952-2A								
	For con	ntactor assen	nblies for star-delta (wye-delta) sta	artina				
	3RT2/	S2-S2-S0,	For configuring contactor assemblies	3RA2932-2F		1	1 unit	41B
	3RT2/	S2-S2-S2	for star-delta (wye-delta) starting					
	3RT2	S3-S3-S2, S3-S3-S3		3RA2942-2F		1	1 unit	41B
- m. j		33-33-33						
3A2932-2F								
A2932-2F								
A 14 S.								
Ļ								
+								
RA2942-2F								
•	3RT1/	S6-S6-S3	For customer assembly of contactor	3RA1952-2E		1	1 unit	41B
	3RT1/ 3RT2		assemblies for star-delta (wye-delta) starting with a laterally mounted					
	3RT1/	S6-S6-S6	timing relay	3RA1952-2F		1	1 unit	41B
	3RT1/	S10-S10-S6	10 mm clearance between the — contactors —	3RA1962-2E		1	1 unit	41B
	3RT1	S10-S10-S10	- contactors —	3RA1962-2F		1	1 unit	41B
RA1952-2E		S12-S12-S10	-	3RA1972-2E		1	1 unit	41B
		S12-S12-S12	-	3RA1972-2F		1	1 unit	41B
(8)								
V								
A1952-2F								
dapters for screw f								
	3RT2.2	S0	Screw adapters for securing the contactors, two units required per	3RT1926-4P		1	10 units	41B
			contactor					
T1926-4P			(1 pack = 10 sets for 10 contactors)					
onnection kit for or	ne comple	ete contactor						
♂ ♂			Each set includes 6 screws,					
(a), (b),			spring washers and nuts.					
	3RT105	S6	M 8 x 25	3RT1955-4PA00		1	1 unit	41B
	3RT106, 3RT107	S10, S12	M 10 x 30	3RT1966-4PA00		1	1 unit	41B
	301107							
)								
RT1955-4PA00 MC suppression mo	adulaa. 2	nhace un to	7 F L/W					
wic suppression in			AC or DC operation					
	roi con	itaciors with	AC OF DC Operation	Screw terminals		I		
				Screw terminals	+			
ال المحال	3RT201	S00	RC elements (3 x 220 Ω /0.22 μ F)					
	0111201		 Up to 400 V 	3RT2916-1PA1		1	1 unit	41B
	0111201					1	4	41B
III SIRIUS	0111201		• Up to 575 V • Up to 690 V	3RT2916-1PA2 3RT2916-1PA3			1 unit 1 unit	
ATMOSS SIRIUS		\$00	• Up to 690 V	3RT2916-1PA2 3RT2916-1PA3		1	1 unit	41B
SIRIUS	3RT201	S00	• Up to 690 V Varistors	3RT2916-1PA3		1	1 unit	41B
SIRIUS RT2916-1PA.		S00	• Up to 690 V					

Power contactors for switching motors

Accessories for SIRIUS 3RT contactors and SIRIUS 3RH2 contactor relays > Miscellaneous accessories

	For contactors	Size	Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	Туре							
Additional load mod	lules							
	3RT2.1, 3RH2	S00	For plugging onto the front of the contactors with or without auxiliary switches	3RT2916-1GA00		1	1 unit	41B
3RT2916-1GA00			For increasing the permissible residual current and for limiting the residual voltage, it ensures the safe opening of contactors with direct control via 230 V AC semiconductor outputs of SIMATIC controllers, simultaneously provides overvoltage damping					
			Rated voltage: 50/60 Hz AC, 180 255 V Operating range: 0.8 1.1 x <i>U</i> _s					
LED modules for dis	splaying c	ontactor ope	eration					
3RT2926-1QT00	3RT2, 3RT1, 3RH2	S00 S12	For snapping into the location hole of an inscription label on the front of a contactor either directly on the contactor or on the front auxiliary switch The LED module is connected to coil terminals A1 and A2 of the contactor and indicates its energized state with a yellow LED. Connecting wires need to be extended as required.	3RT2926-1QT00		1	5 units	41B
			Rated voltage: 24 240 V AC/DC with reverse polarity protection					
Control kit								
	3RT2.1, 3RH2	S00	For manual operation of contactor contacts, for startup and service	3RT2916-4MC00		1	5 units	41B
	3RT2.2	S0	_	3RT2926-4MC00		1	5 units	41B
	3RT2.3, 3RT2.4	S2, S3		3RT2936-4MC00		1	5 units	41B
3RT2916-4MC00								

Switching devices – Contactors and contactor assemblies – for switching motors Power contactors for switching motors

Accessories for SIRIUS 3RT contactors and SIRIUS 3RH2 contactor relays > Miscellaneous accessories

	For contactors	Size	Version		Price er PU	PU (UNIT, SET, M)	PS*	PG
	Туре					. ,		
Insulation stops for s	ecurely	holding ba	ck the conductor insulation					
for conductors up to	1 mm ^{2*}							
				Spring-loaded terminals	<u></u>			
3RT2916-4JA02			Insulation stop strips Can be inserted in cable entry of the spring-loaded terminal (two strips per contactor required)					
011120101010102	3RT2.1,	S00	• For basic units, removable individually	3RT2916-4JA02		1	20 units	41B
000000000	3RH2						00 "	
3RT1916-4JA02	3RT2.2	S0 S12	For auxiliary and control current on basic units and for mountable 3RH29	3RT1916-4JA02		1	20 units	41B
STIT 13 10 40/102	3RT2.4, 3RT1, 3RH29		auxiliary switches, removable in pairs					
Tools for opening sp	ring-loac	ded termina	als					
Tools for opening sp	ring-load 3RT, 3RH		Screwdriver For all SIRIUS devices with spring-loaded terminals	3RA2908-1A		1	1 unit	41B
Tools for opening spi 3RA2908-1A	3RT,		Screwdriver For all SIRIUS devices with spring- loaded terminals Length: approx. 200 mm, 3.0 mm x 0.5 mm, titanium gray/black,	3RA2908-1A		1	1 unit	41B
3RA2908-1A	3RT,		Screwdriver For all SIRIUS devices with spring-loaded terminals Length: approx. 200 mm, 3.0 mm x 0.5 mm,	3RA2908-1A		1	1 unit	41B
No.	3RT,		Screwdriver For all SIRIUS devices with spring- loaded terminals Length: approx. 200 mm, 3.0 mm x 0.5 mm, titanium gray/black,	3RA2908-1A		1	1 unit	41B
3RA2908-1A	3RT,	S00 S12	Screwdriver For all SIRIUS devices with spring-loaded terminals Length: approx. 200 mm, 3.0 mm x 0.5 mm, titanium gray/black, partially insulated Unit labeling plates ¹⁾	3RA2908-1A 3RT2900-1SB10		100	1 unit 816 units	41B
3RA2908-1A	3RT, 3RH	S00 S12	Screwdriver For all SIRIUS devices with spring-loaded terminals Length: approx. 200 mm, 3.0 mm x 0.5 mm, titanium gray/black, partially insulated Unit labeling plates ¹⁾ For SIRIUS devices	-			816	
3RA2908-1A	3RT, 3RH	S00 S12	Screwdriver For all SIRIUS devices with spring-loaded terminals Length: approx. 200 mm, 3.0 mm x 0.5 mm, titanium gray/black, partially insulated Unit labeling plates ¹⁾ For SIRIUS devices • 10 mm x 7 mm, titanium gray	3RT2900-1SB10		100	816 units 340	41B

PC labeling system for individual inscription of unit labeling plates available from: murrplastik Systemtechnik GmbH (see page 16/18).

Power contactors for switching motors

Spare parts for SIRIUS 3RT contactors and SIRIUS 3RH2 contactor relays > Solenoid coils

Selection and ordering data

Screw terminals and spring-loaded terminals



3RT2924-5A.01

For contactors	Rated control supply vo	oltage U _s		Article No.	Price	PU	PS*	PG
	50 Hz	50/60 Hz	60 Hz		per PU	(UNIT,		
	00112	00/00 112	00112			SET, M)		
Type	V	V	V					
Solenoid co	oils · AC operation							
Size S0	по то орогинон							
						ı .		
3RT2023A, 3RT2024A.	24 42			3RT2924-5AB01 3RT2924-5AD01		1 1	1 unit 1 unit	41B 41B
3RT2025A								
01112020 .71	48			3RT2924-5AH01 3RT2924-5AF01		1 1	1 unit 1 unit	41B 41B
	110							
	230			3RT2924-5AP01		1	1 unit	41B
	400			3RT2924-5AV01		1	1 unit	41B
		24 42		3RT2924-5AC21 3RT2924-5AD21		1	1 unit	41B
						1	1 unit	41B
		48		3RT2924-5AH21		1	1 unit	41B
		110		3RT2924-5AG21		1	1 unit	41B
		220		3RT2924-5AN21		1	1 unit	41B
		230		3RT2924-5AL21		1	1 unit	41B
			24	3RT2924-5AC11		1	1 unit	41B
	110		120	3RT2924-5AK61		1	1 unit	41B
	220		240	3RT2924-5AP61		1	1 unit	41B
		100	110	3RT2924-5AG61		1	1 unit	41B
		200	220	3RT2924-5AN61		1	1 unit	41B
		400	440	3RT2924-5AR61		1	1 unit	41B
3RT2026A,	24			3RT2926-5AB01		1	1 unit	41B
3RT2027A,	42			3RT2926-5AD01		1	1 unit	41B
3RT2028A	48			3RT2926-5AH01		1	1 unit	41B
3RT2325A,	110			3RT2926-5AF01		1	1 unit	41B
3RT2326A,	230			3RT2926-5AP01		1	1 unit	41B
3RT2327A	400			3RT2926-5AV01		1	1 unit	41B
3RT2526A		24		3RT2926-5AC21		1	1 unit	41B
		42		3RT2926-5AD21		1	1 unit	41B
		48		3RT2926-5AH21		1	1 unit	41B
		110		3RT2926-5AG21		1	1 unit	41B
		220		3RT2926-5AN21		1	1 unit	41B
		230		3RT2926-5AL21		1	1 unit	41B
			24	3RT2926-5AC11		1	1 unit	41B
	110		120	3RT2926-5AK61		1	1 unit	41B
	220		240	3RT2926-5AP61		i	1 unit	41B
		100	110	3RT2926-5AG61		1	1 unit	41B
		200	220	3RT2926-5AN61		i	1 unit	41B
		400	440	3RT2926-5AR61		1	1 unit	41B
		100	110	51112520 5A1101		'	1 Gill	710

Note:

Contactors with AC and AC/DC coils have different depths. It is only possible to replace the coils on AC contactors with AC coils. It is not possible to replace the coils on DC contactors.

Power contactors for switching motors

Spare parts for SIRIUS 3RT contactors and SIRIUS 3RH2 contactor relays > Solenoid coils

Screw terminals and spring-loaded terminals









-		1				00		
3RT2934-5A.0	1	3RT2934-5N.31			3RT2944-5A1	3RT2944-5	N.31	
For contactors	Rated control sup				Article No. Price per PU	PU (UNIT,	PS*	PG
	50 Hz	50/60 Hz	60 Hz	DC	pei ro	SET, M)		
Туре	V	V	V	V				
	ils · AC operatio	on			l .			
Size S2								
3RT203A, 3RT233A,	24 42				3RT2934-5AB01 3RT2934-5AD01	1 1	1 unit 1 unit	41B 41B
3RT243A,	48				3RT2934-5AH01	1	1 unit	41B
3RT253A	110 230				3RT2934-5AF01 3RT2934-5AP01	1 1	1 unit 1 unit	41B 41B
	400				3RT2934-5AV01	i	1 unit	41B
		24			3RT2934-5AC21	1	1 unit	41B
		42 48			3RT2934-5AD21 3RT2934-5AH21	1 1	1 unit 1 unit	41B 41B
		110			3RT2934-5AG21	1	1 unit	41B
		208 220			3RT2934-5AM21 3RT2934-5AN21	1 1	1 unit 1 unit	41B 41B
		230			3RT2934-5AL21	i	1 unit	41B
	110 220		120		3RT2934-5AK61 3RT2934-5AP61	1 1	1 unit 1 unit	41B
			240 480		3RT2934-5AV61	1	1 unit	41B 41B
			600		3RT2934-5AT61	1	1 unit	41B
		100 200	110 220		3RT2934-5AG61 3RT2934-5AN61	1 1	1 unit 1 unit	41B 41B
			277		3RT2934-5AU61	1	1 unit	41B
Size S3		400	440		3RT2934-5AR61	1	1 unit	41B
3RT204A,	24				3RT2944-5AB01	1	1 unit	41B
3RT234A,	42				3RT2944-5AD01	1	1 unit	41B
3RT244A, 3RT254A	48 110				3RT2944-5AH01 3RT2944-5AF01	1	1 unit 1 unit	41B 41B
	230				3RT2944-5AP01	1	1 unit	41B
	400				3RT2944-5AV01	1	1 unit	41B
		24 42			3RT2944-5AC21 3RT2944-5AD21	1 1	1 unit 1 unit	41B 41B
		48			3RT2944-5AH21	1	1 unit	41B
		110 220			3RT2944-5AG21 3RT2944-5AN21	1 1	1 unit 1 unit	41B 41B
		230			3RT2944-5AL21	1	1 unit	41B
	110 220		120 240		3RT2944-5AK61 3RT2944-5AP61	1 1	1 unit 1 unit	41B 41B
			480		3RT2944-5AV61	1	1 unit	41B
			600		3RT2944-5AT61	1	1 unit	41B
		100 200	110 220		3RT2944-5AG61 3RT2944-5AN61	1 1	1 unit 1 unit	41B 41B
		400	440		3RT2944-5AR61	1	1 unit	41B
	ils · AC/DC oper	ation, with vari	stor					
Size S2 3RT203N,		20 33		20 33	3RT2934-5NB31	1	1 unit	41B
3RT233N		30 42		30 42	3RT2934-5ND31	1	1 unit	41B
		48 80		48 80	3RT2934-5NE31	1	1 unit	41B
		83 155 175 280		83 155 175 280	3RT2934-5NF31 3RT2934-5NP31	1 1	1 unit 1 unit	41B 41B
Size S3								
3RT204N,		20 33		20 33	3RT2944-5NB31	1	1 unit	41B
3RT234N, 3RT244N,		30 42 48 80		30 42 48 80	3RT2944-5ND31 3RT2944-5NE31	1 1	1 unit 1 unit	41B 41B
3RT254N		83 155		83 155	3RT2944-5NF31	1	1 unit	41B
		175 280		175 280	3RT2944-5NP31	1	1 unit	41B

Notes:

It is only possible to replace the coils on AC contactors with AC coils, and on AC/DC contactors with AC/DC coils.

Coil replacement is not permitted for 3RT20..-.S contactors with fail-safe control.

Power contactors for switching motors

Spare parts for SIRIUS 3RT contactors and SIRIUS 3RH2 contactor relays > Solenoid coils

PU (UNIT, SET, M) = 1 PS* = 1 unit PG = 41B

Fo	For contactors		Rated control supply voltage	Screw terminals		Spring-loaded terminals		
			$U_{\rm s}$	Article No.	Price	Article No.	Price	
Si	ize	Туре	V		per PU	р	er PU	

3RT1955-5AB31

3RT1955-5AD31

Withdrawable coils



S for AC/DC 26 AC/DC 48 AC/DC S

Standard	operating	mecnanism to
6	3RT105,	23
	3RT145	42
		110.
		200 .
		220 .
		240 .
		380 .
		440

3RT106

3RT146

110 127 AC/DC	3RT1955-5AF31
200 220 AC/DC	3RT1955-5AM31
220 240 AC/DC	3RT1955-5AP31
240 277 AC/DC	3RT1955-5AU31
380 420 AC/DC	3RT1955-5AV31
440 480 AC/DC	3RT1955-5AR31
500 550 AC/DC	3RT1955-5AS31
575 600 AC/DC	3RT1955-5AT31
23 26 AC/DC	3RT1965-5AB31
42 48 AC/DC	3RT1965-5AD31
110 127 AC/DC	3RT1965-5AF31



S12

S10

OTT 140	110 127 AC/DC 200 220 AC/DC 220 240 AC/DC 240 277 AC/DC	3RT1965-5AF31 3RT1965-5AM31 3RT1965-5AP31 3RT1965-5AU31
	380 420 AC/DC 440 480 AC/DC	3RT1965-5AV31 3RT1965-5AR31
	500 550 AC/DC 575 600 AC/DC	3RT1965-5AS31 3RT1965-5AT31
3RT107, 3RT147	23 26 AC/DC 42 48 AC/DC 110 127 AC/DC	3RT1975-5AB31 3RT1975-5AD31 3RT1975-5AF31

3RT1965-5AS32 3RT1965-5AT32 3RT1975-5AB32 3RT1975-5AD32 3RT1975-5AF31 3RT1975-5AF32 200 ... 220 AC/DC 3RT1975-5AM31 3RT1975-5AM32 220 ... 240 AC/DC 3RT1975-5AP31 3RT1975-5AP32 240 ... 277 AC/DC 3RT1975-5AU31 3RT1975-5AU32 380 ... 420 AC/DC 3RT1975-5AV31 3RT1975-5AV32 440 ... 480 AC/DC 3RT1975-5AR31 3RT1975-5AR32 500 ... 550 AC/DC 3RT1975-5AS31 3RT1975-5AS32 3RT1975-5AT31 3RT1975-5AT32

3RT1955-5AB32

3RT1955-5AD32

3RT1955-5AF32 3RT1955-5AM32 3RT1955-5AP32 3RT1955-5AU32 3RT1955-5AV32 3RT1955-5AR32 3RT1955-5AS32

3RT1955-5AT32

3RT1965-5AB32

3RT1965-5AD32 3RT1965-5AF32 3RT1965-5AM32 3RT1965-5AP32 3RT1965-5AU32 3RT1965-5AV32 3RT1965-5AR32

3RT1955-5N.31

575 ... 600 AC/DC Solid-state operating mechanism for AC/DC with 24 V DC control signal input e.g. for control by PLC

_	•				
S6	3RT105, 3RT145	21 27.3 AC/DC 96 127 AC/DC 200 277 AC/DC	3RT1955-5NB31 3RT1955-5NF31 3RT1955-5NP31	3RT1955-5NB32 3RT1955-5NF32 3RT1955-5NP32	
S10	3RT106, 3RT146	21 27.3 AC/DC 96 127 AC/DC 200 277 AC/DC	3RT1965-5NB31 3RT1965-5NF31 3RT1965-5NP31	3RT1965-5NB32 3RT1965-5NF32 3RT1965-5NP32	
S12	3RT107, 3RT147	21 27.3 AC/DC 96 127 AC/DC 200 277 AC/DC	3RT1975-5NB31 3RT1975-5NF31 3RT1975-5NP31	3RT1975-5NB32 3RT1975-5NF32 3RT1975-5NP32	
lifetin	ne indicator (RLT)	elay output and remaining teral solid-state module)			
S6	3RT105, 3RT145	96 127 AC/DC 200 277 AC/DC	3RT1955-5PF31 3RT1955-5PP31	=	
S10	3RT106, 3RT146	96 127 AC/DC 200 277 AC/DC	3RT1965-5PF31 3RT1965-5PP31	-	

3RT1975-5PF31

3RT1975-5PP31



3RT1955-5P.31

Solid-state operating mechanism for DC with 24 ... 110 V DC control signal input e.g. for control by PLC with extended operating range

96 ... 127 AC/DC

200 ... 277 AC/DC





	4		
P	9		
ġ.			

S6	3RT105X0LA2	24 DC	-	3RT1955-5XB42
		72 DC 110 DC	- -	3RT1955-5XJ42 3RT1955-5XF42
S10	3RT106X0LA2	24 DC		3RT1965-5XB42
		72 DC		3RT1965-5XJ42
		110 DC	-	3RT1965-5XF42
S12	3RT107X0LA2	24 DC		3RT1975-5XB42
		72 DC		3RT1975-5XJ42
		110 DC	-	3RT1975-5XF42

Note:

In the case of 3RT10..-. S contactors with fail-safe control inputs, removing and replacing the operating mechanism are not permitted.

3RT107,

S12

Switching devices – Contactors and contactor assemblies – for switching motors Power contactors for switching motors

Spare parts for SIRIUS 3RT contactors and SIRIUS 3RH2 contactor relays > Solenoid coils

	Operating mechanisms		Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Connection plus	Size	Type	niomo					
Connection plug	S6 S12	ate operating mecha 3RT1.5N,S,X	2-pole	3RT1955-4NQ02		1	1 unit	41B
3RT1955-4NQ02	30 312	3RT1.7N,S,X	2-poie	3111333 411402		'	Turiit	410

Power contactors for switching motors

Spare parts for SIRIUS 3RT contactors and SIRIUS 3RH2 contactor relays > Contacts and arc chutes

	For con	tactors	Version	Article No.	Price per PU	PU (UNIT,	PS*	PG
	Size	Tuno				SET, M)		
Contacts with fi		Type s						
			th 3 main contacts					
	S2 ¹⁾	3RT2035 3RT2036 3RT2037	Main contacts (3 NO contacts) for utilization category AC-3 and AC-3e (1 set = 3 movable and 6 fixed	3RT2935-6A 3RT2936-6A 3RT2937-6A		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
	S3 ¹⁾	3RT2038 3RT2045 3RT2046 3RT2047	_contacts with fixing parts)	3RT2938-6A 3RT2945-6A 3RT2946-6A 3RT2947-6A		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41B 41B 41B 41B
3RT2946A	S6	3RT1054 3RT1055 3RT1056	_	3RT1954-6A 3RT1955-6A 3RT1956-6A		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
	S10	3RT1064 3RT1065 3RT1066	_	3RT1964-6A 3RT1965-6A 3RT1966-6A		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
	S12	3RT1075 3RT1076		3RT1975-6A 3RT1976-6A		1 1	1 unit 1 unit	41B 41B
3RT1954-6A	S3	3RT2446 3RT2448	Main contacts (3 NO contacts) for utilization category AC-1	3RT2946-6D 3RT2948-6D		1 1	1 unit 1 unit	41B 41B
0 0 0	S6	3RT1456	(1 set = 3 movable and 6 fixed	3RT1956-6D		1	1 unit	41B
	S10	3RT1466 3RT1467	contacts with fixing parts)	3RT1966-6D 3RT1967-6D		1 1	1 unit 1 unit	41B 41B
3RT1976A,	S12	3RT1476	_	3RT1976-6D		1	1 unit	41B
3RT1976-6D								
	For co	ntactors wi 3RT2336	th 4 main contacts Main contacts (4 NO contacts)	3RT2936-6E		1	1 unit	41B
	02	3RT2337	for utilization category AC-1 (1 set = 3 movable and 6 fixed contacts and replacement pole with fixing parts)	3RT2937-6E		i	1 unit	41B
3RT2936-6E Arc chutes				_				
Are chates	For co	ntactors wi	th 3 main contacts					
DOUG	S6	3RT1054 3RT1055 3RT1056 3RT1456	Only for contactors with AC/DC coil	3RT1954-7A 3RT1955-7A 3RT1956-7A 3RT1956-7B		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41B 41B 41B 41B
3RT1957.	S10	3RT1064 3RT1065	_	3RT1964-7A 3RT1965-7A		1 1	1 unit 1 unit	41B 41B
		3RT1066 3RT1466		3RT1966-7A 3RT1966-7B		1	1 unit 1 unit	41B 41B
3RT1967.	S12	3RT1075	_	3RT1975-7A		1	1 unit	41B
		3RT1076 3RT1476		3RT1976-7A 3RT1976-7B		1	1 unit 1 unit	41B 41B

Replacement of the spare contact is not permitted for 3RT20..-.S contactors with fail-safe control.

Switching devices – Contactors and contactor assemblies – for switching motors Power contactors for switching motors

SIRIUS 3RT12 and 3TF6 vacuum contactors

Overview



3RT12 and 3TF6 vacuum contactors

Our power range of vacuum contactors for switching IE2 motors and highly efficient IE3 and IE4 motors:

- Sizes S10 and S12: 3RT12 to 250 kW
- Size 14: 3TF6 to 450 kW

See page 3/131 onwards

Standards

IEC 60947-1, IEC 60947-4-1, IEC 60947-5-1 (auxiliary switches)

Terminal covers may have to be fitted onto the connecting bars, depending on the configuration with other devices (see pages 3/118 and 3/135).

Operating conditions

Vacuum contactors are basically unsuitable for switching DC voltage. Vacuum contactors are approved for use exclusively **for applications in the 45 to 60 Hz frequency range**. Help with applications > 60 Hz is available from our Technical Support, www.siemens.com/support-request.

Protection of the device connections from short circuit, overload and overvoltage

Appropriate steps must always be taken to protect device connections from overload and short circuit. There are different constraints depending on the type of connection:

Short-circuit and overload protection of main connections

For information about protection of a single contactor, see the technical product data sheet.

For more information on device combinations such as contactor with overload relay or contactor with motor starter protector/circuit breaker as motor feeder, refer to

- Digital Configuration Manual for load feeders
- · Configuration Manual for load feeders

Short-circuit and overload protection of auxiliary connections

For information on the protection of auxiliary contacts, see the technical product data sheet.

Short-circuit and overload protection of control supply voltage or supply voltage connections

First of all, the relevant standards and regulations for configuring control panels and the parts and components installed in them must be taken into account, for example for cable dimensioning.

One possible protection for these circuits could be the selection of a suitable power supply, i.e. one with a current-limiting function. In the selection of the source and the connecting cable, the load characteristics of the contactor must be considered (short-time inrush current peaks for solid-state contactor operating mechanisms, switch-on power, holding power). The same applies to the selection of suitable protection devices.

If there are further switching elements in the circuit, such as the auxiliary contact system of an overload relay that operates the contactor, the short-circuit protection necessary for this must also be considered.

For further recommendations, e.g. the use of miniature circuit breakers or circuit breakers for equipment in control circuits, see Control panel tip – Selecting and dimensioning suitable power supplies quickly and reliably.

Short-circuit and overload protection of contactors with digital input

A typical rated current of 20 mA applies to these inputs according to the PLC input types according to IEC 60947-4-1.

These inputs can be protected accordingly (for 3RT12..-.N contactors marked with IN+/IN-).

The supply voltage connections A1 - A2 must be protected according to the load characteristics.

For information about power consumption, see the technical product data sheet.

Overvoltage protection at the control supply voltage connection

The 3RT12 contactors are already equipped with coil damping (varistor).

Note:

The break times of the contactor, the opening delay times of the NO contacts and the closing delay times of the NC contacts increase with damping.

For more detailed information about how damping affects the time response see Equipment Manual.

Protection from overvoltage in the main circuit

The 3RT12 and 3TF6 vacuum contactors can be retrofitted with varistors for damping switching overvoltages in the motor.

The 3TF6 contactors have integrated damping depending on the version.

Note:

When 3TF6 contactors are used **in an environment with frequency converters**, the overvoltage damping (if available) must be removed. For more information, see Equipment Manual.

Connection methods

Main circuit

3RT12 vacuum contactors are available with busbar connections. Box terminal blocks can be ordered separately as accessories for versions with screw terminals, see page 3/135.

The 3TF6 vacuum contactors are available with busbar connections.

Auxiliary and control circuit

The 3RT12 and 3TF6 contactors are available with screw terminals.

Power contactors for switching motors

SIRIUS 3RT12 and 3TF6 vacuum contactors

Motor protection

3RB2 electronic overload relays (see pages 7/99, 7/101 and 7/103) can be mounted on the 3RT12 vacuum contactors for protection against overload.

Electromagnetic compatibility (EMC)

The contactors satisfy the conditions for environment A according to IEC 60947-1.

Contact reliability of the auxiliary contacts

If voltages \leq 110 V and currents \leq 100 mA are to be switched, the auxiliary contacts of the vacuum contactors or 3RH contactor relays should be used as they guarantee a high level of contact reliability.

These auxiliary contacts are particularly suitable for solid-state circuits with currents \geq 1 mA at a voltage \geq 17 V.

Vacuum interrupters

3RT12 vacuum contactors

The contact gaps of the vacuum contactors are contained in hermetically enclosed vacuum interrupters unlike the 3RT10 contactors – the main contacts operate in air under atmospheric conditions. The particular benefit of vacuum contactors, however, is that their electrical endurance is significantly higher.

They are especially suited to frequent switching in inching-/mixed operation, e.g. in crane control systems.

3TF6 vacuum contactors

The switching contacts of the vacuum contactors are contained in hermetically enclosed vacuum interrupters.

With these contactors, the contact erosion of the vacuum interrupters can be checked in the energized state with the help of three white double slides below the connecting bars on the outgoing side.

Operating mechanism types

3RT12 vacuum contactors

The contactors can be operated with AC (50 to 60 Hz) as well as with DC. Two types of solenoid operation are available:

- Standard operating mechanism for AC and DC operation (power consumption reduced from closing power to holding power), version 3RT12..-.A
- Solid-state operating mechanism, version 3RT12..-. N

3TF6 vacuum contactors

- Standard version 3TF6.44-.C.7 with AC operation
- 3TF6.33-.D.4 contactors with DC control are supplied with a 3TC4417-4A.. reversing contactor and a series resistor.

Replacing operating mechanisms

3RT12 vacuum contactors

The operating mechanisms of the vacuum contactors are removable and can be replaced simply by unlocking and pulling them out.

3TF6 vacuum contactors

It is also possible to replace the operating mechanism components of the vacuum contactor.

Fitting auxiliary contacts and mounting additional auxiliary switches

Features in the delivery state

- 3RT12 vacuum contactors: These contactors are supplied with two laterally mounted auxiliary switches with two contacts each (2 NO + 2 NC)
- 3TF6 vacuum contactors:
 These contactors are supplied with four laterally mounted auxiliary switches with two contacts each (4 NO + 4 NC).

 For operating mechanism versions with 3TC series contactor, two auxiliary contacts are already defined (3 NO + 3 NC).

Expansion possibilities

- 3RT12 vacuum contactors:
 All basic devices can be expanded via auxiliary switches.
 The permitted configuration must be taken into account.
- Vacuum contactor 3TF6:
 These devices are already fully equipped and no expansion is possible.

Switching devices – Contactors and contactor assemblies – for switching motors Power contactors for switching motors

SIRIUS 3RT12 and 3TF6 vacuum contactors

Technical specifications

Technical specifications of SIRIUS 3RT12 and 3TF6 vacuum contactors, see

- Technical product data sheet
- Equipment Manual

More information

Technical specifications, see

https://support.industry.siemens.com/cs/ww/en/ps/16137/td

FAQs, see

https://support.industry.siemens.com/cs/ww/en/ps/16137/faq

System Manual for modular system, see

https://support.industry.siemens.com/cs/ww/en/view/60311318

Equipment Manual, see

https://support.industry.siemens.com/cs/ww/en/view/60306557

Application Manual - Switching devices with IE3 and IE4 motors, see https://support.industry.siemens.com/cs/ww/en/view/94770820

Digital Configuration Manual for load feeders, see https://imp.siemens.com/digital-engineering-manual/dem

Configuration Manual for load feeders, see

https://support.industry.siemens.com/cs/ww/en/view/39714188

Configuration Manual for UL, see

https://support.industry.siemens.com/cs/ww/en/view/53433538

Guide of use for contactors in safety applications, see https://support.industry.siemens.com/cs/ww/en/view/109807687

Туре

Size

SIRIUS vacuum contactors 3RT12

S10 and S12

Contact endurance of the main contacts

The characteristic curves show the contact endurance of the contactors when switching weak inductive or non-inductive AC loads (AC-1) and motor-driven loads (AC-3 and AC-3e) depending on the breaking current and rated operational voltage. It is assumed that the operating mechanisms are switched randomly, i.e. not synchronized with the phase angle of the supply system.

The rated operational current $I_{\rm e}$ complies with utilization category AC-4 (breaking 6 times the rated operational current) and is intended for a contact endurance of approximately 200 000 operating cycles.

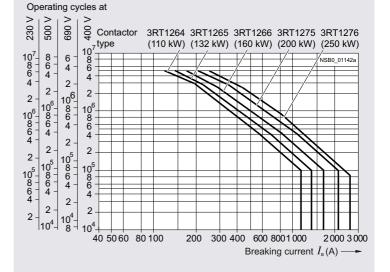
If a shorter contact endurance is sufficient, the rated operational current $I_{\rm e}/{\rm AC}$ -4 can be increased.

If the contacts are used for mixed operation, i.e. normal switching (breaking the rated operational current according to utilization category AC-3 and AC-3e) in combination with intermittent inching (breaking several times the rated operational current according to utilization category AC-4), the contact endurance can be calculated approximately from the following equation:

$$X = \frac{A}{1 + \frac{C}{100} \left(\frac{A}{B} - 1\right)}$$

Characters in the equation:

- X Contact endurance for mixed operation in operating cycles
- A Contact endurance for normal operation
- $(I_a = I_e)$ in operating cycles B Contact endurance for inching
- $(I_a = \text{multiple of } I_e)$ in operating cycles
- C Inching operations as a percentage of total switching operations



Switching devices – Contactors and contactor assemblies – for switching motors Power contactors for switching motors

SIRIUS 3RT12 and 3TF6 vacuum contactors

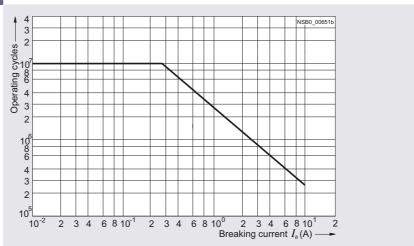
Type Size

Electrical endurance of auxiliary contacts

The electrical endurance for utilization category AC-12 or AC-15/AC-14 depends mainly on the breaking current. It is assumed that the operating mechanisms are switched randomly, i.e. not synchronized with the phase angle of the supply system.

The characteristic curves apply to 230 V AC.





Contact endurance of the main contacts

The characteristic curves show the contact endurance of the contactors when switching weak inductive or non-inductive AC loads (AC-1) and motor-driven loads (AC-3 and AC-3e) depending on the breaking current and rated operational voltage. It is assumed that the operating mechanisms are switched randomly, i.e. not synchronized with the phase angle of the supply system.

The rated operational current $I_{\rm e}$ complies with utilization category AC-4 (breaking 6 times the rated operational current) and is intended for a contact endurance of approximately 200 000 operating cycles.

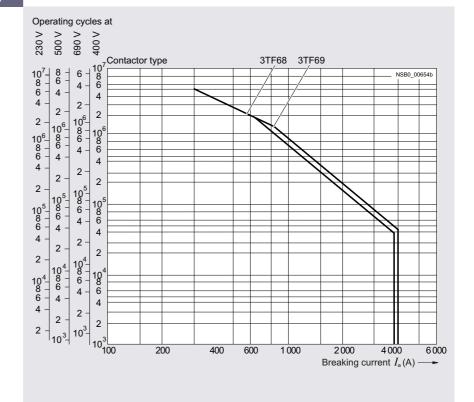
If a shorter contact endurance is sufficient, the rated operational current $I_{\rm e}/{\rm AC}$ -4 can be increased.

If the contacts are used for mixed operation, i.e. normal switching (breaking the rated operational current according to utilization category AC-3 and AC-3e) in combination with intermittent inching (breaking several times the rated operational current according to utilization category AC-4), the contact endurance can be calculated approximately from the following equation:

$$X = \frac{A}{1 + \frac{C}{100} \left(\frac{A}{B} - 1\right)}$$

Characters in the equation:

- X Contact endurance for mixed operation in operating cycles
- A Contact endurance for normal operation $(I_a = I_e)$ in operating cycles
- B Contact endurance for inching $(I_a = \text{multiple of } I_e)$ in operating cycles
- C Inching operations as a percentage of total switching operations



Power contactors for switching motors

IE3/IE4 ready

SIRIUS 3RT12 and 3TF6 vacuum contactors

Selection and ordering data

SIRIUS 3RT12 vacuum contactors, 3-pole, 110 to 250 kW

AC/DC operation

- Standard operating mechanism 3RT12..-.A
- 3RT12..-. N solid-state operating mechanism with 24 V DC control signal input
- For screw fixing

- Auxiliary and control conductors: Screw terminals
- Main conductors: Busbar connections; a connection kit with screws, spring washers and nuts is enclosed.





3RT1264-6AF36

3RT127.-6N.36

Size	AC-3 and tu: up to 60			AC-1, t _u : 40 °C	Auxi cont later	acts,	Rated control supply voltage $U_{\rm s}$ 50/60 Hz AC or DC	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG		
	Operational current I_e up to	Rating three-p at 50 F	hase mo	otors		Opera- tional current I_e up to	1	7		Article No.	Price per PU			
	1 000 V	230 V	400 V	500 V	690 V	1 000 V								
	Α	kW	kW	kW	kW	А	NO	NC	V					
Stan (pov	idard oper ver consur	ating n nption	nechan reduce	ism for ed from	r AC and closing	d DC oper g power to	ratio o hol	n lding	power)					
With	integrated o	oil circu	uit (varis	stor inte	grated a	the factor	у)							
S10	225	55	110	160	200	330	2	2	110 127 220 240	3RT1264-6AF36 3RT1264-6AP36		1 1	1 unit 1 unit	41B 41B
	265	75	132	160	250	330	2	2	110 127 220 240	3RT1265-6AF36 3RT1265-6AP36		1 1	1 unit 1 unit	41B 41B
	300	90	160	200	250	330	2	2	110 127 220 240	3RT1266-6AF36 3RT1266-6AP36		1 1	1 unit 1 unit	41B 41B
S12	400	132	200	250	400	610	2	2	110 127 220 240	3RT1275-6AF36 3RT1275-6AP36		1 1	1 unit 1 unit	41B 41B
	500	160	250	355	500	610	2	2	110 127 220 240	3RT1276-6AF36 3RT1276-6AP36		1 1	1 unit 1 unit	41B 41B
With e.g.	d-state ope 24 V DC of for control integrated o	ontrol by PL	signal C	input	grated ir	ı electronic	s at t	he fac	ctory)					
S10	225	55	110	160	200	330	2	2	96 127 200 277	3RT1264-6NF36 3RT1264-6NP36		1 1	1 unit 1 unit	41B 41B
	265	75	132	160	250	330	2	2	96 127 200 277	3RT1265-6NF36 3RT1265-6NP36		1 1	1 unit 1 unit	41B 41B
	300	90	160	200	250	330	2	2	96 127 200 277	3RT1266-6NF36 3RT1266-6NP36		1 1	1 unit 1 unit	41B 41B
S12	400	132	200	250	400	610	2	2	96 127 200 277	3RT1275-6NF36 3RT1275-6NP36		1 1	1 unit 1 unit	41B 41B
	500	160	250	355	500	610	2	2	96 127 200 277	3RT1276-6NF36 3RT1276-6NP36		1 1	1 unit 1 unit	41B 41B

Other voltages according to page 3/70 on request.

For an overview of the 3RT12 vacuum contactors with mountable accessories, see pages 3/14 and 3/16.

The accessories for the 3RT1 vacuum contactors correspond to those for the basic units of the 3RT1 contactors, see page 3/71 onwards.

For spare parts, see page 3/137 onwards.

Power contactors for switching motors

SIRIUS 3RT12 and 3TF6 vacuum contactors

IE3/IE4 ready

AC-3

3TF6 vacuum contactors, 3-pole, 335 to 450 kW

AC operation ~

Size



- For screw fixing
- Main conductors: Busbar connections
- Auxiliary and control conductors: Screw terminals
- With overvoltage protection of the coil (varistor)





minals

!	Rated dat AC-3 and t_u : Up to 5	AC-3e,	AC-1, t _u : 40 °C	Auxiliary contacts, lateral	Rated control supply voltage $U_{\rm S}$ 50/60 Hz AC	Screw terr
	tional	Rating of three-phase motors at 50 Hz and	Opera- tional current I _e	\ \ \ \ \		Article No.

up to 690 V 230 V 400 V 690 V 1 000 V 690 V A kW kW kW kW A NO NC V

е			(UNII, SET, M)		
	Article No.	Price per PU			
	3TF6844-0CF7		1	1 unit	411
	3TF6844-0CM7		1	1 unit	41
	3TF6844-8CF7		1	1 unit	41

PU

PS*

PG

AU	operation	, 50/00 1	12										
14	630 (552) ²⁾	200 (160) ²⁾	355 (315) ²⁾	600 (560) ²⁾		700	4	4	110 132 200 240	3TF6844-0CF7 3TF6844-0CM7	1 1	1 unit 1 unit	41B 41B
					600	700	4	4	110 132 200 240	3TF6844-8CF7 3TF6844-8CM7	1 1	1 unit 1 unit	41B 41B
14	820 (630) ²⁾	260 (200) ²⁾	450 (355) ²⁾	800 (600) ²⁾		910	4	4	110 132 200 240	3TF6944-0CF7 3TF6944-0CM7	1 1	1 unit 1 unit	41B 41B
					800	910	4	4	110 132 200 240	3TF6944-8CF7 3TF6944-8CM7	1 1	1 unit 1 unit	41B 41B

¹⁾ Please observe the information regarding the use of 3TF6 vacuum contactors in the environment of frequency converters, see page 3/127.

For an overview of the 3TF6 vacuum contactors with mountable accessories, see page 3/17.

Accessories and spare parts, see pages 3/134 to 3/138.

Rated control supply voltages, possible on request (change of the 10th and 11th digits of the article number)

Delivery time on request

Rated control supply voltage $U_{\rm S}$	Contactor type	3TF6844C, 3TF6944C
	Size	14
AC operation		
Solenoid coils for 50/60 H	łz	
110 132 V AC		F7
200 240 V AC		M7
230 277 V AC		P7
380 460 V AC		Q7

²⁾ Value applies for utilization category AC-3e.

Power contactors for switching motors

C-3e IE3/IE4 ready

SIRIUS 3RT12 and 3TF6 vacuum contactors

DC operation

- Main conductors: Busbar connections
- Auxiliary and control conductors: Screw terminals
- Power consumption reduced from closing power to holding power





3TF6833-1D.4 with reversing contactor 3TC4417-0A

Size		C-3 and AC-3e, AC Up to 55 °C t _u :				AC-1, t _u : 40 °C	con		Rated control supply voltage U_s	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
	Operational current I_e up to		hase mot	tors		Operational current I_e up to	\	7		Article No.	Price per PU			
	690 V	230 V	400 V	690 V	1 000 V	690 V								
	Α	kW	kW	kW	kW	Α	NO	NC	V					
DC o	peration	1)												
14	630	200	355	600		700	3	3	24	3TF6833-1DB4		1	1 unit	41B
	(552) ²⁾	$(160)^{2)}$	(315) ²⁾	$(560)^{2)}$	600	700	3	3	24	3TF6833-8DB4		1	1 unit	41B
14	820	260	450	800		910	3	3	24	3TF6933-1DB4		1	1 unit	41B
	$(630)^{2)}$	$(200)^{2)}$	(355) ²⁾	$(600)^{2)}$	800	910	3	3	24	3TF6933-8DB4		1	1 unit	41B

¹⁾ Please observe the information regarding the use of 3TF6 vacuum contactors in the environment of frequency converters, see page 3/127.

For an overview of the 3TF6 vacuum contactors with mountable accessories, see page 3/17.

Accessories and spare parts, see pages 3/134 to 3/138.

Rated control supply voltages, possible on request (change of the 10th and 11th digits of the article number)

Delivery time on request

Rated control supply voltage $U_{\rm S}$	Contactor type	3TF6833D, 3TF6933D
	Size	14
DC operation		
Solenoid coils		
24 V DC		B4
110 V DC		F4
125 V DC		G4
220 V DC		M4
230 V DC		P4

²⁾ Value applies for utilization category AC-3e.

Power contactors for switching motors

Accessories and spare parts for SIRIUS 3RT12 and 3TF6 vacuum contactors

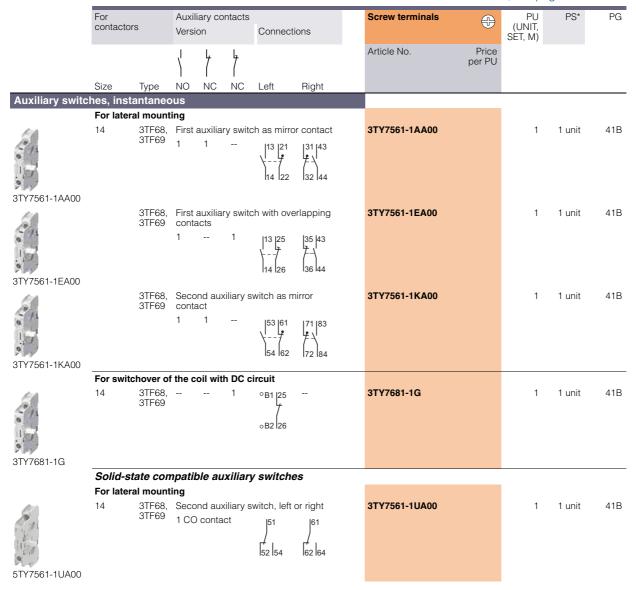
Selection and ordering data

Accessories

For further accessories for the SIRIUS 3RT12 vacuum contactors, see 3RT10 basic units, page 3/71 onwards.

Overview graphics with mountable accessories:

- 3RT12 contactors, see pages 3/14 and 3/16
- 3TF68 and 3TF69 contactors, see page 3/17



Switching devices – Contactors and contactor assemblies – for switching motors Power contactors for switching motors

Accessories and spare parts for SIRIUS 3RT12 and 3TF6 vacuum contactors

						_		
	For c	ontactors	Version	Article No.	Price per PU	PU (UNIT,	PS*	PG
					perro	SET, M)		
	Size	Туре						
Main conducting p	ath su	irge sup	pression modules					
mm.	S10/ S12	3RT12	For damping overvoltages and protecting motor windings against multiple re-ignition when switching off three-phase motors For connection on the outgoing contactor side					
3RT1966-1PV3			(2-T1/4-T2/6-T3), for separate installation					
			Rated operational voltage U _e					
Ed :			• 690 V AC	3RT1966-1PV3		1	1 unit	41B
3RT1966-1PV4			• 1 000 V AC	3RT1966-1PV4		1	1 unit	41B
	s for a	onnocti	ng auxiliary conductors to main terminals	_				
DOX terminal block	5 101 (Jonneen	For round and ribbon cables	_				
			Connectable cross-sections of the contactors,					
			see Equipment Manual.					
4 1/1/1 1/2/10	S10/	3RT12	 Up to 240 mm², with auxiliary conductor connection up to 2.5 mm² 	3RT1966-4G		1	1 unit	41B
	S12		with auxiliary conductor connection up to 2.5 min					
3RT1966-4G								
Surge suppressors	14	3TF68.	Varistors	_		l		
	14	31F66, 3TF69	AC operation					
			The surge suppressor (varistor) is included					
			in the scope of supply of the 3TF68 and 3TF69 contactors with AC operation.					
3TX7572-3.			DC operation					
01X7072 G.			Varistor for snapping onto the side of the auxiliary switch (includes the peak value of the alternating voltage on the DC side), connection to A1 and A2					
			Rated control supply voltage $U_{\rm S}$					
			• 24 48 V DC	3TX7572-3G		1	1 unit	41B
			• 127 240 V DC	3TX7572-3J		1	1 unit	41B
Terminal covers		0.7.500						
	14	3TF68 3TF69	For protection against inadvertent contact, two units required per contactor	3TX7686-0A 3TX7696-0A		1	1 unit 1 unit	41B 41B
0 0		31509	(1 set = 2 units)	31A/090-UA		'	i unii	416
3TX76.6-0A								
2TY7000 0D		3TF68	On the outgoing side combined with overload relay, for protection against inadvertent contact with exposed busbar connections	3TX7686-0B		1	1 unit	41B
3TX7686-0B Links for parallelin	n (eta	r iumper	rs) 3-nole					
Einks for parallelli	9 (Sta 14	3TF68,	Without connecting terminal	3TX7680-0D		1	1 unit	41B
		3TF69	(the link for paralleling can be reduced by	5171, 555 5D		'	1 Gill	.10
3TX7680-0D			one pole)					

Power contactors for switching motors

Accessories and spare parts for SIRIUS 3RT12 and 3TF6 vacuum contactors

	For c	ontactors	Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	Size	Type						
Locking devices fo								
1110,,	14	3TF68- 3TF68	For two contactors of the same size, for mounting on base plate	3TX7686-1A		1	1 unit	41B
3TX7686-1A Base plates								
Dase plates	For	roversin	g contactor assemblies					
	14		For customer assembly of reversing contactor assemblies	3TX7681-1A		1	1 unit	41B
		311 00	assertiules					
3TX7681-1A	_							
	ror star		or assemblies for star-delta (wye-delta)					
	14	•	For configuring contactor assemblies for star-delta (wye-delta) starting	3TX7681-1B		1	1 unit	41B
3TX7681-1B								
Assembly kits for o								
			g contactor assemblies					
0 0	14	3TF68- 3TF68	The assembly kit contains: wiring modules on the top and bottom	3TX7680-1A		1	1 unit	41B
0								
3TX7680-1A								
	For star		or assemblies for star-delta (wye-delta)					
	14	3TF68- 3TF68- 3RT1.7	The assembly kit contains: Wiring modules on the top and bottom, Star jumper S12	3TX7680-1B		1	1 unit	41B
OTV7000 4P		2	20 P. S. S. E.					
3TX7680-1B								

Power contactors for switching motors

Accessories and spare parts for SIRIUS 3RT12 and 3TF6 vacuum contactors

Spare parts

PU (UNIT, SET, M) = 1 PS* = 1 unit PG = 41B

	For cont			Rated control supply voltage $U_{\text{s min}}$ to $U_{\text{s max}}$		v terminals		Spring-loaded terminals			<u></u>	
	Size	Type	V AC/DC	^y s max	Article	e No.	Price per PU		ticle No.		Price per PU	
Withdrawable c		1900	V 710/20				porro				poi 1 0	
-4 -		ard operatii	na mecha	nism for AC/DC								
	S10	3RT126	23 26 42 48 110 12' 200 22(220 24(240 27' 380 42(7 0 0 7 7	3RT1: 3RT1: 3RT1: 3RT1: 3RT1: 3RT1:	966-5AB31 966-5AD31 966-5AF31 966-5AM31 966-5AP31 966-5AU31 966-5AV31		- - - -				
3RT1975-5A.31			440 480 500 550 575 600)	3RT1	966-5AR31 966-5AS31 966-5AT31		=				
<u>"</u> "	S12	3RT127	23 26 42 48 110 12 200 220	7	3RT1: 3RT1: 3RT1:	975-5AB31 975-5AD31 975-5AF31 975-5AM31		3F 3F	RT1975-5AE RT1975-5AE RT1975-5AF RT1975-5AN	032 -32		
			220 240 240 27 380 420 440 480 500 550	7))	3RT1: 3RT1: 3RT1:	975-5AP31 975-5AU31 975-5AV31 975-5AR31 975-5AS31		3F 3F 3F	RT1975-5AF RT1975-5AU RT1975-5AV RT1975-5AF RT1975-5AS	J32 /32 R32		
3RT1975-5A.32			575 600			975-5AT31			RT1975-5AT			
	with 24	state opera 4 V DC con r control by 3RT126	trol signa		3RT1	966-5NB31						
	010	0111120	96 127 200 27		3RT1	966-5NF31 966-5NP31		-				
	S12	3RT127	21 27.3 96 127 200 27		3RT1	975-5NB31 975-5NF31 975-5NP31		3F	RT1975-5NE RT1975-5NF RT1975-5NF	32		
3RT1975-5N.31												
	•	ng mechanisr	ns	Version		Article No.	р	Price er PU	PU (UNIT, SET, M)	PS*	PG	
	Size	Туре										
Connection plu	gs for so S10, S12	3RT12	perating r 265N, 275N	echanisms 2-pole		3RT1955-4N	Q02		1	1 unit	41B	

3RT1955-4NQ02

Switching devices – Contactors and contactor assemblies – for switching motors Power contactors for switching motors

Accessories and spare parts for SIRIUS 3RT12 and 3TF6 vacuum contactors

	For contact	otors	Version	Rated control supply voltage $U_{\rm S}$	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	Size	Туре		V					
Solenoid coils									
Ϋ́			AC operation	50/60 Hz AC					
	14	3TF68	The solenoid coils are fitted as standard with varistors against overvoltage; the coil is supplied with switch-on	110 132 200 240 230 277 380 460	3TY7683-0CF7 3TY7683-0CM7 3TY7683-0CP7 3TY7683-0CQ7		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41B 41B 41B 41B
3TY76.3-0C		3TF69	electronics.	110 132 200 240 230 277 380 460	3TY7693-0CF7 3TY7693-0CM7 3TY7693-0CP7 3TY7693-0CQ7		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41B 41B 41B 41B
All many			DC operation						
3TY7683-0D	14	3TF68	The solenoid coils are supplied without reversing contactor.	24 DC 110 DC 125 DC 220 DC 230 DC	3TY7683-0DB4 3TY7683-0DF4 3TY7683-0DG4 3TY7683-0DM4 3TY7683-0DP4		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41B 41B 41B 41B 41B
Vacuum interrup	oters								
	S10	3RT1264 3RT1265 3RT1266	Set with three vacuum interrupters with fixing parts	 	3RT1964-6V 3RT1965-6V 3RT1966-6V		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
3RT1976V	S12	3RT1275 3RT1276	-		3RT1975-6V 3RT1976-6V		1	1 unit 1 unit	41B 41B
	14	3TF68	Set with three vacuum		3TY7680-0B		1	1 unit	41B
		3TF69	interrupters with components Note: In order to ensure reliable operation of the contactors, only original replacement interrupters should be used.		3TY7690-0B		1	1 unit	41B
3TY7690-0B									
AC solenoid ope									
3TY7685-0C.7	14	3TF6844C	Solenoid operating mechanism with coil	50/60 Hz AC 200 240 230 276	3TY7685-0CM7 3TY7685-0CP7		1 1	1 unit 1 unit	41B 41B

Switching devices - Contactors and contactor assemblies - for switching motors Power contactors for switching motors

3TG10 power relays/miniature contactors

Overview

Standards

IEC 60947-1, IEC 60947-4-1, IEC 60947-5-1

Version

The 3TG10 power relays/miniature contactors are available with screw terminals or 6.3 mm × 0.8 mm flat connectors.

The 3TG10 miniature contactors are characterized by their width of just 36 mm.

Protection of the device connections from overvoltage

The 3TG10 power relays/miniature contactors have an integrated protective circuit against switching overvoltages.

Application

Because they are hum-free they are suitable for use in household appliances and distribution boards in office and residential areas.

They can also be used for applications where there is little space, such as air conditioners, heating systems, pumps and fans, i.e. for simple electrical controls.

Technical specifications

More information

more information			
Technical specifications, see https://support.industry.siemens.com/cs/ww/en/ps/16186/t	d	https	rence Manual for switching devices, see :://support.industry.siemens.com/cs/ww/en/view/35554359 s, see https://support.industry.siemens.com/cs/ww/en/ps/16186/faq
Туре			3TG10
General data	'		
Dimensions (W x H x D)	W	mm	36 x 56 x 56
Endurance			
	Operating cycles		3 million
	Operating cycles Operating cycles		0.1 million 0.4 million
Rated insulation voltage <i>U</i> _i (pollution degree 3)		V	400
Rated impulse withstand voltage <i>U</i> _{imp}		kV	4
Protective separation between the coil and the contacts according to IEC 60947	-1, Annex N	V	Up to 300
Permissible ambient temperature			
 During operation¹⁾ During storage 		°C	-25 + 55 -50 + 80
Short-circuit protection			
Fuse links, operational class gG: LV HRC, type 3NA; DIAZED, type 5SB; NEOZED, type 5SE according to IEC 60947-4-1	:		
Type of coordination "1" Type of coordination "2"		A A	25 10
Miniature circuit breakers, C characteristic	-	Α	10
Control			
Solenoid coil operating range			0.85 1.1 x U _s
Power consumption of the solenoid coils (for cold coil a	ind 1.0 x <i>U</i> _s)		
• AC operation, 45 450 Hz - P.f.		VA	4.4 0.9 (hum-free)
DC operation		W	4
Rated data of the main contacts			
Load rating with AC			
Utilization category AC-1		^	00 for a service beautiful at 0 for flat.
 Rated operational current I_e up to 400 V at 55 °C¹⁾ Rated power U_e for AC loads with p.f. = 1, 230/220 V For screw terminals 		A kW	20 for screw terminals, 16 for flat connectors 7.5 (13 at 400 V)
- For flat connectors		kW	6 (10 at 400 V)

kW

ullet Minimum conductor cross-section for loads with $I_{
m e}$

- For flat connectors

6 (10 at 400 V)

2.5

¹⁾ If the three main conducting paths carry a load of 20 A, the following applies if I > 10 A in the fourth conducting path: Permissible ambient temperature 40 °C.

Switching devices – Contactors and contactor assemblies – for switching motors Power contactors for switching motors

3TG10 power relays/miniature contactors

31G10 power relays	/iiiiiiiatare e	ontactors			
Type					3TG10
Type Rated data of the main	n contacts (co	ontinued)			31610
Load rating with AC	ii comacis (ci	ontinueu)			
•	and AC 2a				
Utilization category AC-3		< 400 \/ rated \	rolu o	^	0.4/0.4
Operational current for A	•	,	alue	Α	8.4/6.4
 Rated power for slip-ring AC-3/AC-3e, at 50 and 6 				kW	4/3
Utilization category AC-5			≥ 0.5 Ω)		
Switching of gas dischar			,		
per main conducting path	at 230 V, 50 Hz				
	Rated power	Rated			
	per lamp	operational current per lamp			
 Uncompensated 	18 W	0.37 A	_	Unit(s)	43
	36 W 58 W	0.43 A 0.67 A		Unit(s) Unit(s)	37 24
DUO switching	18 W	2 x 0.11 A			2 x 81
• DOO switching	36 W	2 x 0.21 A		Unit(s)	2 x 42
	58 W	2 x 0.32 A		Unit(s)	
Switching of gas dischar		compensation of	or ECG		
per main conducting path		_			
Connection	Rated power per lamp	Capacitor capacitance	Rated operational current per lamp		
 Shunt compensation 	L18 W	4.5 μ <u>F</u>	0.11 A	Unit(s)	15
	L36 W L58 W	4.5 μF 7 μF	0.21 A 0.32 A	Unit(s) Unit(s)	15 10
With ECG (single lamp)	L18 W	7 μι 6.8 μF	0.10 A	Unit(s)	39
• With LCG (single famp)	L36 W	6.8 µF	0.18 A	Unit(s)	39
	L58 W	10 µF	0.27 A	Unit(s)	26
With ECG (two lamps)	L18 W L36 W L58 W	10 μF 10 μF 22 μF	0.18 A 0.35 A 0.52 A	Unit(s) Unit(s) Unit(s)	2 x 26 2 x 26 2 x 12
Utilization category AC-5		<u> </u>		kW	1.6
per main conducting path					
Load rating with DC					
Utilization category DC-1	, (<i>L/R</i> ≤ 15 ms)				
 Rated operational current 	ts I _e				
 1 conducting path 			up to 24 V	Α	16
			60 V 110 V	A A	6 2
			220 V/240 V	A	0.8
- 2 conducting paths in s	series		up to 24 V	Α	16
			60 V 110 V	A A	16 6
			220 V/240 V	A	1.6
- 3 conducting paths in s	series		up to 24 V	Α	18
01			60 V	A	18
			110 V 220 V/240 V		16 6
Utilization category DC-3 Shunt-wound and series-		(<i>L/R</i> ≤ 15 ms)	223 1/2 13 1		
Rated operational current	ts I _e				
- 1 conducting path			up to 24 V		10
			60 V 110 V	A A	0.5 0.15
			220 V/240 V		0
- 2 conducting paths in s	series		up to 24 V	A	16
			60 V 110 V		5 0.35
			220 V/240 V		0.55
- 3 conducting paths in s	series		up to 24 V		16
			60 V	A	16
			110 V 220 V/240 V	A A	10 1.75

Switching devices – Contactors and contactor assemblies – for switching motors Power contactors for switching motors

3TG10 power relays/miniature contactors

Timo		3TG10
Type Conductor cross-sections		31010
Conductor cross sections		Screw terminals
Terminal screws		M3
 Finely stranded with end sleeve (DIN 46228 Form A/D/C) 	mm^2	2 x (0.75 2.5)
• Solid	mm^2	2 x (1 2.5), 1 x 4
Permissible opening tool (screwdriver)		3.0 mm x 0.5 mm (3RA2908-1A) or Pozidriv 2
		Flat connectors
• Finely stranded 6.3 mm plug-in sleeve according to DIN 46245/DIN 46247		
- 6.3 1 - 6.3 2.5	mm ² mm ²	0.5 1 1 2.5
® and ® rating (screw terminals)		
Rated insulation voltage	V AC	600
Uninterrupted current Open and enclosed	Α	20
Maximum horsepower ratings (from ® and ® approved values)		1-phase/3-phase
 Rated power for three-phase motors at 60 Hz 200 V 230 V 460 600 V 	hp hp hp hp	0.5/ 1/3 1.5/3 0/5

Power contactors for switching motors

3TG10 power relays/miniature contactors IE3/IE4 ready

Selection and ordering data

AC operation or DC operation

For screw fixing and snap-on mounting on TH 35 DIN rail

TOI SCIEW IIXIIIQ	, arra orra	tp on mount	119 011 111	CO BII TAII	_					_		
	Rated dat Utilization						Rated control	Article No.	Price per PU	PU (UNIT,	PS*	PG
	AC-1 at 55 °C		AC-3/AC-3e		supply voltage <i>U</i> s					SET, M)		
	Opera- tional	Power of AC loads at	Opera- tional	Power of AC loads at	Vers	sion						
	current I _e up to 400 V	50 Hz and 400 V	current I _e up to 400 V ¹⁾	50 Hz and 400 V	\	7						
	А	kW	А	kW	NO	NC	V					
Hum-free · with	n screw to	erminals										
#19	•	ration, 45 4						Screw terminals				
9 9 9	20	13	8.4/6.4	4/3	1		24 AC 110 AC 230 AC	3TG1010-0AC2 3TG1010-0AG2 3TG1010-0AL2		1 1 1	1 unit 1 unit 1 unit	41H 41H 41H
3TG100						1	24 AC 110 AC 230 AC	3TG1001-0AC2 3TG1001-0AG2 3TG1001-0AL2		1 1 1	1 unit 1 unit 1 unit	41H 41H 41H
	DC oper	ation										
	20	13	8.4/6.4	4/3	1 	 1	24 DC 24 DC	3TG1010-0BB4 3TG1001-0BB4		1 1	1 unit 1 unit	41H 41H
Hum-free · with	1 6.3 mm	x 0.8 mm flat	t connect	tors								
								Flat connectors	•			

3TG10..-1..

16	10	8.4/6.4	4/3	1		24 AC 110 AC 230 AC	3TG1010-1AC2 3TG1010-1AG2 3TG1010-1AL2	1 1 1	1 unit 1 unit 1 unit	41H 41H 41H
					1	24 AC 110 AC 230 AC	3TG1001-1AC2 3TG1001-1AG2 3TG1001-1AL2	1 1 1	1 unit 1 unit 1 unit	41H 41H 41H
DC o	peration									
16	10	8.4/6.4	4/3	1	1	24 DC 24 DC	3TG1010-1BB4 3TG1001-1BB4	1 1	1 unit 1 unit	41H 41H

Accessories

	Version	Max. rated operational currents $I_{\rm e}/{\rm AC}$ -1 (at 55 °C) of the contactors	Max. conductor cross-sections	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
		A	mm^2	Article No.	Price per PU			
Links for para	lleling (insulated star jun	npers) ¹⁾						
	3-pole							
	 Without connecting terminal 	16		3RT1916-4BA31		1	1 unit	41B
	 With connecting terminal 	40	25	3RT1916-4BB31		1	1 unit	41B
	4-pole							
3RT1916-4BB31	 With connecting terminal 	40	25	3RT1916-4BB41		1	1 unit	41B

The links for paralleling can be reduced by one pole. The rated operational currents apply to each pole.

¹⁾ The rated operational currents apply to each pole.

SIRIUS 3RA23 reversing contactor assemblies, up to 55 kW

Overview

More information

Homepage, see www.siemens.com/sirius

SiePortal, see www.siemens.com/product?3RA23_3RT1 Conversion tool, see www.siemens.com/conversion-tool

The 3RA23 reversing contactor assemblies in sizes S00 to S3 can be ordered as follows:

- Fully wired and tested, with mechanical and electrical interlock, see page 3/150 onwards.
- For all individual parts for customer assembly, see page 3/71 onwards.

The 3RA23 reversing contactor assemblies have screw terminals or spring-loaded terminals (main and control circuits) and are suitable for screw fixing and snap-on mounting on TH 35 DIN rails.

TIA Selection Tool Cloud (TST Cloud), see www.siemens.com/tstcloud/?node=LoadFeeder

Guide of use for contactors in safety applications, see https://support.industry.siemens.com/cs/ww/en/view/109807687

Complete 3RA23 reversing contactor assemblies

The 3RA23 reversing contactor assemblies of sizes S00 to S3 each consist of two contactors with the same power, with one NC contact (S00) or one NO contact and one NC contact (S0 to S3) in the basic unit. The contactors are mechanically and electrically interlocked (NC contact interlock).

3RU2 overload relays (see page 7/86 onwards) or 3RB3 overload relays (see pages 7/98, 7/100 and 7/102) for contactor mounting or stand-alone installation, SIMOCODE pro 3UF7 motor management and control devices (see page 10/12 onwards) or 3RN2 thermistor motor protection relays (page 10/138 onwards) can be used for motor protection.

3RA23 reversing contactor assemblies with voltage tap-off

The reversing contactor assemblies with voltage tap-off (see pages 3/150 to 3/153) are required for mounting the function modules for connection to the controller via the IO-Link or AS-Interface communications systems. The 3RA27 function modules must be ordered separately, see page 3/106.

For more information on IO-Link and AS-Interface, see "Industrial communication", page 2/1 onwards.

SIRIUS 3RA23 reversing contactor assemblies, up to 55 kW

Sizes S00 to S3

Rated data for A at AC 50 Hz 400		Size	Туре		
Rating	Operational current		Contactor	Assembly kit	Fully wired and tested
P	I_{e}		(see page 3/47 onwards)	(see page 3/109)	reversing contactor
kW	A				assemblies
			Screw terminals		
3	7	S00-S00	3RT2015-12	3RA2913-2AA1	3RA2315-8XB30-1
4	9		3RT2016-12	3RA2913-2AA1	3RA2316-8XB30-1
5.5	12		3RT2017-12	3RA2913-2AA1	3RA2317-8XB30-1
7.5	16		3RT2018-12	3RA2913-2AA1	3RA2318-8XB30-1
5.5	12	S0-S0	3RT2024-10	3RA2923-2AA1	3RA2324-8XB30-1
7.5	17		3RT2025-10	3RA2923-2AA1	3RA2325-8XB30-1
11	25		3RT2026-10	3RA2923-2AA1	3RA2326-8XB30-1
15	32		3RT2027-10	3RA2923-2AA1	3RA2327-8XB30-1
18.5	38		3RT2028-10	3RA2923-2AA1	3RA2328-8XB30-1
18.5	41	S2-S2	3RT2035-10	3RA2933-2AA1	3RA2335-8XB30-1
22	51		3RT2036-10	3RA2933-2AA1	3RA2336-8XB30-1
30	65		3RT2037-10	3RA2933-2AA1	3RA2337-8XB30-1
37	80		3RT2038-10	3RA2933-2AA1	3RA2338-8XB30-1
37	80	S3-S3	3RT2045-10	3RA2943-2AA1	3RA2345-8XB30-1
45	95		3RT2046-10	3RA2943-2AA1	3RA2346-8XB30-1
55	110		3RT2047-10	3RA2943-2AA1	3RA2347-8XB30-1
			Spring-loaded term	inals	
3	7	S00-S00	3RT2015-22	3RA2913-2AA2	3RA2315-8XB30-2
4	9		3RT2016-22	3RA2913-2AA2	3RA2316-8XB30-2
5.5	12		3RT2017-22	3RA2913-2AA2	3RA2317-8XB30-2
7.5	16		3RT2018-22	3RA2913-2AA2	3RA2318-8XB30-2
5.5	12	S0-S0	3RT2024-20	3RA2923-2AA2	3RA2324-8XB30-2
7.5	17		3RT2025-20	3RA2923-2AA2	3RA2325-8XB30-2
11	25		3RT2026-20	3RA2923-2AA2	3RA2326-8XB30-2
15	32		3RT2027-20	3RA2923-2AA2	3RA2327-8XB30-2
18.5	38		3RT2028-20	3RA2923-2AA2	3RA2328-8XB30-2

Article number scheme

Product versions		Article number	er	
SIRIUS reversing contactor assembly		3RA23 □ □ -		00-000
Size of the contactor	e.g. 4 = S3			
Rating dependent on size	e.g. 5 = 37 kW for size S3			
Type of overload relay	e.g. 8X = Without			
Assembly	e.g. E = Communication-capable installation			
Interlock	e.g. 3 = Mechanical and electrical			
Free auxiliary switches	e.g. 0 = S3: 2 NO total			
Type of electrical connection	e.g. 1 = Screw terminals (main and auxiliary circuits)			
Operating range/solenoid coil circuit	e.g. A = AC standard/without coil circuit			
Rated control supply voltage	e.g. L2 = 230 V AC, 50/60 Hz			
Example		3RA23 4 5 -	8 X E 3	0 - 1 A L 2

Note:

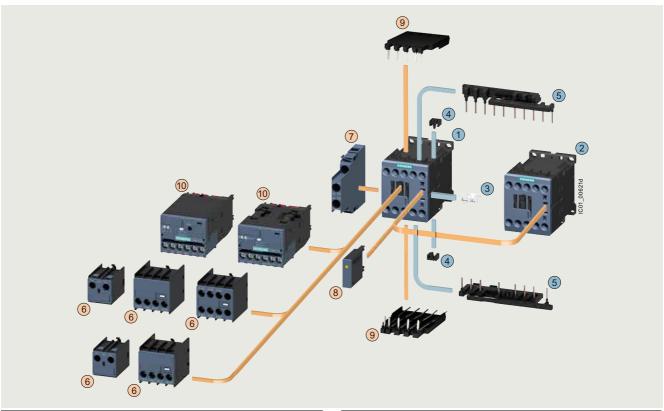
The article number scheme shows an overview of product versions for better understanding of the logic behind the article numbers.

For your orders, please use the article numbers quoted in the selection and ordering data.

SIRIUS 3RA23 reversing contactor assemblies, up to 55 kW

Fully wired and tested reversing contactor assemblies · Size S00-S00 · Up to 7.5 kW

The figure shows the version with screw terminals



Mountable accessories (optional)									
To be	ordered separately	Туре	Page						
6 A	Auxiliary switch, front ¹⁾	3RH2911	3/91 3/93, 3/97						
(7) A	Auxiliary switch, lateral	3RH2911	3/95, 3/99						
8	Surge suppressor	3RT2916	3/102, 3/103						
9	Solder pin adapter	3RT1916-4KA1	3/117						
	Function module for connection o the control system	3RA2711BA00	3/106						

Complete reversing contactor assembly									
Individual parts		Туре		Page					
		Q11	Q12						
12	Contactors, 3 kW	3RT2015	3RT2015	3/47, 3/54, 3/55					
12	Contactors, 4 kW	3RT2016	3RT2016	3/47, 3/54, 3/55					
12	Contactors, 5.5 kW	3RT2017	3RT2017	3/47, 3/54, 3/55					
12	Contactors, 7.5 kW	3RT2018	3RT2018	3/47, 3/54, 3/55					
3 5	Assembly kit comprising:	3RA2913-2	2AA1	3/109					

- Mechanical interlock²⁾
- Two connecting clips for two contactors²⁾
- Wiring modules on the top and bottom for connecting the main current paths, electrical interlock included³⁾, interruptible (NC contact interlock)

For complete reversing contactor assemblies, see page 3/150.

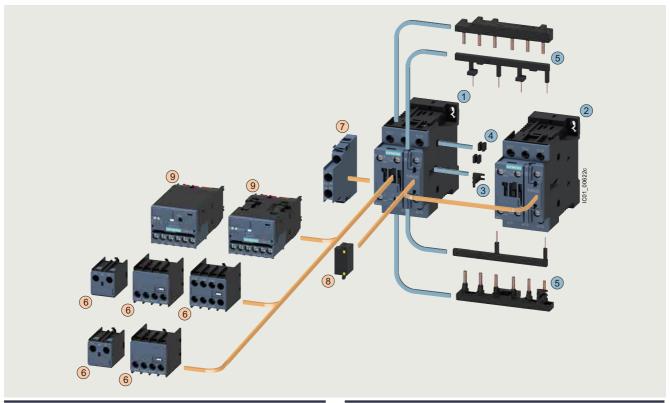
 ¹⁾ Auxiliary switch according to EN 50005 must be used.
 2) The parts 3 and 4 can only be ordered together as 3RA2912-2H mechanical connectors.

^{3) 3}RT201. contactors with one NC contact in the basic unit are required for the electrical interlock. An additional NO contact is required for momentary-contact operation.

SIRIUS 3RA23 reversing contactor assemblies, up to 55 kW

Fully wired and tested reversing contactor assemblies \cdot Size S0-S0 \cdot Up to 18.5 kW

The figure shows the version with screw terminals



IVIO	Mountable accessories (optional)								
To I	pe ordered separately	Туре	Page						
6)	Auxiliary switch, front	3RH2911	3/91 3/93, 3/97						
7	Auxiliary switch, lateral	3RH2921	3/95, 3/99						
8	Surge suppressor	3RT2926	3/102, 3/103						
9	Function module for connection to the control system	3RA2711BA00	3/106						

Complete reversing contactor assembly									
Individual	parts	Туре		Page					
		Q11	Q12						
12	Contactors, 5.5 kW	3RT2024	3RT2024	3/49, 3/58, 3/59					
12	Contactors, 7.5 kW	3RT2025	3RT2025	3/49, 3/58, 3/59					
12	Contactors, 11 kW	3RT2026	3RT2026	3/49, 3/58, 3/59					
12	Contactors, 15 kW	3RT2027	3RT2027	3/49, 3/58, 3/59					
12	Contactors, 18.5 kW	3RT2028	3RT2028	3/49, 3/58, 3/59					
3 5	Assembly kit comprising:	3RA2923-2	AA1	3/109					

- Mechanical interlock¹⁾
- 4 Two connecting clips for two contactors 1)
- Wiring modules on the top and bottom for connecting the main current paths, electrical interlock included (NC contact interlock)

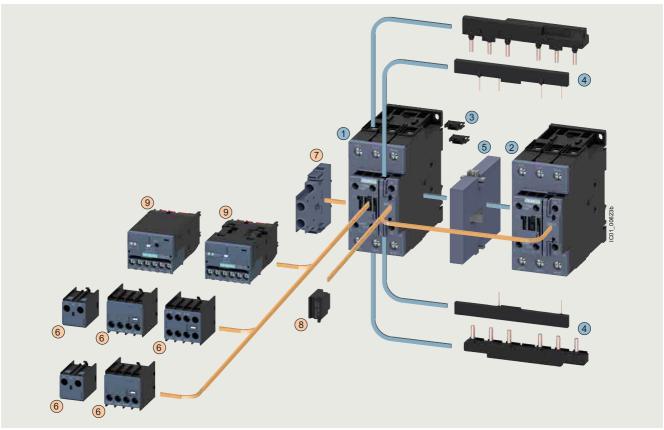
For complete reversing contactor assemblies, see page 3/151.

¹⁾ The parts 3 and 4 can only be ordered together as 3RA2922-2H mechanical connectors.

SIRIUS 3RA23 reversing contactor assemblies, up to 55 kW

Fully wired and tested reversing contactor assemblies · Size S2-S2 · Up to 37 kW

The figure shows the version with screw terminals



Mountable accessories (optional)									
To b	oe ordered separately	Туре	Page						
6	Auxiliary switch, front	3RH2911	3/91 3/93, 3/97						
7	Auxiliary switch, lateral	3RH2921	3/95, 3/99						
8	Surge suppressors	3RT2936	3/102, 3/103						
9	Function module for connection to the control system	3RA2711BA00	3/106						

Complete reversing contactor assembly									
Individual parts		Туре		Page					
		Q11	Q12						
12	Contactors, 18.5 kW	3RT2035	3RT2035	3/53, 3/63					
12	Contactors, 22 kW	3RT2036	3RT2036	3/53, 3/63					
12	Contactors, 30 kW	3RT2037	3RT2037	3/53, 3/63					
12	Contactors, 37 kW	3RT2038	3RT2038	3/53, 3/63					
34	Assembly kit comprising:	3RA2933-2	2AA1	3/109					
	Two connectors for two contactors								
	Miring madulas	on the ton	and battom fo	v aannaatina tha					

Wiring modules on the top and bottom for connecting the main and auxiliary circuits, electrical interlock included (NC contact interlock)

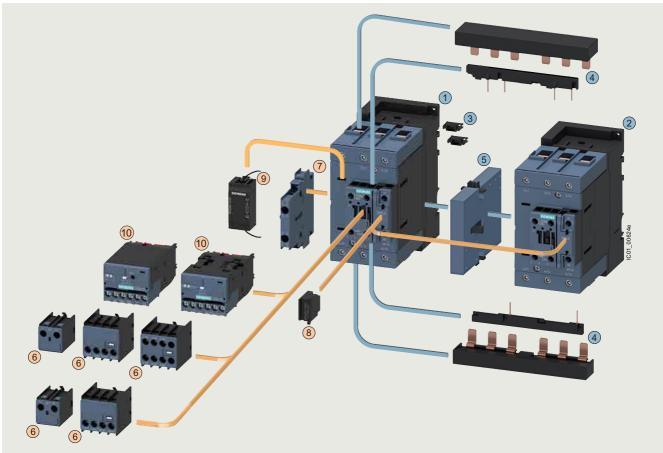
Mechanical interlock 3RA2934-2B 3/114

For complete reversing contactor assemblies, see page 3/152.

SIRIUS 3RA23 reversing contactor assemblies, up to 55 kW

Fully wired and tested reversing contactor assemblies \cdot Size S3-S3 \cdot Up to 55 kW

The figure shows the version with screw terminals



Mountable accessories (optional)									
To be ordered separately	Туре	Page							
6 Auxiliary switch, front	3RH2911	3/91 3/93, 3/97							
Auxiliary switch, lateral	3RH2921	3/95, 3/99							
Surge suppressor (varistor, diode assembly)	3RT2936	3/102, 3/103							
Surge suppressor (RC element)	3RT2946	3/102							
Function module for connection to the control system (the associated module connectors 3RA2711-0EE17 must be ordered separately, see page 3/107)	3RA2711BA00	3/106							

For complete reversing contactor assemblies, see page 3/153.

Complete reversing contactor assembly										
Individua	al parts	Туре		Page						
		Q11	Q12							
12	Contactors, 37 kW	3RT2045	3RT2045	3/53, 3/64						
12	Contactors, 45 kW	3RT2046	3RT2046	3/53, 3/64						
12	Contactors, 55 kW	3RT2047	3RT2047	3/53, 3/64						
34	Assembly kit comprising:	3RA2943-	2AA1	3/109						
	3 Two connector	s for two co	ntactors							
	Wiring modules on the top and bottom for connecting the main and auxiliary circuits, electrical interlock included (NC contact interlock)									
(5)	Mechanical interlock	3RA2934-	2B	3/114						

SIRIUS 3RA23 reversing contactor assemblies, up to 55 kW

Benefits

Using wiring kits for reversing contactor assemblies has the following advantages:

- Notable reduction of wiring in the control circuit
- Integrated mechanical interlock for sizes S00 to S3
- · Prevention of wiring errors in the main circuit

Connecting combs for screw terminals also result in:

- Prevention of wiring errors in the control circuit
- Reduction of testing costs
- Ready-jumpered actuation of the auxiliary switches and the frame (A2)
- · Integrated electrical interlocking

Accessories

Selecting the auxiliary switches

The following points should be noted:

Size S00

- For maintained-contact operation: Use contactors with an NC contact in the basic unit for the electrical interlock.
- For momentary-contact operation:
 Use contactors with an NC contact in the basic unit for the
 electrical interlock; in addition, an auxiliary switch with at least
 one NO contact for self-locking is required per contactor.

Sizes S0 to S3

- For maintained-contact operation:
 The contactors have two integrated auxiliary contacts
 (1 NO contact + 1 NC contact); the NC contact can be used for electrical interlocking.
- For momentary-contact operation: Electrical interlock as for maintained-contact operation; the NO contact in the basic unit can be used for the self-locking.

Surge suppression

Sizes S00 to S3

All reversing contactor assemblies can be fitted with RC elements or varistors for damping switching overvoltages in the coil.

As with the individual contactors, the surge suppressors can either be plugged onto the top of the contactors (S00) or be plugged into the front of the contactors (S0 to S3).

Technical specifications

More information

Technical specifications, see

https://support.industry.siemens.com/cs/ww/en/ps/16146/td

FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/16146/faq

System Manual for modular system, see

https://support.industry.siemens.com/cs/ww/en/view/60311318

Equipment Manual, see

https://support.industry.siemens.com/cs/ww/en/view/60306557

Application Manual - Switching devices with IE3 and IE4 motors, see https://support.industry.siemens.com/cs/ww/en/view/94770820

Guide of use for contactors in safety applications, see

https://support.industry.siemens.com/cs/ww/en/view/109807687

The technical specifications are the same as for the individual contactors (see page 3/25 onwards).

Reversing contactor assemblies

SIRIUS 3RA23 reversing contactor assemblies, up to 55 kW

IE3/IE4 ready

AC-3 ϵ

Selection and ordering data

Fully wired and tested reversing contactor assemblies¹⁾ · Size S00-S00 · Up to 7.5 kW AC operation or DC operation

 $\begin{array}{ll} PU \text{ (UNIT, SET, M)} &= 1 \\ PS^* &= 1 \text{ unit} \\ PG &= 41B \end{array}$







3RA231.-8XE30-1BB4



3RA231.-8XB30-2A.0

Rated data AC-3	3 and AC-3e			Rated control	Screw terminals	(+)	Spring-loaded	8
Operational		f three-phase		supply voltage			terminals	
current I _e up to		and 60 Hz an	-	$U_{\rm S}$	Article No.	Price per PU	Article No.	Price per PU
400 V	230 V	400 V	690 V			per PO		per Pu
Α	kW	kW	kW	V				
AC operation	, 50/60 Hz							
7	2.2	3	4	24 AC	3RA2315-8XB30-1AB0		3RA2315-8XB30-2AB0	
				110 AC	3RA2315-8XB30-1AF0		3RA2315-8XB30-2AF0	
				230 AC	3RA2315-8XB30-1AP0		3RA2315-8XB30-2AP0	
9	3	4	5.5	24 AC	3RA2316-8XB30-1AB0		3RA2316-8XB30-2AB0	
				110 AC	3RA2316-8XB30-1AF0		3RA2316-8XB30-2AF0	
				230 AC	3RA2316-8XB30-1AP0		3RA2316-8XB30-2AP0	
12	3	5.5	5.5	24 AC	3RA2317-8XB30-1AB0		3RA2317-8XB30-2AB0	
				110 AC	3RA2317-8XB30-1AF0		3RA2317-8XB30-2AF0	
				230 AC	3RA2317-8XB30-1AP0		3RA2317-8XB30-2AP0	
16	4	7.5	7.5	24 AC	3RA2318-8XB30-1AB0		3RA2318-8XB30-2AB0	
				110 AC	3RA2318-8XB30-1AF0		3RA2318-8XB30-2AF0	
				230 AC	3RA2318-8XB30-1AP0		3RA2318-8XB30-2AP0	
DC operation								
7	2.2	3	4	24 DC	3RA2315-8XB30-1BB4		3RA2315-8XB30-2BB4	
9	3	4	5.5	24 DC	3RA2316-8XB30-1BB4		3RA2316-8XB30-2BB4	
12	3	5.5	5.5	24 DC	3RA2317-8XB30-1BB4		3RA2317-8XB30-2BB4	
16	4	7.5	7.5	24 DC	3RA2318-8XB30-1BB4		3RA2318-8XB30-2BB4	
With voltage	tap-off							
7	2.2	3	4	24 DC	3RA2315-8XE30-1BB4		3RA2315-8XE30-2BB4	
9	3	4	5.5	24 DC	3RA2316-8XE30-1BB4		3RA2316-8XE30-2BB4	
12	3	5.5	5.5	24 DC	3RA2317-8XE30-1BB4		3RA2317-8XE30-2BB4	
16	4	7.5	7.5	24 DC	3RA2318-8XE30-1BB4		3RA2318-8XE30-2BB4	

¹⁾ The contactors integrated in the reversing contactor assemblies of size S00 each have one integrated auxiliary contact (1 NC per contactor). The NC contacts are necessary for electrical interlocking of the contactors. Exception:

Representation of the complete reversing contactor assemblies with optionally mountable accessories, see page 3/145.

Exception:

If a reversing contactor assembly with voltage tap-off is used together with a function module, electrical interlocking is realised through the function module and the available auxiliary contact (1 NC per contactor) can be used freely.

Reversing contactor assemblies

IE3/IE4 ready SIRIUS 3RA23 reversing contactor assemblies, up to 55 kW

Fully wired and tested reversing contactor assemblies¹⁾ · Size S0-S0 · Up to 18.5 kW AC operation or DC operation

PU(UNIT, SET, M) = 1= 1 unit = 41B











3RA232.-8XB30-2A.2

Rated data AC-3	and AC-3e			Rated control	Screw terminals		Spring-loaded	8
Operational		of three-phas and 60 Hz	e motors	supply voltage U_{s}	Article No.	Price	terminals Article No.	Price
current I _e up to 400 V	230 V	400 V	690 V	- 5	Article No.	per PU	Article No.	per PU
	kW	kW	kW	V				
AC operation			KVV	V				
	•		7.5	04.40	OD 1 000 1 0V D00 1 1 00		0D40004 0VD00 0400	
12	3	5.5	7.5	24 AC	3RA2324-8XB30-1AC2		3RA2324-8XB30-2AC2	
				110 AC	3RA2324-8XB30-1AG2		3RA2324-8XB30-2AG2	
				230 AC	3RA2324-8XB30-1AL2		3RA2324-8XB30-2AL2	
17	4	7.5	11	24 AC	3RA2325-8XB30-1AC2		3RA2325-8XB30-2AC2	
				110 AC	3RA2325-8XB30-1AG2		3RA2325-8XB30-2AG2	
				230 AC	3RA2325-8XB30-1AL2		3RA2325-8XB30-2AL2	
25	5.5	11	11	24 AC	3RA2326-8XB30-1AC2		3RA2326-8XB30-2AC2	
				110 AC	3RA2326-8XB30-1AG2		3RA2326-8XB30-2AG2	
				230 AC	3RA2326-8XB30-1AL2		3RA2326-8XB30-2AL2	
32	7.5	15	18.5	24 AC	3RA2327-8XB30-1AC2		3RA2327-8XB30-2AC2	
				110 AC	3RA2327-8XB30-1AG2		3RA2327-8XB30-2AG2	
				230 AC	3RA2327-8XB30-1AL2		3RA2327-8XB30-2AL2	
38	11	18.5	18.5	24 AC	3RA2328-8XB30-1AC2		3RA2328-8XB30-2AC2	
				110 AC	3RA2328-8XB30-1AG2		3RA2328-8XB30-2AG2	
				230 AC	3RA2328-8XB30-1AL2		3RA2328-8XB30-2AL2	
DC operation								
12	3	5.5	7.5	24 DC	3RA2324-8XB30-1BB4		3RA2324-8XB30-2BB4	
17	4	7.5	11	24 DC	3RA2325-8XB30-1BB4		3RA2325-8XB30-2BB4	
25	5.5	11	11	24 DC	3RA2326-8XB30-1BB4		3RA2326-8XB30-2BB4	
32	7.5	15	18.5	24 DC	3RA2327-8XB30-1BB4		3RA2327-8XB30-2BB4	
38	11	18.5	18.5	24 DC	3RA2328-8XB30-1BB4		3RA2328-8XB30-2BB4	
With voltage	tap-off							
12	3	5.5	7.5	24 DC	3RA2324-8XE30-1BB4		3RA2324-8XE30-2BB4	
17	4	7.5	11	24 DC	3RA2325-8XE30-1BB4		3RA2325-8XE30-2BB4	
25	5.5	11	11	24 DC	3RA2326-8XE30-1BB4		3RA2326-8XE30-2BB4	
32	7.5	15	18.5	24 DC	3RA2327-8XE30-1BB4		3RA2327-8XE30-2BB4	
38	11	18.5	18.5	24 DC	3RA2328-8XE30-1BB4		3RA2328-8XE30-2BB4	

¹⁾ The contactors integrated in the reversing contactor assemblies of sizes S0 to S3 each have two integrated auxiliary contacts (1 NC and 1 NO per contactor). The NC contacts are necessary for electrical interlocking of the contactors. The NO contacts are unassigned. Exception:

Representation of the complete reversing contactor assemblies with optionally mountable accessories, see page 3/146.

If a reversing contactor assembly with voltage tap-off is used together with a function module, electrical interlocking is realised through the function module and the available auxiliary contacts (1 NC and 1 NO per contactor) can be used freely.

Reversing contactor assemblies

SIRIUS 3RA23 reversing contactor assemblies, up to 55 kW IE3/IE4 ready AC-3e

Fully wired and tested reversing contactor assemblies¹⁾ · Size S2-S2 · Up to 37 kW AC operation or AC/DC operation

 $\begin{array}{ll} PU \text{ (UNIT, SET, M)} &= 1 \\ PS^* &= 1 \text{ unit} \\ PG &= 41B \end{array}$







3RA233.-8XE30-1NB3

Rated data AC-3 and AC-3e		aumph, valtage		⊕	Spring-loaded terminals	<u></u>				
Operational current I _e up to	at 50 Hz and 60 Hz			Ratings of three-phase motors at 50 Hz and 60 Hz		U _s	Article No.	Price	Article No.	Price
400 V	230 V	400 V	690 V			per PU		per PU		
A	kW	kW	kW	V						
AC operation,	, 50/60 Hz									
41	11	18.5	22	110 AC	3RA2335-8XB30-1AG2		-			
				230 AC	3RA2335-8XB30-1AL2		-			
51	15	22	22	110 AC	3RA2336-8XB30-1AG2	2	-			
				230 AC	3RA2336-8XB30-1AL2		-			
65	18.5	30	37	110 AC	3RA2337-8XB30-1AG2	2	-			
				230 AC	3RA2337-8XB30-1AL2		-			
80	22	37	45	110 AC	3RA2338-8XB30-1AG2	2	-			
				230 AC	3RA2338-8XB30-1AL2					

AC/DC operation

With integrated coil circuit (varistor integrated in electronics at the factory)

41	11	18.5	22	20 33 AC/DC	3RA2335-8XB30-1NB3	
51	15	22	22	20 33 AC/DC	3RA2336-8XB30-1NB3	
65	18.5	30	37	20 33 AC/DC	3RA2337-8XB30-1NB3	
80	22	37	45	20 33 AC/DC	3RA2338-8XB30-1NB3	
With volt	age tap-off					
41	11	18.5	22	20 33 AC/DC	3RA2335-8XE30-1NB3	
51	15	22	22	20 33 AC/DC	3RA2336-8XE30-1NB3	
65	18.5	30	37	20 33 AC/DC	3RA2337-8XE30-1NB3	
80	22	37	45	20 33 AC/DC	3RA2338-8XE30-1NB3	
43						

¹⁾ The contactors integrated in the reversing contactor assemblies of sizes S0 to S3 each have two integrated auxiliary contacts (1 NC and 1 NO per contactor). The NC contacts are necessary for electrical interlocking of the contactors. The NO contacts are unassigned. Exception:

Representation of the complete reversing contactor assemblies with optionally mountable accessories, see page 3/146.

If a reversing contactor assembly with voltage tap-off is used together with a function module, electrical interlocking is realised through the function module and the available auxiliary contacts (1 NC and 1 NO per contactor) can be used freely.

Reversing contactor assemblies

AC-3e IE3/IE4 ready SIRIUS 3RA23 reversing contactor assemblies, up to 55 kW

Fully wired and tested reversing contactor assemblies¹⁾ · Size S3-S3 · Up to 55 kW AC operation or AC/DC operation

 $\begin{array}{ll} PU \text{ (UNIT, SET, M)} &= 1 \\ PS^* &= 1 \text{ unit} \\ PG &= 41B \end{array}$







3RA234.-8XE30-1NB3

Rated data AC-3 and AC-3e		Rated control	Screw terminals		Spring-loaded terminals	8		
Operational current I_e up to	Ratings of three-phase motors at 50 Hz and 60 Hz				Price	Article No.	Price	
400 V	230 V	400 V	690 V			per PU		per PU
A	kW	kW	kW	V				
AC operation	, 50/60 Hz							
80	22	37	55	110 AC	3RA2345-8XB30-1AG2		-	
				230 AC	3RA2345-8XB30-1AL2		-	
95	22	45	75	110 AC	3RA2346-8XB30-1AG2		-	
				230 AC	3RA2346-8XB30-1AL2		-	
110	30	55	75	110 AC	3RA2347-8XB30-1AG2		-	
				230 AC	3RA2347-8XB30-1AL2		-	

AC/DC operation

With integrated coil circuit (varistor integrated in electronics at the factory)

80	22	37	55	20 33 AC/DC	3RA2345-8XB30-1NB3	
95	22	45	75	20 33 AC/DC	3RA2346-8XB30-1NB3	
110	30	55	75	20 33 AC/DC	3RA2347-8XB30-1NB3	
With voltag	ge tap-off ²⁾					
80	22	37	55	20 33 AC/DC	3RA2345-8XE30-1NB3	
95	22	45	75	20 33 AC/DC	3RA2346-8XE30-1NB3	
110	30	55	75	20 33 AC/DC	3RA2347-8XE30-1NB3	

¹⁾ The contactors integrated in the reversing contactor assemblies of sizes S0 to S3 each have two integrated auxiliary contacts (1 NC and 1 NO per contactor). The NC contacts are necessary for electrical interlocking of the contactors. The NO contacts are unassigned. Exception:

Representation of the complete reversing contactor assemblies with optionally mountable accessories, see page 3/148.

If a reversing contactor assembly with voltage tap-off is used together with a function module, electrical interlocking is realised through the function module and the available auxiliary contacts (1 NC and 1 NO per contactor) can be used freely.

²⁾ The associated module connectors 3RA2711-0EE17 for the 3RA271. function modules must be ordered separately, see page 3/107.

Reversing contactor assemblies consisting of SIRIUS 3RT1 and 3TF6 contactors, up to 335 kW

Overview

The individual parts for the reversing contactor assemblies for customer assembly must be ordered separately.

 3RT1 contactors (see page 3/66 onwards) and 3RT12 and 3TF6 vacuum contactors (see page 3/131 onwards):

The operating times of the individual contactors are rated in such a way that no overlapping of the contact connection and the arcing time between two contactors can occur on reversing, provided they are interlocked by way of their auxiliary switches (NC contact interlock) and the mechanical interlock.

For assemblies with AC operation and 50/60 Hz, a dead interval of 50 ms must be provided when used with voltages over 500 V; a dead interval of 30 ms is recommended for use with voltages up to and including 400 V. These dead times do not apply to assemblies with DC operation.

The operating times of the individual contactors are not affected by the mechanical interlock.

- · Mechanical interlocks
 - 3RT1 contactors: see page 3/114
 - 3TF68 vacuum contactors: locking device for mechanical interlock, see page 3/136.
- Wiring kits consisting of wiring modules on the top and bottom
 - 3RT1 contactors: see page 3/109
 - 3TF68 vacuum contactors: see page 3/136
- · Base plates
 - 3RT1 contactors: see page 3/119
 - 3TF68 vacuum contactors: see page 3/136

Additional components

- For momentary-contact operation: auxiliary switch (NO contact) for self-locking
- 3RB2 overload relays (see pages 7/99, 7/101 and 7/103), SIMOCODE pro 3UF7 motor management and control devices (see page 10/12 onwards) or 3RN2 thermistor motor protection relays (see page 10/138 onwards) can be used for overload protection.

More information

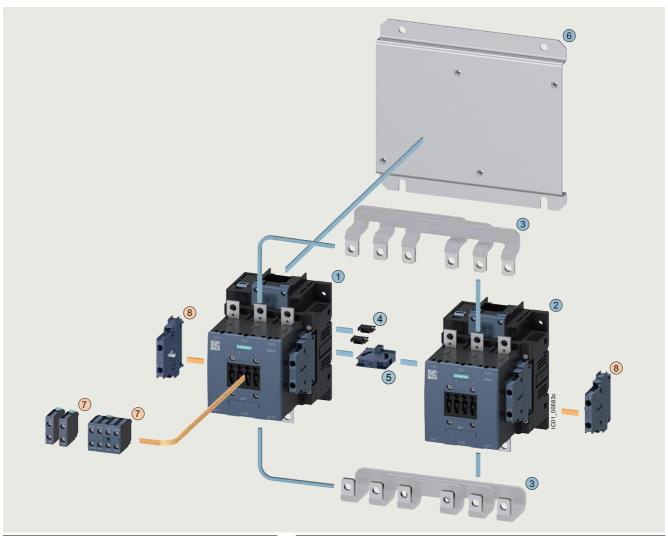
Homepage, see www.siemens.com/sirius

SiePortal, see www.siemens.com/product?3RA23_3RT1

Guide of use for contactors in safety applications, see https://support.industry.siemens.com/cs/ww/en/view/109807687

Reversing contactor assemblies consisting of SIRIUS 3RT1 and 3TF6 contactors, up to 335 kW

Reversing contactor assemblies for customer assembly · Size S6-S6 · Up to 90 kW

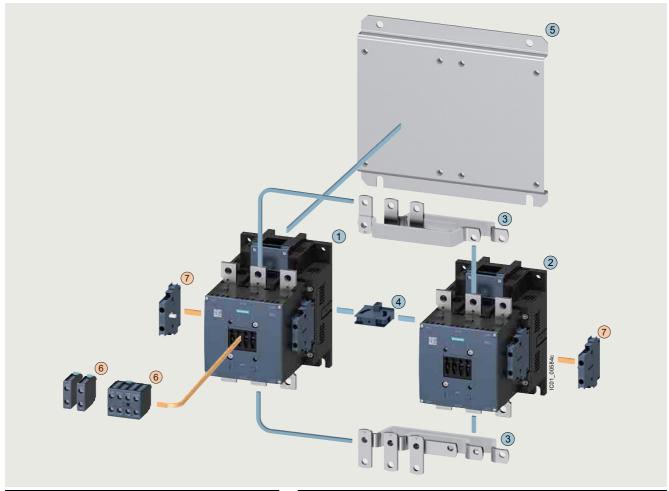


Mountable accessories (optional)								
To be ordered separately Type								
Auxiliary switch, front	3RH1921	3/94						
Auxiliary switch, lateral	3RH1921	3/96						

Revers	Reversing contactor assembly for customer assembly									
Individu	ıal parts	Туре	Туре							
		Q11	Q12							
12	Contactors, 55 kW	3RT1054	3RT1054	3/66 3/68						
12	Contactors, 75 kW	3RT1055	3RT1055	3/66 3/68						
12	Contactors, 90 kW	3RT1056	3RT1056	3/66 3/68						
3	Assembly kit consisting of: Wiring modules on the top and bottom for contactors without box terminals for connecting the main and auxiliary circuits, electrical interlock included (NC contact interlock)	3RA1953-	2A	3/109						
4	Two connectors for two contactors	3RA1932-	2D	3/114						
(5)	Mechanical interlock	3RA1954-	2A	3/114						
6	Base plate for reversing contactor assemblies	3RA1952-	2A	3/119						

Reversing contactor assemblies consisting of SIRIUS 3RT1 and 3TF6 contactors, up to 335 kW

Reversing contactor assemblies for customer assembly \cdot Size S10-S10 \cdot Up to 160 kW

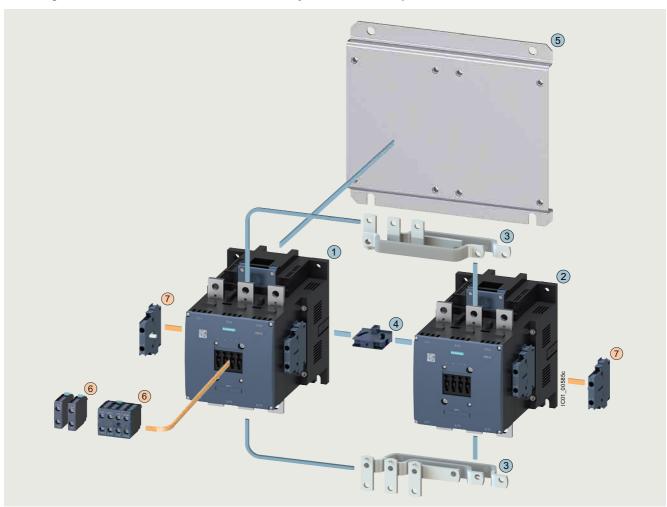


Mountable accessories (optional)								
To be ordered separately Type Page								
6 Auxiliary switch, front	3RH1921	3/94						
Auxiliary switch, lateral	3RH1921	3/96						

Reversing contactor assembly for customer assembly								
Individu	al parts	Туре		Page				
		Q11	Q12					
12	Contactors, 110 kW	3RT1.64	3RT1.64	3/66 3/68, 3/131				
12	Contactors, 132 kW	3RT1.65	3RT1.65	3/66 3/68, 3/131				
12	Contactors, 160 kW	3RT1.66	3RT1.66	3/66 3/68, 3/131				
3	Assembly kit consisting of: Wiring modules on the top and bottom for contactors without box terminals for connecting the main and auxiliary circuits, electrical interlock included (NC contact interlock)	3RA1963-	2A	3/109				
4	Mechanical interlock	3RA1954-	2A	3/114				
(5)	Base plate for reversing contactor assemblies	3RA1962-	2A	3/119				

Reversing contactor assemblies consisting of SIRIUS 3RT1 and 3TF6 contactors, up to 335 kW

Reversing contactor assemblies for customer assembly · Size S12-S12 · Up to 250 kW

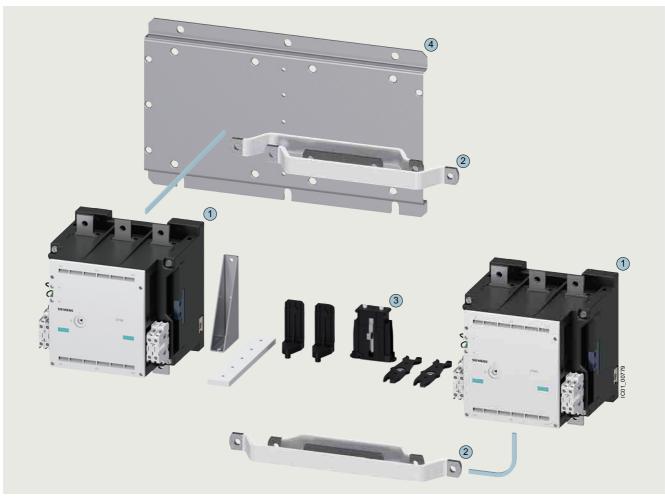


Mountable accessories (o	ountable accessories (optional)			
To be ordered separately	Туре	Page		
6 Auxiliary switch, front	3RH1921	3/94		
Auxiliary switch, lateral	3RH1921	3/96		

Reversing contactor assembly for customer assembly					
Individual parts		Туре		Page	
		Q11	Q12		
12	Contactors, 200 kW	3RT1.75	3RT1.75	3/66 3/68, 3/131	
12	Contactors, 250 kW	3RT1.76	3RT1.76	3/66 3/68, 3/131	
3	Assembly kit consisting of: Wiring modules on the top and bottom for contactors without box terminals for connecting the main and auxiliary circuits, electrical interlock included (NC contact interlock)	3RA1973-	-2A	3/109	
4	Mechanical interlock	3RA1954-	-2A	3/114	
(5)	Base plate for reversing contactor assemblies	3RA1972-	-2A	3/119	

Reversing contactor assemblies consisting of SIRIUS 3RT1 and 3TF6 contactors, up to 335 kW

Reversing contactor assemblies for customer assembly \cdot Size 14-14 \cdot Up to 335 kW



Pavarsino	contactor a	ssembly for cust	tomer assembly

Individual parts		Туре		Page	
		Q11	Q12		
1	Vacuum contactors, 335 kW	3TF68	3TF68	3/132, 3/133	
2	Assembly kit consisting of: Wiring modules on the top and bottom for connecting the main and auxiliary circuits, electrical interlock included (NC contact interlock)	3TX7680-1A		3/136	
3	Locking device for mechanical interlock	3TX7686-1A		3/136	
4	Base plate for reversing contactor assemblies	3TX7681-1A		3/136	

Switching devices – Contactors and contactor assemblies – for switching motors Contactor assemblies for star-delta (wye-delta) starting

SIRIUS 3RA24 contactor assemblies for star-delta (wye-delta) starting, up to 90 kW

Overview

More information

Homepage, see www.siemens.com/sirius

SiePortal, see www.siemens.com/product?3RA24_3RT Conversion tool, see www.siemens.com/conversion-tool

The 3RA24 contactor assemblies for star-delta (wye-delta) starting in sizes S00 to S3 can be ordered as follows:

- Fully wired and tested, with electrical and mechanical interlock, see page 3/168 onwards.
- For all individual parts for customer assembly, see page 3/71 onwards.

The 3RA24 contactor assemblies for star-delta (wye-delta) starting have screw terminals or spring-loaded terminals and are suitable for screw fixing and snap-on mounting on TH 35 DIN rails.

A base plate is also available for the size S2 and S3 assemblies.

A dead interval of 50 ms on reversing is already integrated in the 3RA28 function module for star-delta (wye-delta) starting.

With the fully wired and tested 3RA24 contactor assemblies for star-delta (wye-delta) starting, the auxiliary contacts included in the basic units are unassigned.

The 3RA24 contactor assemblies for star-delta (wye-delta) starting are designed for standard applications.

Note:

Contactor assemblies for star-delta (wye-delta) starting in special applications such as very heavy starting ¹⁾ or star-delta (wye-delta) starting of special motors must be customized. Help with designing such special applications is available from our Technical Support,

www.siemens.com/support-request.

For effective assistance from Technical Support, you must provide the following details:

- Rated motor voltage,
- Rated motor current,
- Service factor, operating values,
- Motor starting current factor,
- Starting time
- Ambient temperature

TIA Selection Tool Cloud (TST Cloud), see www.siemens.com/tstcloud/?node=LoadFeeder

Guide of use for contactors in safety applications, see https://support.industry.siemens.com/cs/ww/en/view/109807687

Surge suppression

Surge suppression (varistor) is included in the 3RA28 function modules for star-delta (wye-delta) starting.

Motor protection

3RU2 overload relays (see page 7/86 onwards) or 3RB3 overload relays (see pages 7/98, 7/100 and 7/102) for contactor mounting or stand-alone installation, SIMOCODE pro 3UF7 motor management and control devices (see page 10/12 onwards) or 3RN2 thermistor motor protection relays (page 10/138 onwards) can be used for motor protection.

The overload relay can either be mounted on the line contactor or fitted separately. It must be set to 0.58 times the rated motor current

SIRIUS 3RA28 function module for star-delta (wye-delta) starting

The 3RA2816-0EW20 star-delta (wye-delta) function module (see page 3/105) replaces the complete wiring in the control circuit and can be used in the voltage range from 24 to 240 V AC/DC. It is snapped onto the front of the contactor assembly for star-delta (wye-delta) starting size S00, S0, S2 or S3.

One function module comprises a complete module kit:

- Basic module with integrated control logic and time setting
- Two coupling modules with corresponding connecting cables

The scope of supply thus comprises a complete module kit for one contactor assembly for star-delta (wye-delta) starting in size S00, S0, S2 or S3, regardless of the connection method.

Data of the control circuit:

- Wide voltage range 24 to 240 V AC/DC
- Time range 0.5 to 60 s (3 selectable settings)
- Dead interval of 50 ms, non-adjustable

Contactor assemblies for star-delta (wye-delta) starting

SIRIUS 3RA24 contactor assemblies for star-delta (wye-delta) starting, up to 90 kW

Complete device combinations

Note:

The selection of contactor types refers to fused designs.

Rated data at 5	50 Hz 400 V AC		Size	Туре		
Rating P	Operational current I_{e}	Motor current		Line/delta contactor	Star contactor	Fully wired and tested contactor assemblies for star-delta (wye-delta) starting
				Screw termina	ıls	
5.5	12	9.5 13.8	S00-S00-S00	3RT2015-1	3RT2015-1	3RA2415-8XF31-1
7.5	16	12.1 17		3RT2017-1	3RT2015-1	3RA2416-8XF31-1
11	25	19 25		3RT2018-1	3RT2016-1	3RA2417-8XF31-1
11	25	19 25	S0-S0-S0	3RT2024-10	3RT2024-10	3RA2423-8XF32-1
15	32	24.1 34		3RT2026-10	3RT2024-10	3RA2425-8XF32-1
18.5	40	34.5 40		3RT2026-10	3RT2024-10	3RA2425-8XF32-1
22	50	31 43		3RT2027-10	3RT2026-10	3RA2426-8XF32-1
22/30	50	31 43	S2-S2-S0	3RT2035-10	3RT2026-10	3RA2434-8XF32-1
37	80	62.1 77.8		3RT2035-10	3RT2027-10	3RA2435-8XF32-1
45	86	69 86		3RT2036-10	3RT2028-10	3RA2436-8XF32-1
55	115	77.6 108.6	S2-S2-S2	3RT2037-10	3RT2035-10	3RA2437-8XF32-1
55	115	77.6 108.6	S3-S3-S2	3RT2045-10	3RT2035-10	3RA2444-8XF32-1
75	150	120.7 150		3RT2045-10	3RT2036-10	3RA2445-8XF32-1
90	160	86 160		3RT2046-10	3RT2037-10	3RA2446-8XF32-1
				Spring-loaded	terminals	
5.5	12	9.5 13.8	S00-S00-S00	3RT2015-2	3RT2015-2	3RA2415-8XF31-2
7.5	16	12.1 17		3RT2017-2	3RT2015-2	3RA2416-8XF31-2
11	25	19 25		3RT2018-2	3RT2016-2	3RA2417-8XF31-2
11	25	19 25	S0-S0-S0	3RT2024-20	3RT2024-20	3RA2423-8XF32-2
15	32	24.1 34		3RT2026-20	3RT2024-20	3RA2425-8XF32-2
18.5	40	34.5 40		3RT2026-20	3RT2024-20	3RA2425-8XF32-2
22	50	31 43		3RT2027-20	3RT2026-20	3RA2426-8XF32-2

Article number scheme

Product versions		Article number
SIRIUS contactor assembly for star-delta	a (wye-delta) starting	3RA24
Size of the contactor	e.g. 4 = S3	
Rating dependent on size	e.g. 5 = 75 kW for size S3	
Type of overload relay	e.g. 8X = Without	
Assembly	e.g. F = Ready-assembled with function modules	
Interlock	e.g. 3 = Mechanical and electrical	
Free auxiliary switches	e.g. 2 = S3: 3 NO + 3 NC total	
Type of electrical connection	e.g. 1 = Screw terminals (main and auxiliary circuits)	
Operating range/solenoid coil circuit	e.g. A = AC standard/without coil circuit	
Rated control supply voltage	e.g. L2 = 230 V AC, 50/60 Hz	
Example		3RA24 4 5 - 8 X F 3 2 - 1 A L 2

Note:

The article number scheme shows an overview of product versions for better understanding of the logic behind the article numbers.

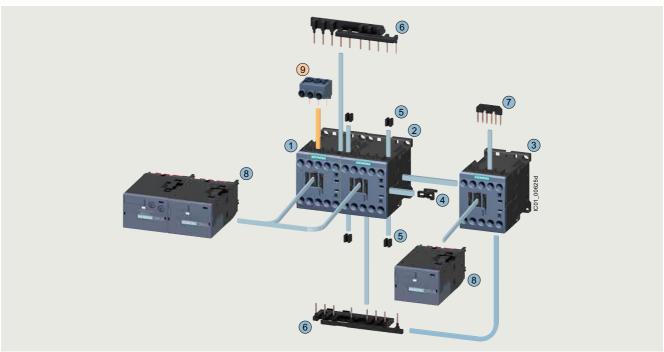
For your orders, please use the article numbers quoted in the selection and ordering data.

Contactor assemblies for star-delta (wye-delta) starting

SIRIUS 3RA24 contactor assemblies for star-delta (wye-delta) starting, up to 90 kW

Fully wired and tested contactor assemblies for star-delta (wye-delta) starting · Size S00-S00-S00 · Up to 11 kW

The figure shows the version with screw terminals



Mountable accessories (opti	onal)	
To be ordered separately	Туре	Page
9 3-phase infeed terminal ¹⁾	3RA2913-3K	3/116

Complete contestan accomplete for stan dalta (unio dalta) stantin n								
Comple	Complete contactor assembly for star-delta (wye-delta) starting							
Individua	l part	s	Type			Page		
			Q11 ²⁾	Q13	Q12			
123	Con	tactors, 5.5 kW	3RT2015	3RT2015	3RT2015	3/47, 3/54		
123	Con	tactors, 7.5 kW	3RT2017	3RT2017	3RT2015	3/47, 3/54		
123	Con	tactors, 11 kW	3RT2018	3RT2018	3RT2016	3/47, 3/54		
47		embly kit S00-S00-S00 prising:	3RA2913-2BB1			3/110		
	4	Mechanical interlock						
	(5)	Four connecting clips for	r three conta	ctors				
	6	Wiring modules on top and bottom for connecting the main and auxiliary circuits						
	7	Star jumper						
8		ction modules for star-delta e-delta) starting	a 3RA2816-0	DEW20		3/105		

¹⁾ Part (9) can only be mounted for contactors with screw terminals.

Complete contactor assemblies for star-delta (wye-delta) starting, see page 3/168.

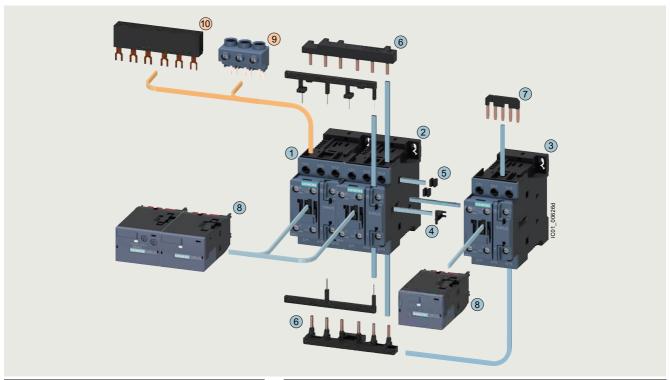
²⁾ The version with 1 NO is required for momentary-contact operation.

Contactor assemblies for star-delta (wye-delta) starting

SIRIUS 3RA24 contactor assemblies for star-delta (wye-delta) starting, up to 90 kW

Fully wired and tested contactor assemblies for star-delta (wye-delta) starting · Size S0-S0-S0 · Up to 22 kW

The figure shows the version with screw terminals



Mountable accessories (optional)					
To I	be ordered separately	Туре	Page		
	3-phase infeed terminal ¹⁾ 3-phase busbar ¹⁾	3RV2925-5AB 3RV1915-1AB	3/116 3/116		

Comple	Complete contactor assembly for star-delta (wye-delta) starting						
Individua	l part	s	Туре			Page	
			Q11	Q13	Q12		
(1)(2)(3)	Con	tactors, 11 kW	3RT2024	3RT2024	3RT2024	3/49, 3/58	
123	Con	tactors, 15/18.5 kW	3RT2026	3RT2026	3RT2024	3/49, 3/58	
123	Con	tactors, 22 kW	3RT2027	3RT2027	3RT2026	3/49, 3/58	
47		Assembly kit S0-S0-S0 3RA2923-2BB1 comprising:				3/110	
	4	Mechanical interlock					
	(5)	Four connecting clips for	three conta	ctors			
	6	Wiring modules on top and bottom for connecting the main and auxiliary circuits					
	7	Star jumper					
8		Function modules for star-delta 3RA2816-0EW20 3/105 (wye-delta) starting					

¹⁾ The parts
 and
 can only be mounted for contactors with screw terminals, the wiring modules
 must be removed beforehand.

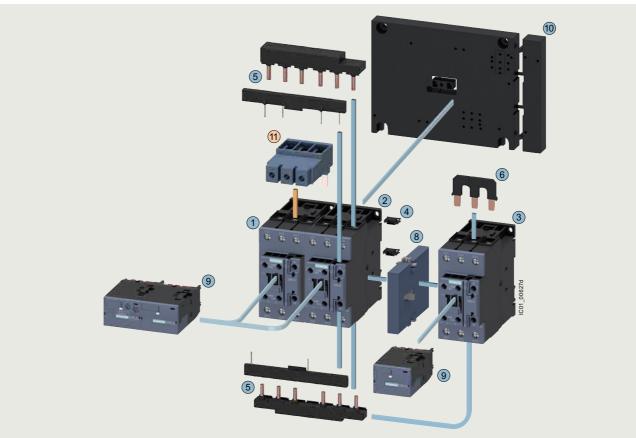
Complete contactor assemblies for star-delta (wye-delta) starting, see page 3/169.

Contactor assemblies for star-delta (wye-delta) starting

SIRIUS 3RA24 contactor assemblies for star-delta (wye-delta) starting, up to 90 kW

Fully wired and tested contactor assemblies for star-delta (wye-delta) starting · Size S2-S2-S0¹⁾ · Up to 45 kW or S2-S2-S2 · 55 kW

The figure shows the version with screw terminals in S2-S2-S2



mountable accessories (optional)					
To be ordered separately	Туре	Page			
_					

(11)	3-phase infeed terminal	3RV2935-5A	3/116
\bigcirc	3-priase infeed terminal	3HV2935-5A	3/110

Complete contactor assembly for star-delta (wye-delta) starting						
Individual parts		Туре		Page		
		Q11	Q13	Q12		
123	Contactors, 22/30 kW	3RT2035	3RT2035	3RT2026	3/49, 3/53, 3/62, 3/63	
(1)(2)(3)	Contactors, 37 kW	3RT2035	3RT2035	3RT2027	3/49, 3/53, 3/62, 3/63	
123	Contactors, 45 kW	3RT2036	3RT2036	3RT2028	3/49, 3/53, 3/62, 3/63	
123	Contactors, 55 kW	3RT2037	3RT2037	3RT2035	3/49, 3/53, 3/63	
47	Assembly kit S2-S2-S2 comprising:	3RA2933-2	BB1		3/110	
	Four connectors for three contactors (not required for fully pre-wired contactor assemblies for star-delta (wye-delta) starting)					

- (5) Wiring modules on top and bottom for connecting the main and auxiliary circuits
- 6 Star jumper S2
- Cable for connecting the A2 coil contact of the line contactor with the A2 coil contact of the delta contactor (not shown in the drawing)

		3,	
8	Mechanical interlock	3RA2934-2B	3/114
9	Function modules for star-delta (wye-delta) starting	3RA2816-0EW20	3/105
10	Base plate star-delta (wye-delta)	3RA2932-2F	3/119

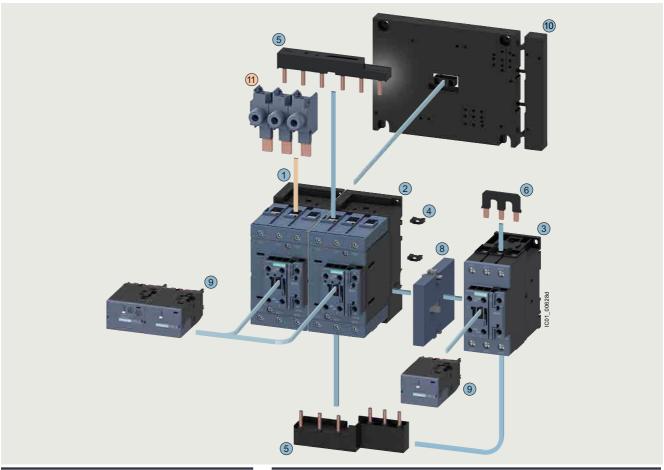
¹⁾ Complete contactor assembly for star-delta (wye-delta) starting in size S2-S2-S0 (not shown): The 3RA2933-2C assembly kit is to be used here, see page 3/110.

Complete contactor assemblies for star-delta (wye-delta) starting, see page 3/170.

Contactor assemblies for star-delta (wye-delta) starting

SIRIUS 3RA24 contactor assemblies for star-delta (wye-delta) starting, up to 90 kW

Fully wired and tested contactor assemblies for star-delta (wye-delta) starting · Size S3-S3-S2¹⁾ · Up to 90 kW



(wye-delta)

Mountable accessories (optional)				
То	be ordered separately	Туре	Page	
1	1-phase infeed terminal (three units are required)	3RA2943-3L	3/116	

Comple	te co	ntactor assembly	y for star-d	elta (wye-d	delta) starti	ing
Individua	l part	s	Туре			Page
			Q11	Q13	Q12	
123	Cont	tactors, 55 kW	3RT2045	3RT2045	3RT2035	3/53, 3/63, 3/64
123	Cont	tactors, 75 kW	3RT2045	3RT2045	3RT2036	3/53, 3/63, 3/64
123	Cont	tactors, 90 kW	3RT2046	3RT2046	3RT2037	3/53, 3/63, 3/64
47		embly kit S3-S3-S2 prising:	3RA2943-2	С		3/111
	Two connectors for three contactors (not required for fully pre-wired contactor assemblies for star-delta (wye-delta) starting)					
	5	Wiring modules on top and bottom (S3-S2) for connecting the main and auxiliary circuits and a cable set for the auxiliary circuit				
	6	Star jumper S2				
	7	Cable for connecting the A2 coil contact of the line contactor with the A2 coil contact of the delta contactor (not shown in the drawing)				
8	Mec	hanical interlock	3RA2934-2	В		3/114
9	Function modules for star-delta (wye-delta) starting 3RA2816-0EW20 3/105					3/105
10	Base	e plate star-delta	3RA2942-2	F		3/119

¹⁾ Contactor assembly for star-delta (wye-delta) starting for customer assembly in size S3-S3-S3 (not shown): The 3RA2943-2BB. assembly kit is to be used here, see page 3/111.

Complete contactor assemblies for star-delta (wye-delta) starting, see page 3/171.

Switching devices – Contactors and contactor assemblies – for switching motors Contactor assemblies for star-delta (wye-delta) starting

SIRIUS 3RA24 contactor assemblies for star-delta (wye-delta) starting, up to 90 kW

Technical specifications

More information

Technical specifications, see

https://support.industry.siemens.com/cs/ww/en/ps/16150/td

FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/16150/faq

System Manual for modular system, see https://support.industry.siemens.com/cs/ww/en/view/60311318

Equipment Manual, see

https://support.industry.siemens.com/cs/ww/en/view/60306557

Application Manual - Switching devices with IE3 and IE4 motors, see https://support.industry.siemens.com/cs/ww/en/view/94770820

Guide of use for contactors in safety applications, see https://support.industry.siemens.com/cs/ww/en/view/109807687

Unless otherwise indicated below, the technical specifications correspond to those of the 3RT individual contactors (see page 3/25 onwards) and 3RU2 overload relays (see page 7/82 onwards).

Туре		3RA2415	3RA2416	3RA2417	3RA2423	3RA2425	3RA2426		
Sizes		S00-S00-S00	S00-S00-S00	S00-S00-S00	S0-S0-S0	S0-S0-S0	S0-S0-S0		
General data									
Dimensions (W x H x D) with function module									
AC operation									
- Screw terminals	mm	135 x 68 x 14	5		135 x 101 x 1	71			
- Spring-loaded terminals	mm	135 x 84 x 14	5		135 x 114 x 1	71			
• DC operation									
- Screw terminals	mm	135 x 68 x 14	135 x 68 x 145			135 x 101 x 181			
- Spring-loaded terminals	mm	135 x 84 x 145			135 x 114 x 181				
Individual contactors									
Q11 line contactor	Туре	3RT2015	3RT2017	3RT2018	3RT2024	3RT2026	3RT2027		
Q13 delta contactor	Type	3RT2015	3RT2017	3RT2018	3RT2024	3RT2026	3RT2027		
Q12 star contactor	Туре	3RT2015	3RT2015	3RT2016	3RT2024	3RT2024	3RT2026		
Mechanical endurance	Operating cycles	3 million							
Unassigned auxiliary contacts of the individual contactors		grams of the co anual for contac							
Short-circuit protection									
Main circuit without overload relays									
Fuse links, operational class gG: LV HRC, type 3NA; DIAZED, type 5SB; NEOZED, type 5SE with single or double infeed									
Highest rated current of the fuse according to IEC 60947-4-1									
- Type of coordination "1"	Α	35		63		100	125		
- Type of coordination "2"	Α	20		25		35	63		
Auxiliary circuit									
Short-circuit test									
• With fuse links, operational class gG: DIAZED, type 5SB; NEOZED, type 5SE with short-circuit current $I_{\rm k}$ = 1 kA according to IEC 60947-5-1	A A	10 6 (up to $I_{\rm K}$ < 0.5 kA; \leq 260 V), if the auxiliary contact of the overload relay is connected in the contactor coil circuit							
With miniature circuit breaker, C characteristic with short-circuit current $I_{\rm k}$ = 400 A	A A		0.5 kA; ≤ 260 V) contact of the		is connected in	n the contacto	r coil circuit		
Short-circuit protection with overload relay		see							
		Digital Configuration Manual for load feeders							
		 Configuration 	on Manual for lo	ad feeders					

Contactor assemblies for star-delta (wye-delta) starting

SIRIUS 3RA24 contactor assemblies for star-delta (wye-delta) starting, up to 90 kW

Туре			3RA2415	3RA2416	3RA2417	3RA2423	3RA2425	3RA2426
Sizes			S00-S00-S00	S00-S00-S00	S00-S00-S00	S0-S0-S0	S0-S0-S0	S0-S0-S0
Rated data of the main contacts	:							
Current-carrying capacity with revers up to 10 s	sing time							
$ullet$ Rated operational current $I_{ m e}$	at 400 V	Α	12	17	25		40	55
	690 V	Α	6.9	9	20.8		22.5	35
 Rated power for three-phase 	at 230 V	kW	3.3	4.7	7.2		12	16.6
motors at 50 Hz and 60 Hz	400 V	kW	5.8	8.2	12.5		21	30.1
	690 V	kW	5.8	7.5	18		20.4	33
• Switching frequency with overload r	elay	1/h	15					
Current-carrying capacity with revers up to 15 s	sing time			_	_			
 Rated operational current I_e 	at 400 V	Α	12	17	25		31	44
	690 V	Α	6.9	9	20.8		22.5	35
Rated power for three-phase	at 230 V	kW	3.3	4.7	7.2		9.4	13.8
motors at 50 Hz and 60 Hz	400 V	kW	5.8	8.2	12.5		16.3	24
	690 V	kW	5.8	7.5	18		20.4	33
• Switching frequency with overload r	15							
Current-carrying capacity with revers up to 20 s								
 Rated operational current I_e 	at 400 V	Α	12	17	25		28	39
	690 V	Α	6.9	9	20.8		22.5	35
Rated power for three-phase	at 230 V	kW	3.3	4.7	7.2		8.5	12.2
motors at 50 Hz and 60 Hz	400 V	kW	5.8	8.2	12.5		14.7	21.3
	690 V	kW	5.8	7.5	18		20.4	33
• Switching frequency with overload r	elay	1/h	15					

Contactor assemblies for star-delta (wye-delta) starting

SIRIUS 3RA24 contactor assemblies for star-delta (wye-delta) starting, up to 90 kW

Type Sizes			3RA2434 S2-S2-S0	3RA2435 S2-S2-S0	3RA2436 S2-S2-S0	3RA2437 S2-S2-S2	3RA2444 S3-S3-S2	3RA2445 S3-S3-S2	3RA2446 S3-S3-S2
General data									
Dimensions (W x H x D)									
with function module									
• AC and DC operation =	一人		.==				000 400		
- Screw terminals	w o	mm	177.5 x 142	2 x 223			220 x 180 x	244	
Individual contactors	. 7.								
Q11 line contactor		Туре	3RT2035	3RT2035	3RT2036	3RT2037	3RT2045	3RT2045	3RT2046
Q13 delta contactor		Туре	3RT2035	3RT2035	3RT2036	3RT2037	3RT2045	3RT2045	3RT2046
Q12 star contactor		Туре	3RT2026	3RT2027	3RT2028	3RT2035	3RT2035	3RT2036	3RT2037
Mechanical endurance	1 million								
		ing cycles							
Unassigned auxiliary contacts of the contactors	individual		For circuit of	diagrams of th	e control circu	uit, see Equipr	ment Manual.		
Short-circuit protection									
Main circuit without overload relays									
Fuse links, operational class gG: LV HRC, type 3NA; DIAZED, type 5SB; type 5SE with single or double infeed	NEOZED,								
 Highest rated current of the fuse according to IEC 60947-4-1 									
- Type of coordination "1"		Α	160			250			
- Type of coordination "2"		Α	80			125	160		
Auxiliary circuit									
Short-circuit test	10								
 With fuse links, operational class gG: DIAZED, type 5SB; NEOZED, type 5S with short-circuit current I_k = 1 kA according to IEC 60947-5-1 		< 0.5 kA; ≤ 26 ary contact of	0 V), the overload r	elay is conne	cted in the cor	ntactor coil cir	cuit		
With miniature circuit breaker, C char with short-circuit current I _k = 400 A		< 0.5 kA; ≤ 26 ary contact of	0 V), the overload r	elay is conne	cted in the cor	ntactor coil cir	cuit		
Short-circuit protection with overload re	elay		see				On request		
			· ·		anual for load or load feeder				
Rated data of the main contacts									
Current-carrying capacity with revers	sing time								
$ullet$ Rated operational current $I_{ m e}$	at 400 V	Α	On request						
	690 V	Α	On request						
 Rated power for three-phase motors at 50 Hz and 60 Hz 	at 230 V	kW	On request						
motors at 50 Hz and 60 Hz	400 V	kW	On request						
• Cwitching froquency with overland	690 V		On request						
 Switching frequency with overload r Current-carrying capacity with reverse 	-	1/h	15						
up to 15 s	only unit								
$ullet$ Rated operational current $I_{ m e}$	at 400 V	Α	On request						
	690 V	Α	On request						
Rated power for three-phase maters at 50 Hz and 60 Hz	at 230 V	kW	On request						
motors at 50 Hz and 60 Hz	400 V 690 V	kW kW	On request						
Contraction for any contraction	On request								
 Switching frequency with overload r Current-carrying capacity with reversup to 20 s 	15								
Rated operational current I _e	at 400 V	Α	On request						
	690 V	Α	On request						
Rated power for three-phase	at 230 V	kW	On request						
motors at 50 Hz and 60 Hz	400 V	kW	On request						
	690 V	kW	On request						
• Switching frequency with overload r	elay	1/h	15						

Contactor assemblies for star-delta (wye-delta) starting

SIRIUS 3RA24 contactor assemblies for star-delta (wye-delta) starting, up to 90 kW IE3/IE4 ready

Selection and ordering data

Fully wired and tested contactor assemblies for star-delta (wye-delta) starting · Size S00-S00-S00 · Up to 11 kW AC operation or DC operation

 $\begin{array}{ll} PU \text{ (UNIT, SET, M)} &= 1 \\ PS^* &= 1 \text{ unit} \\ PG &= 41B \end{array}$







3RA2418XF31-1A.0	3RA2418XF31-2A.0	3RA2418XE31-2BB4
311A2410A131-1A.U	311A2410A131-2A.U	311AZ4 10AL3 1-ZDD4

Rated data AC-3				Rated control	Screw terminals	0	Spring-loaded	\sim
Operational		f throo phace	n motore	supply voltage	Screw terminals	4	terminals	$\stackrel{\infty}{\boxplus}$
current $I_{\rm e}$ up to		Ratings of three-phase motors at 50 Hz and 60 Hz at		$U_{\rm s}$	Article No.	Price per PU	Article No.	Price per PU
400 V	230 V	400 V	690 V					
А	kW	kW	kW	V				
AC operation	, 50/60 Hz							
12	3.3	5.5	9.2	24 AC	3RA2415-8XF31-1AB0		3RA2415-8XF31-2AB0	
				110 AC	3RA2415-8XF31-1AF0		3RA2415-8XF31-2AF0	
				230 AC	3RA2415-8XF31-1AP0		3RA2415-8XF31-2AP0	
16	4.7	7.5	9.2	24 AC	3RA2416-8XF31-1AB0		3RA2416-8XF31-2AB0	
				110 AC	3RA2416-8XF31-1AF0		3RA2416-8XF31-2AF0	
				230 AC	3RA2416-8XF31-1AP0		3RA2416-8XF31-2AP0	
25	5.5	11	11	24 AC	3RA2417-8XF31-1AB0		3RA2417-8XF31-2AB0	
				110 AC	3RA2417-8XF31-1AF0		3RA2417-8XF31-2AF0	
				230 AC	3RA2417-8XF31-1AP0		3RA2417-8XF31-2AP0	
DC operation								
12	3.3	5.5	9.2	24 DC	3RA2415-8XF31-1BB4		3RA2415-8XF31-2BB4	
16	4.7	7.5	9.2	24 DC	3RA2416-8XF31-1BB4		3RA2416-8XF31-2BB4	
25	5.5	11	11	24 DC	3RA2417-8XF31-1BB4		3RA2417-8XF31-2BB4	
For IO-Link c	onnection							
12	3.3	5.5	9.2	24 DC	3RA2415-8XE31-1BB4		3RA2415-8XE31-2BB4	
16	4.7	7.5	9.2	24 DC	3RA2416-8XE31-1BB4		3RA2416-8XE31-2BB4	
25	5.5	11	11	24 DC	3RA2417-8XE31-1BB4		3RA2417-8XE31-2BB4	
For AS-Interfa	ace conne	ction						
12	3.3	5.5	9.2	24 DC	3RA2415-8XH31-1BB4		3RA2415-8XH31-2BB4	
16	4.7	7.5	9.2	24 DC	3RA2416-8XH31-1BB4		3RA2416-8XH31-2BB4	
25	5.5	11	11	24 DC	3RA2417-8XH31-1BB4		3RA2417-8XH31-2BB4	

Representation of the complete contactor assemblies for star-delta (wye-delta) starting with optionally mountable accessories, see page 3/161.

Contactor assemblies for star-delta (wye-delta) starting

IE3/IE4 ready SIRIUS 3RA24 contactor assemblies for star-delta (wye-delta) starting, up to 90 kW

Fully wired and tested contactor assemblies for star-delta (wye-delta) starting · Size S0-S0-S0 · Up to 22 kW AC operation or DC operation

 $\begin{array}{ll} PU \text{ (UNIT, SET, M)} &= 1 \\ PS^* &= 1 \text{ unit} \\ PG &= 41B \end{array}$







2428XF32-1A.2	3RA2428XE32-1BB4	3RA2428XF32-2A

Rated data AC-3	}			Rated control	Screw terminals	(+)	Spring-loaded	<u> </u>
Operational		Ratings of three-phase motors		supply voltage $U_{\rm s}$			terminals	
current I _e up to	at 50 Hz a at	nd 60 Hz		O _S	Article No.	Price per PU	Article No.	Price per PU
400 V	230 V	400 V	690 V					
Α	kW	kW	kW	V				
AC operation	, 50/60 Hz							
25	7.1	11	19	24 AC	3RA2423-8XF32-1AC2		3RA2423-8XF32-2AC2	
				110 AC	3RA2423-8XF32-1AG2		3RA2423-8XF32-2AG2	
				230 AC	3RA2423-8XF32-1AL2		3RA2423-8XF32-2AL2	
32/40	11.4	15/18.5	19	24 AC	3RA2425-8XF32-1AC2		3RA2425-8XF32-2AC2	
				110 AC	3RA2425-8XF32-1AG2		3RA2425-8XF32-2AG2	
				230 AC	3RA2425-8XF32-1AL2		3RA2425-8XF32-2AL2	
50		22	19	24 AC	3RA2426-8XF32-1AC2		3RA2426-8XF32-2AC2	
				110 AC	3RA2426-8XF32-1AG2		3RA2426-8XF32-2AG2	
				230 AC	3RA2426-8XF32-1AL2		3RA2426-8XF32-2AL2	
DC operation								
25	7.1	11	19	24 DC	3RA2423-8XF32-1BB4		3RA2423-8XF32-2BB4	
32/40	11.4	15/18.5	19	24 DC	3RA2425-8XF32-1BB4		3RA2425-8XF32-2BB4	
50		22	19	24 DC	3RA2426-8XF32-1BB4		3RA2426-8XF32-2BB4	
For IO-Link co	onnection							
25	7.1	11	19	24 DC	3RA2423-8XE32-1BB4		3RA2423-8XE32-2BB4	
32/40	11.4	15/18.5	19	24 DC	3RA2425-8XE32-1BB4		3RA2425-8XE32-2BB4	
50		22	19	24 DC	3RA2426-8XE32-1BB4		3RA2426-8XE32-2BB4	
For AS-Interfa	ace connec	tion						
25	7.1	11	19	24 DC	3RA2423-8XH32-1BB4		3RA2423-8XH32-2BB4	
32/40	11.4	15/18.5	19	24 DC	3RA2425-8XH32-1BB4		3RA2425-8XH32-2BB4	
50		22	19	24 DC	3RA2426-8XH32-1BB4		3RA2426-8XH32-2BB4	

Representation of the complete contactor assemblies for star-delta (wye-delta) starting with optionally mountable accessories, see page 3/162.

Contactor assemblies for star-delta (wye-delta) starting

SIRIUS 3RA24 contactor assemblies for star-delta (wye-delta) starting, up to 90 kW IE3/IE4 ready

Fully wired and tested contactor assemblies for star-delta (wye-delta) starting · Size S2-S2-S0 · Up to 45 kW or S2-S2-S2 · 55 kW AC operation or AC/DC operation

 $\begin{array}{ll} PU \text{ (UNIT, SET, M)} &= 1 \\ PS^* &= 1 \text{ unit} \\ PG &= 41B \end{array}$





3RA2437-8XF32-1A.2

3RA2434-8XE32-1NB3

Rated data AC-3				Rated control	Screw terminals		Spring-loaded	<u></u>
Operational current I_e up to		of three-phase and 60 Hz	e motors	supply voltage <i>U</i> s	Article No.	Price per PU	Article No.	Price per PU
400 V	230 V	400 V	690 V					
A	kW	kW	kW	V				
AC operation,	50/60 Hz							
50/65	19.6	22/30	34	24 AC	3RA2434-8XF32-1AC2			
				110 AC	3RA2434-8XF32-1AG2		-	
				230 AC	3RA2434-8XF32-1AL2			
80	25	37	63	24 AC	3RA2435-8XF32-1AC2		-	
				110 AC	3RA2435-8XF32-1AG2		-	
				230 AC	3RA2435-8XF32-1AL2		-	
86	27	45	63	24 AC	3RA2436-8XF32-1AC2		-	
				110 AC	3RA2436-8XF32-1AG2		-	
				230 AC	3RA2436-8XF32-1AL2		-	
115	37	55	93	24 AC	3RA2437-8XF32-1AC2		-	
				110 AC	3RA2437-8XF32-1AG2		-	
				230 AC	3RA2437-8XF32-1AL2		-	

AC/DC operation, 50/60 Hz AC or DC

With integrated coil circuit

(varistor integrated in electronics at the factory)

•	•			• /		
50/65	19.6	22/30	34	20 33 AC/DC	3RA2434-8XF32-1NB3	-
80	25	37	63	20 33 AC/DC	3RA2435-8XF32-1NB3	-
86	27	45	63	20 33 AC/DC	3RA2436-8XF32-1NB3	-
115	37	55	93	20 33 AC/DC	3RA2437-8XF32-1NB3	-
For IO-Link	connection					
50/65	19.6	22/30	34	20 33 AC/DC	3RA2434-8XE32-1NB3	-
80	25	37	63	20 33 AC/DC	3RA2435-8XE32-1NB3	-
86	27	45	63	20 33 AC/DC	3RA2436-8XE32-1NB3	-
115	37	55	93	20 33 AC/DC	3RA2437-8XE32-1NB3	-
For AS-Inter	face connecti	on				
50/65	19.6	22/30	34	20 33 AC/DC	3RA2434-8XH32-1NB3	
80	25	37	63	20 33 AC/DC	3RA2435-8XH32-1NB3	
86	27	45	63	20 33 AC/DC	3RA2436-8XH32-1NB3	
115	37	55	93	20 33 AC/DC	3RA2437-8XH32-1NB3	

Representation of the complete contactor assemblies for star-delta (wye-delta) starting in size S2-S2-S2 with optionally mountable accessories, see page 3/163.

Contactor assemblies for star-delta (wye-delta) starting

IE3/IE4 ready SIRIUS 3RA24 contactor assemblies for star-delta (wye-delta) starting, up to 90 kW

Fully wired and tested contactor assemblies for star-delta (wye-delta) starting · Size S3-S3-S2 · Up to 90 kW AC operation or AC/DC operation

PU(UNIT, SET, M) = 1PS* = 1 unit = 41B







3RA244.-8XE32-1NB3

3RA244.-8XH32-1NB3

Rated data AC-3				Rated control supply	Screw terminals		Spring-loaded (
Operational current $I_{\rm e}$ up to	Ratings of at 50 Hz ar at	three-phase nd 60 Hz	e motors	voltage U _s	Article No.	Price per PU	terminals Article No.	Price per PU	
400 V	230 V	400 V	690 V						
Α	kW	kW	kW	V					
AC operation,	50/60 Hz								
115	30	55	90	24 AC	3RA2444-8XF32-1AC2		-		
				110 AC	3RA2444-8XF32-1AG2				
				230 AC	3RA2444-8XF32-1AL2				
150	37	75	110	24 AC	3RA2445-8XF32-1AC2				
				110 AC	3RA2445-8XF32-1AG2				
				230 AC	3RA2445-8XF32-1AL2				
160	45	90	132	24 AC	3RA2446-8XF32-1AC2				
				110 AC	3RA2446-8XF32-1AG2				
				230 AC	3RA2446-8XF32-1AL2				

AC/DC operation, 50/60 Hz AC or DC

With integrated coil circuit

(varistor integrated in electronics at the factory)												
30	55	90	20 33 AC/DC	3RA2444-8XF32-1NB3								
37	75	110	20 33 AC/DC	3RA2445-8XF32-1NB3								
45	90	132	20 33 AC/DC	3RA2446-8XF32-1NB3								
connection												
30	55	90	20 33 AC/DC	3RA2444-8XE32-1NB3								
37	75	110	20 33 AC/DC	3RA2445-8XE32-1NB3								
45	90	132	20 33 AC/DC	3RA2446-8XE32-1NB3								
rface connec	ction											
30	55	90	20 33 AC/DC	3RA2444-8XH32-1NB3								
37	75	110	20 33 AC/DC	3RA2445-8XH32-1NB3								
45	90	132	20 33 AC/DC	3RA2446-8XH32-1NB3								
	30 37 45 connection 30 37 45 rface connec 30 37	30 55 37 75 45 90 connection 30 55 37 75 45 90 rface connection 30 55 37 75	30 55 90 37 75 110 45 90 132 Connection 30 55 90 37 75 110 45 90 132 Connection 30 55 90 37 75 110 30 55 90 37 75 110	30 55 90 20 33 AC/DC 37 75 110 20 33 AC/DC 45 90 132 20 33 AC/DC connection 30 55 90 20 33 AC/DC 37 75 110 20 33 AC/DC 45 90 132 20 33 AC/DC 45 90 132 20 33 AC/DC rface connection 30 55 90 20 33 AC/DC 37 75 110 20 33 AC/DC 37 75 110 20 33 AC/DC	30 55 90 20 33 AC/DC 3RA2444-8XF32-1NB3 37 75 110 20 33 AC/DC 3RA2445-8XF32-1NB3 45 90 132 20 33 AC/DC 3RA2446-8XF32-1NB3 connection 30 55 90 20 33 AC/DC 3RA2445-8XE32-1NB3 37 75 110 20 33 AC/DC 3RA2445-8XE32-1NB3 45 90 132 20 33 AC/DC 3RA2446-8XE32-1NB3 rface connection 30 55 90 20 33 AC/DC 3RA2444-8XH32-1NB3 37 75 110 20 33 AC/DC 3RA2444-8XH32-1NB3 37 75 110 20 33 AC/DC 3RA2444-8XH32-1NB3	30 55 90 20 33 AC/DC 3RA2444-8XF32-1NB3 37 75 110 20 33 AC/DC 3RA2445-8XF32-1NB3 45 90 132 20 33 AC/DC 3RA2446-8XF32-1NB3 connection 30 55 90 20 33 AC/DC 3RA2444-8XE32-1NB3 37 75 110 20 33 AC/DC 3RA2445-8XE32-1NB3 45 90 132 20 33 AC/DC 3RA2446-8XE32-1NB3 45 90 132 20 33 AC/DC 3RA2446-8XE32-1NB3 rface connection 30 55 90 20 33 AC/DC 3RA2444-8XH32-1NB3 37 75 110 20 33 AC/DC 3RA2445-8XH32-1NB3						

Representation of the complete contactor assemblies for star-delta (wye-delta) starting with optionally mountable accessories, see page 3/164.

Switching devices – Contactors and contactor assemblies – for switching motors Contactor assemblies for star-delta (wye-delta) starting

Contactor assemblies for star-delta (wye-delta) starting consisting of SIRIUS 3RT and 3TF6 contactors, up to 710 kW

Overview

The individual parts for the contactor assemblies for star-delta (wye-delta) starting for customer assembly must be ordered separately.

 3RT contactors (see page 3/66 onwards) and 3RT12 and 3TF6 vacuum contactors (see page 3/136 onwards):

The operating times of the individual contactors are rated in such a way that no overlapping of the contact connection and the arcing time between two contactors can occur on reversing, provided they are interlocked by way of their auxiliary switches (NC contact interlock) and the mechanical interlock.

For assemblies with AC operation and 50/60 Hz, a dead interval of 50 ms must be provided when used with voltages over 500 V; a dead interval of 30 ms is recommended for use with voltages up to and including 400 V. These dead times do not apply to assemblies with DC operation.

The operating times of the individual contactors are not affected by the mechanical interlock.

- · Mechanical interlocks
 - 3RT contactors and 3RT12 vacuum contactors: Adapter and mechanical interlock to interlock S6 and S3, see page 3/114.
 - 3TF68 vacuum contactors: locking device for mechanical interlock, see page 3/136.
- Wiring kits consisting of wiring modules or link rails and star jumpers
 - 3RT contactors and 3RT12 vacuum contactors: see page 3/112 onwards
 - 3TF68 vacuum contactors: see page 3/136
- Base plates
 - 3RT contactors and 3RT12 vacuum contactors: see page 3/119
 - 3TF68 vacuum contactors: see page 3/136

Additional components

- For momentary-contact operation: auxiliary switch (NO contact) for self-locking
- 3RB2 overload relays (see pages 7/99, 7/101 and 7/103), SIMOCODE pro 3UF7 motor management and control devices (see page 10/12 onwards) or 3RN2 thermistor motor protection relays (see page 10/138 onwards) can be used for overload protection.

The overload relay can either be mounted on the line contactor or separately fitted. It must be set to 0.58 times the rated motor current.

 Optional surge suppression for the S3 contactors; the contactors in sizes S6 to S12 are wired as standard with varistors.

The contactor assemblies for star-delta (wye-delta) starting for customer assembly are designed for standard applications.

Note:

Contactor assemblies for star-delta (wye-delta) starting in special applications such as very heavy starting ¹⁾ or star-delta (wye-delta) starting of special motors must be customized. Help with designing such special applications is available from our Technical Support,

www.siemens.com/support-request.



Video: SIRIUS contactor assembly for star-delta (wye-delta) starting – configuration example with 75 kW contactors

More information

Homepage, see www.siemens.com/sirius

SiePortal, see www.siemens.com/product?3RA24_3RT

Guide of use for contactors in safety applications, see https://support.industry.siemens.com/cs/ww/en/view/109807687

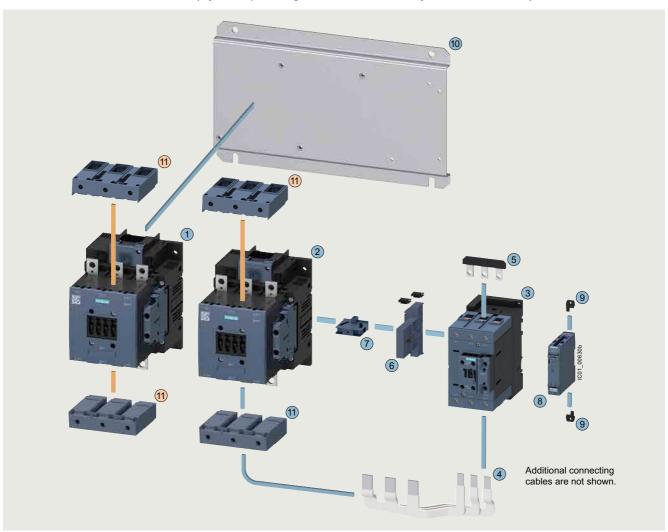
- following details:
 Rated motor voltage,
- Rated motor current,
- Service factor, operating values,
- Motor starting current factor,
- Starting time,
- Ambient temperature.

For effective assistance from Technical Support, you must provide the following details:

Contactor assemblies for star-delta (wye-delta) starting

Contactor assemblies for star-delta (wye-delta) starting consisting of SIRIUS 3RT and 3TF6 contactors, up to 710 kW

Contactor assemblies for star-delta (wye-delta) starting for customer assembly · Size S6-S6-S3 · Up to 160 kW



Mountable accessories (optional)					
To be ordered separately	Туре	Page			
1 Box terminal blocks	3RT1955-4G	3/116			

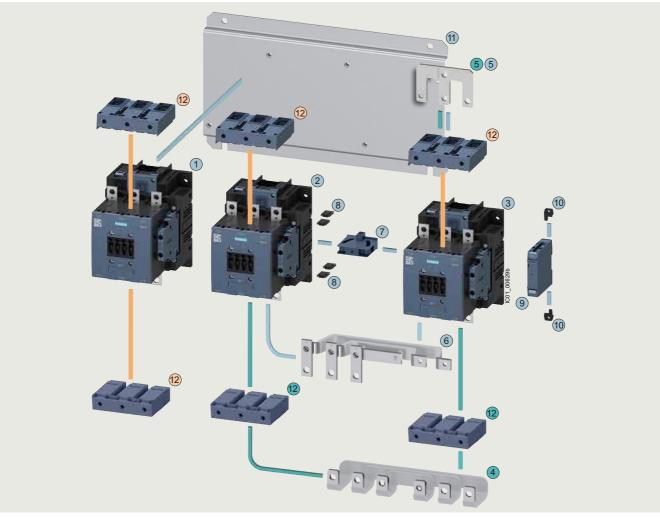
Contact	or assemblies for star-delta (wye	e-delta) st	tarting for	custome	r assembly
Individua	l parts	Туре			Page
		Q11	Q13	Q12	
123	Contactors, 110 kW	3RT1054	3RT1054	3RT2045	3/52, 3/61, 3/64 3/68
123	Contactors, 132 kW	3RT1055	3RT1055	3RT2046	3/52, 3/61, 3/64 3/68
123	Contactors, 160 kW	3RT1056	3RT1056	3RT2047	3/52, 3/61, 3/64 3/68
4	Assembly kit S6-S6-S3 for contactors with box terminals consisting of: Wiring modules, bottom	3RA1953-	3G		3/112
(5)	Star jumper S3	3RT1946-4	4BA31		3/113
6	Adapter for the mechanical interlock between S6 and S3 (including two connectors)	3RA1954-		3/114	
7	Mechanical interlock between S6 and S3	3RA1954-	2A		3/114
8	Timing relay with star-delta (wye-delta) function	3RP257.			10/34
9	Push-in lugs for star-delta (wye-delta) timing relays	3ZY1311-0	OAA00		10/35
10	Base plate star-delta (wye-delta)	3RA1952-	2E		3/119
\odot	Box terminal block	3RT1955-4	4G		3/116

¹⁾ The 3RA1954-2G adapter cannot be used in conjunction with 3RT204..-.KB coupling contactors, size S3.

Contactor assemblies for star-delta (wye-delta) starting

Contactor assemblies for star-delta (wye-delta) starting consisting of SIRIUS 3RT and 3TF6 contactors, up to 710 kW

Contactor assemblies for star-delta (wye-delta) starting for customer assembly · Size S6-S6-S6 · Up to 160 kW



Mountable accessories (optional)					
To be ordered separately	Туре	Page			
8 Box terminal blocks	3RT1955-4G	3/116			

Contact	or assemblies for star-delta (wye-delta	a) startin	g for cus	stomer a	ssembly
Individua	l parts	Туре	Page		
		Q11	Q13	Q12	
123	Contactors, 110 kW	3RT1054	3RT1054	3RT1054	3/66 3/68
123	Contactors, 132 kW	3RT1055	3RT1055	3RT1055	3/66 3/68
123	Contactors, 160 kW	3RT1056	3RT1056	3RT1056	3/66 3/68
4556	Assembly kit S6-S6-S6 for contactors with box terminals consisting of: 4 Link rails, bottom 5 Star jumper S6 Assembly kit S6-S6-S6 for contactors without box terminals	3RA1953- 3RA1953-			3/112
	consisting of: Link rails, bottom	2001054	24		0/114
7		3RA1954- 3RA1932-			3/114
8	Four connectors		-20		3/114 10/34
9	Timing relay with star-delta (wye-delta) function		04400		
10	Push-in lugs for star-delta (wye-delta) timing relays	3ZY1311-	UAAUU		10/35
1	Base plate star-delta (wye-delta)	3RA1952	-2F		3/119
12	Box terminal block	3RT1955-	4G		3/116

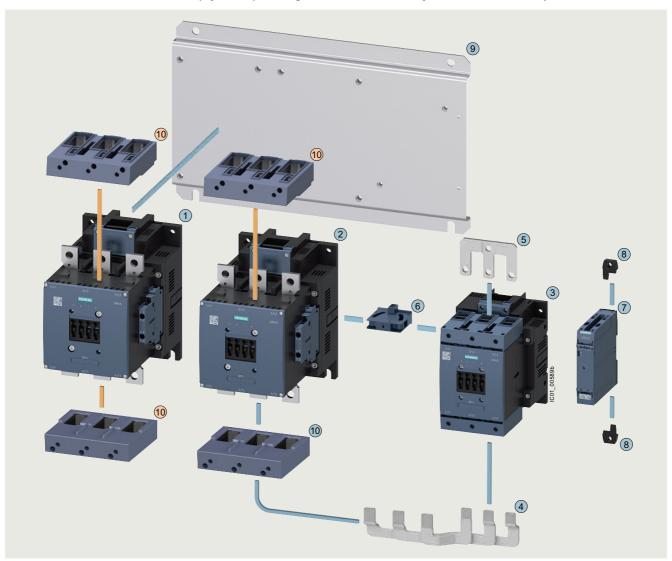


Video: SIRIUS contactor assembly for star-delta (wye-delta) starting – configuration example with 75 kW contactors

Contactor assemblies for star-delta (wye-delta) starting

Contactor assemblies for star-delta (wye-delta) starting consisting of SIRIUS 3RT and 3TF6 contactors, up to 710 kW

Contactor assemblies for star-delta (wye-delta) starting for customer assembly · Size S10-S10-S6 · Up to 250 kW



Mountable accessories (optional)					
To be ordered separately	Туре	Page			
Box terminal blocks	3RT1966-4G	3/116			

Contactor assemblies for star-delta (wye-delta) starting for customer assembly						
Individua	l parts	Туре		Page		
		Q11	Q13	Q12		
123	Contactors, 200 kW	3RT1.64	3RT1.64	3RT1054	3/66 3/68, 3/131	
123	Contactors, 250 kW	3RT1.65	3RT1.65	3RT1055	3/66 3/68, 3/131	
4	Assembly kit S10-S10-S6 for contactors with box terminals consisting of: Wiring modules, bottom	3RA1963-	3E		3/112	
(5)	Star jumper S6	3RT1956-	4BA31		3/113	
6	Mechanical interlock between S10 and S6	3RA1954-	2A		3/114	
7	Timing relay with star-delta (wye-delta) function	3RP257.			10/34	
8	Push-in lugs for star-delta (wye-delta) timing relays	3ZY1311-	0AA00		10/35	
9	Base plate star-delta (wye-delta)	3RA1962-	2E		3/119	
10	Box terminal block	3RT1966-	4G		3/116	

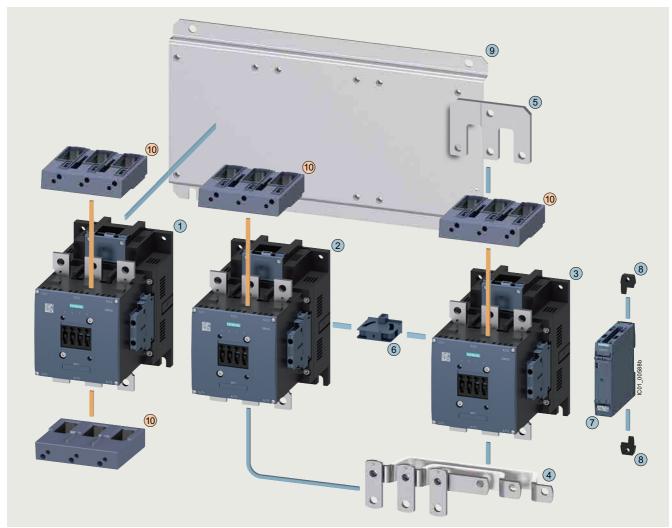


Video: SIRIUS contactor assembly for star-delta (wye-delta) starting – configuration example with 75 kW contactors

Contactor assemblies for star-delta (wye-delta) starting

Contactor assemblies for star-delta (wye-delta) starting consisting of SIRIUS 3RT and 3TF6 contactors, up to 710 kW

Contactor assemblies for star-delta (wye-delta) starting for customer assembly · Size S10-S10-S10 · Up to 250 kW



Mountable accessories (optional)						
To be ordered separately	Туре	Page				
Box terminal blocks	3RT1966-4G	3/116				

Contact	Contactor assemblies for star-delta (wye-delta) starting for customer assembly						
Individual	parts	Туре			Page		
		Q11	Q13	Q12			
123	Contactors, 200 kW	3RT1.64	3RT1.64	3RT1.64	3/66 3/68, 3/131		
123	Contactors, 250 kW	3RT1.65	3RT1.65	3RT1.65	3/66 3/68, 3/131		
45	Assembly kit S10-S10-S10 for contactors without box terminals consisting of:	3RA1963-	2B		3/112		
	4 Link rails, bottom						
	Star jumper S10						
6	Mechanical interlock	3RA1954-	2A		3/114		
7	Timing relay with star-delta (wye-delta) function	3RP257.			10/34		
8	Push-in lugs for star-delta (wye-delta) timing relays	3ZY1311-	OAA00		10/35		
9	Base plate star-delta (wye-delta)	3RA1962-	2F		3/119		

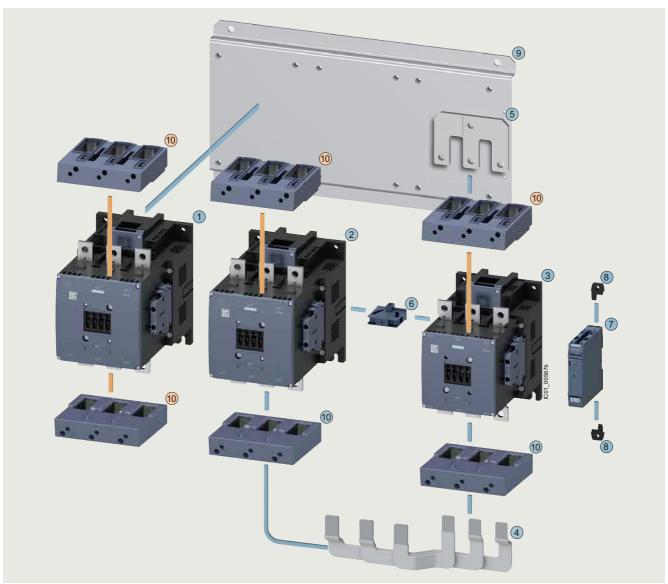


Video: SIRIUS contactor assembly for star-delta (wye-delta) starting – configuration example with 75 kW contactors

Contactor assemblies for star-delta (wye-delta) starting

Contactor assemblies for star-delta (wye-delta) starting consisting of SIRIUS 3RT and 3TF6 contactors, up to 710 kW

Contactor assemblies for star-delta (wye-delta) starting for customer assembly · Size S12-S12-S10 · Up to 500 kW



Mountable accessories (optional)

To be ordered separately Type Pa

Box terminal blocks 3RT1966-4G 3/116

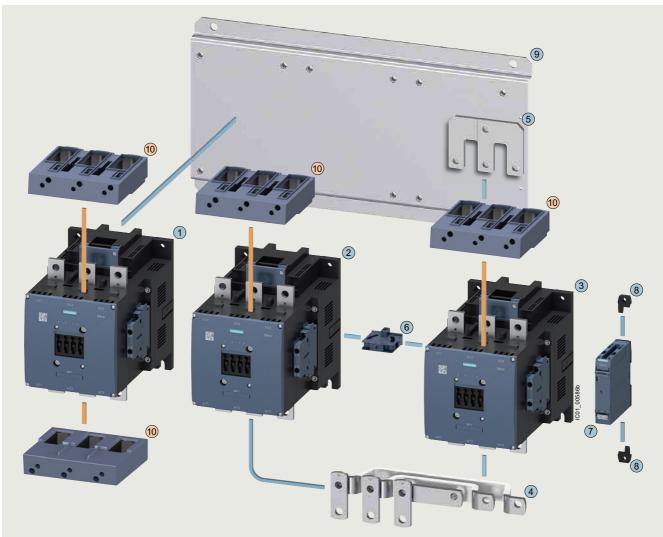
Contactor assemblies for star-delta (wye-delta) starting for customer assembly						
Individual	parts	Туре			Page	
		Q11	Q13	Q12		
(1)(2)(3)	Contactors, 355 kW	3RT1.75	3RT1.75	3RT1.64	3/66 3/68, 3/131	
123	Contactors, 400 kW	3RT1.75	3RT1.75	3RT1.65	3/66 3/68, 3/131	
123	Contactors, 500 kW	3RT1.76	3RT1.76	3RT1.66	3/66 3/68, 3/131	
4	Assembly kit S12-S12-S10 for contactors with box terminals	3RA1973-	-3E		3/112	
	consisting of: Wiring modules, bottom					
(5)	Star jumper S10	3RT1966-	4BA31		3/113	
6	Mechanical interlock between S12 and S10	3RA1954-	-2A		3/114	
7	Timing relay with star-delta (wye-delta) function	3RP257.			10/34	
8	Push-in lugs for star-delta (wye-delta) timing relays	3ZY1311-	0AA00		10/35	
9	Base plate star-delta (wye-delta)	3RA1972-	-2E		3/119	
10	Box terminal blocks	3RT1966-	4G		3/116	



Contactor assemblies for star-delta (wye-delta) starting

Contactor assemblies for star-delta (wye-delta) starting consisting of SIRIUS 3RT and 3TF6 contactors, up to 710 kW

Contactor assemblies for star-delta (wye-delta) starting for customer assembly · Size S12-S12-S12 · Up to 500 kW



Mountable accessories (optional)						
To be ordered separately	Туре	Page				
Box terminal blocks	3RT1966-4G	3/116				

Contact	Contactor assemblies for star-delta (wye-delta) starting for customer assembly						
Individua	l parts	Туре			Page		
		Q11	Q13	Q12			
123	Contactors, 400 kW	3RT1.75	3RT1.75	3RT1.75	3/66 3/68, 3/131		
123	Contactors, 500 kW	3RT1.76	3RT1.76	3RT1.76	3/66 3/68, 3/131		
45	Assembly kit S12-S12-S12 for contactors without box terminals consisting of: 4 Link rails, bottom 5 Star jumper S12	3RA1973-	2B		3/112		
6	Mechanical interlock	3RA1954-	2A		3/114		
7	Timing relay with star-delta (wye-delta) function	3RP257.			10/34		
8	Push-in lugs for star-delta (wye-delta) timing relays	3ZY1311-	0AA00		10/35		
9	Base plate star-delta (wye-delta)	3RA1972-	2F		3/119		

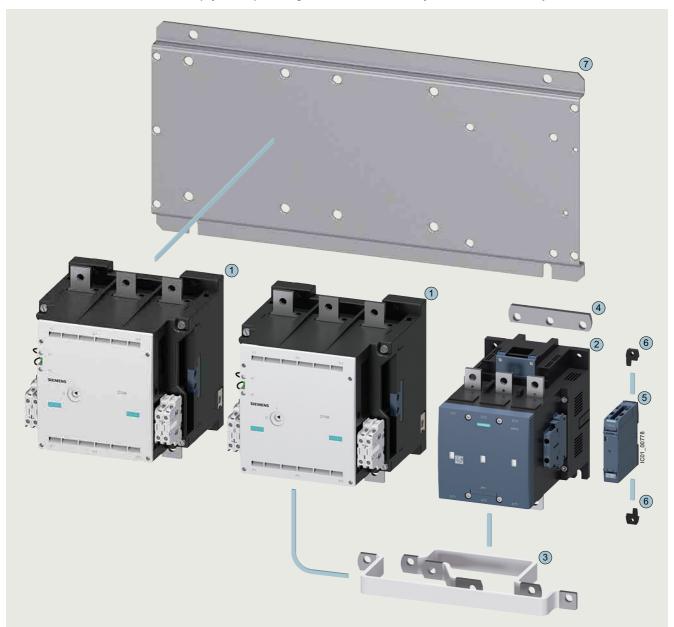


Video: SIRIUS contactor assembly for star-delta (wye-delta) starting - configuration example with 75 kW contactors

Contactor assemblies for star-delta (wye-delta) starting

Contactor assemblies for star-delta (wye-delta) starting consisting of SIRIUS 3RT and 3TF6 contactors, up to 710 kW

Contactor assemblies for star-delta (wye-delta) starting for customer assembly · Sizes 14-14-S12 · Up to 710 kW



Conta	Contactor assemblies for star-delta (wye-delta) starting for customer assembly						
Individ	ual parts	Туре			Page		
		Q11	Q13	Q12			
12	Contactors, 710 kW	3TF68	3TF68	3RT127.	3/131 3/133		
34	Assembly kit 14-14-S12 for contactors without box terminals consisting of:	3TX7680-1B			3/136		
	Wiring modules on the top and bottom						
	4 Star jumper S12						
(5)	Timing relay with star-delta (wye-delta) function	3RP257.			10/34		
6	Push-in lugs for star-delta (wye-delta) timing relays	3ZY1311-0AA0	0		10/35		
7	Base plate star-delta (wye-delta)	3TX7681-1B			3/136		

M

Switching devices – Contactors and contactor assemblies – for switching motors

4

Switching devices – Contactors and contactor assemblies – Special applications



	Price groups
	PG 41A, 41B
4/2	Introduction
	Contactors for special
	applications
4/7	SIRIUS 3RT.4 contactors for weak or non-inductive loads (AC-1), 3-pole up to 2 650 A
4/21	SIRIUS 3RT.3 contactors, 4-pole, up to 525 A
4/36	SIRIUS 3RT25 contactors, 4-pole, 2 NO + 2 NC
4/42	SIRIUS 3RT26 contactors for capacitive loads (AC-6b), 3-pole
4/52	SIRIUS 3RT23 to 3RT26, 3RT14 contactors
	Contactors for railway applications
4/54	- SIRIUS 3RT contactors with extended operating range, 3-pole
4/63	- SIRIUS 3RH2 contactor relays with
4/66	extended operating range
4/68	- 3TH4 contactor relays, 8-pole - 3TC contactors for switching DC
4/00	voltage, 2-pole
4/71	3TC contactors for switching DC voltage, 1- and 2-pole
3/139	3TG10 power relays/miniature contactors

Switching devices - Contactors and contactor assemblies - Special applications

Introduction

Overview



Overview of the 3RT and 3TF contactors

Switching devices - Contactors and contactor assemblies - Special applications

Introduction

More information

Phase barriers

Withdrawable coils

Homepage, see www.siemens.com/sirius

SiePortal, see www.siemens.com/product?3RT_3TK_3TC

Conversion tool, see www.siemens.com/conversion-tool TIA Selection Tool Cloud (TST Cloud), see www.siemens.com/tstcloud/?node=Contactor









Size	53		30	510		312
Type	3RT244.		3RT1456	3RT146.		3RT1476
3-pole 3RT244 and 3RT145 to 3	BRT147 contact	ors				
Type	3RT2446	3RT2448	3RT1456	3RT1466	3RT1467	3RT1476

Number of main con	tacts		3 NO		3 NO	3 NO		3 NO
AC, AC/DC operation	n		(p. 4/16)		(p. 4/17, 4/18)	(p. 4/17,	4/18)	(p. 4/17, 4/18)
AC-1								
U i		V	1 000					
U _e		٧	690					
<i>I</i> _e up to 690 V	40 °C	Α	140	160	275	400	500	690
	60 °C	Α	130	140	250	380	450	Standard operating mechanism: 650, solid-state operating mechanism: 600
Accessories for	contactors	5				·		
Auxiliary switches			3RH29, 3RA28	(p. 3/91 3/100)	3RH19, 3RT1926			(p. 3/94, 3/96, 3/99, 3/101)
Function modules (direct-on-line start (wye-delta) starting		lta	3RA28	(p. 3/105)				

Terminal covers	3RT2946-4EA4	(p. 3/118)	3RT1956-4EA.	(p. 3/118)
Box terminal blocks			3RT1955-4G, 3RT19.6-4G	(p. 3/116)
Surge suppressors	3RT2936, 3RT2946	(p. 3/102, 3/103)	3RT1956-1C (RC element)	(p. 3/103)



3RT1983-4AA1







Type		3RT1481, 3	3RT1482	3RT1483	3RT1485, 3R	T1486	3RT1487	
3-pole 3RT148 cor	ntactors							
Туре		3RT1481	3RT1482	3RT1483	3RT1485	3RT1486	3RT1487	
Number of main conta	cts	3 NO						
AC/DC operation		(p. 4/19)						
AC-1								
<i>U</i> _i	V	1 000						
U _e	V	1 000						
I_{e}	40 °C A	900	1 050	1 260	1 700	2 100	2 650	
Accessories for co	ontactors							
Second auxiliary swi	tch, lateral	3RH1981-	IJA11					(p. 4/19)
Spare parts for co	ntactors							
First auxiliary switch	, lateral	3RH1981-	1DA11			•		(p. 4/20)

3RT1982-5A.31 (p. 4/20) 3RT1983-5AP31 (p. 4/20) 3RT1987-5AP31

(p. 4/20) 3RT1987-4AA1

(p. 4/20) (p. 4/20)

Switching devices – Contactors and contactor assemblies – Special applications

Introduction





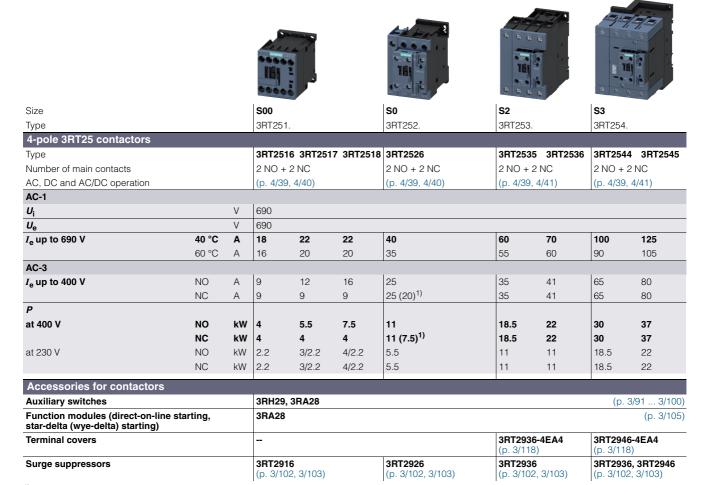




Size		S6		S10		S12		
Type		3RT1355		3RT136.		3RT137.		
4-pole 3RT13 contac	tors							
Туре		3RT1355		3RT1363	3RT1364	3RT1373	3RT1374	3RT1375
Number of main contacts	3	4 NO		4 NO		4 NO		
AC/DC operation		(p. 4/34)		(p. 4/34)		(p. 4/34)		
AC-1								
<i>U</i> i	V	1 000						
U _e	V	690		1 000				
I_{e}	40 °C A	200		275	350	400	500	525
Accessories for con	tactors							
Second auxiliary switch	n, lateral	3RH1951-1SA11						(p. 4/35)
Terminal covers		3RT1956-4EB10	(p. 4/35)	3RT1966-4EB10	(p. 4/35)	3RT1976-4EB10	0	(p. 4/35)
Mechanical interlocks		3RA1954-3A						(p. 4/35)
Bus connectors offset				3RT1966-4D	(p. 4/35)	3RT1976-4D		(p. 4/35)
Spare parts for conta	actors							
First auxiliary switch, la	ateral	3RH1951-1TA11					<u> </u>	(p. 4/35)

Switching devices - Contactors and contactor assemblies - Special applications

Introduction



¹⁾ The value in brackets applies to the NC for DC operation.

Further contactors

- SIRIUS 3RT26 contactors for capacitive loads (AC-6b), 3-pole, see page 4/42 onwards
- 3TC contactors for switching DC voltage, 1-pole and 2-pole, see page 4/71 onwards
- Contactors for railway applications
 - SIRIUS 3RT contactors with extended operating range, 3-pole, see page 4/54 onwards
 - SIRIUS 3RH2 contactor relays with extended operating range, see page 4/63
 - 3TH4 contactor relays, 8-pole, see page 4/66 onwards

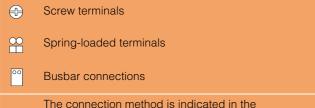
Switching devices - Contactors and contactor assemblies - Special applications

Introduction

Connection methods

The following connection options are available for 3RT contactors depending on the size and version:

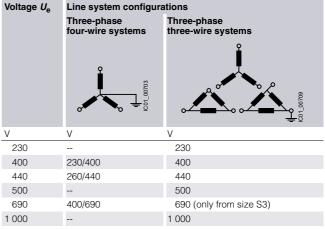
- 3RT2 contactors
 - Sizes S00 and S0: screw terminals or spring-loaded terminals both for the main as well as for the auxiliary and control circuits
 - Sizes S2 and S3: screw terminals (complete devices) or spring-loaded terminals (auxiliary circuit only)
- 3RT13 contactors, sizes S6 to S12: Busbar connections (partly with bus connectors offset), auxiliary and control circuits with screw terminals
- 3RT14 contactors: Busbar connections



The connection method is indicated in the corresponding tables by the symbols shown on orange backgrounds.

Voltage data

The data for 3-phase power systems according to IEC 60947-4-1 are valid for the following line system configurations:



-- Not specified

Switching devices – Contactors and contactor assemblies – Special applications Contactors for special applications

SIRIUS 3RT.4 contactors for weak or non-inductive loads (AC-1), 3-pole up to 2 650 A

Overview



3-pole AC-1 contactors top row: 3RT148 contactors bottom row: 3RT244, 3RT145 to 3RT147 contactors

Standards

IEC 60947-1, IEC 60947-4-1, IEC 60947-5-1 (auxiliary switches)

Contactors with increased tamper protection

Increased tamper protection is ensured either by using our contactor versions with factory-installed, permanently mounted auxiliary switches which are protected against mechanical external actuation (e.g. 3RT14..-....3PA0 contactors), or by using the 3RT1926-4MA10 sealable cover as an accessory, (see page 3/118).

Protecting connections against short circuit, overload and overvoltage

All connections must generally be protected against overload and short circuits using suitable measures. Different constraints must be considered depending on the type of connection:

Short-circuit and overload protection of main connections

For information on the protection of a free-standing contactor, see the technical product data sheet.

For more information on device combinations such as contactor with overload relay or contactor with circuit breaker as motor feeder, refer to

- · Digital Configuration Manual for load feeders
- Configuration Manual for load feeders

Short-circuit and overload protection of auxiliary connections

For information on the protection of auxiliary contacts, see the technical product data sheet.

Short-circuit and overload protection of control supply voltage or supply voltage connections

First of all, the relevant standards and regulations for configuring control panels and the parts and components installed in them must be taken into account, for example for cable dimensioning.

One possible protection for these circuits could be the selection of a suitable power supply, i.e. one with a current-limiting function. In the selection of the source and the connecting cable, the load characteristics of the contactor must be considered

(short-time inrush current peaks for solid-state contactor operating mechanisms, switch-on power, holding power). The same applies to the selection of suitable protection devices.

If there are further switching elements in the circuit, such as the auxiliary contact system of an overload relay that operates the contactor, the short-circuit protection necessary for this must also be considered.

For further recommendations, e.g. the use of miniature circuit breakers or circuit breakers for equipment in control circuits, see Control panel tip – Selecting and dimensioning suitable power supplies quickly and reliably.

Short-circuit and overload protection of contactors with digital input

A typical rated current of 20 mA applies to these inputs based on the PLC input types according to IEC 60947-4-1. The inputs can be protected accordingly.

- Contactors with PLC and F-PLC inputs:
 - For 3RT14..-.S and 3RT14..-.N, marked with +/-
- Supply voltage connections A1 A2:
 - For 3RT14..-N, protection based on the load characteristics must be employed.
 - For information on power consumption, see the technical product data sheet.
- For 3RT14..-.S, protection is already integrated.

Short-circuit and overload protection of other connections

The 3RT14..-P contactor version with remaining lifetime indicator (RLT) also has additional connections H1 - H2 and R1 - R2.

If A1 - A2 is already protected, further protection of H1 - H2 is not required.

For protection specifications for protecting ${\sf R1}$ - ${\sf R2}$, see the technical product data sheet.

Switching devices – Contactors and contactor assemblies – Special applications Contactors for special applications

SIRIUS 3RT.4 contactors for weak or non-inductive loads (AC-1), 3-pole up to 2 650 A

Protection against overvoltage at the control supply voltage connection

3RT244 contactors supplied without a coil circuit can be retrofitted with RC elements, varistors, diodes or diode assemblies (combination of diode and Zener diode for short break times) for damping switching overvoltages in the coil and can be ordered separately as accessories, see page 3/102 onwards.

3RT14 contactors are already equipped with coil damping (varistor).

Note:

The break times of the contactor, the opening delay times of the NO contacts and the closing delay times of the NC contacts increase in the event of damping.

For more information about influencing the time response using damping, see Equipment Manual.

Connection methods

Main circuit

- 3RT244 contactors:
 - Screw terminals with box terminal;
 - direct connection to the connecting bar possible with cable lugs when the box terminal is removed.
- 3RT145 to 3RT147 contactors:
 - Screw terminals with connecting bars that the cables can be connected to using either cable lugs or flexible or rigid busbars. Alternatively, box terminals are available as accessories.
- 3RT148 contactors: Screw terminals with connecting bars

Auxiliary and control circuits

- 3RT24, 3RT145 to 3RT147: Screw or spring-loaded terminals
- 3RT148: Screw terminals

Electromagnetic compatibility (EMC)

The contactors comply with the conditions for environment A according to IEC 60947-1.

Note:

When the contactors are used in an environment with frequency converters, the configuration notes must be observed, see Equipment Manual.

Contact reliability of the auxiliary contacts

If voltages \leq 110 V and currents \leq 100 mA are to be switched, the auxiliary contacts of the 3RT contactors or 3RH contactor relays should be used as they guarantee a high level of contact reliability.

These auxiliary contacts are particularly suitable for solid-state circuits with currents \geq 1 mA at a voltage \geq 17 V.

Operating mechanism types

3RT244 contactors

The contactors are available as versions with conventional AC or DC operating mechanisms or as versions with a wide-range solid-state operating mechanism and a universal actuating voltage (AC or DC operation).

With an operating range from 0.8 to 1.1 x U_s , control takes place via the control supply voltage connection A1 - A2.

3RT145 to 3RT147 contactors

The contactors are powered via a supply voltage with an operating range from 0.8 to 1.1 x $U_{\rm S}$, optionally also controlled depending on the chosen mode of operation. Alternatively, control is via the separate 24 V DC control signal input. Various rated voltage ranges for AC/DC control are available.

The following control and/or operating mechanism versions are available:

- 3RT14..-.A contactors:
- Standard operating mechanism for AC and DC operation (power consumption reduced from closing to closed)
- Solid-state operating mechanisms:
- Overvoltage damping of the operating mechanism coil is already integrated in the electronics for contactors with solid-state operating mechanisms.

The following versions are available:

- 3RT14..-.N contactors:
 With two operating modes: Direct control or via PLC input (24 V DC)
- 3RT14..-.P contactors:
- Control via PLC input (24 V DC) only, but with additional remaining lifetime indicator (RLT)
- 3RT14..-S contactors:
 Control via fail-safe PLC input (24 V DC) only, for simplification of safety applications

3RT148 contactors

The contactors are equipped with a solid-state operating mechanism for AC/DC control; coil damping is integrated. The operating range is $0.85 \dots 1.1 \times U_{\rm s}$.

Replacing solenoid coils, operating mechanisms or spare contacts

3RT244 contactors

Solenoid coil or spare contact replacement is possible.

3RT145 to 3RT147 contactors

The operating mechanisms for 3RT14..-.A/-.N/-.P contactors are removable and can be replaced simply by unlocking and pulling them out. The spare contacts can also be replaced.

NOTICE

Removal or changing of the operating mechanism is not permitted for 3RT14..-. S contactors with fail-safe control.

3RT148 contactors

The operating mechanisms are removable and can be replaced simply by unlocking and pulling them out.

Fitting auxiliary contacts and mounting additional auxiliary switches

Features in the delivery state

- 3RT244 contactors:
 - Two auxiliary contacts (1 NO + 1 NC) are integrated in the basic unit.
- 3RT14 contactors:
 - These contactors are supplied with two laterally mounted auxiliary switches with two contacts each (2 NO + 2 NC).

Expansion possibilities

All basic units can be expanded using auxiliary switches; the permissible configuration must be observed.

For detailed information about the fitting of auxiliary switches for 3RT244 contactors, see pages 3/83 to 3/90.

Accessories and spare parts

- 3RT244 and 3RT145 to 3RT147 contactors, see Basic units, page 3/71 onwards
- 3RT148 contactors, see page 4/19 onwards

Switching devices – Contactors and contactor assemblies – Special applications Contactors for special applications

SIRIUS 3RT.4 contactors for weak or non-inductive loads (AC-1), 3-pole up to 2 650 A

Connection of contactors to fail-safe control modules

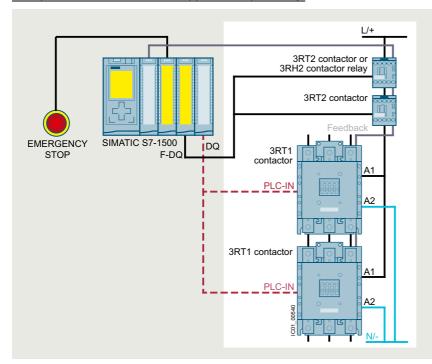
While contactors with smaller power ratings can be connected directly to the outputs of fail-safe controllers, implementing safety-related applications with standard contactors with higher power is much more complicated and elaborate because of the necessary coupling links.

Due to their fail-safe control input, the special versions from sizes S6 to S12 (3RT14..-.S) provide a much simpler way of doing this.

For more information, see

- Safety technology, page 11/1 onwards
- Guide of use for contactors in safety applications

Example for SIL 2 and SIL 3/PL e application – previously:

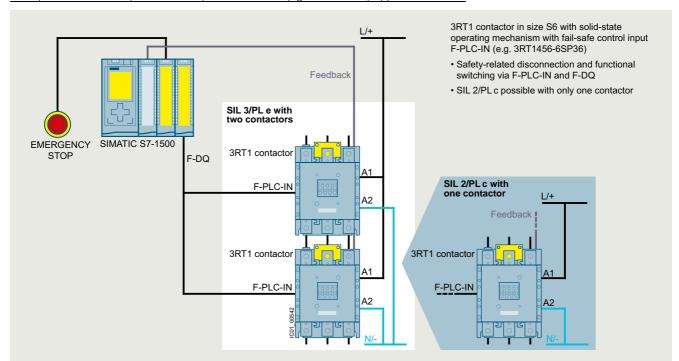


3RT1 contactor in size S6 with standard or solid-state operating mechanism with PLC-IN

- Safety-related disconnection only possible via coupling links and F-DQ
- Standard operating mechanism: functional switching via coupling links and F-DQ
- Solid-state operating mechanism: operational switching with PLC-IN and DQ

Application with safety-related disconnection with standard contactors using the example of a 3RT145 contactor

Example for SIL 3/PL e (left-hand side) and SIL 2/PL c (right-hand side) application – new:



Application with safety-related disconnection with contactors with fail-safe control using the example of a 3RT145 contactor

Switching devices – Contactors and contactor assemblies – Special applications Contactors for special applications

SIRIUS 3RT.4 contactors for weak or non-inductive loads (AC-1), 3-pole up to 2 650 A

Overview graphics with mountable accessories

- 3RT244 contactors, see page 3/11
- 3RT145 to 3RT147 contactors, see page 3/12 onwards
- 3RT148 contactors, see following graphic



1 3RT1481 to 3RT1487 contactors (3RT1487 contactor is shown)

Can be mounted onto side of contactor

2 3RH1981-1JA11 second auxiliary switch

3RT1481 to 3RT1487 contactors with mountable accessories

Application

The 3RT.4 contactors can be used for the following applications:

- For switching weak or non-inductive loads (AC-1)
- Disconnecting loads or power generation plants from the grid (e.g. wind turbines or photovoltaic systems)
- Disconnecting frequency converters from the grid

Switching devices – Contactors and contactor assemblies – Special applications Contactors for special applications

SIRIUS 3RT.4 contactors for weak or non-inductive loads (AC-1), 3-pole up to 2 650 A

Technical specifications

More information Technical specifications, see			Manuals, see				
https://support.industry.siemens.com/cs/ww/en/ps/24229/td For FAQs, see https://support.industry.siemens.com/cs/ww/e	en/ps/2	4229/faq	https://support.indu Guide of use for co https://support.indu	ntactors in safety a	applications	, see	
			пирэ.//заррогинас	ioti y.oicinicho.com	CS/WW/CH/VI	CW/100007	501
Type Size		3RT2446, S3	3RT2448	3RT1456 S6	3RT1466 S10	3RT1467	3RT1476 S12
General data		33		30	310		312
Dimensions (W x H x D)							
Basic units Screw/spring-loaded terminals	mm	70 x 140 x	152	120 x 172 x 170	145 x 210	x 202	160 x 214 x 225
Basic unit with mounted auxiliary switch Screw terminals Spring-loaded terminals	mm mm	70 x 140 x 70 x 140 x		120 x 172 x 217	145 x 210	x 251	160 x 214 x 271
Basic unit with mounted function module or solid-state time-delay auxiliary switch							
- Screw/spring-loaded terminals	mm	70 x 140 x	226				
Permissible mounting position The contactors are designed for operation on a vertical mounting surface.		360°	22,5° 22,5° 82,50° 80,0	90° +1++	5°,22,5° e6,900 08SN		
Upright mounting position		NSB0_00477a Special ve	rsion required				
Mechanical endurance		0,000					
Basic units and basic units with mounted auxiliary switch	Operating cycles	10 million					
Basic units with solid-state-compatible auxiliary switch		5 million		-			
Electrical endurance for utilization category AC-1, at $U_{\rm e}$ = 400 V		0.5 million				0.35 million	0.5 million
Rated insulation voltage $U_{\rm i}$ (pollution degree 3)	V	1 000					
Rated impulse withstand voltage U _{imp}	kV	6		8			
Protective separation between the coil and the main contacts according to IEC 60947-1, Annex N	V	690					
Mirror contacts according to IEC 60947-4-1, Annex F A mirror contact is an auxiliary NC contact that cannot be							
Integrated auxiliary switches		Yes					
Removable auxiliary switches				Yes			
Permissible ambient temperature							
During operation During storage	°C	-25 +60					
During storage Short-circuit protection	°C	-55 +80					
Main circuit Version of the fuse link required for short-circuit protection							
of the main circuit - For type of coordination 1		gG: 250 A (690 V, 100) kA)	gG: 355 A (690 V, 100 kA)	gG: 500 A (690 V, 100) kA)	gG: 800 A (690 V, 50 kA)
- For type of coordination 2		gG: 250 A (690 V, 100	•	gG: 350 A (690 V, 100 kA)	gG: 500 A (690 V, 100	,	gG: 710 A (690 V, 100 kA)
Auxiliary circuit Version of the fuse link required for short-circuit protection of the auxiliary switch	A	Fuse gG: 1	0				
Version of the miniature circuit breaker required for short-circuit protection of the auxiliary switch	Α	On reques	t				
Short-circuit protection for contactors with overload relays		• Configur	onfiguration Manual ation Manual for load				
Short-circuit protection for fuseless load feeders		• Digital C	nd feeders, page 8/5 onfiguration Manual ation Manual for load	for load feeders			

Switching devices – Contactors and contactor assemblies – Special applications Contactors for special applications

SIRIUS 3RT.4 contactors for weak or non-inductive loads (AC-1), 3-pole up to 2 650 A

Type			3RT2446, A	3RT2448 N	3RT1456 A	N/P/S	3RT146 A	6, 3RT1 N/F		3RT1470 A	6 N/P/S
Size			S3		S6		S10	14/1	75	S12	14/1-/5
Control											
Solenoid coil operating range (AC/D	C)		0.8 1.1 x <i>U</i> _S	0.8 x <i>U</i> _{s m}	_{nin} 1.1 x ն	U _{s max}					
Power consumption of the solenoid (for cold coil and $1.0 \times U_s$)	coils		3								
• AC operation, 50 Hz,	Closing	VA	296								
standard version	P.f. Closed	VA	0.61 19								
	P.f.		0.38								
 AC operation, 50/60 Hz, standard version 	Closing P.f.	VA	348/296 0.62/0.55								
	Closed	VA	25/18								
• AC operation, 50/60 Hz,	P.f. Closing	VA	0.35/0.41 326/326								
for USA/Canada	P.f.		0.62/0.55								
	Closed P.f.	VA	22/22 0.38/0.4								
AC/DC operation	Closing for	VA		163	300	280	590	530		830	750
	AC operation P.f.				0.9	0.8	0.9	0.8		0.9	0.8
	Closed for AC operation	VA		3.1	5.8	4.8	6.7	8.5		9.2	9
	P.f.				0.8	0.6	0.9	0.4		0.9	0.4
	Closing for DC operation	W		76	360	320	650	580		920	800
	Closed for DC operation	W		1.8	5.2	2.8	7.4	3.4		10	3.6
Type of PLC control input according											
Solid-state operating mechanism	3RT14N/P				Type 2						
Rated voltage	3RT14S	V DC			Type 1 24						
Operating range		V DC			17 30						
 Power consumption 		mA			≤ 30						
 Recovery time after power failure, type (applicable only for fail-safe version) 		S			2						
(applicable only for fall care version)											
Type Size			3RT2446 S3	3RT2448	3RT1456 S6	3RT1466 S10	3RT	1467	3RT1 S12	1476	
Rated data of the main contacts	6										
Load rating with AC			•								
Utilization category AC-1											
$ullet$ Rated operational currents $I_{ m e}$	At 40 °C up to 690 V At 60 °C up to 690 V		140 130	160 140	275 250	400 380	500 450		690 Stan	dard oper	rating
	At 00 C up to 090 V	^	130	140	230	300	430		mecl	nanism: 6	50,
										-state ope nanism: 6	
	At 40 °C up to 1 000 V At 60 °C up to 1 000 V		60 60	80 80							
Minimum cross-section in the main	71.00 O up to 1 000 V	mm ²	50	70	140	240	300		480		
circuit at maximum AC-1 rated value											
Power loss per main conducting path	At I _e /AC-1/40 °C	W	9.8	12.8	28.8	35.2	35.2		61.9		
Туре			3RT2446,	3RT2448							
Size			3RT2446, S3	3RT2448							
Size Conductor cross-sections			S3								
Size	can be connected)		S3	3RT2448	s						
Size Conductor cross-sections	can be connected)	mm ²	S3 Scre 2 x (2.5	w terminal							
Size Conductor cross-sections Main conductors (1 or 2 conductors of Solid Stranded	,	mm ²	S3 Scre 2 x (2.5 2 x (6 1)	w terminal) 50) ¹⁾ ; 1	× (10 70)	1)				
Size Conductor cross-sections Main conductors (1 or 2 conductors of solid	,	mm ² mm ²	S3 Scre 2 x (2.5 2 x (6 1 2 x (2.5	w terminal 16) ¹⁾ 6) ¹⁾ ; 2 x (10 35) ¹⁾ ; 1 x (2) 50) ¹⁾ ; 1 2.5 50) ¹⁾		1)				
Size Conductor cross-sections Main conductors (1 or 2 conductors of Solid Stranded Finely stranded with end sleeve (DIN AWG cables, solid or stranded Terminal screws	,	mm ² mm ² AWG	S3 Scre 2 x (2.5 2 x (6 1 2 x (2.5 2 x (10 Hexagon s	w terminal 16) ¹⁾ ; 2 x (10 35) ¹⁾ ; 1 x (2 1/0) ¹⁾ ; 1 x (socket, size) 50) ¹⁾ ; 1 2.5 50) ¹⁾ 10 2/0) ¹⁾		1)				
Size Conductor cross-sections Main conductors (1 or 2 conductors of Solid Stranded Finely stranded with end sleeve (DIN AWG cables, solid or stranded Terminal screws Tightening torque	I 46228)	mm ² mm ²	S3 Scre 2 x (2.5 2 x (6 1 2 x (2.5 2 x (10 Hexagon s	w terminal 16) ¹⁾ 6) ¹⁾ ; 2 × (10 35) ¹⁾ ; 1 × (2 1/0) ¹⁾ ; 1 × () 50) ¹⁾ ; 1 2.5 50) ¹⁾ 10 2/0) ¹⁾		1)				
Size Conductor cross-sections Main conductors (1 or 2 conductors of Solid Stranded Finely stranded with end sleeve (DIN AWG cables, solid or stranded Terminal screws	1 46228)	mm ² mm ² AWG Nm	S3 2 x (2.5 2 x (6 1 2 x (2.5 2 x (10 Hexagon 3 4.5 6 (4	w terminal 16) ¹⁾ ; 2 x (10 35) ¹⁾ ; 1 x (2 1/0) ¹⁾ ; 1 x (socket, size 0 53 lb.ir) 50) ¹⁾ ; 1 2.5 50) ¹⁾ 10 2/0) ¹⁾ 4 4		1)				
Size Conductor cross-sections Main conductors (1 or 2 conductors of solid) Stranded Finely stranded with end sleeve (DIN AWG cables, solid or stranded) Terminal screws Tightening torque Auxiliary conductors and control co (1 or 2 conductors can be connected) Solid or stranded	I 46228)	mm ² mm ² AWG Nm	S3 2 x (2.5 2 x (6 1 2 x (2.5 2 x (10 Hexagon s 4.5 6 (4	w terminal 16) ¹⁾ ; 2 × (10 35) ¹⁾ ; 1 × (2 1/0) ¹⁾ ; 1 × (2 0 53 lb.ir) 50) ¹⁾ ; 1 2.5 50) ¹⁾ 10 2/0) ¹⁾ 4 4 1)	o) ¹⁾	1)				
Size Conductor cross-sections Main conductors (1 or 2 conductors of Solid) Stranded Finely stranded with end sleeve (DIN AWG cables, solid or stranded) Terminal screws Tightening torque Auxiliary conductors and control co (1 or 2 conductors can be connected) Solid or stranded Finely stranded with end sleeve (DIN Solid or stranded)	I 46228)	mm ² mm ² AWG Nm mm ²	S3 2 x (2.5 2 x (6 1 2 x (2.5 2 x (10 Hexagon 3 4.5 6 (4) 2 x (0.5 2 x	w terminal 16) ¹⁾ ; 2 x (10 35) ¹⁾ ; 1 x (2 1/0) ¹⁾ ; 1 x (socket, size 0 53 lb.ir 1.5) ¹⁾ ; 2 x (1.5) ¹⁾ ; 2 x () 50) ¹⁾ ; 1 2.5 50) ¹⁾ 10 2/0) ¹⁾ 4 4 h) (0.75 2.5	o) ¹⁾	1)				
Size Conductor cross-sections Main conductors (1 or 2 conductors of Solid Stranded Finely stranded with end sleeve (DIN AWG cables, solid or stranded Terminal screws Tightening torque Auxiliary conductors and control co (1 or 2 conductors can be connected) Solid or stranded Finely stranded with end sleeve (DIN AWG cables, solid or stranded Terminal screws	I 46228)	mm² mm² AWG Nm mm² mm² AWG	S3 2 x (2.5 2 x (6 1 2 x (2.5 2 x (10 Hexagon 3 4.5 6 (4) 2 x (0.5 2 x (0.5 2 x (20 M3 (for Po	w terminal 16) ¹⁾ 6) ¹⁾ ; 2 x (10 35) ¹⁾ ; 1 x (2 1/0) ¹⁾ ; 1 x (2 cocket, size 0 53 lb.ir 1.5) ¹⁾ ; 2 x (1	(0.75 2.5 (0.75 2.5 (0.75 2.5 (0.75 2.5 (0.75 2.5 (0.75 2.5	i) ¹⁾	1)				
Size Conductor cross-sections Main conductors (1 or 2 conductors of Solid) Stranded Finely stranded with end sleeve (DIN AWG cables, solid or stranded) Terminal screws Tightening torque Auxiliary conductors and control co (1 or 2 conductors can be connected) Solid or stranded Finely stranded with end sleeve (DIN AWG cables, solid or stranded)	nductors	mm² mm² AWG Nm mm² mm² AWG	S3 2 x (2.5 2 x (6 1 2 x (2.5 2 x (10 Hexagon 3 4.5 6 (4) 2 x (0.5 2 x (0.5 2 x (20 M3 (for Pc 0.8 1.2)	w terminal 16) ¹⁾ 6) ¹⁾ ; 2 × (10 35) ¹⁾ ; 1 × (2 1/0) ¹⁾ ; 1 × (2 socket, size 0 53 lb.ir 1.5) ¹⁾ ; 2 × (1 1.5) ¹⁾ ; 2 × (1 1.5) ¹⁾ ; 2 × (1	(0.75 2.5 (0.75 2.5 (0.75 2.5 (0.75 2.5 (0.75 2.5 (0.75 2.5	i) ¹⁾	1)				

¹⁾ If two different conductor cross-sections are connected to one clamping point, both cross-sections must lie in one of the ranges specified.

Switching devices – Contactors and contactor assemblies – Special applications Contactors for special applications

SIRIUS 3RT.4 contactors for weak or non-inductive loads (AC-1), 3-pole up to 2 650 A

Type			3RT1456		3RT1466, 3RT1467	3RT1476
Size			S6		S10	S12
Conduc	tor cross-sections					
Main cond (1 or 2 cor	ductors nductors can be connected)		Screw terminals			
With mour	nted box terminals	Type	3RT1955-4G	3RT1956-4G	3RT1966-4G	
	Terminal screws		M10 (hexagon socket, A/F 4)	, ,	, ,	on socket, A/F 5)
	Tightening torque	Nm lb.in	10 12 90 110	10 12 90 110	20 22 180 195	
Front clam	nping point connected					
00479	 Finely stranded with end sleeve (DIN 46228) Finely stranded without end sleeve Stranded 	mm ² mm ² mm ²	16 70 16 70 16 70	16 120 16 120 16 120	70 240 70 240 95 300	
O O O	 AWG cables, solid or stranded 	AWG	6 2/0	6 250 kcmil	3/0 600 kg	emil
	 Ribbon cable conductors (Number x Width x Thickness) 	mm	Min. 3 x 9 x 0.8, max. 6 x 15.5 x 0.8	Min. 3 x 9 x 0.8, max. 10 x 15.5 x 0.8	Min. 6 x 9 x 0 max. 20 x 24	
Rear clam	ping point connected	2				
0_00480	Finely stranded with end sleeve (DIN 46228)Finely stranded without end sleeveStranded	mm ² mm ² mm ²	16 70 16 70 16 70	16 120 16 120 16 120	120 185 120 185 120 240	
	 AWG cables, solid or stranded 	AWG	6 2/0	6 250 kcmil	250 500 k	cmil
	 Ribbon cable conductors (Number x Width x Thickness) 	mm	Min. 3 x 9 x 0.8, max. 6 x 15.5 x 0.8	Min. 3 x 9 x 0.8, max. 10 x 15.5 x 0.8	Min. 6 x 9 x 0 max. 20 x 24	
	ping points connected cross-section 16 mm²)					
10481	Finely stranded with end sleeve (DIN 46228)Finely stranded without end sleeveStranded	mm ² mm ² mm ²	Max. 1 x 50, 1 x 70 Max. 1 x 50, 1 x 70 Max. 1 x 50, 1 x 70	Max. 1 x 95, 1 x 120 Max. 1 x 95, 1 x 120 Max. 1 x 95, 1 x 120	Min. 2 x 50, Min. 2 x 50, Min. 2 x 70,	max. 2 x 185
NSB0 P	AWG cables, solid or stranded	AWG	Max. 2 x 1/0	Max. 2 x 3/0	Min. 2 x 2/0, max. 2 x 500	kcmil
	 Ribbon cable conductors (Number x Width x Thickness) 	mm	Max. 2 x (6 x 15.5 x 0.8)	Max. 2 x (10 x 15.5 x 0.8)	Max. 2 x (20	x 24 x 0.5)
Busbar co						
	Connecting bar (max. width)Bore diameter	mm mm	17 9		25 11	
Cable lug	connection		1)		2)	
	Finely stranded with cable lug	mm ² mm ²	16 95 25 120		50 240 70 240	
	Stranded with cable lug					
	 AWG cables, solid or stranded Terminal screws 	AWG	4 250 kcmil M8 x 25 (A/F 13)		2/0 500 kc M10 x 30 (A)	
	- Tightening torque	Nm lb.in	10 14 90 124		14 24 124 210	F 17)
	conductors nductors can be connected)					
(101200	• Solid	mm^2	2 x (0.5 1.5) ³⁾ , 2 x (0.75 max. 2 x (0.75 4) ³⁾	. 2.5) ³⁾ according to IEC 609	47;	
	• Finely stranded with end sleeve (DIN 46228)	mm^2	2 x (0.5 1.5) ³⁾ ; 2 x (0.75	. 2.5) ³⁾		
	 AWG cables, solid or stranded 	AWG	2 x (18 14)			
	Terminal screwsTightening torque	Nm lb.in	M3 (Pozidriv size 2) 0.8 1.2 7 10.3			
	conductors ⁴⁾ nductors can be connected)		Spring-loaded termina	als		
	Operating devices		3.0 x 0.5; 3.5 x 0.5			
	 Solid Finely stranded with end sleeve (DIN 46228) Finely stranded without end sleeve AWG cables, solid or stranded 	mm ² mm ² mm ² AWG	2 x (0.25 2.5) 2 x (0.25 1.5) 2 x (0.25 2.5) 2 x (24 14)			

¹⁾ 3RT1456: When connecting cable lugs according to DIN 46235, use the 3RT1956-4EA1 terminal cover for conductor cross-sections from 95 mm² to maintain the phase clearance, see page 3/118.

^{2) 3}RT1466, 3RT1467 and 3RT1476: When connecting cable lugs according to DIN 46234 for conductor cross-sections larger than 240 mm² and according to DIN 46235 for conductor cross-sections larger than 185 mm², the 3RT1966-4EA1 terminal cover is required to maintain the phase clearance, see page 3/118.

³⁾ If two different conductor cross-sections are connected to one clamping point, both cross-sections must lie in one of the ranges specified.

⁴⁾ Max. outer diameter of the conductor insulation: 3.6 mm. On spring-loaded terminals with conductor cross-sections ≤ 1 mm² an insulation stop is recommended, see page 3/121.

Switching devices – Contactors and contactor assemblies – Special applications Contactors for special applications

SIRIUS 3RT.4 contactors for weak or non-inductive loads (AC-1), 3-pole up to 2 650 A

Туре		3RT1481- 6A.36	3RT1482- 6A.36	3RT1483- 6AP36	3RT1485- 6AP36	3RT1486- 6AP36	3RT1487- 6AP36
General data							
Dimensions • Width • Height • Depth	mm mm mm	285 352 250			431 403 246		
Mounting position			nounting surfactounting surface			r backward	
Installation altitude at height above sea level, maximum	m	2 000					
Insulation voltage at pollution degree 3							
 Of the main circuit Of the auxiliary circuit	V V	1 000 600					
Impulse withstand voltage							
 Of the main circuit Of the auxiliary circuit	kV kV	8					
Product function, mirror contact according to IEC 60947-4-1		Yes					
Ambient temperature							
During operationDuring storage	°C	-25 +55 -40 +80					
Short-circuit protection							
Version of the fuse link required							
For short-circuit protection of the main circuit for type of coordination 2		aR: 1 000 A (1 000 V, 30 kA)	aR: 1 100 A (1 000 V, 42 kA)	aR: 1 400 A (1 000 V, 42 kA)	aR: 2 200 A (1 000 V, 42 kA)	aR: 2 500 A (1 000 V, 42 kA)	aR: 2 800 A (1 000 V, 50 kA)
• For short-circuit protection of the auxiliary switch		gG: 16 A (600	O V, 1 kA)				

Contactors for special applications

SIRIUS 3RT.4 contactors for weak or non-inductive loads (AC-1), 3-pole up to 2 650 A

Type		3RT1481-		3RT1482-		3RT1483-	3RT1485-	3RT1486-	3RT1487-
турс		6AF36	6AP36	6AF36	6AP36	6AP36	6AP36	6AP36	6AP36
Control circuit/control									
Operating range factor of the control supply voltage, rated value of the solenoid coil									
At AC at 50 HzAt AC at 60 HzAt DC		0.85 1. 0.85 1. 0.85 1.	1						
Solenoid coil closing for DC	W	1 400	2 000	1 400	2 000	2 700	2 800		
Closing apparent power of the solenoid coil for AC									
• At 50 Hz • At 60 Hz	VA VA	1 000 1 000				1 700 1 700	1 800 1 800		
Solenoid coil closed for DC	W	6	7	6	7	8	11		
Closed apparent power of the solenoid coil for AC									
• At 50 Hz • At 60 Hz	VA VA	18 18	23 23	18 18	23 23	20 20	33 33		
Main circuit									
Operational current at AC-1									
• Up to 690 V									
 At an ambient temperature of 40 °C At an ambient temperature of 55 °C 	A A	900 900		1 050 1 050		1 260 1 260	1 700 1 700	2 100 2 100	2 650 2 650
• Up to 1 000 V									
 At an ambient temperature of 40 °C 	Α	900		1 050		1 260	1 700	2 100	2 650
- At an ambient temperature of 55 °C	Α	900		1 050		1 260	1 700	2 100	2 650
Type of electrical connection for the main circuit	0		onnections						
Minimum cross-section in the main circuit for max. AC-1 rated value	mm²	600		800		1 000	1 500	2 000	3 000
Туре		3RT1481- 3RT1482-		3RT1483-	6AP36	3RT1485- 3RT1486-		3RT1487-0	6AP36
Conductor cross-sections									
Control circuit/control									
Type of connectable conductor cross-sections for auxiliary contacts									
• Solid		2x (1 2	.5 mm ²)						
Solid or stranded		2x (1 2	.5 mm ²)						
Finely stranded with end sleeve		2x (1 2	.5 mm ²)						
Main circuit									
Width of connecting bar	mm	40		50		103			
Thickness of connecting bar	mm	10		13		10		20	
Diameter of hole	mm	17		13		15		13	

Contactors for special applications

SIRIUS 3RT.4 contactors for weak or non-inductive loads (AC-1), 3-pole up to 2 650 A

Selection and ordering data

Size S3: AC operation or AC/DC operation

- Coil circuits (varistors, diodes, etc.) retrofittableAuxiliary switches can be retrofitted
- Main and control conductors: Screw terminals



3RT244.-1...0

Size	Rated da	ta	Auxiliary co	ontacts		Rated cont	trol supply voltage $U_{\rm S}$	Screw terminals	(1)	PU (UNIT,	PS*	PG
	AC-1, t _u : 40 °C	60 °C								SET, M)		
		al current $I_{\rm e}$	Ident. No.	Version	on	50 Hz AC	50 Hz AC or DC					
	up to	690 V		\	4			Article No.	Price per PU			
	A	A		I NO	I NC	V	V					
For			nap-on mo	ountin		'H 35-15 an	nd TH 75-15 DIN rail	s				
AC c	peration											
S3	140	130	11	1	1	24 110 230	 	3RT2446-1AB00 3RT2446-1AF00 3RT2446-1AP00		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
	160	140	11	1	1	24 110 230	 	3RT2448-1AB00 3RT2448-1AF00 3RT2448-1AP00		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
AC/L	OC opera	tion										
With	integrated	coil circui	t (varistor ir	ntegrat	ed in el	ectronics at	the factory)					
S3	140	130	11	1	1	 	20 33 83 155 175 280	3RT2446-1NB30 3RT2446-1NF30 3RT2446-1NP30		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
	160	140	11	1	1	 	20 33 83 155 175 280	3RT2448-1NB30 3RT2448-1NF30 3RT2448-1NP30		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B

Other voltages according to page 4/52 on request.

SIRIUS 3RT.4 contactors for weak or non-inductive loads (AC-1), 3-pole up to 2 650 A

Sizes S6 to S12: AC/DC operation

- 3RT14..-. A standard operating mechanism
- Solid-state operating mechanism
 3RT14..-.N with 24 V DC control signal input
 - 3RT14..-.P with 24 V DC control signal input and remaining lifetime indicator (RLT)
- · For screw fixing

- Auxiliary and control conductors: Screw terminals
- Main conductors: Busbar connections; a connection kit with screws, spring washers and nuts is enclosed.



S



Auxiliary

Version

NO

NC





Screw terminals



RT1456	6-6A.36	3RT1466-6
Size	Rated data	

Operational current I_e

AC-1, t_u: 40 °C

690 V

Rated control contacts, lateral supply voltage $U_{\rm S}$ 50/60 Hz AC or DC

Article No. Price per PU

(UNIT, SÈT, M)

PS*

PG

PU

Standard operating mechanic	ism for AC and DC operation
(power consumption reduce	d from closing to closed)

690 V Α

VI									
With i	ntegrated co	oil circuit (varisto	r integrated	l at the fa	actory)				
S6	275	250	2	2	110 127 220 240	3RT1456-6AF36 3RT1456-6AP36	1 1	1 unit 1 unit	41B 41B
S10	400	380	2	2	110 127 220 240	3RT1466-6AF36 3RT1466-6AP36	1 1	1 unit 1 unit	41B 41B
	500	450	2	2	110 127 220 240	3RT1467-6AF36 3RT1467-6AP36	1 1	1 unit 1 unit	41B 41B
S12	690	650	2	2	110 127 220 240	3RT1476-6AF36 3RT1476-6AP36	1 1	1 unit 1 unit	41B 41B

Solid-state operating mechanism

With 24 V DC control signal input e.g. for control by PLC

With i	integrated co	oil circuit (varisto	r integrated	in elect	ronics at the factory)				
S6	275	250	2	2	96 127 200 277	3RT1456-6NF36 3RT1456-6NP36	1 1	1 unit 1 unit	41B 41B
S10	400	380	2	2	96 127 200 277	3RT1466-6NF36 3RT1466-6NP36	1 1	1 unit 1 unit	41B 41B
	500	450	2	2	96 127 200 277	3RT1467-6NF36 3RT1467-6NP36	1 1	1 unit 1 unit	41B 41B
S12	690	650	2	2	96 127 200 277	3RT1476-6NF36 3RT1476-6NP36	1 1	1 unit 1 unit	41B 41B

With 24 V DC control signal input · with remaining lifetime indicator (RLT) e.a. for control by PLC

•	ntegrated co	•	r integrated	l in elect	ronics at the factory)				
S6	275	250	1	1	96 127 200 277	3RT1456-6PF35 3RT1456-6PP35	1	1 unit 1 unit	41B 41B
S10	400	380	1	1	96 127 200 277	3RT1466-6PF35 3RT1466-6PP35	1 1	1 unit 1 unit	41B 41B
	500	450	1	1	96 127 200 277	3RT1467-6PF35 3RT1467-6PP35	1 1	1 unit 1 unit	41B 41B
S12	690	650	1	1	96 127 200 277	3RT1476-6PF35 3RT1476-6PP35	1 1	1 unit 1 unit	41B 41B

Other voltages according to page 4/53 on request.

Contactors for special applications

SIRIUS 3RT.4 contactors for weak or non-inductive loads (AC-1), 3-pole up to 2 650 A

Sizes S6 to S12: AC/DC operation

- Certified and fail-safe 24 V DC control input with max. 20 mA, e.g. for control via the fail-safe output module of a controller (F-PLC) or safety relay
- Achievable Safety Integrity Level (SIL) according to IEC 62061 and Performance Level (PL) according to ISO 13849-1 with corresponding fault diagnostics:
 - With one contactor: SIL 2 or PL c
 - With two contactors in series: SIL 3 or PL e
 - Fail-safe applications can be implemented using this contactor.
- Version with removable lateral auxiliary switches or permanently mounted auxiliary switches
- For screw fixing
- Auxiliary and control conductors: Screw terminals
- Main conductors: Busbar connections; a connection kit with screws, spring washers and nuts is enclosed.

For more information, see

- Safety technology, page 11/1 onwards
- Guide of use for contactors in safety applications











200 200 200	
3RT1456-6S.36	

3RT1466-6S.36

3RT1476-6S.36

3RT1456-6S.36-3PA0

3RT1476-6S.36-3PA0

Size	Rated data a IEC 60947-4 AC-1, t _u :	according to I-1	Auxiliar	y s, lateral	Rated control supply voltage $U_{\rm S}$	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
	40 °C	60 °C								
	Operational current Ie		Version		50/60 Hz AC or DC					
	up to		\I	4		Article No.	Price per PU			
	690 V	690 V	1	ſ			·			
	Α	Α	NO	NC	V					

Solid-state operating mechanism

With two removable laterally mounted auxiliary switches

With i	ntegrated o	coil circuit (va	ristor inte	grated in	n electronics at the factory)				
S6	275	250	2	2	96 127 200 277	3RT1456-6SF36 3RT1456-6SP36	1	1 unit 1 unit	41B 41B
S10	400	380	2	2	96 127 200 277	3RT1466-6SF36 3RT1466-6SP36	1	1 unit 1 unit	41B 41B
	500	450	2	2	96 127 200 277	3RT1467-6SF36 3RT1467-6SP36	1	1 unit 1 unit	41B 41B
S12	690	650	2	2	96 127 200 277	3RT1476-6SF36 3RT1476-6SP36	1	1 unit 1 unit	41B 41B

With two permanently laterally mounted auxiliary switches

vvitn	two perm	anentiy iate	erany mod	untea a	uxillary switches				
With i	ntegrated o	oil circuit (va	ristor inte	grated in	electronics at the factory)				
S6	275	250	2	2	96 127 200 277	3RT1456-6SF36-3PA0 3RT1456-6SP36-3PA0	1 1	1 unit 1 unit	41B 41B
S10	400	380	2	2	96 127 200 277	3RT1466-6SF36-3PA0 3RT1466-6SP36-3PA0	1 1	1 unit 1 unit	41B 41B
	500	450	2	2	96 127 200 277	3RT1467-6SF36-3PA0 3RT1467-6SP36-3PA0	1 1	1 unit 1 unit	41B 41B
S12	690	650	2	2	96 127 200 277	3RT1476-6SF36-3PA0 3RT1476-6SP36-3PA0	1 1	1 unit 1 unit	41B 41B

SIRIUS 3RT.4 contactors for weak or non-inductive loads (AC-1), 3-pole up to 2 650 A

AC/DC operation

- Solid-state operating mechanism
- Version with two laterally mounted auxiliary switches (2 NO + 2 NC each)
- For screw fixing
- Auxiliary and control conductors: Screw terminals
- Main conductors: Busbar connections









3RT1481-6A.36, 3RT1482-6A.36

3RT1483-6AP36

3RT1485-6AP36, 3RT1486-6AP36

3RT1487-6AP36

Rated data according to			Rated control su	Rated control supply voltage $U_{\rm S}$			00	PU	PS*	PG
IEC 60947-4-1	conta	cts, lateral			conn	ections		(UNIT,		
AC-1, t _u : 40 °C	Versio	n	50/60 Hz AC	DC				SET, M)		
Operational current $I_{\rm e}$ up to 1 000 V	\ I	 			Articl	le No.	Price per PU			
A	NO	NC	V	V						
Solid-state operating	mecha	nism								
With integrated coil ci	rcuit									
900	2	2	100 127 200 240	100 110 200 220		481-6AF36 481-6AP36		1 1	1 unit 1 unit	41B 41B
1 050	2	2	100 127 200 240	100 110 200 220		482-6AF36 482-6AP36		1 1	1 unit 1 unit	41B 41B
1 260	2	2	100 240	100 220	3RT1	483-6AP36		1	1 unit	41B
1 700	2	2	100 240	100 220	3RT1	485-6AP36		1	1 unit	41B
2 100	2	2	100 240	100 220	3RT1	486-6AP36		1	1 unit	41B
2 650	2	2	100 240	100 220	3RT1	487-6AP36		1	1 unit	41B

Accessories, see next table; spare parts, see page 4/19.

Accessories

Overview graphics for 3RT148 contactors with mountable accessories, see page 4/10.

More information	
Manuals, see https://support.industry.siemens.com/cs/ww/en/ps/24229/man	

	For contactors	Auxilia Version	iry contac	ets		Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
		\	†			Article No.	Price per PU			
	Type	NO	NC	Left	Right					
Second auxiliary	switch (1 NO +	1 NC)								
40	Lateral mounting	on the	right and/	or the left						
	3RT148.	1	1	61 53 2 154	71 83 7 1 72 84	3RH1981-1JA11		1	1 unit	41B
3RH1981-1JA11										

Contactors for special applications

SIRIUS 3RT.4 contactors for weak or non-inductive loads (AC-1), 3-pole up to 2 650 A

Spare parts												
	For contactors	Auxil	•	ontacts		Rated controvoltage U _s 50/60 Hz AC		Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		†	\ \									
First auxiliary sw	Type	NO 1 N	NC	Left	Right	V	V	_				
First auxiliary sw	Lateral mou			right ar	nd/or			Screw terminals	+			
	the left 3RT148.	1	1	-				3RH1981-1DA11		1	1 unit	41B
3RH1981-1DA11	3N1146.	1	ı	*	31 43 2 32 44			SHI1901-IDAT1		'	i uniit	410
Phase barriers	(4) 4											
11	(1 set = 4 to 3RT1481 3RT1483	inits) 						3RT1983-4AA1		1	1 unit	41B
3RT1983-4AA1												
4.4	3RT1485							3RT1987-4AA1		1	1 unit	41B
4 4	3RT1487											
3RT1987-4AA1												
Withdrawable co	3RT1481,	opera 	ation 			100 127	100 110	3RT1982-5AF31		1	1 unit	41B
1 1	3RT1482					200 240	200 220	3RT1982-5AP31		1	1 unit	41B
	3RT1483					100 240	100 220	3RT1983-5AP31		1	1 unit	41B
3RT1982-5A.31, 3RT1983-5AP31												
	3RT1485 3RT1487					100 240	100 220	3RT1987-5AP31		1	1 unit	41B
3RT1987-5AP31												

SIRIUS 3RT.3 contactors, 4-pole, up to 525 A

Overview



3RT231 to 3RT234 and 3RT135 to 3RT137 contactors, with screw terminals

Standards

IEC 60947-1, IEC 60947-4-1, IEC60947-5-1 (auxiliary switches)

Protecting connections against short circuit, overload and overvoltage

All connections must generally be protected against overload and short circuits using suitable measures. Different constraints must be considered depending on the type of connection:

Short-circuit and overload protection of main connections

For information on the protection of a free-standing contactor, see the technical product data sheet.

For more information on device combinations such as contactor with overload relay or contactor with circuit breaker as motor feeder, refer to

- Digital Configuration Manual for load feeders
- · Configuration Manual for load feeders

Short-circuit and overload protection of auxiliary connections

For information on the protection of auxiliary contacts, see the technical product data sheet.

Short-circuit and overload protection of control supply voltage or supply voltage connections

First of all, the relevant standards and regulations for configuring control panels and the parts and components installed in them must be taken into account, for example for cable dimensioning.

One possible protection for these circuits could be the selection of a suitable power supply, i.e. one with a current-limiting function. In the selection of the source and the connecting cable, the load characteristics of the contactor must be considered (short-time inrush current peaks for solid-state contactor operating mechanisms, switch-on power, holding power). The same applies to the selection of suitable protection devices.

If there are further switching elements in the circuit, such as the auxiliary contact system of an overload relay that operates the contactor, the short-circuit protection necessary for this must also be considered.

For further recommendations, e.g. the use of miniature circuit breakers or circuit breakers for equipment in control circuits, see Control panel tip – Selecting and dimensioning suitable power supplies quickly and reliably.

Protection against overvoltage at the control supply voltage connection

3RT23 contactors supplied without a coil circuit can be retrofitted with RC elements, varistors, diodes or diode assemblies (combination of diode and Zener diode for short break times) for damping switching overvoltages in the coil and can be ordered separately as accessories, see page 3/102 onwards.

3RT13 contactors are already equipped with coil damping (varistor).

Note:

The break times of the contactor, the opening delay times of the NO contacts and the closing delay times of the NC contacts increase in the event of damping.

For more information about influencing the time response using damping, see Equipment Manual.

Connection methods

Main circuit

- 3RT231 and 3RT232 contactors:
 Screw terminals or spring-loaded terminals;
 spring-loaded terminals with convenient plug-in design for device connectors
- 3RT233 and 3RT234 contactors:
 Screw terminals with box terminal;
 direct connection to the connecting bar possible with cable lugs for 3RT234 when the box terminal is removed.
- 3RT135 to 3RT137 contactors: Screw terminals with connecting bars that the cables can be connected to using either cable lugs or flexible or rigid bushars
- 3RT136 and 3RT137 contactors: These can be fitted with bus connectors offset, see page 4/35.

Auxiliary and control circuits

Screw terminals

Electromagnetic compatibility

The contactors fulfill the requirements for environment category A. Note:

When the contactors are used in an environment with frequency converters, the configuration notes must be observed, see Equipment Manual.

Contactors for special applications

SIRIUS 3RT.3 contactors, 4-pole, up to 525 A

Contact reliability of the auxiliary contacts

If voltages \leq 110 V and currents \leq 100 mA are to be switched, the auxiliary contacts of the 3RT contactors or 3RH contactor relays should be used as they guarantee a high level of contact reliability.

These auxiliary contacts are particularly suitable for solid-state circuits with currents \geq 1 mA at a voltage \geq 17 V.

Motor protection

3RT23 contactors

For protection against overload, 3RU2 thermal overload relays (see page 7/86 onwards) or 3RB3 electronic overload relays (see pages 7/98, 7/100 and 7/102) can be mounted on the 3RT23 contactors.

3RT13 contactors

For protection against overload, 3RB2 electronic overload relays (see pages 7/99, 7/101 and 7/103) can be mounted on the 3RT13 contactors.

Operating mechanism types

3RT23 contactors

The contactors are available as versions with conventional AC or DC operating mechanisms or as versions with a wide-range solid-state operating mechanism and a universal actuating voltage (AC or DC operation possible).

Control takes place via the control supply voltage connection A1 - A2 with varying operating ranges (see relevant product data sheet for further details).

3RT13 contactors

The contactors are fitted with a wide-range solid-state operating mechanism that can be controlled with both 50/60 Hz AC and DC.

The operating range with DC control is 0.8 x $U_{\rm S~min}$ and 1.1 x $U_{\rm S~max}$, and with AC control 0.85 x $U_{\rm S~min}$ and 1.1 x $U_{\rm S~max}$.

Replacing solenoid coils, operating mechanisms or spare contacts

3RT23 contactors

Solenoid coil replacement is possible. Only the contacts for 3RT233 contactors can be replaced.

3RT13 contactors

It is not possible to change the operating mechanism or contacts.

Fitting auxiliary contacts and mounting additional auxiliary switches

Features in the delivery state

- 3RT23 contactors
 - 3RT231 contactor:

An auxiliary contact is integrated in the basic unit.

- 3RT232 to 3RT234 contactors:
 The basic units contain two integrated auxiliary contacts (1 NO + 1 NC).
- 3RT13 contactors
 These contactors are supplied with two laterally mounted auxiliary switches.

Expansion possibilities

All basic units can be expanded using auxiliary switches; the permissible configuration must be observed.

For detailed information about the fitting of auxiliary switches for 3RT23 contactors, see pages 3/83 to 3/90.

Accessories and spare parts

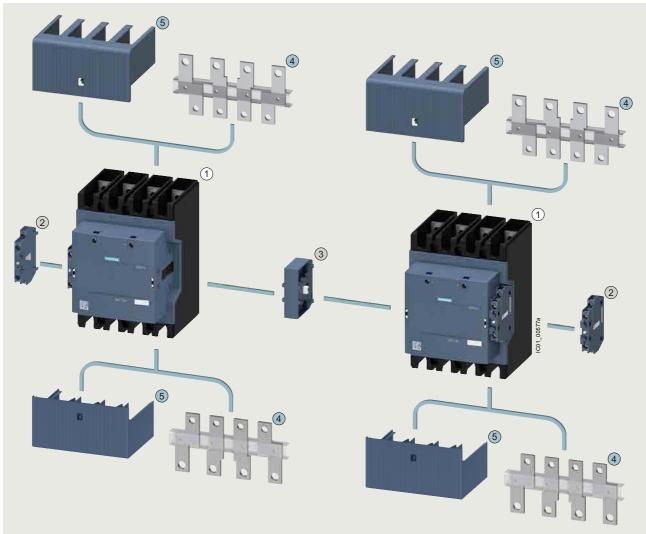
- 3RT231 to 3RT234 contactors, see page 3/71 onwards
- 3RT135 to 3RT137 contactors, see page 4/35

Contactors for special applications

SIRIUS 3RT.3 contactors, 4-pole, up to 525 A

Overview graphic with mountable accessories

- 3RT23 contactors, see page 3/8 onwards
- 3RT135 to 3RT137 contactors, see following graphic



- 4-pole 3RT13 contactors, sizes S6 to S12 (scope of supply: The contactors are supplied with two laterally mounted auxiliary switches)
- ② 3RH1951-1SA11 second auxiliary switch, can be laterally mounted on the left or right
- 3 3RA1954-3A mechanical interlock for configuring contactor assemblies:

Two 3RT13 contactors of the same size (S6, S10 and S12) can be interlocked with each other. The laterally mounted auxiliary switches of the contactors must be removed beforehand.

The mechanical interlock cannot be used in conjunction with the bus connectors offset $\overbrace{4}$.

- (4) 3RT19.6-4D bus connectors offsets, can be mounted on the top or bottom (providing no terminal cover (5) is mounted)
- (5) 3RT19.6-4EB10 terminal covers, can be mounted on the top or bottom (providing no bus connectors offset (4) is mounted)
- Same accessories for sizes S6 to S12
- Different accessories depending on size

	Size	S6	S10		S12					
1	Contactor	3RT1355 (I _e = 200 A)	3RT1363 (I _e = 275 A)	3RT1364 (<i>I</i> _e = 350 A)	3RT1373 (<i>I</i> _e = 400 A)	3RT1374 (I _e = 500 A)	3RT1375 (<i>I</i> _e = 525 A)			
2	Second auxiliary switch			3RH195	951-1SA11					
3	Mechanical interlock			3RA19)54-3A					
4	Bus connectors offset		3RT19 (from <i>I</i> >		3RT1976-4D (from <i>I</i> > 450 A)					
5	Terminal cover	3RT1956-4EB10	3RT196	6-4EB10		3RT1976-4EB10				

SIRIUS 3RT.3 contactors, 4-pole, up to 525 A

Application

The 3RT.3 contactors can be used for the following applications:

- 4-pole switching of weak or non-inductive loads (AC-1)
- Disconnecting loads or power generation plants from the grid
- For system transfers

We additionally offer special versions of the 3RT23 contactors for switching motor-driven loads (AC-3).

Technical specifications

More information	
Technical specifications, see https://support.industry.siemens.com/cs/ww/en/ps/16165/td	Manuals, see https://support.industry.siemens.com/cs/ww/en/ps/16165/man
FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/16165/faq	

Type		3RT2316, 3RT2317	3RT2325 to 3RT2327	3RT2336, 3RT2337	3RT2344, 3RT2346, 3RT2348
Size		S00	S0	S2	S3
General data				-	
Dimensions (W x H x D) AC or DC operation Basic units			(The values in brackets apply for DC operation)		
- Screw terminals - Spring-loaded terminals	mm mm	45 x 58 x 73 45 x 70 x 73	60 x 85 x 97 (107) 61 x 102 x 97 (107)	75 x 114 x 130 	96 x 140 x 152
 Basic unit with mounted auxiliary switch 					
 Screw terminals Spring-loaded terminals 	mm mm	45 x 58 x 117 45 x 70 x 121	60 x 85 x 141 (151) 61 x 102 x 145 (155)	75 x 114 x 174 	96 x 140 x 196
Basic unit with mounted function module or solid-state time-delay auxiliary switch					
- Screw terminals - Spring-loaded terminals	mm mm	45 x 58 x 147 45 x 70 x 147	60 x 85 x 171 (181) 61 x 102 x 171 (181)	75 x 114 x 204	96 x 140 x 226
Permissible mounting position			,		
The contactors are designed for operation on a vertical mounting surface.		360° 22,5° 22,5°	NSB0_00478c		
Upright mounting position		NSB0_00477a Special ver	rsion required		
Mechanical endurance	Oper- ating cycles	30 million	10 million		
Electrical endurance at $I_{\rm e}/{\rm AC}$ -1	Oper- ating cycles	Approx. 0.5 million			
Rated insulation voltage <i>U</i> i (pollution degree 3)	V	690			
Protective separation between the coil and the main contacts according to IEC 60947-1, Annex N	V	400			690
Permissible ambient temperature					
During operation	°C	-25 +60			
During storage	°C	-55 +80			

SIRIUS 3RT.3 contactors, 4-pole, up to 525 A

Туре	3RT2316, 3RT2317	3RT2325, 3RT2326	3RT2326-10-4AA0	3RT2327
Size	S00	S0		
Short-circuit protection				
Main circuit				
Version of the fuse link required for short-circuit protection of the main circuit				
- For type of coordination 1	gG: 35 A (690 V, 100 kA)	gG: 63 A (690 V, 100 kA)	gG: 100 A (690 V, 100 kA), aM: 50 A (690 V, 100 kA), BS88: 100 A (415 V, 80 kA)	gG: 63 A (690 V, 100 kA)
- For type of coordination 2	gG: 20 A (690 V, 100 kA)		gG: 35 A (690 V, 100 kA), aM: 20 A (690 V, 100 kA), BS88: 35 A (415 V, 80 kA)	gG: 20 A (690 V, 100 kA)
Auxiliary circuit				
Version of the fuse link required for short-circuit protection of the auxiliary switch	Fuse gG: 10 A (690 V	, 1 kA)		
Version of the miniature circuit breaker required for short-circuit protection of the auxiliary switch	6 A (230 V, 400 A, C o	characteristic)		

Туре	3RT2336,	3RT2337	3RT2344, 3RT234	6 3RT2346-10-4AA0	3RT2348
Size	S2		S3		
Short-circuit protection					
Main circuit					
Version of the fuse link required for short-circuit protection of the main circuit					
- For type of coordination 1	gG: 160 A (690 V, 100) kA)	gG: 250 A (690 V, 100 kA)	gG: 250 A (690 V, 100 kA), aM: 160 A (690 V, 100 kA), BS88: 200 A (415 V, 80 kA)	gG: 250 A (690 V, 100 kA)
- For type of coordination 2	gG: 63 A (690 V, 100 kA)	gR: 80 A (690 V, 100 kA)	gR: 250 A (690 V, 100 kA)	gG: 160 A (690 V, 100 kA), aM: 100 A (690 V, 100 kA), BS88: 125 A (415 V, 80 kA)	gR: 250 A (690 V, 100 kA)
Auxiliary circuit					
Version of the fuse link required for short-circuit protection of the auxiliary switch	Fuse gG: 1	0 A (690 V, 1	kA)		
Version of the miniature circuit breaker required for short-circuit protection of the auxiliary switch	6 A (230 V,	400 A, C cha	aracteristic)		

SIRIUS 3RT.3 contactors, 4-pole, up to 525 A

Туре		3RT231	6 3RT2317	7 3RT2325 3RT2326, 3RT2327	3RT2336, 3RT2337	3RT2344, 3RT2346, 3RT2348
Size		S00		S0	S2	S3
Control						
Solenoid coil operating range						
AC operation	At 50 Hz At 60 Hz	0.8 1 0.85		0.8 1.1 x <i>U</i> _s		
DC operation	At 50 °C At 60 °C	0.8 1 0.85				
AC/DC operation					0.8 1.1 x <i>U</i> _S	
Power consumption of the soleno (for cold coil and $1.0 \times U_s$)	oid coils					
AC operation, 50 Hz, standard ve	ersion					
- Closing - P.f.	VA			77 0.82	190 0.72	296 0.61
- Closed - P.f.	VA	·		9.8 0.25	16 0.37	19 0.38
AC operation, 50/60 Hz, standard	l version					
- Closing - P.f.	VA	27/24.3 0.8/0.75		81/79 0.72/0.74	210/188 0.69/0.65	348/296 0.62/0.55
- Closed - P.f.	VA	4.2/3.3 0.25/0.2	5.7/4.4 25	10.5/8.5 0.25/0.28	17.2/16.5 0.36/0.39	25/18 0.35/0.41
• AC operation, 60 Hz, USA, Canad	da					
- Closing - P.f.	VA	31.7 0.77	43	87 0.76	188 0.67	326 0.55
- Closed - P.f.	VA	4.8 0.25	6.5	9.4 0.28	16.5 0.37	22 0.4
 AC/DC operation 						
Closing for AC operationP.f.	VA				40 0.95	151 0.95
Closed for AC operationP.f.	VA	·			2 0.95	3.5 0.95
Closing for DC operationClosed for DC operation	W W	 			23	76 2.7
 DC operation (closing = closed) 	W	4		5.9		1)

 $^{^{\}rm 1)}$ In the case of AC/DC coils, increased pickup currents (6.5 A on average) arise during the first 200 ms.

Type			3RT2316	3RT2317	3RT2325	3RT2326	3RT2327	3RT2336	3RT2337	3RT2344	3RT2346	3RT2348
Size			S00		S0			S2		S3		
Rated data of the n	nain contacts											
Load rating with A	С		-									
Utilization category A	C-1											
 Rated operational currents I_e 	At 40 °C, up to 690 V	Α	18	22	35	40	50	60	110	110	140 (110) ¹⁾	160
	At 60 °C, up to 690 V	Α	16	20	30	35	42	55	95	100	130 (100) ¹⁾	140
• Rated power for AC loads P.f. = 0.95 (at 60 °C)	at 230 V 400 V	kW kW	6 10.5	7.5 13	11 20	13 23	16 28	21 36	36 63	38 72	49 92	53 105
Minimum cross- section in the main circuit at maximum AC-1 rated value		mm ²	2.5	4	10			16	35		50 (35) ¹⁾	70
Power loss per main o	conducting path											
 At I_e/AC-1 	At 40 °C	W	1.1	1.6	1.8	2.4	3	3.2	9.7	7.3	11.8	15.4
 At I_e/AC-3 	At 400 V	W				$(2.6)^{1)}$		$(4.3)^{1)}$			$(6.8)^{1)}$	

¹⁾ The values in brackets apply for 3RT23.6-1...0-4AA0 versions.

Data for North America

Technical specifications of 3RT contactors, see page 3/45 onwards.

SIRIUS 3RT.3 contactors, 4-pole, up to 525 A

Туре		3RT13	55-6A.36	•	3RT136	63-6A.36	5	3RT136	64-6A.36	•	3RT137	'3-6A.36 '4-6A.36 '5-6A.36	,
Size		S6			S10						S12		
General data													
Dimensions													
• Width	mm	120			140						184		
Height Depth	mm mm	150 128			196 153						225 180		
w v													
Mounting position			rtical mou						O° or ota	anding			
Installation altitude at height above sea level, maximum	m	2 000	uro rota	ilion can	De tilleu	ioiwaiu	UI Dack	waiu ± 3	0 , 01 516	anding			
Insulation voltage at pollution degree 3													
Of the main circuit	V	1 000											
Of the auxiliary circuit	V	690											
Impulse withstand voltage													
 Of the main circuit Of the auxiliary circuit	kV kV	8											
Product function, mirror contact according to IEC 60947-4-1		Yes											
Ambient temperature													
During operationDuring storage	°C	-40											
Short-circuit protection													
Version of the fuse link required													
For short-circuit protection of the main circuit for type of coordination 2 For short-circuit protection of the auxiliary switch			60 A 100 kA) A (690 \	/, 1 kA)	gG: 355 (500 V,	5 A 100 kA)		gG: 400 (500 V,	O A 100 kA)		gG: 630 (500 V,		
Type		3RT13	EE			3RT13	60			3RT13	2.4		
Type			6 6AF36	6 V D36	6AB36			6 V D36	6AB36			6 A D 3 6	6AB36
Size		S6	0AI 30	0A1 30	OAIISO	S10	0AI 30	0A1 30	0A1130	UALSU	0AI 30	UAI 30	OAIISO
Control circuit/control													
Operating range factor of the control supply voltage, rated value of the solenoid coil													
At AC at 50 Hz		0.85	. 1.1										
• At AC at 60 Hz		0.85											
At DC Solenoid coil closing for DC	W	0.8 ⁻	130	135	205		130	190		205	130	190	
Closing apparent power of the solenoid coil for AC		210	100	100	200		100	100		200	100	100	
	VA	005	. 70	120	205	165	175	220	185	165	175	220	185
 At 50 Hz 	v~	225	170	130	200	100						220	
• At 50 Hz • At 60 Hz	VA	225	170 170	130	205	165	175	220	185	165	175	220	185
• At 60 Hz Solenoid coil closed for DC									185 4				185
At 60 Hz Solenoid coil closed for DC Closed apparent power of the solenoid coil for AC	VA W	225	170	130	205	165 2.5	175	220	4	165 2.5		220	4
At 60 Hz Solenoid coil closed for DC Closed apparent power of the solenoid coil	VA	225		130	205	165				165			
At 60 Hz Solenoid coil closed for DC Closed apparent power of the solenoid coil for AC At 50 Hz	VA W	2252.55.5	170	130 3	205 4	165 2.5	175	7	16	165 2.5	175	7	16
At 60 Hz Solenoid coil closed for DC Closed apparent power of the solenoid coil for AC At 50 Hz At 60 Hz	VA W	2252.55.5	170	130 3	205 4	165 2.5	175	7	16	165 2.5	175	7	16
At 60 Hz Solenoid coil closed for DC Closed apparent power of the solenoid coil for AC At 50 Hz At 60 Hz Main circuit	VA W	2252.55.5	170	130 3	205 4	165 2.5	175	7	16	165 2.5	175	7	16
At 60 Hz Solenoid coil closed for DC Closed apparent power of the solenoid coil for AC At 50 Hz At 60 Hz Main circuit Operational current at AC-1 Up to 690 V At an ambient temperature of 40 °C	VA W VA VA A	225 2.5 5.5 5.5	170	130 3	205 4	165 2.5 6 6 6	175	7	16	165 2.5 6 6 6	175	7	16
At 60 Hz Solenoid coil closed for DC Closed apparent power of the solenoid coil for AC At 50 Hz At 60 Hz Main circuit Operational current at AC-1 Up to 690 V At an ambient temperature of 40 °C At an ambient temperature of 60 °C	VA W VA VA	225 2.5 5.5 5.5	170	130 3	205 4	165 2.5 6 6	175	7	16	165 2.5 6 6	175	7	16
At 60 Hz Solenoid coil closed for DC Closed apparent power of the solenoid coil for AC At 50 Hz At 60 Hz Main circuit Operational current at AC-1 Up to 690 V At an ambient temperature of 40 °C At an ambient temperature of 60 °C Up to 1 000 V	VA W VA VA	225 2.5 5.5 5.5	170	130 3	205 4	165 2.5 6 6 6 275 250	175	7	16	2.5 6 6 6 350 300	175	7	16
At 60 Hz Solenoid coil closed for DC Closed apparent power of the solenoid coil for AC At 50 Hz At 60 Hz Main circuit Operational current at AC-1 Up to 690 V At an ambient temperature of 40 °C At an ambient temperature of 60 °C	VA W VA VA A	225 2.5 5.5 5.5	170	130 3	205 4	165 2.5 6 6 6	175	7	16	165 2.5 6 6 6	175	7	16

SIRIUS 3RT.3 contactors, 4-pole, up to 525 A

Туре		3RT13	73-			3RT137	74-			3RT137	75-		
		6AE36	6AF36	6AP36	6AR36	6AE36	6AF36	6AP36	6AR36	6AE36	6AF36	6AP36	6AR36
Size		S12											
Control circuit/control													
Operating range factor of the control supply voltage, rated value of the solenoid coil													
At AC at 50 HzAt AC at 60 HzAt DC		0.85 0.85 0.8 1	1.1										
Solenoid coil closing for DC	W	400	360	410	600	400	360	410	600	400	360	410	600
Closing apparent power of the solenoid coil for AC													
At 50 HzAt 60 Hz	VA VA	475 475	340 340	385 385	420 420	475 475	340 340	385 385	420 420	475 475	340 340	385 385	420 420
Solenoid coil closed for DC	W	3.5	2.5	4.5	4.7	3.5	2.5	4.5	4.7	3.5	2.5	4.5	4.7
Closed apparent power of the solenoid coil for AC													
At 50 HzAt 60 Hz	VA VA	8.5 8.5	17 17	17.5 17.5	21 21	8.5 8.5	17 17	17.5 17.5	21 21	8.5 8.5	17 17	17.5 17.5	21 21
Main circuit													
Operational current at AC-1													
• Up to 690 V													
 At an ambient temperature of 40 °C At an ambient temperature of 60 °C 	A A	400 350				500 400				525 425			
• Up to 1 000 V													
 At an ambient temperature of 40 °C At an ambient temperature of 60 °C 	A A	350 300				375 325				400 350			
Туре		3RT13 6A.36	55-	3RT136 6A.36	63-	3RT136 6A.36	64-	3RT137 6A.36	73-	3RT137 6A.36	74-	3RT137 6A.36	'5-
Size		S6		S10				S12					
Conductor cross-sections													
Type of electrical connection for the main circuit		Connec	cting bar			Connection bar, but connection offset > require-	s tors 275 A	Connec	cting bar	bus cor	eting bar, nnectors A require	offset	
Minimum cross-section in the main circuit at maximum AC-1 rated value	mm ²	95		150		240				300		370	

Contactors for special applications

SIRIUS 3RT.3 contactors, 4-pole, up to 525 A

Selection and ordering data

AC operation ~

PU (UNIT, SET, M) = 1 PS* PG = 1 unit = 41B













3RT231.-1A.00

3RT231.-2A.00

3RT232.-1A.00

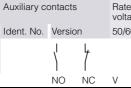
3RT232.-2A.00

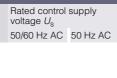
3RT233.-1A.00

3RT234.-1A.00

Rated data AC-1, $t_{\rm u}$: 40/60 °C	
Operational current $I_{\rm e}$ up to 690 V	

,		
Ident. No.	Version	on
	1	<u>L</u>
	ı	- 1
	NIO	N I







Spring-loaded terminals

		ре

Article No.	Price
	per PL

Α		NO	NC	V	V		
For screw fixing	g and snap-or	n mount	ting or	n TH 35 D	IN rail		
Size S00							
18/16				24 110 230		3RT2316-1AB00 3RT2316-1AF00 3RT2316-1AP00	3RT2316-2AB00 3RT2316-2AF00 3RT2316-2AP00
22/20				24 110 230	 	3RT2317-1AB00 3RT2317-1AF00 3RT2317-1AP00	3RT2317-2AB00 3RT2317-2AF00 3RT2317-2AP00
Size S0							
35/30 ¹⁾	11	1	1	 	24 110 230	3RT2325-1AB00 3RT2325-1AF00 3RT2325-1AP00	3RT2325-2AB00 3RT2325-2AF00 3RT2325-2AP00
40/35 ¹⁾	11	1	1	 	24 110 230	3RT2326-1AB00 3RT2326-1AF00 3RT2326-1AP00	3RT2326-2AB00 3RT2326-2AF00 3RT2326-2AP00
50/42 ¹⁾	11	1	1		24 110 230	3RT2327-1AB00 3RT2327-1AF00 3RT2327-1AP00	3RT2327-2AB00 3RT2327-2AF00 3RT2327-2AP00
Size S2							
60/55	11	1	1	 	24 110 230	3RT2336-1AB00 3RT2336-1AF00 3RT2336-1AP00	
110/95	11	1	1	 	24 110 230	3RT2337-1AB00 3RT2337-1AF00 3RT2337-1AP00	- I

For screw fixing and snap-on mounting on TH 35-15 and TH 75-15 DIN rails

Size S3				•		
10/100	11	1	1		24	3RT2344-1AB00
					110	3RT2344-1AF00
					230	3RT2344-1AP00
40/130	11	1	1		24	3RT2346-1AB00
					110	3RT2346-1AF00
					230	3RT2346-1AP00
160/140	11	1	1		24	3RT2348-1AB00
					110	3RT2348-1AF00
					230	3RT2348-1AP00

¹⁾ Required conductor cross-section 10 mm².

Other voltages according to page 4/52 on request. Accessories and spare parts, see page 3/71 onwards.

Contactors for special applications

SIRIUS 3RT.3 contactors, 4-pole, up to 525 A

AC operation ~

Version for AC-3 motor loads

 $\begin{array}{ll} PU \text{ (UNIT, SET, M)} = 1 \\ PS^* & = 1 \text{ unit} \\ PG & = 41B \end{array}$







3RT2326-1AP00-4AA0

3RT2336-1AP00-4AA0

3RT2346-1AP00-4AA0

Rated data AC-3/AC-3e, t _u : up to 60 °C	AC-1, t _u : 40/60 °C	Auxiliary c	ontacts	Rated control supply voltage $U_{\rm S}$	Screw terminals	+	Spring-loaded terminals	
Operational current I_e up to 400 V	Operational current <i>I</i> _e up to 690 V	Ident. No.	Version	50 Hz AC	Article No.	Price per PU	Article No.	Price per PU
Α	Α		NO NC	V				

For screw fixing and snap-on mounting on TH 35 DIN rail

Size S	50
--------	----

32	40/35	11	1	1	230	3RT2326-1AP00-4AA0	-
Size S2							
50	60/55	11	1	1	230	3RT2336-1AP00-4AA0	

For screw fixing and snap-on mounting on TH 35-15 and TH 75-15 DIN rails

Size S3

95 110/100 **11** 1 1 230 **3RT2346-1AP00-4AA0** --

Other voltages according to page 4/52 on request.

SIRIUS 3RT.3 contactors, 4-pole, up to 525 A

DC operation

PU (UNIT, SET, M) = 1 PS* PG = 1 unit = 41B



Rated data AC-1, t_u: 40/60 °C

up to 690 V

Operational current I_e







3RT231.-2B.40

Auxiliary co Ident. No.

Screw terminals 1

Spring-loaded terminals

3RT232.-2B.40

ontact	S	Rated control supply voltage $U_{\rm S}$
Versio	n	DC
\I	7	
NO	NC	V

Price per PU Article No.

Article No. Price per PU

For screw fixing	g and snap-on n	nountin	g on I	H 35 DIN FAII		
Size S00						
18/16	-			24 220	3RT2316-1BB40 3RT2316-1BM40	3RT2316-2BB40 3RT2316-2BM40
22/20	-			24 220	3RT2317-1BB40 3RT2317-1BM40	3RT2317-2BB40 3RT2317-2BM40
Size S0						
35/30 ¹⁾	11	1	1	24 220	3RT2325-1BB40 3RT2325-1BM40	3RT2325-2BB40 3RT2325-2BM40
40/35 ¹⁾	11	1	1	24 220	3RT2326-1BB40 3RT2326-1BM40	3RT2326-2BB40 3RT2326-2BM40
50/42 ¹⁾	11	1	1	24 220	3RT2327-1BB40 3RT2327-1BM40	3RT2327-2BB40 3RT2327-2BM40

¹⁾ Required conductor cross-section 10 mm².

Other voltages according to page 4/52 on request.

Contactors for special applications

SIRIUS 3RT.3 contactors, 4-pole, up to 525 A

AC/DC operation

PU (UNIT, SET, M) = 1 PS* PG = 1 unit = 41B







3RT234.-1N.30

	JI11233111	.00		3111234111.30			
Rated data AC-1, t _u : 40/60 °C	Auxiliary contacts		Rated control supply voltage $U_{\rm S}$	Screw terminals	+	Spring-loaded term	ninals \bigcirc
Operational current I _e	Ident. No.	Version	50/60 Hz AC or DC				
up to 690 V		\		Article No.	Price per PU	Article No.	Price per PU
A		NO NC	V				
For screw fixing and	snap-on m	ounting on 1	ΓΗ 35 DIN rail				
Size S2							
With integrated coil circu (varistor integrated in ele		the factory)					

With integrated co (varistor integrate		at the fa	ctory)			
60/55	11	1	1	20 33 175 280	3RT2336-1NB30 3RT2336-1NP30	=
110/95	11	1	1	20 33 175 280	3RT2337-1NB30 3RT2337-1NP30	

For screw fixing and snap-on mounting on TH 35-15 and TH 75-15 DIN rails

Size S3

With integrated (varistor integra	coil circuit ited in electronics	at the fa	ctory)			
110/100	11	1	1	20 33 175 280	3RT2344-1NB30 3RT2344-1NP30	=
140/130	11	1	1	20 33 175 280	3RT2346-1NB30 3RT2346-1NP30	-
160/140	11	1	1	20 33 175 280	3RT2348-1NB30 3RT2348-1NP30	=

Other voltages according to page 4/52 on request.

SIRIUS 3RT.3 contactors, 4-pole, up to 525 A

AC/DC operation

Version for AC-3 motor loads

 $\begin{array}{ll} PU \text{ (UNIT, SET, M)} = 1 \\ PS^* & = 1 \text{ unit} \\ PG & = 41B \end{array}$



3RT2336-1NB30-4AA0



3RT2346-1NB30-4AA0

Rated data AC-3/AC-3e, $t_{\rm u}$: up to 60 °C	AC-1, t _u : 40/60 °C	Auxiliary collident. No.			Rated control supply voltage $U_{\rm S}$ 50/60 Hz AC or DC	Screw terminals	+	Spring-loaded terminals	<u></u>
Operational current I _e up to 400 V	Operational current I_e up to 690 V		\	7		Article No.	Price per PU	Article No.	Price per PU
Α	А		NO	NC	V				

For screw fixing and snap-on mounting on TH 35 DIN rail

Size S2

With integrated coil circuit (varistor integrated in electronics at the factory)

50 60/55 **11** 1 1 20 ... 33

3RT2336-1NB30-4AA0

--

For screw fixing and snap-on mounting on TH 35-15 and TH 75-15 DIN rails

Size S3

With integrated coil circuit

(varistor integrated in electronics at the factory)

95 110/100 **11** 1 1 20 ... 33

3RT2346-1NB30-4AA0

--

Other voltages according to page 4/52 on request.

SIRIUS 3RT.3 contactors, 4-pole, up to 525 A

Sizes S6 to S12: AC/DC operation

- Solid-state operating mechanism
- Version with two laterally mounted auxiliary switches (2 NO + 2 NC each)
- For screw fixing
- · Auxiliary and control circuits: Screw terminals
- Main conductors: Busbar connections; a connection kit is enclosed.







3RT135	55-6A.36		3	BRT1363-6A.36		3RT1373-6A.36				
Size	Rated data AC-1, t _u : 40 °C	Auxili conta latera	icts, il	Operating range 0.85 1.1 x U _s Rated control sup		Busbar connections	00	PU (UNIT, SET, M)	PS*	PG
	Operational current I _e at 690 V	Versio	L L	50/60 Hz AC	DC	Article No.	Price per PU			
	А	NO	NC	V	V					
Solid-	state operating m	echanis	m							
	tegrated coil circuit	(varistor	-	ted in electronics a	t the factory)					
S6	200	2	2	24 60 48 130 100 250 250 500	20 60 48 130 100 250 250 500	3RT1355-6AE36 3RT1355-6AF36 3RT1355-6AP36 3RT1355-6AR36		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41B 41B 41B 41B
S10	275	2	2	24 60 48 130 100 250 250 500	20 60 48 130 100 250 250 500	3RT1363-6AE36 3RT1363-6AF36 3RT1363-6AP36 3RT1363-6AR36		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41B 41B 41B 41B
	350	2	2	24 60 48 130 100 250 250 500	20 60 48 130 100 250 250 500	3RT1364-6AE36 3RT1364-6AF36 3RT1364-6AP36 3RT1364-6AR36		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41B 41B 41B 41B
S12	400	2	2	24 60 48 130 100 250 250 500	20 60 48 130 100 250 250 500	3RT1373-6AE36 3RT1373-6AF36 3RT1373-6AP36 3RT1373-6AR36		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41B 41B 41B 41B
	500	2	2	24 60 48 130	20 60 48 130	3RT1374-6AE36 3RT1374-6AF36		1	1 unit 1 unit	41B 41B

100 ... 250

250 ... 500

20 ... 60

48 ... 130

100 ... 250

250 ... 500

Depending on the operational current, bus connectors offset must be used for sizes S10 and S12, see page 4/35:

2

2

100 ... 250

250 ... 500

24 ... 60

48 ... 130

100 ... 250

250 ... 500

Accessories and spare parts, see page 4/35 onwards.

3RT1374-6AP36

3RT1374-6AR36

3RT1375-6AE36

3RT1375-6AF36

3RT1375-6AP36 3RT1375-6AR36

- 3RT136: For more than 275 A, the 3RT1966-4D bus connectors offset must be used.
- 3RT137: For more than 450 A, the 3RT1976-4D bus connectors offset must be used.

1 unit

1 unit

1 unit

1 unit

1 unit

1 unit

41B

41B

41B

41B

41B

41B

525

SIRIUS 3RT.3 contactors, 4-pole, up to 525 A

Accessories

Overview graphic for 3RT135 to 3RT137 contactors with mountable accessories, see page 4/23.

modificable deces	sorios, soo page	3 1/20.			Equipmen	nt Manual, see				
						oport.industry.siemens.co	m/cs/ww/en	/view/60306	6557	
	For contactors	Auxiliary co	ontacts			Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		\	 							
	Туре	NO	NC	Left	Right					
Second auxiliary	•		1/ 11 1 6	0 1		0	_			
	Lateral mounting	g on the right	and/or the left,	2-pole		Screw terminals	+			
3RH1951-1SA11	3RT135 3RT137	1	1	53 61 54 62	71 83 72 84	3RH1951-1SA11		1	1 unit	41B
Terminal covers						_				
4444	Two units require Either bus conne		•	,	sed.	3RT1956-4EB10		1	1 unit	41B
1, 1 1, 5,	3RT136					3RT1966-4EB10		1	1 unit	41B
3RT1956-4EB10	3RT137					3RT1976-4EB10		1	1 unit	41B
3RT1966-4EB10 3RT1976-4EB10										
Bus connectors	offsets									
3RT1966-4D	(Two units require Either terminal comments 3RT136 3RT137			set can be us 	sed. 	3RT1966-4D 3RT1976-4D		1	1 unit 1 unit	41B 41B
3RT1976-4D										
Mechanical inter										
	Enables two 3R1 to be interlocked switches of the C	d with each ot contactor mus	her. The lateral at be removed l	lly mounted a beforehand.	auxiliary					
	The mechanical bus connectors		not be used IN	CONJUNICTION	willi lile					
3RT1954-3A	3RT135 3RT137					3RA1954-3A		1	1 unit	41B

Spare parts

3RH1951-1TA11

opare parto										
	For contactors	Auxiliary cont Version	acts			Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
		\	†			Article No.	Price per PU			
	Type	NO	NC	Left	Right					
First auxiliary swi	itch (1 NO + 1 N	C)								
#M	Lateral mounting	on the right an	d/or the left, 2-	pole						
	3RT135 3RT137	1	1	13 21	31 43 2 44	3RH1951-1TA11		1	1 unit	41B

SIRIUS 3RT25 contactors, 4-pole, 2 NO + 2 NC

Overview

Standards

IEC 60947-1, IEC 60947-4-1, IEC 60947-5-1 (auxiliary switches)

Protecting connections against short circuit, overload and overvoltage

All connections must generally be protected against overload and short circuits using suitable measures. Different constraints must be considered depending on the type of connection:

Short-circuit and overload protection of main connections

For information on the protection of a free-standing contactor, see the technical product data sheet.

For more information on device combinations such as contactor with overload relay or contactor with circuit breaker as motor feeder, refer to

- · Digital Configuration Manual for load feeders
- · Configuration Manual for load feeders

Short-circuit and overload protection of auxiliary connections

For information on the protection of auxiliary contacts, see the technical product data sheet.

Short-circuit and overload protection of control supply voltage or supply voltage connections

First of all, the relevant standards and regulations for configuring control panels and the parts and components installed in them must be taken into account, for example for cable dimensioning.

One possible protection for these circuits could be the selection of a suitable power supply, i.e. one with a current-limiting function. In the selection of the source and the connecting cable, the load characteristics of the contactor must be considered (short-time inrush current peaks for solid-state contactor operating mechanisms, switch-on power, holding power). The same applies to the selection of suitable protection devices.

If there are further switching elements in the circuit, such as the auxiliary contact system of an overload relay that operates the contactor, the short-circuit protection necessary for this must also be considered.

For further recommendations, e.g. the use of miniature circuit breakers or circuit breakers for equipment in control circuits, see Control panel tip – Selecting and dimensioning suitable power supplies quickly and reliably.

<u>Protection against overvoltage at the control supply voltage connection</u>

3RT25 contactors supplied without a coil circuit can be retrofitted with RC elements, varistors, diodes or diode assemblies (combination of diode and Zener diode for short break times) for damping switching overvoltages in the coil and can be ordered separately as accessories, see page 3/102 onwards.

Note:

The break times of the contactor, the opening delay times of the NO contacts and the closing delay times of the NC contacts increase in the event of damping.

For more information about influencing the time response using damping, see Equipment Manual.

Replacing solenoid coils or spare contacts

Solenoid coil or contact replacement is possible.

Fitting auxiliary contacts and mounting additional auxiliary switches

Features in the delivery state

The basic units 3RT252 to 3RT254 contain two integrated auxiliary contacts (1 NO + 1 NC).

Expansion possibilities

All basic units can be expanded using auxiliary switches; the permissible configuration must be observed.

For detailed information about the fitting of auxiliary switches for 3RT25 contactors, see pages 3/83 to 3/90.

Accessories

The accessories for the 3-pole SIRIUS 3RT2 contactors can also be used for the 4-pole versions, see page 3/71 onwards.

Use of 3RT contactors with IE3 and IE4 motors

Note:

For the use of 3RT25 contactors in conjunction with highefficiency IE3 and IE4 motors, please observe the information on dimensioning and configuring, see Application Manual.

For more information, see page 1/8.

Application

The contactors are suitable:

- For changing the polarity of hoisting gear motors
- For switching two separate loads

Note:

Single device for pole reversal; not suitable for reversing operation. 3RT25 contactors are not suitable for switching a load between two current sources.

SIRIUS 3RT25 contactors, 4-pole, 2 NO + 2 NC

Technical specifications

 Version of the miniature circuit breaker required for short-circuit protection of the auxiliary switch

6169/td ww/en/ps/16	https://su		emens.com/cs/	/ww/en/ps/1616	20/mon							
ww/en/ps/16	169/faq		Manuals, see https://support.industry.siemens.com/cs/ww/en/ps/16169/man									
	3RT2516 to 3RT2518	3RT2526	3RT2535	3RT2536	3RT2544, 3RT2545							
	S00	S0	S2		S3							
	See 3RT231., page 4/24	See 3RT232., page 4/24	See 3RT233., page 4/24		See 3RT234., page 4/24							
	360° 22,5° 22,5°	NSB0_00478c										
	NSB0_00477a Special version requir	ed										
Operating cycles	30 million	10 million										
Operating cycles	Approx. 0.5 million											
V	690											
V	400				690							
°C	-25 +60											
°C	-55 +80											
	gG: 35 A (690 V, 100 kA)	gG: 63 A (690 V, 100 kA)	gG: 125 A (690 V, 100 kA)	gG: 160 A (690 V, 100 kA)	gG: 250 A (690 V, 100 kA)							
	gG: 20 A (690 V, 100 kA)	gG: 35 A (690 V, 50 kA)	gG: 63 A (690 V, 100 kA)	gG: 80 A (690 V, 100 kA)	gR: 250 A (690 V, 100 kA)							
	Fuse gG: 10 A (690 V,	1 kA)										
	Operating cycles V V °C	See 3RT231., page 4/24 360° 22,5° 2	See 3RT231., page 4/24 360° 22,5° 2	See 3RT231., page 4/24 See 3RT232., page 4/24 360° 22,5° 22,5° 36	See 3RT231., page 4/24 See 3RT232., page 4/24 360° 22,5° 22,5° 25° 25° 25° 25° 25° 25° 25° 25° 25° 2							

6 A (230 V, 400 A, C characteristic)

SIRIUS 3RT25 contactors, 4-pole, 2 NO + 2 NC

				.=									
Type		3RT2516- 1A			3RT2	2516-1B, 2517-1B, 2518-1B	3RT2526- 1A	3RT2526- 1B	3RT253 1A	3RT:		3RT254 1A	3RT254 1N
Size		S00					S0		S2			S3	
Control													
Type of operating mechani	sm	AC			DC		AC	DC	AC	AC/E	DC	AC	AC/DC
Solenoid coil operating ran	•												
AC operation	At 50 Hz	0.8 1.1 x <i>U</i> _s					0.8 1.1 x <i>U</i> _s		0.8 1.1 x <i>U</i> _s			0.8 1.1 x <i>U</i> _s	
	At 60 Hz	0.85 1.1 x <i>U</i> _s					0.8 1.1 x <i>U</i> _s		0.8 1.1 x <i>U</i> _s			0.8 1.1 x <i>U</i> _s	
DC operation Up	to 50 °C				0.8 1.1 x			0.8 1.1 x <i>U</i> _s					
Up	o to 60 °C				0.85 1.1 x			0.8 1.1 x <i>U</i> _s					
AC/DC operation										0.8 ×	x U _{s min}		0.8 x <i>U</i> _{s min}
										1.1 ×	κ U _{s max}		1.1 x <i>U</i> _{s max}
Power consumption of the	solenoid												
coils (for cold coil and $1.0 \times U_s$)													
AC operation, 50/60 Hz, st version	andard												
- Closing - P.f.	\	/A 27/24.3 0.8/0.75	37/33				81/79 0.72/0.74		210/188 0.69/0.65	110 0.95		348/296 0.62/0.55	
- Closed - P.f.	\	/A 4.2/3.3 0.25/0.25	5.7/4.4				10.5/8.5 0.25/0.28		17.2/16.5 0.36/0.39	2.5		25/18 0.35/0.41	
 DC operation 													
ClosingClosed		V V			4		 	5.9 5.9	23 1	70 1.5		 	76 1.8
Туре				3RT2	516	3RT2517	3RT2518	3RT2520	3RT	2535	3RT253	6 3RT2544	3RT2545
Size				S00			_	S0	S2			S3	
Rated data of the main	contacts												
Load rating with AC				_									
Utilization category AC-1													
 Rated operational currents I_e 		up to 690 V up to 690 V	A A	18 16		22 20		40 35	60 55		70 60	100 90	125 105
• Rated power for AC loads P.f. = 0.95 (at 60 °C)		at 230 V 400 V	kW kW	6 10.5		7.5 13		13.3 23	21 36		23 39	34 40	59 69
 Minimum cross-section in the main circuit at maximum AC-1 rated value 	m		mm ²	2.5		4		10	16		25	35	50
Utilization category AC-3			-					AC ¹⁾)C ¹⁾				
 Rated operational currents I_e (at 60 °C) 	NC	up to 400 V up to 400 V	A A	9		12	16		35 20 35		41 41	65 65	80 80
Rated power for slip-ring of squirrel-cage motors		NO at 230 V NC at 230 V	kW kW	2.2 2.2		3	4	5.5 5.5	11 11			18.5 18.5	22 22
at 50 and 60 Hz		NO at 400 V NC at 400 V	kW kW	4		5.5	7.5	11 11 7	18.5 7.5 18.5		22 22	30 30	37 37

¹⁾ Values for devices with AC and DC operation: For 3RT2526 with DC operation, different values apply to AC-3 for the NC.

Contactors for special applications

SIRIUS 3RT25 contactors, 4-pole, 2 NO + 2 NC

Selection and ordering data

AC operation ~



Single device for pole reversal (not suitable for reversing operation)

PU (UNIT, SET, M) = 1 PS* PG = 1 unit = 41B













3RT2511A.00

3RT251.-2A.00

3RT252.-1A.00

3RT252.-2A.00

3RT253.-1A.00

3RT254.-1A.00

Rated da	ıta		Auxilia	,	Rated contro voltage U _s	l supply	Screw terminals		Spring-loaded termina	als 🚃
AC-3, t_u : up to θ	0° C	AC-1, t _u : 40/60 °C		Version	50/60 Hz AC	50 Hz AC				
Operational current I_e up to	Ratings of three-phase motors at 50 Hz and	Operational current <i>I</i> _e up to		\			Article No.	Price per PU	Article No.	Price per PU
400 V	400 V	690 V								
Α	kW	Α		NO NC	V	V				
For scr	ew fixing and	snap-on mo	unting	on TH	35 DIN rail					
Size S0	0									
9	4	18/16	-		24 110 230	 	3RT2516-1AB00 3RT2516-1AF00 3RT2516-1AP00		3RT2516-2AB00 3RT2516-2AF00 3RT2516-2AP00	

Size S	00								
9	4	18/16				24 110 230	 	3RT2516-1AB00 3RT2516-1AF00 3RT2516-1AP00	3RT2516-2AB00 3RT2516-2AF00 3RT2516-2AP00
12/9 ¹⁾	5.5/4 ¹⁾	22/20				24 110 230	 	3RT2517-1AB00 3RT2517-1AF00 3RT2517-1AP00	3RT2517-2AB00 3RT2517-2AF00 3RT2517-2AP00
16/9 ¹⁾	7.5/4 ¹⁾	22/20				24 110 230	 	3RT2518-1AB00 3RT2518-1AF00 3RT2518-1AP00	3RT2518-2AB00 3RT2518-2AF00 3RT2518-2AP00
Size S	0								
25	11	40/35	11	1	1	 	24 110 230	3RT2526-1AB00 3RT2526-1AF00 3RT2526-1AP00	3RT2526-2AB00 3RT2526-2AF00 3RT2526-2AP00
Size S.	2								
35	18.5	60/55	11	1	1	 	24 110 230	3RT2535-1AB00 3RT2535-1AF00 3RT2535-1AP00	- - -
41	22	70/60	11	1	1	 	24 110 230	3RT2536-1AB00 3RT2536-1AF00 3RT2536-1AP00	

For screw fixing and snap-on mounting on TH 35-15 and TH 75-15 DIN rails

Size	S3							
35	30	100/90	11	1	1	 24	3RT2544-1AB00	
						 110	3RT2544-1AF00	
						 230	3RT2544-1AP00	
80	37	125/105	11	1	1	 24	3RT2545-1AB00	
						 110	3RT2545-1AF00	
						 230	3RT2545-1AP00	

¹⁾ Values for NO contact/NC contact. The NC contact can switch no more than 4 kW.

Other voltages according to page 4/52 on request. Accessories and spare parts, see page 3/71 onwards.

Contactors for special applications

SIRIUS 3RT25 contactors, 4-pole, 2 NO + 2 NC

DC operation

Single device for pole reversal (not suitable for reversing operation)

PU (UNIT, SET, M) = 1 PS* = 1 unit = 41B









3RT251.-1B.40

3RT251.-2B.40 Rated data

AC-1, t_u: 40/60 °C AC-3. $t_{\rm u}$: up to 60 °C Opera-Ratings of Operational current I_e three-phase tional current I_e motors up to up to 400 V at 50 Hz and **400 V** 690 V kW

Auxiliary Rated control supply voltage U_s Ident. Version DC No.

NO NC V

Screw terminals

3RT2526-1BB40

Article No. Price per PU

3RT252.-2B.40

Spring-loaded ter	minals	<u>~</u>
Article No.		Price er PU

For screw fixing and snap-on mounting on TH 35 DIN rail

	_	
c:-	e SC	าก
SIZ	- 51	"

9	4	18/16	-	 	24 220	3RT2516-1BB40 3RT2516-1BM40	3RT2516-2BB40 3RT2516-2BM40
12/9 ¹⁾	5.5/4 ¹⁾	22/20		 	24 220	3RT2517-1BB40 3RT2517-1BM40	3RT2517-2BB40 3RT2517-2BM40
16/9 ¹⁾	7.5/4 ¹⁾	22/20		 	24 220	3RT2518-1BB40 3RT2518-1BM40	3RT2518-2BB40 3RT2518-2BM40
Siza SI)						

25 (20) ²⁾ 11 (7.5)²⁾	40/35	11	1	1	24 220
1) Values for NO contact/N	IC contact. The	NC con	tact c	an sv	witch no more

³RT2526-1BM40

Other voltages according to page 4/52 on request. Accessories and spare parts, see page 3/71 onwards.

³RT2526-2BB40 3RT2526-2BM40

than 4 kW. ²⁾ Value in brackets for NC contact (the deviating value for the NC contact

applies only for devices with DC operation).

Contactors for special applications

SIRIUS 3RT25 contactors, 4-pole, 2 NO + 2 NC

AC/DC operation <a>

Single device for pole reversal (not suitable for reversing operation)

 $\begin{array}{ll} PU \text{ (UNIT, SET, M)} = 1 \\ PS^* & = 1 \text{ unit} \\ PG & = 41B \end{array}$







3RT254.-1N.30

Rated da	Rated data			ry ts	Rated control supply voltage U _s	Screw terminals	+	Spring	-loaded terminals
AC-3, t_u : up to 6	60 °C	AC-1, t _u : 40/60 °C	Ident. No.	Version	50/60 Hz AC or DC				
Operational current I_e up to 400 V	Ratings of three-phase motors at 50 Hz and 400 V	Operational current <i>I</i> _e up to		\		Article No.	Price per PU	Article	No. Price per PU
Α	kW	Α		NO NC	V				

For screw fixing and snap-on mounting on TH 35 DIN rail

Size S2

With i	ntegrated coil	circuit (varistor int	egrated	in el	ectro			
35	18.5	60/55	11	1	1	20 33	3RT2535-1NB30	
						83 155	3RT2535-1NF30	
						175 280	3RT2535-1NP30	
41	22	70/60	11	1	1	20 33	3RT2536-1NB30	
						83 155	3RT2536-1NF30	
						175 280	3RT2536-1NP30	

For screw fixing and snap-on mounting on TH 35-15 and TH 75-15 DIN rails

Size S3

With i	integrated coi	I circuit (varistor inte	grated	in el	ectro	nics at the factory)		
65	30	100/90	11	1	1	20 33 175 280	3RT2544-1NB30 3RT2544-1NP30	Ξ
80	37	125/105	11	1	1	20 33 175 280	3RT2545-1NB30 3RT2545-1NB30	-

Other voltages according to page 4/52 on request.

SIRIUS 3RT26 contactors for capacitive loads (AC-6b), 3-pole

Overview

Standards

IEC 60947-1, IEC 60947-4-1, IEC 60947-5-1, IEC 60831-1, IEC 61921

Function

The 3RT26 contactors are special versions of the 3RT2, designed for switching capacitive loads (AC-6b) up to 100 kvar at 400 V.

Characteristic components of the 3RT26 contactors are the precharging resistors switched on via leading auxiliary contacts, which are closed before the main contacts. This limits the peak charging current of capacitive loads and thus minimizes negative impacts on the power supply network.

The 3RT26 contactors are suitable for switching choked or unchoked capacitors in reactive current compensation systems and are also used to switch converters.

Protecting connections against short circuit, overload and overvoltage

All connections must generally be protected against overload and short circuits using suitable measures. Different constraints must be considered depending on the type of connection:

Short-circuit and overload protection of main connections

For information on the protection of a free-standing contactor, see the technical product data sheet.

For more information on device combinations such as contactor with overload relay or contactor with circuit breaker as motor feeder, refer to

- Digital Configuration Manual for load feeders
- · Configuration Manual for load feeders

Short-circuit and overload protection of auxiliary connections

For information on the protection of auxiliary contacts, see the technical product data sheet.

Short-circuit and overload protection of control supply voltage or supply voltage connections

First of all, the relevant standards and regulations for configuring control panels and the parts and components installed in them must be taken into account, for example for cable dimensioning.

One possible protection for these circuits could be the selection of a suitable power supply, i.e. one with a current-limiting function. In the selection of the source and the connecting cable, the load characteristics of the contactor must be considered (short-time inrush current peaks for solid-state contactor operating mechanisms, switch-on power, holding power). The same applies to the selection of suitable protection devices.

If there are further switching elements in the circuit, such as the auxiliary contact system of an overload relay that operates the contactor, the short-circuit protection necessary for this must also be considered.

For further recommendations, e.g. the use of miniature circuit breakers or circuit breakers for equipment in control circuits, see Control panel tip – Selecting and dimensioning suitable power supplies quickly and reliably.

Protection against overvoltage at the control supply voltage connection

3RT26 contactors supplied without a coil circuit can be retrofitted with RC elements, varistors, diodes or diode assemblies (combination of diode and Zener diode for short break times) for damping switching overvoltages in the coil and can be ordered separately as accessories, see page 3/102 onwards.

Note:

The break times of the contactor, the opening delay times of the NO contacts and the closing delay times of the NC contacts increase in the event of damping.

For more information about influencing the time response using damping, see Equipment Manual.

Fitting auxiliary contacts and mounting additional auxiliary switches

Features in the delivery state

• 3RT261 contactors:

The basic units are equipped with a 4-pole front-mounted auxiliary switch with one freely accessible contact. The other three contacts are assigned to the precharging resistors. The basic unit contains additional free auxiliary contacts (1 NO + 1 NC or 2 NO, depending on the version).

3RT262 contactors:

The basic units are equipped with a 4-pole front-mounted auxiliary switch with one freely accessible contact. The other three contacts are assigned to the precharging resistors. The basic unit contains two additional free auxiliary contacts (1 NO + 1 NC).

• 3RT263 and 3RT264 contactors:

The auxiliary contacts for the resistors are already integrated in the basic units, which do not have any additional integrated and freely assignable auxiliary contacts. A 2-pole lateral auxiliary switch is already mounted on the left (depending on the version, 1 NO + 1 NC or 2 NC).

Expansion possibilities

All 3RT263 and 3RT264 contactors can be expanded using lateral auxiliary switches; the permissible configuration must be observed.

Туре	3RT261	3RT262	3RT263, 3RT264
Size	S00	S0	S2, S3
Number of unassigned auxiliary contacts as delivered from the factory	2	3	2
Number of expansion auxiliary contacts that can be fitted	0	0	2

Conductor cross-sections

In order to connect the required minimum cross-section, the use of 3RV2935-5A 3-phase infeed terminal may be necessary for 3RT263 contactors and of 3RA2943-3L 1-phase infeed terminal for 3RT264 contactors, see page 3/116. These infeed terminals enable the clamping of larger cross-sections than the device connection itself actually allows.

For 3RT2628 contactors, this infeed terminal is included in the scope of supply and is mounted on the contactor.

SIRIUS 3RT26 contactors for capacitive loads (AC-6b), 3-pole

Technical specifications

More information	
Technical specifications, see https://support.industry.siemens.com/cs/ww/en/ps/16171/td	Manuals, see https://support.industry.siemens.com/cs/ww/en/ps/16171/man

3RT26

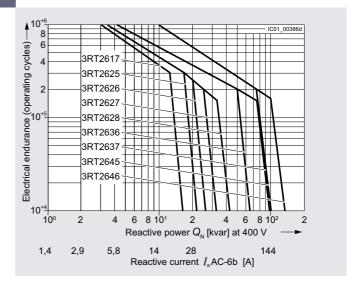
S00 to S3

Type Size

Contact endurance of the main contacts

The characteristic curves show the contact endurance of the contactors when switching capacitive loads (AC-6b) depending on the reactive power $Q_{\rm N}$ and the rated operational voltage.

The rated operational current $I_{\rm e}$ complies with utilization category AC-6b (breaking of 1.35 times the rated operational current) and is intended for a contact endurance of approximately 150 000 to 200 000 operating cycles.



SIRIUS 3RT26 contactors for capacitive loads (AC-6b), 3-pole

All technical specifications not mentioned in the table below are identical to those of the 3RT20 contactors:

- For size S00 as for the 3RT201 contactors
- For size S0 as for the 3RT202 contactors
- For size S2 as for the 3RT203 contactors
- For size S3 as for the 3RT204 contactors

See page 3/25 onwards.

Туре		3RT2617	3RT2625	3RT2626	3RT2627	3RT2628	3RT2636	3RT2637	3RT2645	3RT2646
Size		S00	S0				S2		S3	
General data										
Dimensions (W x H x D) including auxiliary switches and connecting cables										
• AC operation	mm	45 x 125 x 120	45 x 135 x	155		45 x 150 x 155	65 x 114 x	130	80 x 140 x	: 152
DC operation, AC/DC operation	mm	45 x 125 x 120	45 x 135 x	165		45 x 150 x 165	65 x 114 x	130	80 x 140 x	152
Permissible mounting position		360°	22,5° 22,5°	282						
The contactors are designed for operation on a vertical mounting surface.				NSB0_00478c						
Mechanical endurance										
Basic units with mounted auxiliary switch	Operat- ing cycles	3 million	_			_				
Electrical endurance	kvar	12.5	16.7	20	25	33	50	75		100
For apparent power at 400 V	Operat- ing cycles	300 000	200 000			150 000	200 000	150 000	200 000	150 000
Rated insulation voltage <i>U</i> _i (pollution degree 3)	V	690	_			_			1 000 ²⁾	
Rated impulse withstand voltage $U_{\rm imp}$	kV	6							8 ²⁾	
Protective separation between the coil and the main contacts according to IEC 60947-1, Annex N	V	400							690	
Permissible ambient temperature										
 During operation¹⁾ 	°C	-25 +60								
During storage	°C	-55 +80	1							
Short-circuit protection										
Main circuit										
Fuse links, operating class gG: LV HRC, type 3NA; DIAZED, type 5SB; NEOZED, type 5SE according to IEC 60947-4-1										
Type of coordination "1"	Α	25 40	32 80	40 80	50 100	63 100	100 160	160 200		200 250
Auxiliary circuit										
• With fuse links of operating class gG: DIAZED, type 5SB; NEOZED, type 5SE With short-circuit current $I_{\rm k}$ = 1 kA according to IEC 60947-5-1	Α	10								
 With miniature circuit breakers with C characteristic with short-circuit current I_k = 400 A 	Α	10								

¹⁾ A clearance of 10 mm is required for side-by-side mounting.

 $^{^{2)}}$ Only applies for main conducting paths, otherwise $\it U_{\rm i}$ = 690 V; $\it U_{\rm imp}$ = 6 kV.

Contactors for special applications

SIRIUS 3RT26 contactors for capacitive loads (AC-6b), 3-pole

Туре	3RT2617-1A, -1B	3RT2625-1A, -1B, 3RT2626-1A, -1B, 3RT2627-1A, -1B, 3RT2628-1A, -1B	3RT2636-1A, 3RT2637-1A	3RT2645-1A, 3RT2646-1A
Size	S00	S0	S2	S3
Control				
Solenoid coil operating range				
• AC operation 50 Hz 60 Hz	0.8 1.1 x U _s 0.85 1.1 x U _s	0.8 1.1 x <i>U</i> _s		
• DC operation At 50 °C At 60 °C	0.8 1.1 x U _s 0.85 1.1 x U _s	0.8 1.1 x <i>U</i> _s		
Power consumption of the solenoid coils (for cold coil and $1.0 \times U_{\rm S}$)				
 AC operation, 50 Hz, standard version 				
- Closing VA		77	190	296
- P.f. - Closed VA		0.82 9.8	0.72 16	0.61 19
- P.f.		0.25	0.37	0.38
 AC operation, 50/60 Hz, standard version 				
- Closing VA	49	81/79	210/188	348/296
- P.f. - Closed VA	0.8	0.72/0.74 10.5/8.5	0.69/0.65 17.2/16.5	0.62/0.55
- Closed VA - P.f.	7.8 0.25	0.25/0.28	0.36/0.39	25/18 0.35/0.41
• DC operation		.,.	.,	,
- Closing W	4	5.9		
- Closed W	4	5.9		

Туре		3RT2621NB35	3RT2621NF35	3RT2621NP35	3RT2631N.35	3RT2641N.35
Size		S0	_	_	S2	S3
Control						
Solenoid coil operating range						
AC/DC operation (50/60 Hz AC or DC)		0.7 1.3 x <i>U</i> _s			0.8 1.1 x <i>U</i> _s	
Power consumption of the solenoid coils (for cold coil and 1.0 \times $U_{\rm S}$)						
• AC operation, 50/60 Hz, standard version						
- Closing	VA	6.6/6.7	11.9/12.0	12.7/14.7	110	163
- P.f. - Closed	VA	0.98/0.98 1.9/2.0	1.6/1.8	3.9/4.3	0.95 2.5	3.1
- P.f.	٧A	0.86/0.82	0.79/0.74	0.51/0.56	0.95	
DC operation						
- Closing	W	5.9	10.2	14.3	70	76
- Closed	W	1.4	1.3	1.9	1.5	1.8
Maximum permissible residual current of the electronics (with 0 signal)						
 AC operation (230 V/U_s) 	mA	7			< 20	
 DC operation (24 V/U_s) 	mA	16			< 20	

SIRIUS 3RT26 contactors for capacitive loads (AC-6b), 3-pole

At 600 V kA

Class RK5 A

5

40

80

Туре		3RT2617	3RT2625	3RT2626	3RT2627	3RT2628	3BT2636	3RT2637	3RT2645	3RT2646
Size		S00	S0	01112020	01112021	01112020	S2	01112001	S3	01112010
Auxiliary circuit										
Auxiliary contacts (unassig	ned)	1 NO + 1 NC, 2 NC	1 NC,					NC, 2 NC		
Further auxiliary switches mountable	laterally						No more the be mounted	nan one late ed	eral auxiliary	switch can
Technical specifications inclirated data of the auxiliary co "3RT20 contactors", page 3/	ontacts, see									
Rated data of the main	contacts									
Load rating with AC		_								
	Utilization category AC-6b Switching of AC capacitors									
• Rated operational current $I_{\rm e}$ at AC-6b										
Up to 690 V at ambient temperatureUp to 1 000 V at ambient temperature	40 °C A 60 °C A 60 °C A	18.9 18 	25.3 24	30.2 29	37.8 36	50 47.6	75.8 72.2	113.4 108	113 54	151 144 68
Rated operational reactive power at rated operational voltage	230 V, 50/60 Hz kvar 400 V, 50/60 Hz kvar 500 V, 50/60 Hz kvar 690 V, 50/60 Hz kvar 1 000 V, 50/60 Hz kvar	7.2 12.5 15 21	9.6 16.7 21 29	11.5 20 25 34	14 25 31 43	19 33 41 57	29 50 63 86	43 75 94 129	94	57 100 125 172 125
Minimum cross-section in the main circuit for max. AC-6b rated value		 Operatir 	ng instructio	ns and mar	nuals, ·	itor contacto	·	acitors		
® and ® rated data										
Rated insulation voltage	VAC	600								
Operational reactive power at AC-6b, 3-phase, at operational voltage	110 120 V kvar 200 208 V kvar 220 230 V kvar 460 480 V kvar 575 600 V kvar	3.4 6.2 6.9 14	4.6 8.3 9.2 18 23	5.5 10 11 22 27	6.3 11 13 25 31	8.3 15 17 33 41	14 25 27 55 69	19 34 38 75 94	20 37 41 82 103	25 45 50 100 125

10

250

100

Short-circuit protection

Fuse for main circuit

SIRIUS 3RT26 contactors for capacitive loads (AC-6b), 3-pole

Туре		3RT2617	3RT2625, 3RT2626, 3RT2627	3RT2628	3RT2636	3RT2637	3RT2645, 3RT2646
Size		S00	S0		S2		S3
Conductor cross-sections							
Main conductors (1 or 2 conductors can be connected)		Screw termina	ls				
Solid or stranded	mm ²	2 x (0.5 1.5) ¹⁾ . 2 x (0.75 2.5) ¹⁾ ; max. 2 x 4	2 x (1 2.5) ^{1).} 2 x (2.5 10) ¹⁾		2 x (2.5 35); 1 x (2.5 50)		2 x (10 70); 1 x (10 70)
• Finely stranded with end sleeve (DIN 46228)	mm ²	2 x (0.5 1.5) ^{1).} 2 x (0.75 2.5) ¹⁾	2 x (1 2.5) ¹⁾ ; 2 x (2.5 6) ¹⁾ ; 1 x 10	1 x (2.5 16)	2 x (1 25); 1 x (1 35)		2 x (10 50); 1 x (10 50)
AWG cables, solid or stranded	AWG	2 x (20 16) ¹⁾ ; 2 x (18 14) ¹⁾ ; 2 x 12	2 x (16 12) ¹⁾ ; 2 x (14 8) ¹⁾	1 x (10 4)	2 x (18 2); 1 x (18 0)		2 x (8 3/0); 1 x (8 3/0)
Terminal screw		M3 (for Pozidriv size 2; Ø 5 6 mm)	M4 (for Pozidriv size 2; Ø 5 6 mm)	M8	M6 (for Pozidriv size Ø 5 6 mm)	2;	M8 (hexagon socket, A/F 4)
Tightening torque	Nm lb.in	0.8 1.2 7 10.3	2 2.5 18 22	3 4 27 36	3 4.5 27 40		4.5 6 40 53
Auxiliary conductors (1 or 2 conductors can be connected)							
Solid or stranded	mm ²	2 x (0.5 1.5) ¹⁾ . 2 x (0.75 2.5) ¹); m	nax. 2 x 4				
 Finely stranded with end sleeve (DIN 46228) 	mm ²	2 x (0.5 1.5) ^{1).} 2 x (0.75 2.5) ¹)					
AWG cables, solid or stranded	AWG	2 x (20 16) ¹⁾ ; 2 x (18 14) ¹⁾ ; 2 x 12					
Terminal screw		M3 (for Pozidriv size 2; Ø 5 6 mm)					
Tightening torque	Nm lb.in	0.8 1.2 7 10.3					

¹⁾ If two different conductor cross-sections are connected to one clamping point, both cross-sections must lie in one of the ranges specified.

Contactors for special applications

SIRIUS 3RT26 contactors for capacitive loads (AC-6b), 3-pole

Selection and ordering data

AC operation ~

Main, auxiliary and control conductors: Screw terminals







3RT262.-1A.05



3RT2628-1A.05 with infeed terminal

Switching	Utilization category AC-6b Switching AC capacitors at an ambient temperature of 60 °C		AC capacitors cont				Rated control supply voltage $U_{\rm S}$		Screw terminals		PU (UNIT, SET, M)	PS*	PG
at all alli	at an ambient temperature of 60°C			Version	on	50 Hz AC	50 Hz AC 50/60 Hz AC						
Capacitor rating at operational voltage 50/60 Hz			\I	ļ-				Article No.	Price per PU				
at 230 V	at 400 V	at 500 V	at 690 V	1									
kvar	kvar	kvar	kvar	NO	NC	V	V						
For scr	ew fixing a	and snap-	on mounti	ng on	TH 35 C	OIN rail							
Size S0	0												
7.2	12.5	15	21	1	1	 	24 110 230		3RT2617-1AB03 3RT2617-1AF03 3RT2617-1AP03		1 1	1 unit 1 unit 1 unit	41B 41B 41B
7.2	12.5	15	21	0	2		24		3RT2617-1AP05		1	1 unit	41B
1.2	12.5	13	۷.	U	۷		110		3RT2617-1AE05		1	1 unit	41B
							230		3RT2617-1AP05		1	1 unit	41B
Size S0)												
9.6	16.7	21	29	1	2	24			3RT2625-1AB05		1	1 unit	41B
						110 230			3RT2625-1AF05 3RT2625-1AP05		1	1 unit 1 unit	41B 41B
11.5	20	25	34	1	2	24			3RT2626-1AB05		1	1 unit	41B
		20	0.	·	_	110			3RT2626-1AF05		i	1 unit	41B
						230			3RT2626-1AP05		1	1 unit	41B
14	25	31	43	1	2	24 110			3RT2627-1AB05 3RT2627-1AF05		1	1 unit 1 unit	41B 41B
						230			3RT2627-1AP05		1	1 unit	41B
19	33	41	57	1	2	24			3RT2628-1AB05		1	1 unit	41B
						110			3RT2628-1AF05		1	1 unit	41B
						230			3RT2628-1AP05		1	1 unit	41B

Other voltages according to page 4/52 on request.

Contactors for special applications

SIRIUS 3RT26 contactors for capacitive loads (AC-6b), 3-pole

AC operation ~

Main, auxiliary and control conductors: Screw terminals







3RT264.-1A.05

			3RT2631	3R12641A.05							
Utilization category AC-6b Switching AC capacitors at an ambient temperature of 60 °C				Auxili conta unass Versio	cts, signed	Rated control supply voltage $U_{\rm S}$	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
Capacitor rating at operational voltage 50/60 Hz				\	7		Article No.	Price per PU			
at 230 V kvar	at 400 V kvar	at 500 V kvar	at 690 V kvar	NO	NC	V					
	rew fixing a					•					
Size S2		ina onap oi		o	00 5	Tan					
29	50	63	86	1	1	24 110 230	3RT2636-1AB03 3RT2636-1AF03 3RT2636-1AP03		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
29	50	63	86	0	2	24 110 230	3RT2636-1AB05 3RT2636-1AF05 3RT2636-1AP05		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
43	75	94	129	1	1	24 110 230	3RT2637-1AB03 3RT2637-1AF03 3RT2637-1AP03		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
43	75	94	129	0	2	24 110 230	3RT2637-1AB05 3RT2637-1AF05 3RT2637-1AP05		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
For scr	rew fixing a	nd snap-or	n mounting	on TH	35-15 a	nd TH 75-15 DIN rails					
Size S3	3										
43	75	94	129	1	1	24 110 230	3RT2645-1AB03 3RT2645-1AF03 3RT2645-1AP03		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
43	75	94	129	0	2	24 110 230	3RT2645-1AB05 3RT2645-1AF05 3RT2645-1AP05		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
57	100	125	172	1	1	24 110 230	3RT2646-1AB03 3RT2646-1AF03 3RT2646-1AP03		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
57	100	125	172	0	2	24 110 230	3RT2646-1AB05 3RT2646-1AF05 3RT2646-1AP05		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B

Other voltages according to page 4/52 on request.

Accessories, see page 3/71 onwards.

Contactors for special applications

SIRIUS 3RT26 contactors for capacitive loads (AC-6b), 3-pole

DC operation

Main, auxiliary and control conductors: Screw terminals







3RT262.-1B.45



3RT2628-1B.45 with infeed terminal

					with infood torrillial								
Utilization category AC-6b Switching AC capacitors at an ambient temperature of 60 °C			AC capacitors		tching AC capacitors			Rated control supply voltage $U_{\rm S}$	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
Capacitor operation at 230 V	r rating at al voltage 50 at 400 V	0/60 Hz at 500 V	at 690 V	\ \	 		Article No.	Price per PU					
kvar	kvar	kvar	kvar	NO	NC	V							
For scre	ew fixing a	ind snap-c	on mounti	ng on	TH 35 [DIN rail							
Size S0	0												
7.2	12.5	15	21	1	1	24 110	3RT2617-1BB43 3RT2617-1BF43		1 1	1 unit 1 unit	41B 41B		
7.2	12.5	15	21	0	2	24 110	3RT2617-1BB45 3RT2617-1BF45		1 1	1 unit 1 unit	41B 41B		
Size S0													
9.6	16.7	21	29	1	2	24 110	3RT2625-1BB45 3RT2625-1BF45		1 1	1 unit 1 unit	41B 41B		
11.5	20	25	34	1	2	24 110	3RT2626-1BB45 3RT2626-1BF45		1 1	1 unit 1 unit	41B 41B		
14	25	31	43	1	2	24 110	3RT2627-1BB45 3RT2627-1BF45		1 1	1 unit 1 unit	41B 41B		
19	33	41	57	1	2	24 110	3RT2628-1BB45 3RT2628-1BF45		1 1	1 unit 1 unit	41B 41B		

Other voltages according to page 4/52 on request.

Accessories, see page 3/71 onwards.

Switching devices – Contactors and contactor assemblies – Special applications Contactors for special applications

SIRIUS 3RT26 contactors for capacitive loads (AC-6b), 3-pole

AC/DC operation <a>

Main, auxiliary and control conductors: Screw terminals







3RT2628-1N.35



3RT263.-1N.35



3RT264.-1N.35

				with i	nfeed te	minal					
Switchir	on category ng AC capac nbient tempe	itors	°C		acts, signed	Rated control supply voltage $U_{\rm s}$	Screw terminals		PU (UNIT, SET, M)	PS*	PG
				Version	on	50/60 Hz AC or DC					
	or rating at onal voltage to at 400 V		at 690 V	\ I	7		Article No.	Price per PU			
kvar	kvar	kvar	kvar	NO	NC	V					
For sc	rew fixing	and snap-	-on mounti	ing on	TH 35 I	DIN rail					
Size S	0										
9.6	16.7	21	29	1	2	21 28 95 130 200 280	3RT2625-1NB35 3RT2625-1NF35 3RT2625-1NP35		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
11.5	20	25	34	1	2	21 28 95 130 200 280	3RT2626-1NB35 3RT2626-1NF35 3RT2626-1NP35		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
14	25	31	43	1	2	21 28 95 130 200 280	3RT2627-1NB35 3RT2627-1NF35 3RT2627-1NP35		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
19	33	41	57	1	2	21 28 95 130 200 280	3RT2628-1NB35 3RT2628-1NF35 3RT2628-1NP35		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
Size S.	2										
29	50	63	86	0	2	20 33 83 155 175 280	3RT2636-1NB35 3RT2636-1NF35 3RT2636-1NP35		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
43	75	94	129	0	2	20 33 83 155 175 280	3RT2637-1NB35 3RT2637-1NF35 3RT2637-1NP35		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
For sc	rew fixing	and snap-	on mounti	ng on [·]	TH 35-1	5 and TH 75-15 DIN rails					
Size S	3										
43	75	94	129	0	2	20 33 83 155 175 280	3RT2645-1NB35 3RT2645-1NF35 3RT2645-1NP35		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
57	100	125	172	0	2	20 33 83 155 175 280	3RT2646-1NB35 3RT2646-1NF35 3RT2646-1NP35		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B

Other voltages according to page 4/52 on request.

Accessories, see page 3/71 onwards.

Contactors for special applications

SIRIUS 3RT23 to 3RT26, 3RT14 contactors

Options

Rated control supply voltages for 3RT2 contactors, possible on request (change of the 10th and 11th digits of the article number)

Delivery time on request

Rated control supply voltage $U_{\rm S}$	Contactor type	3RT231, 3RT251	3RT232, 3RT252	3RT233, 3RT253	3RT234, 3RT244, 3RT254	3RT2617, 3RT262, 3RT263, 3RT264
	Size	S00	S0	S2	S3	S00 to S3
Sizes S00 to S3						
AC operation ¹⁾						
Solenoid coils for 50 Hz (exception: Size S00: 50						
24 V AC 42 V AC 48 V AC 110 V AC 230 V AC 240 V AC 400 V AC		B0 D0 H0 F0 P0 V0	B0 D0 F0 P0 V0	B0 D0 F0 P0 U0 V0	B0 D0 H0 F0 P0 U0 V0	B0 F0 P0
Solenoid coils for 50 ar	ıd 60 Hz ²⁾					
24 V AC 42 V AC 48 V AC 110 V AC 220 V AC 230 V AC		B0 D0 H0 F0 N2 P0	C2 D2 H2 G2 N2 L2	C2 D2 H2 G2 N2 L2	C2 D2 H2 G2 N2 L2	C2 N2 L2
Solenoid coils (for USA						
50 Hz 6	0 Hz					
	20 V AC 40 V AC	K6 P6	K6 P6	K6 P6	K6 P6	
Solenoid coils (for Japa 50/60 Hz ⁴⁾ 6	nn) 0 Hz ⁵⁾					
200 V AC 2 400 V AC 4	10 V AC 20 V AC 40 V AC	G6 N6 R6	G6 N6 R6	G6 N6 R6	G6 N6 R6	G6 N6 R6
DC operation1)						_
12 V DC 24 V DC 42 V DC 48 V DC 60 V DC 110 V DC 125 V DC 220 V DC 230 V DC		A4 B4 D4 W4 F4 G4 M4 P4	A4 B4 D4 W4 F4 G4 M4	 	 	 B4

Examples

AC operation 3RT2325-1A**P0**0 3RT2325-1A**G2**0

Contactor with screw terminals; with solenoid coil for 50 Hz for rated control supply voltage 230 V AC Contactor with screw terminals; with solenoid coil for 50/60 Hz for rated control supply voltage 110 V AC

DC operation 3RT2526-2B**B4**0 Contactor with spring-loaded terminals; for rated control supply voltage of 24 V DC Contactor with spring-loaded terminals; for rated control supply voltage 125 V DC

- at 50 Hz: 0.8 to 1.1 x U_s,
- at 60 Hz: 0.85 to 1.1 x $U_{\rm s}$

- Size S00:
 - at 50 Hz: 0.85 to 1.1 x U_s,
- at 60 Hz: 0.8 to 1.1 x $U_{\rm s}$,
- Sizes S0 to S3: at 50 Hz and 60 Hz: 0.8 to 1.1 x $U_{\rm S}$.

- 4) Coil operating range
 - Size S00:
 - at 50/60 Hz: 0.85 to 1.1 x U_s,
 - Sizes S0 to S3: at 50 Hz: 0.8 to 1.1 x $U_{\rm S}$, at 60 Hz: 0.85 to 1.1 x $U_{\rm S}$.
- ⁵⁾ Coil operating range at 60 Hz: 0.8 to 1.1 x $U_{\rm s}$.

Rated control supply	Contactor	3RT2.2N	Rated control supply	Contactor	3RT2.3N	3RT2.4N
voltage	type		voltage	type		
$U_{\rm smin}$ to $U_{\rm smax}^{1)}$	Size	S0	$U_{\rm s min}$ to $U_{\rm s max}^{1)}$	Size	S2	S3

Sizes S0 to S3

AC/DC operation (50/60 Hz AC or DC)

710/20 operation (00/00 112 /10 t	. 50)			
21 28 V AC/DC	B3	20 33 V AC/DC	B3	B3
95 130 V AC/DC	F3	48 80 V AC/DC	E3	E3
200 280 V AC/DC	P3	83 155 V AC/DC	F3	F3
		175 280 V AC/DC	P3	P3

¹⁾ Coil operating range: 0.8 x $U_{\rm s~min}$ to 1.1 x $U_{\rm s~max}$.

¹⁾ For deviating coil voltages and operating ranges of sizes S00 and S0, a SITOP 24 V DC power supply with wide-range input can be used for the coil control, see page 15/1 or Catalog KT 10.1.

²⁾ Coil operating range

³⁾ Coil operating range

Contactors for special applications

SIRIUS 3RT23 to 3RT26, 3RT14 contactors

Rated control supply voltages for 3RT14 contactors, possible on request (change of the 10th and 11th digits of the article number)

Delivery time on request

Rated control supply voltage		3RT145A, 3RT146A, 3RT147A	Rated control supply voltage	type	3RT145N, 3RT146N, 3RT147N	3RT145P, 3RT145S, 3RT146P, 3RT146S, 3RT147P, 3RT147S
$U_{\rm smin}$ to $U_{\rm smax}$	Sizes	S6 to S12	$U_{\rm smin}$ to $U_{\rm smax}$	Sizes	S6 to S12	

Sizes S6 to S12

AC/DC operation (50/60 Hz AC or DC) and operating range 0.8 x U_{s min} to 1.1 x U_{s max}

Standard operating mechanism		Solid-state operating mechanism		
23 26 V AC/DC 42 48 V AC/DC 110 127 V AC/DC 200 220 V AC/DC 220 240 V AC/DC	B3 D3 F3 M3 P3	21 27.3 V AC/DC 96 127 V AC/DC 200 277 V AC/DC	B3 F3 P3	 F3 P3
240 277 V AC/DC 380 420 V AC/DC 440 480 V AC/DC 500 550 V AC/DC 575 600 V AC/DC	U3 V3 R3 S3 T3			

Contactors for special applications Contactors for railway applications

SIRIUS 3RT contactors with extended operating range, 3-pole

Overview

Standards

IEC 60947-4-1, IEC 60077-2, EN 50155

Performance range

Sizes S00 to S3

 3RT20 contactors for motor loads (AC-3 and AC-3e) up to 110 A/55 kW

Sizes S6 to S12

- 3RT10 contactors for motor loads (AC-3 and AC-3e) from 55 kW to 500 A/250 kW
- 3RT14 contactors for weak or non-inductive loads (AC-1) up to 690 A

Application

Besides standard approval in compliance with IEC 60947-4-1, the contactors with an extended operating range are also approved in compliance with the relevant parts of IEC 60077-2, thus fulfilling the requirement for use in railway applications.

Thus, their suitability for increased requirements such as an

- extended temperature range compared to the IEC 60947-4-1 product standard or
- extended operating range of the contactor operating mechanisms or also
- increased resistance to mechanical oscillations and vibrations is warranted. The design of the terminals in the spring-loaded connection system also contributes toward vibration resistance.

Operating range of contactor operating mechanisms

The contactors with extended operating range and railway approval are available with a solid-state DC operating mechanism in all sizes from S00 to S12.

This operating mechanism version has an operating range from 0.7 to 1.25 x $U_{\rm s}$ in the temperature range -40 to 70 °C.

As from size S6, the operating mechanisms are equipped with an additional control input that can be operated between 24 DC and 110 V. This function can optionally be switched on or off via a selector switch.

Protecting connections against short circuit, overload and overvoltage

All connections must generally be protected against overload and short circuits using suitable measures. Different constraints must be considered depending on the type of connection:

Short-circuit and overload protection of main connections

For information on the protection of a free-standing contactor, see the technical product data sheet.

For more information on device combinations such as contactor with overload relay or contactor with circuit breaker as motor feeder, refer to

- Digital Configuration Manual for load feeders
- · Configuration Manual for load feeders

Short-circuit and overload protection of auxiliary connections

For information on the protection of auxiliary contacts, see the technical product data sheet.

Short-circuit and overload protection of control supply voltage or supply voltage connections

First of all, the relevant standards and regulations for configuring control panels and the parts and components installed in them must be taken into account, for example for cable dimensioning.

One possible protection for these circuits could be the selection of a suitable power supply, i.e. one with a current-limiting function. In the selection of the source and the connecting cable, the load characteristics of the contactor must be considered (short-time inrush current peaks for solid-state contactor operating mechanisms, switch-on power, holding power). The same applies to the selection of suitable protection devices.

If there are further switching elements in the circuit, such as the auxiliary contact system of an overload relay that operates the contactor, the short-circuit protection necessary for this must also be considered.

For further recommendations, e.g. the use of miniature circuit breakers or circuit breakers for equipment in control circuits, see Control panel tip – Selecting and dimensioning suitable power supplies quickly and reliably.

Short-circuit and overload protection of contactors with digital input

A typical rated current of 20 mA applies to these inputs based on the PLC input types according to IEC 60947-4-1.

The inputs can be protected accordingly (for 3RT1...-X contactors, marked with IN+/IN-). The supply voltage connections A1 - A2 must be protected based on the load characteristics.

For information on power consumption, see the technical product data sheet.

Protection against overvoltage at the control supply voltage connection

3RT contactors are already equipped with coil damping (varistor).

Note:

The break times of the contactor, the opening delay times of the NO contacts and the closing delay times of the NC contacts increase in the event of damping.

For more information about influencing the time response using damping, see Equipment Manual.

Contactors for special applications Contactors for railway applications

SIRIUS 3RT contactors with extended operating range, 3-pole

Fitting auxiliary contacts and mounting additional auxiliary switches

Features in the delivery state

- 3RT20 contactors:
 - 3RT201 contactors:
 - An auxiliary contact is integrated in the basic unit.
 - 3RT202 to 3RT204 contactors:
 - The basic units contain two integrated auxiliary contacts (1 NO + 1 NC).
- 3RT10 and 3RT14 contactors:
 - These contactors are supplied with two laterally mounted auxiliary switches. The fitting of auxiliary switches is possible on the front and on the side.

Expansion possibilities

All basic units (with the exception of coupling contactors in size S00) can be expanded using auxiliary switches; the permissible configuration must be observed.

Detailed information about the fitting of auxiliary switches for 3RT20 contactors, see pages 3/83 to 3/90.

Ambient temperature

The permissible ambient temperature for operation of the contactors (across the full operating range of the operating mechanisms) is -40 to $+70\,^{\circ}$ C.

Side-by-side mounting

Contactors with conventional operating mechanism

Sizes S00 and S0:

Side-by-side mounting is permissible at ambient temperatures up to 60 °C. At > 60 to 70 °C, a clearance of at least 10 mm shall be provided.

Contactors with series resistor

• Size S00:

Side-by-side mounting is permissible at ambient temperatures up to 70 °C.

Contactors with solid-state operating mechanism (version: 3RT....-....-0LA2)

- Sizes S00 to S3:
 - Side-by-side mounting is permissible at ambient temperatures up to 70 °C.
- Sizes S6 to S12:
 - Side-by-side mounting is permissible at ambient temperatures up to 60 °C. At > 60 to 70 °C, a clearance of at least 10 mm shall be provided.

Contactors for special applications Contactors for railway applications

SIRIUS 3RT contactors with extended operating range, 3-pole

Technical specifications

More information	
Technical specifications, see https://support.industry.siemens.com/cs/ww/en/ps/16177/td FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/16177/faq	Manuals, see https://support.industry.siemens.com/cs/ww/en/ps/16177/man Guide of use for contactors in safety applications, see https://support.industry.siemens.com/cs/ww/en/view/109807687

Туре			3RT2017	3RT2017- 2XB4 0LA2	2XF4 0LA2	3RT2018- 2XB4 0LA2	2XF4 0LA2	3RT202.	3RT202 2XB40- 0LA2	2XF40- 0LA2
Size			S00			_		S0		
General data										
Upright mounting position										
Contactors with series resistorContactors with conventional coil			Special vers		,					
Ambient temperature				<u> </u>						
During operation		°C	-40 +70 ¹⁾	-40 +70)					
During storage		°C	-55 +80							
Control										
Solenoid coil operating range	DC		0.7 1.25 x	$U_{\rm s}$						
Power consumption of the solenoid co	oils		For cold coil	and 1.0 x	U _s					
Contactors with series resistor	Closing Closed	W W	13 4.0							
Contactors with conventional coil	Closing Closed	W W	2.8 2.8					4.5 4.5		
 Contactors with solid-state operating mechanism 	Closing Closed	W W		4.0 0.95	4.5 0.75	4.0 0.95	4.5 0.75		6.7 1.4	13.2 1.3

Rated data of the main contacts

Load rating with AC

Minimum cross-section in the main circuit					
 At maximum AC-1 rated value 	mm ²	4		10	
 At maximum I_{th} rated value 	mm ²		4		10

³RT20....K contactors without the article number suffix "-0LA2" are coupling contactors that are certified for the -25 to +60 °C standard temperature range. For railway applications, an additional certification approves these contactors with a minimum clearance of 10 mm for the extended temperature range from -40 to +70 °C.

All details and technical specifications not mentioned here are identical to those of the basic units, see page 3/25 onwards.

Туре				3XF40- 0LA2		6- 3XF40- 0LA2	7- 3XF40- 0LA2	3RT203 3XB40- 0LA2	-	3RT204 3XB40- 0LA2	
Size			S2							S3	_
General data											
Ambient temperature											
During operation		°C	-40 +70)							
During storage		°C	-55 +80)							
Control											
Solenoid coil operating range	DC		0.7 1.25	5 x <i>U</i> s							
Power consumption of the solenoid co	oils		For cold of	oil and	1.0 x <i>U</i> s						
Contactors with solid-state operating	Closing	W	23							76	64
mechanism	Closed	W	1							1.8	1.0
Rated data of the main contacts											
Load rating with AC			_								
Minimum cross-section in the main ci	rcuit										
At maximum AC-1 rated value		mm^2	16		25			35		50	

 $\,\mathrm{mm}^2$

All details and technical specifications not mentioned here are identical to those of the basic units, see page 3/25 onwards.

ullet At maximum I_{th} rated value

Contactors for special applications Contactors for railway applications

SIRIUS 3RT contactors with extended operating range, 3-pole

Туре		3RT1054- .X.46- 0LA2	3RT1055- .X.46- 0LA2	3RT1056- .X.46- 0LA2	3RT1064- .X.46- 0LA2	3RT1065- .X.46- 0LA2	3RT1066- .X.46- 0LA2	3RT1075- .X.46- 0LA2	3RT1076 .X.46- 0LA2
Size		S6	_	_	S10			S12	_
General data									
Ambient temperature									
During operation	°C	-40 +70							
During storage	°C	-55 +80	1						
Control									
Solenoid coil closing for DC	W	320			580			800	
Solenoid coil closed for DC	W	2.8			3.4			3.6	
Control version of the switch operating mechanism		PLC-IN or	standard A	1 - A2 (can	be set)				
Actuated via A1/A2									
Rated control supply voltage	V DC	24, 72 or 1	110						
Operating range		0.7 1.25	5						
Actuated via PLC input									
Rated voltage	V DC	24 110							
Operating range		0.7 1.25	5						
Consumed current at PLC control input according to IEC 60947-1, maximum	mA	2							
Rated data of the main contacts									
Load rating with AC	•	_							
Minimum cross-section in the main circuit									
At maximum AC-1 rated value	$\rm mm^2$	70	95		150	185		300	370
 At maximum I_{th} rated value 	$\rm mm^2$	70	95		150	185		300	370

For all details and technical specifications not mentioned here, see https://support.industry.siemens.com/cs/ww/en/ps/16177/td.

Type		3RT1456X.46-0LA2	3RT1466X.46-0LA2 3RT1467X.46-0LA2	3RT1476X.46-0LA2
Size		S6	S10	S12
General data				
Ambient temperature				
During operation	°C	-40 +70		
During storage	°C	-55 +80		
Control				
Solenoid coil closing for DC		320	580	800
Solenoid coil closed for DC		2.8	3.4	3.6
Control version of the switch operating mechanism		PLC-IN or standard A	1 - A2 (can be set)	
Actuated via A1/A2				
Rated control supply voltage	V DC	24, 72 or 110		
Operating range		0.7 1.25		
Actuated via PLC input				
Rated voltage	V DC	24 110		
Operating range		0.7 1.25		
Consumed current at PLC control input according to IEC 60947-1, maximum	mA	2		
Rated data of the main contacts				
Load rating with AC		_		
Minimum cross-section in the main circuit				

240

240

300

 mm^2

140

140

For all details and technical specifications not mentioned here, see https://support.industry.siemens.com/cs/ww/en/ps/16177/td.

• At maximum AC-1 rated value

• At maximum Ith rated value

480

480

Contactors for special applications Contactors for railway applications

SIRIUS 3RT contactors with extended operating range, 3-pole

IE3/IE4 ready

Selection and ordering data

DC operation





3RT201 -2K

.4.	3RT2012K.42-0L
-----	----------------

									3R12012K.4.		3RT2012F	<.42-0LA0	
Rated data a	ccordin	g to IEC	60947-4	-1	Auxiliary	contac	ts	Rated control	Spring-loaded	<u></u>	PU	PS*	PG
AC-3 and AC t_u : 70 °C	C-3e,							supply voltage <i>U</i> s	terminals		(UNIT, SET, M)		
Operational	Rating				Ident. No	. Vers	ion	O _S					
current I _e up to	three-p	hase m	otors			J,	Ļ		Article No.	Price			
400 V	230 V	400 V	500 V	690 V		}				per PU			
400 v	kW	kW	kW	kW		NO	NC	V DC					
For screw					ng on TH			V 00					
Size S00	IIXIII9 (and Sn	ар-оп і	nountil	ig on in	00 DI	IV I all						
Coupling co	ntactor	s with ir	stoarato	d aail air	ouit								
 Suppresso 			-		cuit								
12	3	5.5	5.5	5.5	10 ¹⁾	1		24	3RT2017-2KB41		1	1 unit	41B
12	0	5.5	5.5	0.0	10	'		110	3RT2017-2KF41		1	1 unit	41B
12	3	5.5	5.5	5.5	01 ¹⁾		1	24	3RT2017-2KB42		1	1 unit	41B
								110	3RT2017-2KF42		1	1 unit	41B
 Varistor interest 	•				41								
12	3	5.5	5.5	5.5	10 ¹⁾	1		24 110	3RT2017-2LB41 3RT2017-2LF41		1 1	1 unit 1 unit	41B 41B
12	3	5.5	5.5	5.5	01 ¹⁾		1	24	3RT2017-2LB42		1	1 unit	41B
12	0	5.5	5.5	0.0	01 -		'	110	3RT2017-2LF42		1	1 unit	41B
With plug-o	n series	resisto	r and in	tegrated	coil circu	it							
• Suppresso	r diode i	ntegrate	ed at the	factory									
12	3	5.5	5.5	5.5	2)		1 ³⁾	24	3RT2017-2KB42-0LA0		1	1 unit	41B
					2)		- 21	110	3RT2017-2KF42-0LA0		1	1 unit	41B
16	4	7.5	10	11	2)		1 ³⁾	24 110	3RT2018-2KB42-0LA0 3RT2018-2KF42-0LA0		1 1	1 unit 1 unit	41B 41B
Varistor interests	egrated	at the fa	ctory					110	OTTEOTO ENT TE DEMO		'	i dilit	710
12	3	5.5	5.5	5.5	2)		13)	24	3RT2017-2LB42-0LA0		1	1 unit	41B
12	5	3.5	0.0	5.5			į.	110	3RT2017-2LF42-0LA0		1	1 unit	41B
16	4	7.5	10	11	2)		1 ³⁾	24	3RT2018-2LB42-0LA0		1	1 unit	41B
								110	3RT2018-2LF42-0LA0		1	1 unit	41B

¹⁾ It is not possible to mount an auxiliary switch. A clearance of 10 mm is required for side-by-side mounting at ambient temperatures > 60 °C.

Accessories and spare parts, see page 3/71 onwards.

 $^{^{2)}\,}$ One 4-pole auxiliary switch according to EN 50005 can be mounted from -40 to 70 °C; no clearance required.

³⁾ NC contact cannot be used because it is used for switching of the series

Contactors for special applications Contactors for railway applications

AC-3e IE3/IE4 ready SIRIUS 3RT contactors with extended operating range, 3-pole

DC operation







3RT201.-2X.42-0LA2



3RT202.-2K.40



3RT202.-2X.40-0LA2

Rated data ad	ccording to	0				Auxiliary	contac	cts	Rated	Spring-loaded	∞	PU	PS*	PG
IEC 60077-2	IEC 60947	7-4-1							control supply	terminals		(UNIT, SET, M)		
	AC-3 and	AC-3e							voltage U _s			OL1, IVI)		
t _u : 70 °C	<i>t</i> _u : 60 °C													
tional	Opera- tional	motors	g of thre s	e-phas	se	Ident. No.	Versi	on						
	current $I_{\rm e}$ up to	at								Article No.	Price per PU			
							\ ¹	7						
690 V	400 V	230 V	400 V	500 V	690 V		ı							
Α	Α	kW	kW	kW	kW		NO	NC	V DC					

For screw fixing and snap-on mounting on TH 35 DIN rail

Size S00

With int	egrated coil	circuit	(varisto	or integ	jrated i	n electr	onics at	the fa	ctory)				
18	12	3	5.5	5.5	5.5	10	1		24 34 72 125	3RT2017-2XB41-0LA2 3RT2017-2XF41-0LA2	1 1	1 unit 1 unit	41B 41B
18	12	3	5.5	5.5	5.5	01		1	24 34 72 125	3RT2017-2XB42-0LA2 3RT2017-2XF42-0LA2	1 1	1 unit 1 unit	41B 41B
18	16	4	7.5	10	11	10	1		24 34 72 125	3RT2018-2XB41-0LA2 3RT2018-2XF41-0LA2	1 1	1 unit 1 unit	41B 41B
18	16	4	7.5	10	11	01		1	24 34 72 125	3RT2018-2XB42-0LA2 3RT2018-2XF42-0LA2	1 1	1 unit 1 unit	41B 41B

Size S0

3126 30	,												
With int	egrated coil	circuit											
 Coupli 	ng contacto	rs with va	aristor in	ntegrate	ed at the	e factory							
	17	4	7.5	10	11	11 ¹⁾	1	1	24 110	3RT2025-2KB40 3RT2025-2KF40	1 1	1 unit 1 unit	41B 41B
	25	5.5	11	11	11	11 ¹⁾	1	1	24 110	3RT2026-2KB40 3RT2026-2KF40	1 1	1 unit 1 unit	41B 41B
	32	7.5	15	18.5	18.5	11 ¹⁾	1	1	24 110	3RT2027-2KB40 3RT2027-2KF40	1 1	1 unit 1 unit	41B 41B
 Varisto 	r integrated	in electr	onics at	the fac	ctory								
30	17	4	7.5	10	11	11	1	1	24 110	3RT2025-2XB40-0LA2 3RT2025-2XF40-0LA2	1 1	1 unit 1 unit	41B 41B
30	25	5.5	11	11	11	11	1	1	24 110	3RT2026-2XB40-0LA2 3RT2026-2XF40-0LA2	1 1	1 unit 1 unit	41B 41B
36	32	7.5	15	18.5	18.5	11	1	1	24 110	3RT2027-2XB40-0LA2 3RT2027-2XF40-0LA2	1 1	1 unit 1 unit	41B 41B
38	38	7.5	18.5	18.5	18.5	11	1	1	24 110	3RT2028-2XB40-0LA2 3RT2028-2XF40-0LA2	1 1	1 unit 1 unit	41B 41B

 $^{^{1)}}$ It is not possible to mount an auxiliary switch. A clearance of 10 mm is required for side-by-side mounting at ambient temperatures > 60 $^{\circ}\text{C}.$

Contactors for special applications Contactors for railway applications

SIRIUS 3RT contactors with extended operating range, 3-pole IE3/IE4 ready

DC operation





	3RT203.	-3X	40-	-0L	A
--	---------	-----	-----	-----	---

3RT204.-3X.40-0LA2

Rated data a						Auxiliary	conta	cts	Rated	Spring-loaded terminals	#	PU (UNIT,	PS*	PG
IEC 60077-2	AC-3 and								supply voltage	for auxiliary and control circuits		SET, M)		
<i>t</i> _u : 70 °C	<i>t</i> _u : 60 °C								Us					
Conven- tional	Opera- tional	motors		e-phas	se	Ident. No.	Versi	on						
current Ith	current I _e up to	at								Article No.	Price per PU			
up to							\ \	4			·			
690 V	400 V	230 V	400 V	500 V	690 V		Ì	1						
Α	Α	kW	kW	kW	kW		NO	NC	V DC					

For screw fixing and snap-on mounting on TH 35 DIN rail

Si	z	е	s	2

With integra	ated coil c	ircuit (varisto	r integ	rated i	in elect	ronics at	the fa	ctory)				
50	40	11	18.5	22	22	11	1	1	24 110	3RT2035-3XB40-0LA2 3RT2035-3XF40-0LA2	1 1	1 unit 1 unit	41B 41B
55	50	15	22	30	22	11	1	1	24 110	3RT2036-3XB40-0LA2 3RT2036-3XF40-0LA2	1 1	1 unit 1 unit	41B 41B
60	65	18.5	30	37	37	11	1	1	24 110	3RT2037-3XB40-0LA2 3RT2037-3XF40-0LA2	1 1	1 unit 1 unit	41B 41B
75	80	22	37	37	45	11	1	1	24 110	3RT2038-3XB40-0LA2 3RT2038-3XF40-0LA2	1	1 unit 1 unit	41B 41B

For screw fixing and snap-on mounting on TH 35-15 and TH 75-15 DIN rails

Size S3

With inte	grated coil	circuit	(varisto	or integ	grated	in electro	onics at	the fa	actory)				
90	80	22	37	45	55	11	1	1	24 110	3RT2045-3XB40-0LA2 3RT2045-3XF40-0LA2	1 1	1 unit 1 unit	41B 41B
95	95	22	45	55	75	11	1	1	24 110	3RT2046-3XB40-0LA2 3RT2046-3XF40-0LA2	1 1	1 unit 1 unit	41B 41B
95	110	30	55	75	75	11	1	1	24 110	3RT2047-3XB40-0LA2 3RT2047-3XF40-0LA2	1 1	1 unit 1 unit	41B 41B

Contactors for special applications Contactors for railway applications

AC-3e IE3/IE4 ready SIRIUS 3RT contactors with extended operating range, 3-pole

DC operation

- Solid-state operating mechanism with 24 to 110 V DC control signal input
- For screw fixing
- Auxiliary and control conductors: Spring-loaded terminals

 Main conductors: Busbar connections; a connection kit with screws, spring washers and nuts is enclosed.







3RT105.-2X.46-0LA2

3RT106.-2X.46-0LA2

3RT107.-2X.46-0LA2

Si	ize	Rated data according	to	Auxilia	,	Rated control	Spring-loaded	00	PU	PS*	PG
		IEC 60077-2	IEC 60947-4-1	contac	ts,	supply voltage U _s	terminals	ш	(UNIT, SET, M)		
			AC-3 and AC-3e	ialerai		O _S			3L 1, 1VI)		
		t _u : 70 °C	t _u : 60 °C								
		Conventional thermal		Version	n						
		current I _{th}	current I _e up to	J.	L		Article No.	Price			
		690 V	400 V	1	7			per PU			
		Α	Α	NO	NC	V DC					

Solid-state operating mechanism

With control signal input 24 ... 110 V DC e.g. for control by PLC

S6	120	115	2	2	24 72 110	3RT1054-2XB46-0LA2 3RT1054-2XJ46-0LA2 3RT1054-2XF46-0LA2	1 1 1	1 unit 1 unit 1 unit	41E 41E 41E
	140	150	2	2	24 72 110	3RT1055-2XB46-0LA2 3RT1055-2XJ46-0LA2 3RT1055-2XF46-0LA2	1 1 1	1 unit 1 unit 1 unit	41E 41E 41E
	145	185	2	2	24 72 110	3RT1056-2XB46-0LA2 3RT1056-2XJ46-0LA2 3RT1056-2XF46-0LA2	1 1 1	1 unit 1 unit 1 unit	41E 41E 41E
S10	215	225	2	2	24 72 110	3RT1064-2XB46-0LA2 3RT1064-2XJ46-0LA2 3RT1064-2XF46-0LA2	1 1 1	1 unit 1 unit 1 unit	41E 41E 41E
	265	265	2	2	24 72 110	3RT1065-2XB46-0LA2 3RT1065-2XJ46-0LA2 3RT1065-2XF46-0LA2	1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
	265	300	2	2	24 72 110	3RT1066-2XB46-0LA2 3RT1066-2XJ46-0LA2 3RT1066-2XF46-0LA2	1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
S12	350	400	2	2	24 72 110	3RT1075-2XB46-0LA2 3RT1075-2XJ46-0LA2 3RT1075-2XF46-0LA2	1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
	475	500	2	2	24 72 110	3RT1076-2XB46-0LA2 3RT1076-2XJ46-0LA2 3RT1076-2XF46-0LA2	1 1 1	1 unit 1 unit 1 unit	41B 41B 41B

Contactors for special applications Contactors for railway applications

SIRIUS 3RT contactors with extended operating range, 3-pole

DC operation

- Solid-state operating mechanism with 24 to 110 V DC control signal input
- For screw fixing
- Auxiliary and control conductors: Spring-loaded terminals

 Main conductors: Busbar connections; a connection kit with screws, spring washers and nuts is enclosed.







3RT1456-2X.46-0LA2

3RT146.-2X.46-0LA2

3RT1476-2X.46-0LA2

Size	Rated data according IEC 60077-2	to IEC 60947-4-1 AC-1 t _{ii} : 40 °C	Auxilia contac lateral		Rated control supply voltage $U_{\rm S}$	Spring-loaded terminals	<u></u>	PU (UNIT, SET, M)	PS*	PG
	Conventional thermal current I_{th} up to 690 V	u	Version L			Article No.	Price per PU			
	A	Α	NO	NC	V DC					

Solid-state operating mechanism

With control signal input 24 ... 110 V DC e.g. for control by PLC

With integrated coil circuit (varistor integrated in electronics at the factory)

S6	190	275	2	2	24 72 110	3RT1456-2XB46-0LA2 3RT1456-2XJ46-0LA2 3RT1456-2XF46-0LA2	1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
S10	330	400	2	2	24 72 110	3RT1466-2XB46-0LA2 3RT1466-2XJ46-0LA2 3RT1466-2XF46-0LA2	1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
	330	500	2	2	24 72 110	3RT1467-2XB46-0LA2 3RT1467-2XJ46-0LA2 3RT1467-2XF46-0LA2	1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
S12	520	690	2	2	24 72 110	3RT1476-2XB46-0LA2 3RT1476-2XJ46-0LA2 3RT1476-2XF46-0LA2	1 1 1	1 unit 1 unit 1 unit	41B 41B 41B

Contactors for special applications Contactors for railway applications

SIRIUS 3RH2 contactor relays with extended operating range

Overview

Standards

IEC 60947-5-1

Ambient temperature

The permissible ambient temperature for operation of the contactor relays (across the full operating range of the operating mechanisms) is -40 to +70 $^{\circ}$ C.

Uninterrupted duty at temperatures > +60 °C reduces the mechanical endurance, the current carrying capacity of the conducting paths and the switching frequency.

Control and auxiliary circuits

The solenoid coils of the contactor relays have an extended coil operating range from 0.7 to $1.25 \times U_s$ and are fitted as standard with surge suppressors. The opening delay times are consequently 2 to 5 ms longer than for standard contactors.

Application

For operation in installations that are subject both to considerable variations in the control voltage and to high ambient temperatures, e.g. railway applications under extreme climatic conditions, rolling mills, etc.

Also for control supply voltages with battery buffering to extend the operating time in the event of battery charge failure.

Operating mechanism types

Contactor relays with conventional coil

These contactor relays have an extended operating range of 0.7 to 1.25 x U_s . An additional auxiliary switch is not required.

Contactor relays with series resistor

These contactor relays have an extended operating range of 0.7 to 1.25 x U_s .

The DC solenoid system is modified to holding operation by means of a series resistor. This is plugged on in a prewired module.

A 4-pole auxiliary switch can be fitted additionally.

Contactor relays with solid-state operating mechanism

Thanks to the integrated electronics, these contactor relays have an extended operating range of 0.7 to 1.25 x $U_{\rm s}$.

Protecting connections against short circuit, overload and overvoltage

All connections must generally be protected against overload and short circuits using suitable measures. Different constraints must be considered depending on the type of connection:

Short-circuit and overload protection of auxiliary connections

For information on the protection of auxiliary contacts, see the technical product data sheet.

Short-circuit and overload protection of control supply voltage or supply voltage connections

First of all, the relevant standards and regulations for configuring control panels and the parts and components installed in them must be taken into account, for example for cable dimensioning.

One possible protection for these circuits could be the selection of a suitable power supply, i.e. one with a current-limiting function. In the selection of the source and the connecting cable, the load characteristics of the contactor relay must be considered (short-time inrush current peaks for solid-state contactor operating mechanisms, switch-on power, holding power). The same applies to the selection of suitable protection devices.

If there are further switching elements in the circuit, such as the auxiliary contact system of an overload relay that operates the auxiliary contactor, the short-circuit protection necessary for this must also be considered.

For further recommendations, e.g. the use of miniature circuit breakers or circuit breakers for equipment in control circuits, see Control panel tip – Selecting and dimensioning suitable power supplies quickly and reliably.

<u>Protection against overvoltage at the control supply voltage connection</u>

- Contactor relays with conventional coil:
 A surge suppressor (suppressor diode) is integrated.
- Contactor relays with series resistor:
 A surge suppressor (suppressor diode or varistor as preferred) is integrated.
- Contactor relays with solid-state operating mechanism: A surge suppressor (varistor) is integrated.

Connection methods

The 3RH2 contactor relays are available with screw terminals.

Side-by-side mounting

Contactor relays with conventional coil

A clearance of 10 mm is required for side-by-side mounting at ambient temperatures > 60 °C \leq 70 °C.

Contactor relays with series resistor

Side-by-side mounting is permissible at ambient temperatures up to 70 $^{\circ}\text{C}.$

Contactor relays with solid-state operating mechanism

Side-by-side mounting is permissible at ambient temperatures up to 70 $^{\circ}\text{C}_{\cdot}$

Contactors for special applications Contactors for railway applications

SIRIUS 3RH2 contactor relays with extended operating range

Technical specifications

More information	
Technical specifications, see https://support.industry.siemens.com/cs/ww/en/ps/16174/td	Manuals, see https://support.industry.siemens.com/cs/ww/en/ps/16174/man
FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/16174/faq	

Contactor relays		Туре	3RH212K, -2L	3RH2122-2XB40-0LA2	3RH2122-2XF40-0LA2				
General data									
Upright mounting position									
Contactors with series resistor Contactors with conventional coil			Special version (on request)						
			Special version (on request)						
Ambient temperature			45						
 During operation 		°C	-40 +70 ¹⁾						
During storage		°C	-55 +80						
Control									
Solenoid coil operating range	DC operation		0.7 1.25 x <i>U</i> _s						
Power consumption of the solenoid co	oils		For cold coil and 1.0 x U _s						
Contactors with series resistor	Closing Closed	W W	13 4	 	 				
Contactors with conventional coil	Closing Closed	W W	2.8 2.8						
 Contactors with solid-state operating mechanism 	Closing Closed	W W		4 0.95	4.5 0.75				

³RH21...K contactor relays without article number suffix "-0LA." are coupling contactor relays that are certified for the temperature range -25 to +60 °C. For railway applications, an additional certification approves these contactors with a minimum clearance of 10 mm for the extended temperature range from -40 to +70 °C.

All details and technical specifications not mentioned here are identical to those of the 3RH2 basic units, see page 5/5 onwards.

Contactors for special applications Contactors for railway applications

SIRIUS 3RH2 contactor relays with extended operating range

Selection and ordering data

DC operation ====





20	ш	101	22.	2K	40	
.315	П	/	//-	-/n	41	

|--|

Rated operational current			Contacts			Rated control	Spring-loaded				PG	
I _e /AC-18 t _u : 70 °C	5/AC-14 C at			Ident. No. according to	Versi	on	supply voltage $U_{\rm s}$	terminals		(UNIT, SET, M)		
230 V	400 V	500 V	690 V	EN 50011								
					\lambda	7		Article No.	Price per PU			
Α	Α	Α	Α		NO	NC	V DC					
For sc	rew fixi	ng and s	nap-on	mounting o	n TH :	35 DIN	rail					
Size S	00											
With int	tegrated	coil circu	it									
 Suppr 	essor dio	de integra	ated at the	factory								
10	3	2	1	22E	2	2 ¹⁾	24 110	3RH2122-2KB40 3RH2122-2KF40		1 1	1 unit 1 unit	41A 41A
				31E	3	1 ¹⁾	24	3RH2131-2KB40		1	1 unit	41A
				40E	4	O ¹⁾	24	3RH2140-2KB40		1	1 unit	41A
 Varisto 	or integra	ted at the	factory									
10	3	2	1	22E	2	2 ¹⁾	24 110	3RH2122-2LB40 3RH2122-2LF40		1 1	1 unit 1 unit	41A 41A
With plu	ug-on se	ries resis	tor and in	tegrated coil	circuit							
 Suppr 	essor dio	de integra	ated at the	factory								
10	3	2	1	21X	2	1 ²⁾	24 110	3RH2122-2KB40-0L/ 3RH2122-2KF40-0L/		1 1	1 unit 1 unit	41A 41A
 Varisto 	or integra	ted at the	factory									
10	3	2	1	21X	2	1 ²⁾	24 110	3RH2122-2LB40-0L/ 3RH2122-2LF40-0L/		1 1	1 unit 1 unit	41A 41A
With in	tegrated	coil circu	it (varisto	r integrated in	n elect		at the factory)					
10	3	2	1	22E	2	2 ²⁾	24 34 72 125	3RH2122-2XB40-0LA 3RH2122-2XF40-0LA		1 1	1 unit 1 unit	41A 41A

¹⁾ It is not possible to mount an auxiliary switch.

Accessories, see page 3/71 onwards.

Other voltages according to page 3/69 on request.

²⁾ 4-pole auxiliary switch according to EN 50005 can be mounted.

Contactors for special applications Contactors for railway applications

3TH4 contactor relays, 8-pole

Overview

Standards

IEC 60947-5-1

Terminal covers may have to be fitted onto the connecting bars, depending on the configuration with other devices.

Ambient temperature

The permissible ambient temperature for operation of the contactors (across the full solenoid coil operating range) is -50 to +70 °C. Uninterrupted duty at temperatures < -25 °C and > +55 °C reduces the mechanical endurance, the current carrying capacity of the conducting paths and the switching frequency.

A clearance of 10 mm is required for side-by-side mounting at ambient temperatures > 55 °C. There is no need to reduce the technical specifications.

Application

For operation in installations which are subject both to considerable variations in the control voltage and to high ambient temperatures, e.g. in railway applications.

Control and auxiliary circuits

The solenoid coils of the contactor relays have an extended coil operating range from 0.7 to 1.25 x $U_{\rm s}$ and are fitted as standard with varistors to provide protection against overvoltage. The opening delay times are consequently 2 to 5 ms longer than for standard contactors.

Technical specifications

More information	
	Manuals, see https://support.industry.siemens.com/cs/ww/en/ps/16176/man
FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/16176/faq	

Contactor relays		Type	3TH42
General data			
Permissible ambient temperature			
During operation		°C	-50 +70 ¹⁾
During storage		°C	-55 +80
Control			
Solenoid coil operating range			0.7 1.25 x <i>U</i> _s
Power consumption of the solenoid co For cold coil: Closing = Closed	ils (for cold coil and 1.0 x U _S)	W	5.2
Permissible residual current of the elec	ctronics (with 0 signal)		
DC operation			\leq 10 mA x (24 V/ U_{S})
Operating times within operating range)		
Total break time = Opening delay + Arcin	g time		
DC operation	Closing delay Opening delay	ms ms	40 200 20 30
Arcing time		ms	10 20

¹⁾ Side-by-side mounting with 10 mm clearance.

All details and technical specifications not mentioned here are identical to those of the 3TH4 basic units, see page 5/14 onwards.

Contactors for special applications Contactors for railway applications

3TH4 contactor relays, 8-pole

Selection and ordering data

DC operation ====



RTH4244-01

Contacts	Rated operational current $I_{\rm e}$ /AC-15/AC-14				Contacts ¹⁾ Ident. No.	Version		Rated control supply voltage U_s	Screw termin	als	PU (UNIT, SET, M)	PS*	PG
	230 V	400 V	500 V	690 V	according to EN 50011			-5					
						1 1	}		Article No.	Price per PU			
Number	Α	Α	Α	Α		NO N	NC	V DC					
For scr	ew fixir	ng and	snap-o	n mou	nting on T	H 35 DIN	N rail						
With int	egrate	d coil c	ircuit (varisto	r integrate	d at the	facto	ory)					
8	10	6	4	2	44E	4 4		24 110	3TH4244-0LE 3TH4244-0LF	-	1 1	1 unit 1 unit	41A 41A
8	10	6	4	2	53E	5 3		24 110	3TH4253-0LE 3TH4253-0LF		1 1	1 unit 1 unit	41A 41A
8	10	6	4	2	62E	6 2	2	24 110	3TH4262-0LE 3TH4262-0LF		1	1 unit 1 unit	41A 41A

¹⁾ No expansion contacts can be fitted.

Other voltages according to page 5/19 on request.

Accessories, see page 5/20.

Contactors for special applications Contactors for railway applications

3TC contactors for switching DC voltage, 2-pole

Overview

Standards

IEC 60947-4-1

Protecting connections against short circuit, overload and overvoltage

All connections must generally be protected against overload and short circuits using suitable measures. Different constraints must be considered depending on the type of connection:

Short-circuit and overload protection of main connections

For information on the protection of a free-standing contactor, see the technical product data sheet.

For more information on device combinations such as contactor with overload relay or contactor with circuit breaker as motor feeder, refer to

- · Digital Configuration Manual for load feeders
- · Configuration Manual for load feeders

Short-circuit and overload protection of auxiliary connections

For information on the protection of auxiliary contacts, see the technical product data sheet.

Short-circuit and overload protection of control supply voltage or supply voltage connections

First of all, the relevant standards and regulations for configuring control panels and the parts and components installed in them must be taken into account, for example for cable dimensioning.

One possible protection for these circuits could be the selection of a suitable power supply, i.e. one with a current-limiting function. In the selection of the source and the connecting cable, the load characteristics of the contactor must be considered (short-time inrush current peaks for solid-state contactor operating mechanisms, switch-on power, holding power). The same applies to the selection of suitable protection devices.

If there are further switching elements in the circuit, such as the auxiliary contact system of an overload relay that operates the contactor, the short-circuit protection necessary for this must also be considered.

For further recommendations, e.g. the use of miniature circuit breakers or circuit breakers for equipment in control circuits, see Control panel tip – Selecting and dimensioning suitable power supplies quickly and reliably.

Protection against overvoltage at the control supply voltage connection

The 3TC contactors for railway applications are fitted as standard with varistors against overvoltage.

Ambient temperature

The permissible ambient temperature for operation of the contactors (across the full solenoid coil operating range) is -50 to +70 °C. Uninterrupted duty at temperatures < -25 °C and > +55 °C reduces the mechanical endurance, the current carrying capacity of the conducting paths and the switching frequency.

A clearance of 10 mm is required for side-by-side mounting of size 2 contactors at ambient temperatures > 55 °C. There is no need to reduce the technical specifications.

Series resistor

The DC solenoid systems of the 3TC contactors must be modified (to holding coil) by means of a series resistor. This series resistor is supplied separately packed with the contactors.

With types 3TC48, the series resistor must be attached onto the right-hand side of the auxiliary switch by means of the enclosed mounting parts and sets of links provided, while in the case of the 3TC44 it must be mounted and wired between the contactor poles. With types 3TC52 and 3TC56, the series resistor must be attached separately next to the contactors.

Fitting auxiliary contacts and mounting additional auxiliary switches

Features in the delivery state

The 3TC contactors are equipped with two lateral auxiliary switches with four auxiliary contacts. Of those contacts, one NC contact is required if a series resistor is used (2 NO + 1 NC).

Expansion possibilities

Contactors with AC operation can be expanded using auxiliary switches; the permissible configuration must be observed.

Reversing contactors

With the 3TC52 and 3TC56 contactors, the series resistor must be connected using an additional K2 reversing contactor. This contactor is automatically included in the scope of supply.

Application

For operation in installations which are subject both to considerable variations in the control voltage and to high ambient temperatures, e.g. in railway applications.

Control and auxiliary circuits

The solenoid coils of the contactors have an extended coil operating range from 0.7 to $1.25 \times U_s$.

Contactors for special applications Contactors for railway applications

3TC contactors for switching DC voltage, 2-pole

Technical specifications

Technical specifications, see https://support.industry.siemens.com/cs/ww/en/ps/16180/td	Manuals, see https://support.industry.siemens.com/cs/ww/en/ps/16180/man								
Туре		3TC44	3TC48	3TC52	3TC56				
Size		2	4	8	12				
General data									
Ambient temperature									
During operation	°C	-40 +70							
Control									
Solenoid coil operating range		0.7 1.25 x	U _s						
Power consumption of the solenoid coils		For cold coil	and 1.0 x <i>U</i> _s						
Closing	W	48	26	40	130				
Closed	W	13	14	21	59				

All details and technical specifications not mentioned here are identical to those of the basic units of the 3TC contactors, see page 4/72.

Contactors for special applications Contactors for railway applications

3TC contactors for switching DC voltage, 2-pole

Selection and ordering data

DC operation ====

3TC44: For screw fixing and snap-on mounting on 35 mm DIN rail 3TC48 to 3TC56: For screw fixing





C48 3TC56 with reversing contactor

Size	Utilization category		al of loads at					ary cts ¹⁾ in	Rated control supply voltage U_s	Screw termi	nals	PU (UNIT, SET, M)	PS*	PG
		750 V	220 V	′ 440 V	600 V	750 V	. \	 		Article No.	Price per PU			
		Α	kW	kW	kW	kW	NO	NC	V DC					
Con	tactors for s	switching	DC vo	oltage										
With	integrated	coil circu	it (var	istor i	ntegra	ated a	t the fa	actory)						
2	DC-1 DC-3/DC-5	32 7.5	7 5	14 9	19.2 9	24 4	2	1 ²⁾	24 110	3TC4417-0L 3TC4417-0L		1 1	1 unit 1 unit	41B 41B
	laterally m tional auxili								ly in					
4	DC-1 DC-3/DC-5	75 75	16.5 13	33 27	45 38	56 45	2	1 ²⁾	24 110	3TC4817-0L 3TC4817-0L		1 1	1 unit 1 unit	41B 41B
8	DC-1 DC-3/DC-5	170 170	48 41	97 82	132 110	165 110	2	1 ²⁾	24 110	3TC5217-0L 3TC5217-0L		1 1	1 unit 1 unit	41B 41B
12	DC-1 DC-3/DC-5	400 400	88 70	176 140	240 200	300 250	2	1 ²⁾	24 110	3TC5617-0L 3TC5617-0L		1 1	1 unit 1 unit	41B 41B

¹⁾ No expansion auxiliary contacts can be fitted.

Other rated control supply voltages according to page 4/79 on request.

Accessories

Accessories, see basic units of the 3TC contactors, page 4/79 onwards.

Spare parts for contactors with extended operating range

For contactor		Remarks	Rated control supply voltage $U_{\rm S}$	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Size	Туре		V DC					
Arc chutes								
2	3TC4417-0L	With recess for resistor mounting		3TY2442-0B		1	1 unit	41B
Solenoid co	ils							
2	3TC44	With series resistor, without varistor	24 110	3TY6443-0LB4 3TY6443-0LF4		1 1	1 unit 1 unit	41B 41B
4	3TC48		24 110	3TY6483-0LB4 3TY6483-0LF4		1 1	1 unit 1 unit	41B 41B

All spare parts not mentioned here are identical to those of the basic units of the 3TC contactors, see page 4/79.

²⁾ One NC contact used for series resistor.

Switching devices – Contactors and contactor assemblies – Special applications Contactors for special applications

3TC contactors for switching DC voltage, 1- and 2-pole

Overview

3TC4 and 3TC5

IEC 60947-1, IEC 60947-4-1, IEC 60947-5-1 (auxiliary switches)

The DC motor ratings given in the tables are applicable to the DC-3 and DC-5 utilization categories with 2-pole switching of the load or with the two conducting paths of the contactor connected in series.

One contactor conducting path can switch full power up to 220 V. For voltages over 220 V, the two conducting paths are to be switched in series, see Rated data of the main contacts, page 4/74.

Surge suppression

(2 NO + 1 NC).

Contactors (not for railway applications) supplied without a coil circuit can be retrofitted with RC elements, varistors, diodes or diode assemblies (combination of diode and Zener diode for short break times) for damping switching overvoltages in the coil, see page 4/80 onwards.

Fitting auxiliary contacts and mounting additional auxiliary switches

- Features in the delivery state:
 The 3TC contactors are equipped with two lateral auxiliary switches with four auxiliary contacts. Of those contacts, one NC contact is required if a series resistor is used
- Expansion possibilities: Contactors with AC operation can be expanded using auxiliary switches; the permissible configuration must be observed.

3TC7

IEC 60947-4-1

The contactors are suitable for switching and controlling DC motors as well as all other DC loads.

The solenoid excitation is configured for a particularly large operating range. It is between 0.7 or 0.8 and 1.2 x U_c .

3TC74 contactors can be used at up to 750 V/400 A and 50 Hz in AC-1 operation. For voltages over 750 V, the two conducting paths (3TC74: two contactors) are to be switched in series, see Rated data of the main contacts, page 4/76.

Application

The contactors are suitable for switching and controlling DC motors as well as all other DC circuits.

A version with a particularly large solenoid coil operating range is available for operation in electrically driven vehicles and in switchgear subject to large fluctuations in actuating voltage (see page 4/70).

Switching devices – Contactors and contactor assemblies – Special applications Contactors for special applications

3TC contactors for switching DC voltage, 1- and 2-pole

Technical specifications

More information

Technical specifications, see https://support.industry.siemens.com/cs/ww/en/ps/16181/td https://support.industry.siemens.com/cs/ww/en/ps/16181/man

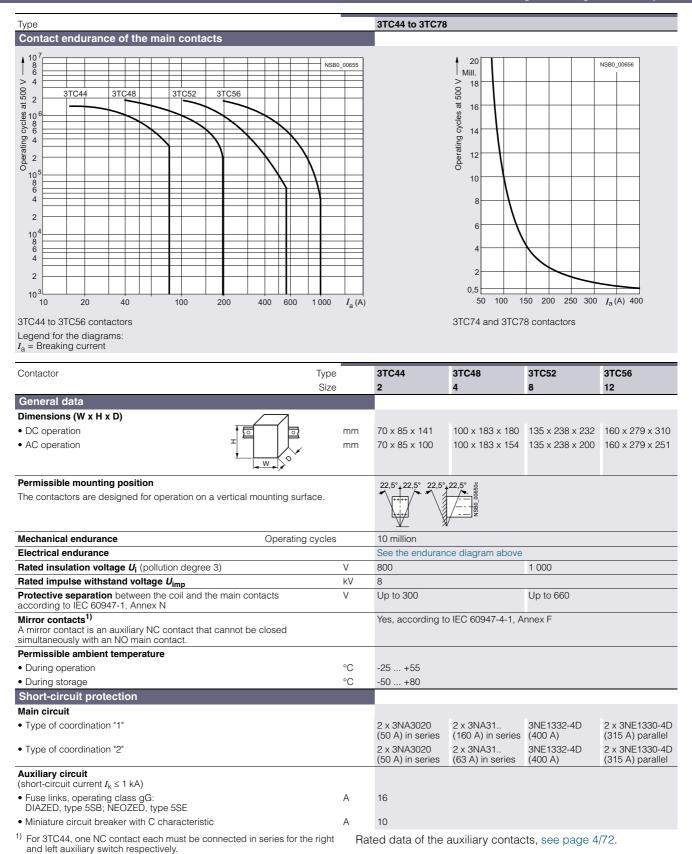
FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/16181/faq

Туре			3TC4 and 3TC7	3TC5
Rated data of the auxiliary contacts				
Rated insulation voltage U _i (pollution degree 3)		V	690	
Conventional thermal current I_{th} = rated operational current $I_e/AC-12$		Α	10	10
AC load				
Rated operational current I _e /AC-15/AC-14				
$ullet$ At rated operational voltage U_{e}	24 V 110 V 125 V 220 V 230 V 380 V 400 V 500 V 660 V 690 V	A A A A A A A A A	10 10 10 6 5.6 4 3.6 2.5 2.5	10 10 10 6 5.6 4 3.6 2.5 2.5
DC load				
Rated operational current I _e /DC-12				
$ullet$ At rated operational voltage $U_{ m e}$	24 V 60 V 110 V 125 V 220 V 440 V 600 V	A A A A A	10 10 3.2 2.5 0.9 0.33 0.22	10 10 8 6 2 0.6 0.4
Rated operational current I _e /DC-13				
• At rated operational voltage $U_{\rm e}$	24 V 48 V 110 V 125 V 220 V 440 V 600 V	A A A A A A	10 5 1.14 0.98 0.48 0.13 0.07	10 5 2.4 2.1 1.1 0.32 0.21

Туре	3TC44 to 3TC56
® and ® rated data of the auxiliary contacts	
Rated voltage, max.	600
Switching capacity	A 600, P 600

Switching devices – Contactors and contactor assemblies – Special applications Contactors for special applications

3TC contactors for switching DC voltage, 1- and 2-pole



Switching devices – Contactors and contactor assemblies – Special applications Contactors for special applications

3TC contactors for switching DC voltage, 1- and 2-pole

Туре			3TC44	3TC48	3TC52	3TC56
Size			2	4	8	12
Control						
Solenoid coil operating range						
• DC operation			0.7 1.25 x <i>U</i> _s			
• AC operation			0.8 1.1 x <i>U</i> _s			
Power consumption of the solenoid coils (for cold coil and $1.0 \times U_s$)						
DC operation	Closing = Closed	W	10	19	30	86
• AC operation, 50 Hz coil	Closing Closed	VA/p.f. VA/p.f.	68/0.86 10/0.29	300/0.5 26/0.24	640/0.48 46/0.23	1 780/0.3 121/0.22
AC operation, 60 Hz coil	Closing Closed	VA/p.f. VA/p.f.	95/0.79 12/0.3	365/0.45 35/0.26	730/0.38 56/0.24	2 140/0.3 140/0.29
AC operation, 50/60 Hz coil	Closing	VA/p.f.	79/73/0.83/0.78			
	at 50/60 Hz Closed	VA/p.f.	11/9/0.28/0.27			
	at 50/60 Hz	· , , p	. 1,0,0.20,0.2.			
Rated data of the main contacts						
Load rating with DC						
Utilization category DC-1 (<i>L/R</i> ≤ 1 ms)						
 Rated operational currents I_e (at 55 °C) 	Up to <i>U</i> _e 750 V	Α	32	75	220	400
Minimum conductor cross-section		mm ²	6	25	95	240
• Rated power at U_e	At 220 V 440 V	kW kW	7 14	16.5 33	48 97	88 176
(≤ 220 V DC: one conducting path, > 220 V DC: two conducting paths in series)	600 V	kW	19.2	45	132	240
	750 V	kW	24	56	165	300
Utilization category DC-3 and DC-5, shunt-wound and series-wound motors (L/F	? ≤ 15 ms)					
Rated operational currents I _e (at 55, 90)	Up to 220 V	A	32	75 75	220	400
(at 55 °C)	440 V 600 V	A A	29 21	75 75	220 220	400 400
	750 V	Α	7.5	75	170	400
• Rated power at U_e	At 110 V	kW	2.5	6.5	20	35
(≤ 220 V DC: one conducting path, > 220 V DC: two conducting paths in series)	220 V 440 V	kW kW	5 9	13 27	41 82	70 140
	600 V	kW	9	38	110	200
Conductor cross-sections	750 V	kW	4	45	110	250
Main conductors				ninale		
(1 or 2 conductors can be connected)			Screw tern	iiiuis		
• Solid		mm^2	2 x (2.5 10)	2 x (6 16)		
 Finely stranded with end sleeve 		mm^2	2 x (1.5 4)			
Stranded with cable lug		mm^2	2 x 16	2 x 35	2 x 120	2 x 150
Pin cable lug to DIN 46231		mm ²	2 x (1 6)			
Busbars		mm		15 x 2.5	25 x 4	2 x (25 x 3)
Terminal screw			M5	M6	M10	
Auxiliary conductors (1 or 2 conductors can be connected)						
• Solid		mm^2	2 x (1 2.5)			
 Finely stranded with end sleeve 		mm^2	2 x (0.75 1.5)			

Rated data of the auxiliary contacts, see page 4/72.

Switching devices – Contactors and contactor assemblies – Special applications Contactors for special applications

3TC contactors for switching DC voltage, 1- and 2-pole

T			0.7.0.7.4	07070
Type Design			3TC74 1-pole contactors	3TC78 2-pole contactors
General data			1-pole contactors	2-pole contactors
Dimensions (W x H x D)	T O O	mm	78 x 352 x 276	160 x 366 x 290
Permissible mounting position			22,5°, 22,5° 22,5°, 22,5° §	
The contactors are designed for operation on a vertice mounting surface.	cal		NSB0_088N	
Mechanical endurance		Oper- ating cycles	30 million	
Electrical endurance			See page 4/73	
Rated insulation voltage U _i (pollution degree 3)		V	1 500	
Rated impulse withstand voltage $U_{\rm imp}$		kV	8	
Protective separation between the coil and the mai according to IEC 60947-1, Annex N	n contacts	V	630	
Mirror contacts ¹⁾ A mirror contact is an auxiliary NC contact that cann be closed simultaneously with an NO main contact.	ot		Yes, according to IEC 60947-4-1, A	Annex F
Permissible ambient temperature		°C	-25 +55	
Short-circuit protection				
Main circuit				
Type of coordination "1"		Α	2 x 3NE1330-4D (315 A) parallel	2 x 3NE1330-5E (315 A) parallel
Type of coordination "2"		Α	2 x 3NE1330-4D (315 A) parallel	2 x 3NE1330-5E (315 A) parallel
Auxiliary circuit (Short-circuit current $I_k \le 1$ kA)				
 Fuse links, operating class gG: DIAZED, type 5SB; NEOZED, type 5SE 		Α	16	
Miniature circuit breaker with C characteristic		Α	10	
Control				
Solenoid coil operating range				
DC operation	At $U_{\rm C}$ = 24 V		0.8 1.2 x <i>U</i> _S	
	At $U_{\rm C} > 24$ V		0.7 1.2 x <i>U</i> _S	
AC operation	At $U_{\rm C}$ = 24 V		0.7 1.15 x <i>U</i> _s	
	At $U_{\rm C}$ > 24 V		0.7 1.14 x <i>U</i> _S	
Power consumption of the solenoid coils (for cold coil and $1.0 \times U_{\text{S}}$)				
DC operation	Closing = Closed	W	46	92
AC operation, 50 Hz	Closing = Closed	VA	80	160
		P.f.	0.95	

¹⁾ For 3TC78, one auxiliary NC contact each of the right and left conducting paths must be connected in series.

Rated data of the auxiliary contacts, see page 4/72.

Switching devices – Contactors and contactor assemblies – Special applications Contactors for special applications

3TC contactors for switching DC voltage, 1- and 2-pole

Туре			3TC74	3TC78
Design			1-pole contactors	2-pole contactors
Rated data of the main contacts			1-pole contactors	z-pole contactors
Load rating with DC			•	
Utilization category DC-1 (<i>L/R</i> ≤ 1 ms)				
• Rated operational current <i>I_e</i> /DC-1 (at 55 °C)		Α	500	
Minimum conductor cross-section		$\rm mm^2$	2 x 150	
 Rated power (≤ 750 V DC: one conducting path, > 750 V DC: two conducting paths in series) 	At 220 V 440 V 600 V	kW kW kW	110 220 300	
	750 V 1 200 V 1 500 V	kW kW kW	375 	600 750
Critical currents, without arc extinction	At 440 V 600 V 750 V	A A A	≤ 7 ≤ 13 ≤ 15	- I
	≤ 800 V 1 200 V 1 500 V	A A A	 	≤ 7 ≤ 13 ≤ 15
Utilization category DC-3 and DC-5, shunt-wound and series-wound motors (<i>L/R</i> ≤ 15 ms)				
 Rated operational current I_e (at 55 °C) 		Α	400	
 Rated power at U_e (≤ 750 V DC: one conducting path, > 750 V DC: two conducting paths in series) 	At 110 V 220 V 440 V 600 V 750 V 1 200 V 1 500 V	kW kW kW kW kW kW	35 70 140 200 250 	400 500
Permissible rated current for regenerative braking At 110 600 V		А	400	
Conductor cross-sections				
Main conductors (1 or 2 conductors can be connected)			Screw terminals	
Stranded with cable lug		mm^2	2 x 150	
Busbars		mm	2 x (30 x 4)	
Auxiliary conductors (1 or 2 conductors can be connected)				
• Solid		mm ²	1 2.5	
Finely stranded with end sleeve		mm ²	0.75 1.5	

Rated data of the auxiliary contacts, see page 4/72.

Contactors for special applications

3TC contactors for switching DC voltage, 1- and 2-pole

Selection and ordering data

DC operation ==== or AC operation, 50 Hz





	31C48		
(1)	PU	PS*	PG

											31044		31048		
Size	Utilization category ¹⁾	Operational current $I_e^{(2)}$	DC m					Auxi cont Vers	liary acts ³⁾ ion	Rated control supply voltage $U_{\rm S}$	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
		1 _e ·	110 V	/ 220 V	440 W	/ 600 \	/ 750 V	\ \ \	}		Article No.	Price per PU			
		А	kW	kW	kW	kW	kW	NO	NC	V					
3ТС	44 to 3TC5	6 2-pole	cont	actors	s · Op	eratio	nal vo	oltag	e up t	o 750 V					
DC	operation														
For s	crew fixing a	and snap	on m	ountin	g on T	H 35 D	IN rail								
2	DC-3, DC-5	32	2.5	5	9	9	4	2	2	24 DC 110 DC 220 DC	3TC4417-0AB4 3TC4417-0AF4 3TC4417-0AM4		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
For s	crew fixing														
4	DC-3, DC-5	75	6.5	13	27	38	45	2	2	24 DC 110 DC 220 DC	3TC4817-0AB4 3TC4817-0AF4 3TC4817-0AM4		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
8	DC-3, DC-5	220 ⁴⁾	20	41	82	110	110	2	2	24 DC 110 DC 220 DC	3TC5217-0AB4 3TC5217-0AF4 3TC5217-0AM4		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
12	DC-3, DC-5	400	35	70	140	200	250	2	2	24 DC 110 DC 220 DC	3TC5617-0AB4 3TC5617-0AF4 3TC5617-0AM4		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
AC	operation, 5	50 Hz													
For s	crew fixing a	and snap	on m	ountin	g on T	H 35 D	IN rail								
2	DC-3, DC-5	32	2.5	5	9	9	4	2	2	220/230 AC ⁵⁾ 110/110 AC	3TC4417-0BP0 3TC4417-0BF0		1 1	1 unit 1 unit	41B 41B
For s	crew fixing														
4	DC-3, DC-5	75	6.5	13	27	38	45	2	2	220/230 AC ⁵⁾ 110 AC	3TC4817-0BP0 3TC4817-0BF0		1 1	1 unit 1 unit	41B 41B
8	DC-3, DC-5	220 ⁴⁾	20	41	82	110	110	2	2	220/230 AC ⁵⁾ 110 AC	3TC5217-0BP0 3TC5217-0BF0		1 1	1 unit 1 unit	41B 41B
12	DC-3, DC-5	400	35	70	140	200	250	2	2	220/230 AC ⁵⁾ 110 AC	3TC5617-0BP0 3TC5617-0BF0		1 1	1 unit 1 unit	41B 41B

¹⁾ Permissible load for DC-1 utilization category, see detailed technical specifications in the Reference Manual.

Contactor Type Rated operational voltage 110 V, 220 V 440 V 32 A 75 A 170 A 3TC44 7 A 3TC48 75 A 3TC52 170 A 3TC56 400 A 400 A

Other rated control supply voltages according to page 4/79 on request.

Accessories, see page 4/79 onwards.

Spare parts, see page 4/81.

²⁾ The following rated operational currents are permitted for reversing duty with 3TC44 to 3TC56 contactors:

³⁾ The fitting of auxiliary switches cannot be altered on DC-operated contactors.

⁴⁾ At > 600 V: $I_{\rm e}$ = 170 A.

⁵⁾ Operating range at 220 V AC: 0.85 to 1.15 \times $U_{\rm s}$; lower operating range limit according to IEC 60947.

Contactors for special applications

3TC contactors for switching DC voltage, 1- and 2-pole

DC operation ==== or AC operation, 50 Hz

For screw fixing





													3TC74		3TC78		
Size	Utiliza- tion cat- egory ¹⁾	Operational current I_e								iar	n- ots ²⁾ r-	Rated control supply voltage Us	Screw termin	als	PU (UNIT, SET, M)	PS*	PG
			110 V	220 V	440 V	600 V	750 \	/ 1200V	1500 V	\ \	Ļ		Article No.	Price per PU			
		Α	kW	kW	kW	kW	kW	kW	kW	NC	NC	V					
3TC	74 1-pol	e conta	actors	· Ope	eratio	nal vo	ltage	up to 7	50 V								
DC o	operatio	า											_				
12	DC-3, DC-5	400	35	70	140	200	250			4	4	24 DC 110 DC	3TC7414-0EB 3TC7414-0EF		1 1	1 unit 1 unit	41B 41B
AC	operatio	n, 50 H	z														
12	DC-3, DC-5	400	35	70	140	200	250			4	4	230/220 AC ³⁾	3TC7414-1CN	1	1	1 unit	41B
3TC	78 2-pol	e conta	actors	. Оре	eratio	nal vo	ltage	up to 1	500 V								
DC d	operatio	า															
12	DC-3, DC-5	400	35	70	140	200	250	400	500	4	4	24 DC 110 DC	3TC7814-0EB 3TC7814-0EF		1 1	1 unit 1 unit	41B 41B
AC	operatio	n, 50 H	z												_		
12	DC-3, DC-5	400	35	70	140	200	250	400	500	4	4	230/220 AC ³⁾	3TC7814-1CN	1	1	1 unit	41B

Permissible load for DC-1 utilization category, see detailed technical specifications in the Reference Manual.

Other rated control supply voltages according to page 4/79 on request.

Spare parts, see page 4/81.

²⁾ The fitting of auxiliary switches cannot be altered on DC-operated contactors.

 $^{^{3)}}$ Upper operating range limit at 230 V AC: 1.14 x $U_{\rm S}.$

Contactors for special applications

3TC contactors for switching DC voltage, 1- and 2-pole

Options

Rated control supply voltages, possible on request (change of the 10th and 11th digits of the article number)

Delivery time on request

Rated control supply voltage U_s	Contactor type	3TC44	3TC48	3TC52/3TC56	3TC74/3TC78
DC operation					
24 V DC		B4	B4	B4	В
48 V DC		W4	W4		
60 V DC		E4	E4		
110 V DC		F4	F4	F4	F
125 V DC 220 V DC		G4 M4	G4 M4	 M4	 M
230 V DC		P4	P4		
AC operation					
Solenoid coils for 50 Hz					
24 V AC		B0	В0		
110 V AC		F0	F0	FO	
230/220 V AC		P0 ¹⁾	P0 ¹⁾	P0 ¹⁾	$M^{2)}$
240 V AC		U0	U0		
Solenoid coils for 50/60 Hz					
24 V AC		C2			
110 V AC		G2			
120 V AC		K2			
220 V AC		N2			
230 V AC		L2			

 $^{^{1)}}$ Operating range at 220 V AC: 0.85 to 1.15 \times $U_{\rm S}$; lower operating range limit according to IEC 60947.

Accessories

Accessories												
	For conta	ctor	Version Auxiliary		Auxiliary s	witches Right		Screw terminals		PU (UNIT,	PS*	PG
			contacts		Loit	riigiit				SET, M)		
			,	†				Article No.	Price per PU			
	Size	Туре	NO N	1C								
Second auxil	iary swite	ches (for	AC oper	ation	only)							
	4	3TC48	2nd auxil	iary sw	vitch, left			3TY6501-1K		1	1 unit	41B
			1 1		53 61 							
			2nd auxil	iary sv	vitch, right			3TY6501-1L		1	1 unit	41B
			1 1			71 83 2 1 72 84						
	8 and 12	3TC52,	2nd auxil	iary sw	vitch, left			3TY6561-1K		1	1 unit	41B
		3TC56	1 1		53 61 54 62							
			2nd auxil	iary sv	vitch, right			3TY6561-1L		1	1 unit	41B
			1 1			71 83 2 184						
Solid-state-co	ompatible	e auxilia	-									
			solid-stat	e circu	uits with rate	ospheres and in ed operational currer	nts					

3TY7561-1UA00

2 and 4 3TC44, 3TC48 solid-state circuits with rated operational curren $I_{\rm e/}$ AC-14 and DC-13 of 1 ... 300 mA at 3 ... 60 V 2nd auxiliary switch, left or right (replacement for 3TY6561-1U, 3TY6561-1V) 1 CO contact |51 |61

3TY7561-1UA00

1 unit 41B

 $^{^{2)}}$ Upper operating range limit at 230 V AC: 1.14 x $U_{\rm S}.$

Switching devices – Contactors and contactor assemblies – Special applications Contactors for special applications

3TC contactors for switching DC voltage, 1- and 2-pole

	For contact	tor	Version	Rated cont voltage $U_{\rm S}$	rol supply	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	Size	Туре		V AC	V DC					
Surge suppressors	s · Varistoi 2		Varistors ²⁾ With line spacer, for mounting on the coil terminal		24 70 70 150 150 250	3TX7402-3G 3TX7402-3H 3TX7402-3J 3TX7402-3K 3TX7402-3L		1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41B 41B 41B 41B 41B
3TX7402-3.	4	3TC48	Varistors ²⁾ For sticking onto the contactor base or for mounting separately	24 48 48 127 127 240 240 400 400 600	24 70 70 150 150 250 	3TX7462-3G 3TX7462-3H 3TX7462-3J 3TX7462-3K 3TX7462-3L		1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41B 41B 41B 41B 41B
	8 and 12	3TC52, 3TC56	Varistors For sticking onto the contactor base or for mounting separately	24 48 48 127 127 240 240 400 400 600	 	3TX7462-3G 3TX7462-3H 3TX7462-3J 3TX7462-3K 3TX7462-3L		1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41B 41B 41B 41B 41B
3TX7462-3.	8 and 12	3TC52, 3TC56	Varistors ²⁾ For separate screw fixing or snapping onto TH 35 DIN rail		24 70 70 150 150 250	3TX7522-3G 3TX7522-3H 3TX7522-3J		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
3TX7522-3.										
Surge suppressors				24 49						
	4	3TC48	RC elements For lateral	24 48 	 24 70	3TX7462-3R 3TX7522-3R		1 1	1 unit 1 unit	41B 41B
			snapping onto auxiliary switch or	48 127 	 70 150	3TX7462-3S 3TX7522-3S		1	1 unit	41B
FINE-W			TH 35 DIN rail		70 150	31A/322-33		i	1 unit	41B
Eda.			TH 35 DIN rail	127 240 	 150 250	3TX7462-3T 3TX7522-3T				41B 41B 41B
			TH 35 DIN rail	127 240 240 400 400 600	 150 250 	3TX7462-3T		1	1 unit 1 unit	41B
3TX7462-3., 3TX7522-3.	8 and 12	3TC52, 3TC56	RC elements For lateral snapping onto auxiliary switch or TH 35 DIN rail	 240 400	 150 250 	3TX7462-3T 3TX7522-3T 3TX7462-3U		1 1 1	1 unit 1 unit 1 unit 1 unit	41B 41B 41B
			RC elements For lateral snapping onto auxiliary switch or	240 400 400 600 24 48 48 127 127 240 240 400	 150 250 	3TX7462-3T 3TX7522-3T 3TX7462-3U 3TX7462-3V 3TX7522-3R 3TX7522-3S 3TX7522-3T 3TX7522-3U		1 1 1 1 1 1 1 1	1 unit	41B 41B 41B 41B 41B 41B 41B 41B
3TX7522-3.			RC elements For lateral snapping onto auxiliary switch or	240 400 400 600 24 48 48 127 127 240 240 400	 150 250 	3TX7462-3T 3TX7522-3T 3TX7462-3U 3TX7462-3V 3TX7522-3R 3TX7522-3S 3TX7522-3T 3TX7522-3U		1 1 1 1 1 1 1 1	1 unit	41B 41B 41B 41B 41B 41B 41B 41B
Surge suppressors	s · Diodes 4 to 12	3TC48, 3TC52, 3TC56	RC elements For lateral snapping onto auxiliary switch or TH 35 DIN rail Diode assembly ³⁾ (Diode and Zener diode) for DC solenoid system, for sticking onto the contactor base or for mounting separately	 240 400 400 600 24 48 48 127 127 240 240 400 400 600	 150 250 24 250	3TX7462-3T 3TX7522-3T 3TX7462-3U 3TX7522-3R 3TX7522-3S 3TX7522-3T 3TX7522-3U 3TX7522-3U 3TX7462-3D	ternating vo	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 unit	41B 41B 41B 41B 41B 41B 41B 41B 41B

	For contact	ctor	Version		Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	Size	Type							
Terminal covers									
1	2	3TC44	For protection against inadvertent contact with exposed busbar connections (1 set = 2 units)		3TY2444-0B		1	1 unit	41B
	6	3TC48	For protection against inadvertent	M6	3TX6506-3B		1	1 unit	41B
	8 and 12	3TC52, 3TC56	contact with exposed busbar connections	M10	3TX6546-3B		1	1 unit	41B
3TX6546-3B		Can be screwed on free screw end; covers one busbar connection (1 set = 6 units)							

Switching devices – Contactors and contactor assemblies – Special applications Contactors for special applications

3TC contactors for switching DC voltage, 1- and 2-pole

Spare parts	3											
	For contact	ctor	Version		liary	Auxiliary swite		Screw terminals		PU (UNIT,	PS*	PG
				con	acts	Left	Right	Article No.	Price	SET, M)		
				Ÿ	7				per PU			
A 11'	Size	Туре		NO	NC							
Auxiliary s	witches For latei	ral mou	ntina									
	2 and 4	3TC44,	Auxiliary switch (replacement for 3TY6501-1A, 3TY6501-1B)	1	1	13 21 	31 43 2 44	3TY6501-1AA00		1	1 unit	41B
	8 and 12	3TC52, 3TC56	Auxiliary switch, left	1	1	13 21		3TY6561-1A		1	1 unit	41B
3TY6561-1A			Auxiliary switch, right	1	1	14 22 	31 43 2 44	3TY6561-1B		1	1 unit	41B
	12	3TC74	Auxiliary switch	4	4	13 21 31 43 	53 61 71 83 	3TY2741-2J		1	1 unit	41B
	12	3TC78	Auxiliary switch, left	2	2	\- 		3TY2781-2C		1	1 unit	41B
			Auxiliary switch, right	2	2	14 22 32 44 	53 61 71 83 	3TY2781-2D		1	1 unit	41B
	For contact		Version			Rated control voltage U_s	supply	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Surge supp	Size	Type Varisto	ors			V AC/DC		_				
- m g m p	12	3TC7	For sticking onto contactor base	the		24 110		3TX2746-2F 3TX2746-2G		1 1	1 unit 1 unit	41B 41B
	For contact		Version					Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Solenoid c		Туре										
	DC oper											
	2 4 8 12	3TC44 3TC48 3TC52 3TC56						3TY6443-0B 3TY6483-0B 3TY6523-0B 3TY6563-0B				
	AC oper											
	2 4 8 12	3TC44 3TC48 3TC52 3TC56						3TY7403-0A 3TY6483-0A 3TY6523-0A 3TY6566-0A				
Contacts w												
			reliable operation e contacts should			actors,						
3TY2520-0A	2 4 8 12	3TC44 3TC48 3TC52 3TC56	(1 set = 2 movin	g and	d 4 fixe	ed contacts)		3TY2440-0A 3TY2480-0A 3TY2520-0A 3TY2560-0A		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41B 41B 41B 41B
	12	3TC7	Main contacts (For 3TC78: 2 un		quired	per contactor		3TY2740-0E		1	1 unit	41B
Arc chutes			3. 2. 3. 3. 2 di	,,,,,,,	, = 00							
	2 4 8 12	3TC44 3TC48 3TC52 3TC56	Arc chutes, 2-po	ole				3TY2442-0A 3TY2482-0A 3TY2522-0A 3TY2562-0A		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41B 41B 41B 41B
3TY2482-0A	12	3TC7	For 3TC78: 2 un	its red	quired	per contactor		3TY2742-0C		1	1 unit	41B

¹⁾ Rated control supply voltages, see page 4/79. The 10th and 11th digits of the article number must be supplemented accordingly.

Notes

Switching devices – Contactors and contactor assemblies – Contactor relays and relays





	Price groups
	PG 41A, 41B, 41H, 41L
5/2	Introduction
	Contactor relays
5/5	SIRIUS 3RH2 contactor relays, 4- and 8-pole
5/14	3TH4 contactor relays, 8- and 10-pole
5/20	- Accessories for 3TH4 contactor relays Contactors for railway applications
4/63	- SIRIUS 3RH2 contactor relays with extended operating range
4/66	- 3TH4 contactor relays, 8-pole
	Coupling relays
5/21	SIRIUS 3RQ1 force-guided coupling relays, fail-safe up to SIL 3/PL e
5/29	SIRIUS 3RQ2 coupling relays with industrial enclosure
5/33	SIRIUS 3RQ3 coupling relays, narrow design
5/42	LZS coupling relays with plug-in relays
3/139	3TG10 power relays/miniature contactors
10/140	SIRIUS 3RS70 signal converters

Switching devices - Contactors and contactor assemblies - Contactor relays and relays

Introduction

Overview

More information

Homepage, see www.siemens.com/sirius

Conversion tool, see www.siemens.com/conversion-tool

SiePortal, see www.siemens.com/product?3RH_3TH

The advantages at a glance









 Size
 \$00
 \$00
 - - -

 Type
 3RH21
 3RH22
 3TH42
 3TH43

		Article No.	Page
SIRIUS 3RH2 contactor relay	s		
4-pole	Screw or spring-loaded terminals	3RH21	5/10, 5/11
8-pole		3RH22	5/10, 5/11
4-pole, latched		3RH24	5/10, 5/11
Coupling contactor relays	Coils for control by the PLC	3RH21	5/12, 5/13
Contactor relays for railway applications	Coils with extended voltage range	3RH21	4/65
3TH4 contactor relays			
8-pole	Screw terminals	3TH42	5/17
10-pole		3TH43	5/18
Contactor relays for railway applications	Coils with extended voltage range	3TH42	4/67
Accessories for SIRIUS 3RH2	2 contactor relays		
Auxiliary switches	On the front	3RH2911, 3RA2813 3RA2815	from 3/83 onwards, 3/100
	Lateral	3RH2921	3/95
Function modules (direct-on-line starting, star-delta (wye-delta) starting)	On the front	3RA2811, 3RA2812, 3RA2816, 3RA2831, 3RA2832	3/105
Surge suppressors	On the front	3RT2916	3/102, 3/103
Additional load modules	On the front	3RT2916	3/120

Note:

Safety characteristics for contactors, see "Standards and approvals", page 16/9.

Switching devices – Contactors and contactor assemblies – Contactor relays and relays

Introduction

More information

Homepage, see www.siemens.com/sirius-coupling-relays SiePortal, see www.siemens.com/product?3RQ_3RS_LZ

TIA Selection Tool Cloud (TST Cloud), see www.siemens.com/tstcloud/?node=SIRIUSRelais

Conversion tool, see www.siemens.com/conversion-tool



Video: Overview of SIRIUS coupling relays

The advantages at a glance









1)50	Type	3RQ1	3RQ2	3RQ3	LZS/LZX
------	------	------	------	------	---------

		Article No.	Page
SIRIUS 3RQ1 force-guided of	oupling relays, fail-safe up to SIL 3/PL e		
Coupling relays with force-guided contacts	Widths 17.5 and 22.5 mm Safety certification according to functional safety SIL 3/PL e Can be used as output extension for SIRIUS 3SK safety relays via device connectors	3RQ1	5/26
SIRIUS 3RQ2 coupling relay	s with industrial enclosure		
Coupling relays with relay outpu	 1, 2 or 3 changeover contacts with wide voltage range Also available with hard gold-plated contacts 	3RQ2	5/31
SIRIUS 3RQ3 coupling relay	s, narrow design		
Coupling relays with relay outpu (not plug-in)	 Width 6.2 mm, 1 CO, versions with hard gold-plated contacts optionally available Output coupling links Input coupling links 	3RQ301 3RQ303	5/39 5/39
Coupling relays with plug-in relays	Width 6.2 mm, 1 CO, versions with hard gold-plated contacts optionally available Output coupling links	3RQ311	5/39
Coupling relays with semiconductor output (not plug-in)	Width 6.2 mm, output 1 semiconductor, triac or transistor Output coupling links Input coupling links	3RQ305, 3RQ306 3RQ307	5/40 5/40
LZS coupling relays with plu	ug-in relays		
Coupling relays with plug-in relays with 2, 3 and 4 changeove contacts	Switching capacity 12 A/10 A/6 A Width 27 mm Base with or without logical separation	LZS:PT, LZX:PT	5/45 5/47
Coupling relays with plug-in relays with 1 or 2 changeover contacts	Switching capacity 16 A/8 A Width 15.5 mm Base with or without logical separation	LZS:RT, LZX:RT	5/48, 5/49

Switching devices – Contactors and contactor assemblies – Contactor relays and relays

Introduction

Connection methods

The contactor relays and the relays are available with screw terminals (box terminals) or with spring-loaded terminals.

The 3RQ coupling relays are supplied with screw terminals or spring-loaded (push-in) terminals. The plug-in sockets for LZS/LZX coupling relays are also available with plug-in (push-in) terminals.



Screw terminals



Spring-loaded terminals, spring-loaded terminals (push-in)



Flat connectors



Plug-in terminals (push-in)

The terminals are indicated in the corresponding tables by the symbols shown on orange backgrounds.

3RQ coupling relays: Spring-loaded terminals (push-in) with TOP wiring

Push-in terminals are a form of spring-loaded terminals allowing fast wiring without tools for rigid conductors or conductors equipped with end sleeves.

As with other spring-loaded terminals, a screwdriver (with 3.0×0.5 mm blade) is required to disconnect the conductor. The same tool can also be used to wire finely-stranded or stranded conductors with no end sleeve.

The advantages of the push-in terminals are found, as with all spring-loaded terminals, in speed of assembly and disassembly and vibration-proof connection. There is no need for the checking and tightening required with screw terminals.

With the TOP wiring method, the wire inlet and terminals can be reached from the front. This helps to speed up the wiring process and eliminate wiring errors.



Video: SIRIUS spring-loaded terminals - Strong, flexible, safe, fast

Ordering notes for multi-unit packaging

On request, 3RQ1 and 3RQ2 coupling relays can also be ordered in practical and environmentally friendly multi-unit packaging.

Multi-unit packaging with order code X90

When ordering products in <u>multi-unit packaging</u>, the article number of the product concerned must be supplemented with "-Z" and, in addition, the order code "X90" must be specified.

Ordering examples:

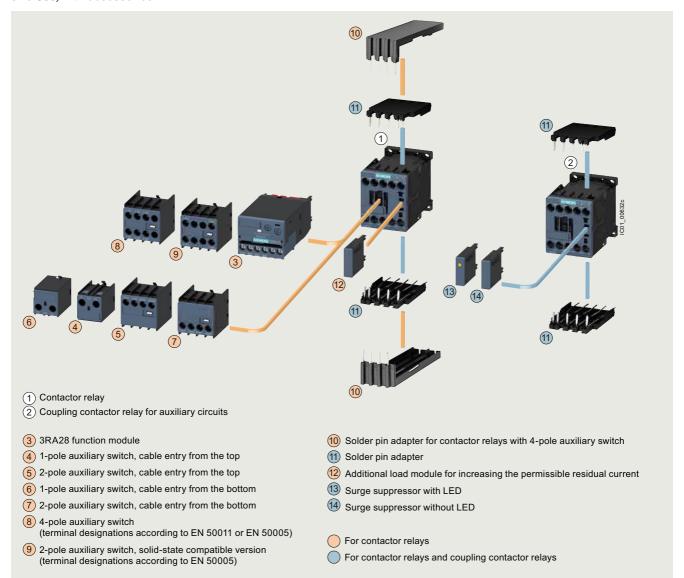
- 3RQ10 coupling relays with a width of 17.5 mm 3RQ1000-1EB00-Z X90;
 Order quantity 16 units → Delivered in one package containing 16 units
- 3RQ20 coupling relays with a width of 22.5 mm 3RQ2000-1AW00-Z X90;
 Order quantity 12 units → Delivered in one package containing 12 units

For more information, see page 16/7.

SIRIUS 3RH2 contactor relays, 4- and 8-pole

Overview

Contactor relays, size S00, with accessories



SIRIUS 3RH2 contactor relays, 4- and 8-pole

Standards

IEC 60947-1, IEC 60947-4-1, IEC 60947-5-1

The 3RH2 contactor relays are available with screw or springloaded terminals. The basic unit contains four contacts with terminal designations according to EN 50011.

The 3RH21 coupling contactor relays for switching auxiliary circuits are tailored to the special requirements of working with electronic controls.

Contact reliability of auxiliary contacts

High contact reliability at low voltages and currents, suitable for solid-state circuits with currents \geq 1 mA at a voltage of \geq 17 V.

Protection of the device connections against overvoltage

Protection against overvoltage at the control supply voltage connection

RC elements, varistors, diodes or diode assemblies (combination of a diode and a Zener diode) can be plugged onto all 3RH2 contactor relays from the front for damping switching overvoltages in the coil. The plug-in direction is determined by a coding device.

Coupling contactor relays have a low power consumption and an extended solenoid coil operating range.

Depending on the version, the solenoid coils of the coupling contactor relays are supplied either without overvoltage damping (versions 3RH21..-.HB40 or 3RH21..-.MB40-0KT0) or with a diode or suppressor diode connected as standard.

Note

The break times of the contactor, the opening delay times of the NO contacts and the closing delay times of the NC contacts increase with damping.

For more information on how damping influences the time response, see the Equipment Manual.

Accessories

The accessories for the 3RT2 contactors in size S00 can also be used for the 3RH2 contactor relays (see page 3/71 onwards).

Mounting of additional auxiliary switches

Expansion possibilities

All 3RH21 contactor relays (except for coupling contactor relays) can be expanded using auxiliary switches; the permissible configuration must be observed.

For detailed information about fitting of auxiliary switches, see pages 3/83 to 3/90.

The auxiliary switch can easily be snapped onto the front of the contactor relays. The auxiliary switch has a centrally positioned release lever for disassembly.

The conventional front auxiliary contacts fulfill the characteristics of force-guided operation and are therefore suitable for safety applications.

Contactor relays in safety-related applications

Contactor relays are a significant part of safety-related applications. They are generally the actuators that perform the switching operation leading to the safe disconnection of the corresponding application or system.

Contactor relays with force-guided operation according to IEC 60947-5-1 are generally required for use in safety-related applications. Most of our contactors meet this requirement; a corresponding note can be found in the technical product data sheet.

Contactor relays with increased tamper protection

Increased tamper protection is ensured either by using our contactor relay versions with permanently mounted auxiliary switches installed in the factory (e.g. 3RH22 contactor relays), or by using the 3RT2916-4MA10 sealable cover as an accessory (see page 3/118).

Article number scheme

Product versions		Article number
SIRIUS contactor relays		3RH2 0 - 0
Device type	e.g. 1 = 4-pole contactor relay	
Number of NO contacts	e.g. 2 = 2 NO	
Number of NC contacts	e.g. 2 = 2 NC	
Type of electrical connection	Screw terminals	1
	Spring-loaded terminals	2
Operating range/solenoid coil circuit	e.g. A = AC standard/without coil circuit	
Rated control supply voltage	e.g. P0 = 50/60 Hz 230 V AC	
Special version		
Example		3RH2 1 2 2 - 1 A P 0 0

Note:

The article number scheme shows an overview of product versions for better understanding of the logic behind the article numbers.

For your orders, please use the article numbers quoted in the selection and ordering data.

SIRIUS 3RH2 contactor relays, 4- and 8-pole

Technical specifications

More information

Technical specifications, see

https://support.industry.siemens.com/cs/ww/en/ps/16188/td

FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/16188/faq

S00

https://support.industry.siemens.com/cs/ww/en/ps/16188/man

Contactor relays Type 3RH2

Permissible mounting position

The contactor relays are designed for operation on a vertical mounting surface.



Upright mounting position



NSB0_00477a Special version required

(in the case of coupling contactor relays and contactor relays with extended operating range 3RH2122-2K. 40 on request)

Force-guided operation of contacts in contactor relays

3RH2:

Size

Yes, in the basic unit and the auxiliary switch as well as between the basic unit and the mounted auxiliary switch (removable) according to: ZH1/457

• IEC 60947-5-1, Annex L

3RH22:

Yes, in the basic unit and the auxiliary switch as well as between the basic unit and the mounted auxiliary switch (permanently mounted) according to:

- ZH1/457
- IEC 60947-5-1, Annex L

Note

3RH2911-.NF. solid-state-compatible auxiliary switches have no force-guided contacts

There is force-guided operation if it is ensured that the NC and NO contacts cannot be closed at the same time.

Safety Rules for Controls on Power-Operated Metalworking Presses.

IEC 60947-5-1, Annex L

Standard for low-voltage switchgear and controlgear; "Special requirements for force-guided contact elements"

Contact reliability

Contact reliability at 17 V, 1 mA according to IEC 60947-5-4

Frequency of contact faults <10⁻⁸, i.e. < 1 fault per 100 million operating cycles

Contact endurance for AC-15/AC-14 and DC-13 utilization categories

The contact endurance is mainly dependent on the breaking current. It is assumed that the operating mechanisms are switched arbitrarily and not synchronously with the phase angle of the supply system switching operating mechanism.

If magnetic circuits other than the contactor operating mechanisms or solenoid valves are present, e.g. magnetic brakes, protective measures for the load circuits are necessary, e.g. in the form of RC elements and freewheeling diodes.

The characteristic curves apply to

- 3RH21/3RH22 contactor relays¹⁾
- 3RH24 latched contactor relays
- 3RH2911 auxiliary switches¹⁾
 Auxiliary switches for snapping onto the front max. 4-pole and for mounting on the side in size S00

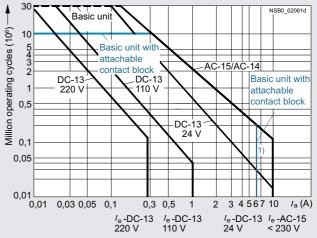


Diagram legend:

 I_a = Breaking current

 I_e = Rated operational current

¹⁾ 3RH22, 3RH2911: $I_{\rm e}$ = 6 A for AC-15/AC-14 and DC-13.

SIRIUS 3RH2 contactor relays, 4- and 8-pole

		Contactor relays		
Туре		3RH21	3RH22	3RH24
Size		S00		
General data				
Dimensions (W x H x D)				
Basic unit				
- Screw terminal	mm	45 x 58 x 73		90 x 58 x 73
- Spring-loaded terminal	mm	45 x 70 x 73		
Basic unit with mounted auxiliary switch				
- Screw terminal	mm	45 x 58 x 117		
- Spring-loaded terminal	mm	45 x 70 x 121		
Basic unit with mounted function module				
or solid-state time-delay auxiliary switch				
- Screw terminal	mm	45 x 58 x 147		
- Spring-loaded terminal	mm	45 x 70 x 147		
Mechanical endurance	_			
Basic units		30 million		5 million
	ing cycles			
Basic unit with mounted auxiliary switch	•	10 million		5 million
,	ing			
	cycles	5 ""		
Solid-state-compatible auxiliary switch	Operat- ing	5 million		
	cycles			
Rated insulation voltage U _i (pollution degree 3)	V	690		
Rated impulse withstand voltage U _{imp}	kV	6		
Protective separation between coil and contacts in the basic unit,	V	400		
according to IEC 60947-1, Annex N				
Permissible ambient temperature				
During operation	°C	-25 +60		
During storage	°C	-55 +80		
Short-circuit protection				
Short-circuit test				
- With fuse links of operational class gG:	Α	10		
DIAZED, type 5SB; NEOZED, type 5SE with short-circuit current I_k = 1 kA according to IEC 60947-5-1				
With miniature circuit breakers with C characteristic	Α	6		
with short-circuit current I_k = 400 A according to IEC 60947-5-1				
		Contactor relays		
Туре		3RH21	3RH22	3RH24
Size		S00		
Conductor cross-sections				
Auxiliary conductors and coil terminals		Screw terminals		
(1 or 2 conductors can be connected)	2		75 05/1) 0 4	
Solid or stranded	mm ²	2 x (0.5 1.5) ¹⁾ ; 2 x (0.		
Finely stranded with end sleeve	mm ²	2 x (0.5 1.5) ¹⁾ ; 2 x (0.7		
AWG cables, solid or stranded	AWG	2 x (20 16) ¹⁾ , 2 x (18 .		
Terminal screw		M3 (for Pozidriv size 2, s		
- Tightening torque	Nm	0.8 1.2 (7 10.3 lb.ir	,	
Auxiliary conductors and coil terminals ²⁾ (1 or 2 conductors can be connected)		Spring-loaded te	rminals	
Operating devices	mm	3.0 x 0.5; 3.5 x 0.5		
Solid or stranded	mm ²	2 x (0.5 4)		
Finely stranded with end sleeve	mm ²	2 x (0.5 4)		
Finely stranded without end sleeve	mm ²	2 x (0.5 2.5)		
AWG cables, solid or stranded	AWG	2 x (20 12)		
Auxiliary conductors for front and laterally mounted auxiliary switches ²		,		
Operating devices	mm	3.0 x 0.5; 3.5 x 0.5		
Solid or stranded	mm ²	2 x (0.5 2.5)		
Finely stranded with end sleeve	mm ²	2 x (0.5 1.5)		
Finely stranded without end sleeve	mm ²	2 x (0.5 2.5)		
AWG cables, solid or stranded	AWG	2 x (20 14)		
1) If two different conductor cross-sections are connected to one clamping point, both cross-sections must lie in one of the ranges specified.	1			

If two different conductor cross-sections are connected to one clamping point, both cross-sections must lie in one of the ranges specified.

point, both cross-sections must lie in one or the ranges specimes.
 Max. outer diameter of the conductor insulation: 3.6 mm.
 On spring-loaded terminals with conductor cross-sections ≤ 1 mm² an insulation stop is recommended, see page 3/121.

SIRIUS 3RH2 contactor relays, 4- and 8-pole

		Contactor relays 3RH2			
		\$00			
at 50 Hz at 60 Hz		$0.8 \dots 1.1 \times U_{\rm s}$ $0.85 \dots 1.1 \times \dot{U}_{\rm s}$			
at +50 °C at +60 °C		$0.8 1.1 \times U_{s}$ $0.85 1.1 \times U_{s}$			
VA/	/p.f.	37/0.8			
VA/	/p.f.	5.7/0.25			
VA/	/p.f.	33/0.75			
VA/	/p.f.	4.4/0.25			
W		4.0			
		$< 4 \text{ mA} \times (230 \text{ V/}U_{\text{S}})$			
		< 10 mA x (24 V/U _s)			
	at 60 Hz at +50 °C at +60 °C VA VA VA W	at 60 Hz at +50 °C at +60 °C VA/p.f. VA/p.f. VA/p.f. VA/p.f. VA/p.f.			

		Coupling contact	ctor relay	s			
Туре		3RH21	ID 40	14D 40	MD40 OVTO	VD 40	0040
Size		HB40 S00	JB40	KB40	MB40-0KT0	VB40	SB40
Control		300					
Solenoid coil operating range		0.7 1.25 x <i>U</i> _s			0.85 1.85 x <i>U</i> _s		
Power consumption of the solenoid coil (for cold coil and $1.0 \times U_s$) Closing power = holding power at $U_s = 24 \text{ V}$	W	2.8			1.6		
Permissible residual current of the electronics with 0 signal		<10 mA x (24 V/	J _s)		< 8 mA x (24 V/L	/ _s)	
Overvoltage configuration of the solenoid coil		No overvoltage damping	Inte- grated diode	Integrated suppressor diode	No overvoltage damping	Inte- grated diode	Integrated suppressor diode
		\$ \$		->K-	Į ^{, ()} , į	 	
		Contactor relays	3				
Type		3DH2					

		Contactor relays
Туре		3RH2
Size		S00
Rated data of the auxiliary contacts		
Load rating with AC		_
Rated operational currents I _e		
AC-12	Α	10
AC-15/AC-14 at rated operational voltage $U_{\rm e}$		
up to 230 V		10 ¹⁾
400 V		3
500 V	Α	2
690 V	Α	1

® and ® rated data	
Basic units and auxiliary switches	

Rated control supply voltage	VAC	max. 600
Rated voltage	V AC	600
Switching capacity		A 600, Q 600
 Uninterrupted current at 240 V AC 	Α	10

¹⁾ 3RH22, 3RH29: $I_{\rm e}$ = 6 A for AC-15/AC-14 and DC-13.

SIRIUS 3RH2 contactor relays, 4- and 8-pole

Selection and ordering data

AC operation ~

PU (UNIT, SET, M) = 1 PS* PG = 1 unit = 41A











3RH2122-1A..0

3RH2122-2A..0

3RH2244-1A..0

3RH2244-2A..0

3RH2422-1A..0

Rated operational current $I_{\rm e}/{\rm AC}$ -15/AC-14 at 230 V	Contacts Ident. No.	Version	ı	Rated control supply voltage $U_{\rm S}$ at 50/60 Hz 1)	Screw terminals	+	Spring-loaded terminals	
		\	7		Article No.	Price per PU	Article No.	Price per PU
A		NO	NC	V AC				
For screw fixing and	snap-on n	nountin	ıg on	TH 35 DIN rail				
Size S00								

. 0. 00.0	maning and onap	on mounting	on mod Bilt	C.III
Size S00				

512e 500						
10	40E	4		24 110 230	3RH2140-1AB00 3RH2140-1AF00 3RH2140-1AP00	3RH2140-2AB00 3RH2140-2AF00 3RH2140-2AP00
	31E	3	1	24 110 230	3RH2131-1AB00 3RH2131-1AF00 3RH2131-1AP00	3RH2131-2AB00 3RH2131-2AF00 3RH2131-2AP00
	22E	2	2	24 110 230	3RH2122-1AB00 3RH2122-1AF00 3RH2122-1AP00	3RH2122-2AB00 3RH2122-2AF00 3RH2122-2AP00
With permanently	mounted auxili	iary swi	tch			
6	44E	4	4	230	3RH2244-1AP00	3RH2244-2AP00
	62E	6	2	230	3RH2262-1AP00	3RH2262-2AP00
Latched						
No lateral auxiliary	switches can be	e mounte	ed			
10	40 E	4		24 110 230	3RH2440-1AB00 3RH2440-1AF00 3RH2440-1AP00	=
	31 E	3	1	24 110 230	3RH2431-1AB00 3RH2431-1AF00 3RH2431-1AP00	
	22 E	2	2	24 110 230	3RH2422-1AB00 3RH2422-1AF00 3RH2422-1AP00	

 $[\]begin{array}{l} \hbox{1) Coil operating range} \\ \hbox{- at 50 Hz: 0.8 to 1.1 x $U_{\rm S}$,} \\ \hbox{- at 60 Hz: 0.85 to 1.1 x $U_{\rm S}$.} \end{array}$

Other voltages according to page 3/69 on request.

SIRIUS 3RH2 contactor relays, 4- and 8-pole

DC operation

PU (UNIT, SET, M) = 1 PS* PG = 1 unit = 41A











3RH2122-1B0

Rated operational current $I_{\rm e}/{\rm AC}$ -15/AC-14 at **230 V**

3RH2122	-2B0		3RH2244-1B0
Contacts Ident. No.	Version		Rated control supply voltage Us
	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	<i>†</i>	

NC

V DC

NO

Screw terminals Price per PU Article No.

Spring-loaded terminals Article No. Price per PU

For screw fixing and	d snap-on mounting	on TH 35 DIN rail
----------------------	--------------------	-------------------

	ng and snap-on	mount	ing on	TH 35 DIN rail		
Size S00						
10	40E	4		24 220	3RH2140-1BB40 3RH2140-1BM40	3RH2140-2BB40 3RH2140-2BM40
	31E	3	1	24 220	3RH2131-1BB40 3RH2131-1BM40	3RH2131-2BB40 3RH2131-2BM40
	22E	2	2	24 220	3RH2122-1BB40 3RH2122-1BM40	3RH2122-2BB40 3RH2122-2BM40
With integrated	coil circuit (diode i	integrat	ed at fa	ictory)		
10	40E	4		24	3RH2140-1FB40	3RH2140-2FB40
	31E	3	1	24	3RH2131-1FB40	3RH2131-2FB40
	22E	2	2	24	3RH2122-1FB40	3RH2122-2FB40
With permanentl	ly mounted auxilia	ry switc	h			
6	44E	4	4	24	3RH2244-1BB40	3RH2244-2BB40
	62E	6	2	24	3RH2262-1BB40	3RH2262-2BB40
Latched						
No lateral auxiliar	y switches can be r	mounted				
10	40E	4		24 110 220	3RH2440-1BB40 3RH2440-1BF40 3RH2440-1BM40	
	31E	3	1	24 110 220	3RH2431-1BB40 3RH2431-1BF40 3RH2431-1BM40	
	22E	2	2	24 110 220	3RH2422-1BB40 3RH2422-1BF40 3RH2422-1BM40	

Other voltages according to page 3/69 on request.

SIRIUS 3RH2 contactor relays, 4- and 8-pole

DC operation for direct control by PLC

- Coupling contactor relays with adapted power consumption
- Suitable for solid-state PLC outputs
- Cannot be expanded with auxiliary switches

PU (UNIT, SET, M) = 1 PS* = 1 unit = 41A





3RH21..-1.B40

3RH21..-2.B40

Rated operational current $I_{\rm e}/{\rm AC}$ -15/ AC-14 at 230 V	Auxiliary contacts Ident. No. according to EN 50011		Rated control supply voltage $U_{\rm S}$	Screw terminals	+	Spring-loaded terminals	
A		NO NO	V DC	Article No.	Price per PU	Article No.	Price per PU
For screw fixing and s	nap-on mo	ounting o	n TH 35 DIN rail				

Size S00

Cannot be expanded with auxiliary switches

Operating range 0.7 to 1.25 x Us,

power consumption of the solenoid coils 2.8 W at 24 V

10 40E 4 24 24 31E 3 22E

Operating range 0.85 to 1.85 x U_s ,

power consumption of the solenoid coils 1.6 W at 24 V

40E 10 4 24 24 3 31E 22E

3RH2140-1HB40 3RH2131-1HB40 3RH2122-1HB40

3RH2140-1MB40-0KT0 3RH2131-1MB40-0KT0 3RH2122-1MB40-0KT0

3RH2140-2HB40 3RH2131-2HB40 3RH2122-2HB40

3RH2140-2MB40-0KT0 3RH2131-2MB40-0KT0 3RH2122-2MB40-0KT0

Other voltages according to page 3/69 on request.

SIRIUS 3RH2 contactor relays, 4- and 8-pole

DC operation for direct control by PLC

- Coupling contactor relays with adapted power consumption
- Suitable for solid-state PLC outputs
- Cannot be expanded with auxiliary switches

PU (UNIT, SET, M) = 1 PS* PG = 1 unit = 41A





3RH21..-1.B40

3RH21..-2.B40

Rated operational current $I_e/AC-15/AC-14$ at 230 V	Auxiliary contailed Ident. No. Ve according to EN 50011		Rated control supply voltage $U_{\rm S}$	Screw terminals	4	Spring-loaded terminals	••
Α	NO.	0 NC	V DC	Article No.	Price per PU	Article No.	Price per PU

For screw fixing and snap-on mounting on TH 35 DIN rail

Size S00						
With integrated coil ci	rcuit (diode i	ntegrate	ed at fa	ctory)		
Cannot be expanded w	ith auxiliary s	witches				
Operating range 0.7 to Power consumption of t		oils 2.8 '	W at 24	V		
10	40E 31E 22E	4 3 2	1 2	24 24 24	3RH2140-1JB40 3RH2131-1JB40 3RH2122-1JB40	3RH2140-2JB40 3RH2131-2JB40 3RH2122-2JB40
Operating range 0.85 to Power consumption of t		oils 1.6 '	W at 24	V		
10	40E 31E 22E	4 3 2	1 2	24 24 24	3RH2140-1VB40 3RH2131-1VB40 3RH2122-1VB40	3RH2140-2VB40 3RH2131-2VB40 3RH2122-2VB40
With integrated coil ci	rcuit (suppre	ssor did	ode inte	grated at	ory)	
Cannot be expanded w	ith auxiliary s	witches				
Operating range 0.7 to Power consumption of t		oils 2.8 '	W at 24	V		
10	40E 31E 22E	4 3 2	 1 2	24 24 24	3RH2140-1KB40 3RH2131-1KB40 3RH2122-1KB40	3RH2140-2KB40 3RH2131-2KB40 3RH2122-2KB40

Operating range **0.85 to 1.85 x U_{\rm s}** Power consumption of the solenoid coils **1.6 W** at 24 V 40E

10 24 24 31E 3 22E

3RH2140-1SB40 3RH2140-2SB40 3RH2131-1SB40 3RH2131-2SB40 3RH2122-1SB40 3RH2122-2SB40

Other voltages according to page 3/69 on request.

3TH4 contactor relays, 8- and 10-pole

Overview

Standards

IEC 60947-1, IEC 60947-5-1

Note:

The 3TH42 and 3TH43 contactor relays feature force-guided operation according to IEC 60947-5-1, Ed. 3.1.

Terminal designations according to EN 50011

In terms of their terminal designations, identification numbers and identification letters, the 3TH42 and 3TH43 contactor relays conform to the standard EN 50011 for "Particular Contactor Relays".

Contact reliability of auxiliary contacts

High contact reliability at low voltages and currents as a result of double-break contacts, suitable for solid-state circuits with currents \geq 1 mA at a voltage of \geq 17 V.

Protection of the device connections against overvoltage

Protection against overvoltage at the control supply voltage connection

The 3TH42 and 3TH43 contactor relays can be equipped with RC elements, varistors, diodes or diode assemblies (combination of a diode and a Zener diode) for damping switching overvoltages. The surge suppressors can be mounted directly on the coil, see page 5/20.

Note:

The break times of the contactor, the opening delay times of the NO contacts and the closing delay times of the NC contacts increase with damping.

For more information on how damping influences the time response, see the Equipment Manual.

Mounting

Note:

With 3TH4 contactor relays with AC operation, an overvoltage of 1.1 x $U_{\rm s}$, an ambient temperature \geq 45 °C and 100% ON period of all contactors, a minimum clearance of 5 mm between the contactors shall be observed in the case of side-by-side mounting.

Technical specifications

More information

Technical specifications, see

https://support.industry.siemens.com/cs/ww/en/ps/16176/td

FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/16176/faq

Manuals, see

3TH42, 3TH43

Diagram legend:

 I_a = Breaking current I_a = Rated operational current

https://support.industry.siemens.com/cs/ww/en/ps/16176/man

Contactor relays

Contact endurance for AC-15/AC-14 and DC-13 utilization categories

The contact endurance is mainly dependent on the breaking current. It is assumed that the operating mechanisms are switched arbitrarily and not synchronously with the phase angle of the supply system switching operating mechanism.

If magnetic circuits other than the contactor operating mechanisms or solenoid valves are present, e.g. magnetic brakes, protective measures for the load circuits are necessary.

RC elements or freewheeling diodes are suitable as protective measures for the circuits.

30 NSB0_01391b ion operating cycles (10⁶) 10 AC-15/AC-14 110 V 4 3 2 DC-13 220 V DC-13 **≣** 0,5 0,1 0.01 0,03 0,05 0,1 0,3/0,52 3 4 5 $7/10 I_a(A)$ *I*_e-DC-13 *I*_e-DC-13 220 V 110 V I_o-DĆ-13

I_e-AC-15/AC-14

5/14

3TH4 contactor relays, 8- and 10-pole

Contactor relays		Туре	3TH42	3TH43
General data				
Dimensions (W x H x D)				
AC operation	園 園	mm	45 x 78 x 97	55 x 78 x 97
• DC operation	7 1人	mm	45 x 78 x 130	55 x 78 x 130
<u> </u>	W \			
Downie dele manuali a manuali a				
Permissible mounting position				
The contactor relays are designed for operation on a vertical mounting surface.				
AC operation			360° 22,5° 22,5° 🙎	
			22,5 22,5 84	
			<u></u>	
			1-1-1-1	
• DC operation			+ "	
DC operation			22,5°,22,5°	
			<u> </u>	
Upright mounting position				
AC and DC operation				
			-thinks	
			NSB0_00477a Special version require	ed
Mechanical endurance Ba	sic units	Operat- ing	30 million	
		cycles		
Rated insulation voltage <i>U</i> _i		V	690	
(pollution degree 3)				
Rated impulse withstand voltage $U_{\rm imp}$		kV	8	
Protective separation between the coil and the main conta according to IEC 60947-1, Annex N	cts	V	Up to 500	
Permissible ambient temperature				
During operation		°C	-25 +55	
During storage		°C	-55 +80	
Short-circuit protection			100	
Short-circuit test				
With fuse links of operational class gG				
With short-circuit current $I_k = 1$ kA according to IEC 60947	'-5-1			
- LV HRC, type 3NA		Α	16	
 DIAZED, type 5SB NEOZED, type 5SE, quick 		A A	16 20	
With miniature circuit breakers		^	20	
With short-circuit current $I_k = 400 \text{ A}$ according to IEC 6094	17-5-1			
- C characteristic		Α	16	
- B characteristic		Α	16	
® and ® rated data				
Basic units				
Rated control supply voltage <i>U</i> _s			Max. 600 V AC, 230 V DC (accord	ding to UL 240 V DC)
Rated voltage			600 V AC, 600 V DC	
Switching capacity			A 600, P 600	
Conductor cross-sections				
Auxiliary conductors and coil terminals (1 or 2 conductors can be connected)			Screw terminals	
Solid or stranded		mm ²	2 x (0.5 1) ¹⁾ ; 2 x (1 2.5) ¹⁾ ; 1 x	× 4
 Finely stranded with end sleeve 		mm ²	2 x (0.75 2.5)	
Terminal screw			M3.5	

¹⁾ If two different conductor cross-sections are connected to one clamping point, both cross-sections must lie in one of the ranges specified.

3TH4 contactor relays, 8- and 10-pole

Contactor relays	Type	3TH42, 3TH43
Control		
Solenoid coil operating range		
AC operation		$0.8 \dots 1.1 \times U_s^{1}$
DC operation (except 24 V) At 24 V DC		0.8 1.1 x U _s 0.8 1.2 x U _s
Power consumption of the solenoid coil (for cold coil ar	nd 1.0 x <i>U</i> _s)	
 AC operation, 50 Hz, standard version Closing power Holding power 	VA/p.f. VA/p.f.	68/0.82 10/0.29
 AC operation, 50/60 Hz, standard version Closing power, 50 Hz Holding power, 50 Hz Closing power, 60 Hz Holding power, 60 Hz 	VA/p.f. VA/p.f. VA/p.f. VA/p.f.	77/0.81 11/0.28 71/0.75 9/0.27
 AC operation, 50 Hz, USA/Canada Closing power Holding power 	VA/p.f. VA/p.f.	68/0.82 10/0.29
 AC operation, 60 Hz, USA/Canada Closing power Holding power 	VA/p.f. VA/p.f.	75/0.76 9.4/0.29 0.3
 AC operation, 50 Hz, Japan Closing power Holding power 	VA/p.f. VA/p.f.	80/0.8 10.7/0.29
 AC operation, 60 Hz, Japan Closing power Holding power 	VA/p.f. VA/p.f.	75 90/0.73 8.5 10.7/0.29 0.3
DC operation up to 250 V Closing power = holding power	W	6.2
Permissible residual current of the electronics (with 0 s	signal)	
For AC operationFor DC operation		\leq 8 mA x (220 V/ U_8) \leq 1.25 mA x (220 V/ U_8)
Rated data of the auxiliary contacts		
Load rating with AC		
Rated operational currents I _e		
• AC-12	А	16
• AC-15/AC-14, at rated operational voltage $U_{\rm e}$	230 V A 400 V A 500 V A 690 V A	10 6 4 2
Rated power of three-phase motors according to utilization categories AC-3 and AC-3e, 50 Hz	230/220 V kW 400/380 V kW 500 V kW 690/660 V kW	2.4 4 4 4

 $^{^{1)}}$ Coils for USA, Canada and Japan: 0.85 to 1.1 x $\ensuremath{\textit{U}_{\text{S}}}$ at 60 Hz.

3TH4 contactor relays, 8- and 10-pole

Selection and ordering data

8-pole contactor relays

AC operation or DC operation





											31114200-0A1 0		01114244	-0004	
Contacts		operation 15/AC-14		nt	Contacts						Screw terminals	#	PU (UNIT, SET, M)	PS*	PG
	230/ 220 V	400/ 380 V	500 V	690/ 660 V	Ident. No. according to EN 50011	ording to									
						\ \	7	1	7		Article No.	Price per PU			
Number	Α	Α	Α	Α		NO	NC	NO	NC						
For screw	For screw fiving and span-on mounting on TH 35 DIN rail														

i or coron maning an	ia chap on mounting of	· · · · · · · · · · · · · · · · · · ·
AC operation rate	d control supply voltage	II. = 50 Hz 230/220 V A

AC oper	ration, ra	ited co	ntrol s	supply v	oltage U _s =	50 Hz 23	0/220	VAC	,1)				
8	10	6	4	2	80E 71E 62E 53E	8 7 6 5	1 2 3	 	 	3TH4280-0AP0 3TH4271-0AP0 3TH4262-0AP0 3TH4253-0AP0	1 1 1 1	1 unit 1 unit 1 unit 1 unit	41A 41A 41A 41A
DC oper	ration, ra	nted co	ontrol s	supply v	44E 44E, U roltage U _s =	4 3 24 V DC	4 3	1	1	3TH4244-0AP0 3TH4293-0AP0	1 1	1 unit 1 unit	41A 41A
8	10	6	4	2	80E 71E 62E 53E 44E 44E, U	8 7 6 5 4 3	1 2 3 4 3	 1	 1	3TH4280-0BB4 3TH4271-0BB4 3TH4262-0BB4 3TH4253-0BB4 3TH4244-0BB4 3TH4293-0BB4	1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41A 41A 41A 41A 41A

 $^{^{1)}}$ Operating range at 220 V: 0.85 to 1.1 \times $U_{\rm S}$; lower operating range limit according to IEC 60947.

The solenoid coils of the 3TH42 contactor relays are available in various voltages as spare parts (on request).

- AC operation 3TY7403-0A...
- DC operation 3TY4803-0B...

The contacts cannot be replaced on 3TH42 contactor relays.

Other voltages according to page 5/19 on request.

Accessories, see page 5/20.

3TH4 contactor relays, 8- and 10-pole

10-pole contactor relays

AC operation or DC operation





1 unit

1 unit

1 unit 1 unit 41A

41A

41A

41A

										3TH4355-0AP0		3TH4355-	0BB4	
Contacts		operatio 15/AC-1	nal curre 4	ent	Contacts					Screw terminals		PU (UNIT, SET, M)	PS*	PG
	230 V	400 V	500 V	690 V	Ident. No. according to EN 50011	Versi	on							
Numahar		^	^	٨		1	 	/ I	7	Article No.	Price per PU			
Number	Α	А	А	Α		NO	NC	NO	NC					

AC op	eration, r	ated c	ontroi	supply	' voltage U _s =	= 50 Hz 23	0/220	VAC	;''				
10	10	6	4	2	100E	10				3TH4310-0AP0	1	1 unit	41A
					91E	9	1			3TH4391-0AP0	1	1 unit	41A
					82E	8	2			3TH4382-0AP0	1	1 unit	41A
					73E	7	3			3TH4373-0AP0	1	1 unit	41A
					73E, U	6	2	1	1	3TH4346-0AP0	1	1 unit	41A
					64E	6	4			3TH4364-0AP0	1	1 unit	41A

					04E	ю	4			31H4304-UAPU
					55E	5	5			3TH4355-0AP0
					55E, U	4	4	1	1	3TH4394-0AP0
DC ope	eration, i	rated c	ontrol	supply	voltage U _s =	24 V DC	1			
10	10	6	4	2	100E	10				3TH4310-0BB4
					91E	9	1			3TH4391-0BB4
					82E	8	2			3TH4382-0BB4
					73E	7	3			3TH4373-0BB4
					73E, U	6	2	1	1	3TH4346-0BB4

6 5 4 4 5 4

64E 55E

55E. U

Note:

The solenoid coils of the 3TH43 contactor relays are available in various voltages as spare parts (on request).

For screw fixing and snap-on mounting on TH 35 DIN rail

- AC operation 3TY7403-0A..
- DC operation 3TY4803-0B..

The contacts cannot be replaced on 3TH43 contactor relays.

Other voltages according to page 5/19 on request.

Accessories, see page 5/20.

³TH4382-0BB4 1 1 unit 41A 3TH4373-0BB4 1 1 unit 41A 1 1 3TH4346-0BB4 1 1 unit 41A -- -- 3TH4364-0BB4 1 1 unit 41A -- -- 3TH4355-0BB4 1 1 unit 41A 1 1 3TH4394-0BB4 1 1 unit 41A

 $^{^{1)}}$ Operating range at 220 V: 0.85 to 1.1 \times $U_{\rm S}$; lower operating range limit according to IEC 60947.

3TH4 contactor relays, 8- and 10-pole

Options

Rated control supply voltages, possible on request (change of the 10th and 11th digits of the article number)

Delivery time on request

	Contactor type	3TH42/3TH43
Rated control supply voltage $U_{\rm S}$	Control supply voltage at	
AC operation		
Solenoid coils for 50 and	d 60 Hz AC	
50 Hz	60 Hz	
24 V AC 36 V AC 42 V AC	29 V AC 42 V AC 50 V AC	B0 G0 D0
48 V AC 60 V AC 110 V AC	58 V AC 72 V AC 132 V AC	H0 E0 F0
125/127 V AC 230/220 V AC 240 V AC	150/152 V AC 276 V AC 288 V AC	L0 P0 ¹⁾ U0
400/380 V AC 415 V AC 500 V AC	480/460 V AC 500 V AC 600 V AC	V0 ¹⁾ R0 S0
50/60 Hz		
24 V AC 42 V AC 110 V AC		C2 D2 G2
115 V AC 120 V AC 220 V AC		J2 K2 N2
230 V AC 240 V AC 440 V AC		L2 P2 R2
For Japan		
50 Hz	60 Hz	
100 V AC 200 V AC	100 110 V AC 200 220 V AC	G6 ²⁾ N6 ²⁾
For USA and Canada		
50 Hz	60 Hz	
110 V AC 220 V AC	120 V AC 240 V AC	K6 ²⁾ P6 ²⁾

	Contactor type	3TH42/3TH43
Rated control supply voltage $U_{\rm S}$		
DC operation		
12 V DC 24 V DC 30 V DC		A4 B4 C4
36 V DC 42 V DC 48 V DC		V4 D4 W4
60 V DC 110 V DC 125 V DC		E4 F4 G4
220 V DC 230 V DC 240 V DC		M4 P4 Q4

 $^{^{1)}}$ Operating range at 220 V or 380 V: 0.85 to 1.1 x $U_{\rm S}.$

²⁾ Operating range at 60 Hz: 0.85 to 1.1 x $U_{\rm S}$.

3TH4 contactor relays, 8- and 10-pole > Accessories for 3TH4 contactor relays

Selection and or	dering data	l								
	Version			Rated control supply voltage $U_{\rm S}$		Article No.	Price per PU		PS*	PG
			F	AC	DC					
			\	/	V					
Surge suppresso	ors for 3TH4	contactor rela	ays							
	With line sr	ce suppression of bacer, ag on the coil term		-	24 250	3TX7402-3A	1	1	1 unit	41B
3TX7402-3.	With line sp DC operati	Zener diode) pacer,	- ninal	-	24 250	3TX7402-3E)	1	1 unit	41B
	Varistors ¹⁾ With line sp for mountin		ninal 1	240 4	127 70 150 240 150 250	3TX7402-30 3TX7402-3I 3TX7402-3J 3TX7402-3K 3TX7402-3L	1 	1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41B 41B 41B 41B 41B
	RC elemer With line sp for mounting		ninal 1		127 70 150 240 150 250 100	3TX7402-3F 3TX7402-3S 3TX7402-3T 3TX7402-3L 3TX7402-3L	S T J	1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41B 41B 41B 41B 41B
1) Includes the peak	value of the al	ternating voltage	on the DC side	Э.						
	For contactors	Version	Rated control supply voltag 50/60 Hz AC		Time range (minimum times)	Screw term	inals	PU (UNIT, SET, M)	PS*	PG
						Article No.	Price			
	Туре		V		S		per PU			
ON-delay devices										
1	3TH42, 3TH43	NTC thermistor Time tolerance +100%, -50%	220 230		0.1	3TX4180-0A	A	1	1 unit	41B
2TV4190 0A										



NEW SIRIUS 3RQ1 force-guided coupling relays, fail-safe up to SIL 3/PL e

Overview



Picture on left: 3RQ1000-1EW00 coupling relay, 1 NO contact + 1 NC contact, screw terminal Picture on right: 3RQ1000-2LW00 coupling relay, 4 NO contacts + 1 NC contact, spring-loaded terminal (push-in)



3RQ1 coupling relay in the 3SK system

More information

Homepage, see www.siemens.com/sirius-coupling-relays SiePortal, see www.siemens.com/product?3RQ1

Technical specifications, see

https://support.industry.siemens.com/cs/ww/en/ps/26008/td

Manuals, see

https://support.industry.siemens.com/cs/ww/en/ps/26008/man

TIA Selection Tool Cloud (TST Cloud), see www.siemens.com/tstcloud/?node=SIRIUSRelais

SIRIUS 3SK safety relays, see

https://mall.industry.siemens.com/mall/en/ww/Catalog/Products/

10143262?tree=CatalogTree



Video: SIRIUS 3RQ1 coupling relays

The SIRIUS 3RQ1 force-guided coupling relays in a modern titanium gray industrial enclosure are available in widths of 17.5 mm and 22.5 mm, and each with a supply voltage of 24 V DC (120 mm mounting depth) and 24 to 240 V AC/DC (90 mm mounting depth).

They are used for safe coupling up to SIL 3/PL e of control signals to and from a control system or as an output expansion for the SIRIUS 3SK safety relays (see page 11/13 onwards).

Further fields of application are based on the force-guided operation of relays according to IEC 60947-5-1 and EN 61810-3 for reading back relay states, for reliable diagnostics or signaling, or for the use of antivalent signals. Typical fields of application here are railways, signaling technology and elevators.

The series consists of devices with up to five outputs and can be supplied with screw or spring-loaded (push-in) terminals.

International standards and certifications including CE, UL/CSA, EAC and railway approvals ensure international usability and exportability.

Versions with protective coating on the printed circuit board according to IPC-A-610 are available for use in harsh ambient conditions (other device versions are available on request).

An extensive range of accessories is also available, such as device connectors for easy and safe connection of the 3RQ1 devices, replacement terminals, push-in lugs for wall mounting and coding pins, see page 5/27 onwards.

SIRIUS 3RQ1 force-guided coupling relays, fail-safe up to SIL 3/PL e NEW

Article number scheme

Product versions		Article number	
Coupling relays with force-guided	d contacts	3RQ1 🗆 0 0 - 🗆 🗆 🗆 0 0 -	- 0 0 0 0
Version	Performance Level (SIL): c (SIL 2)	0	
	Performance Level (SIL): e (SIL 3)	2	
Connection methods	Screw terminals	1	
	Spring-loaded terminals (push-in)	2	
Outputs	1 NO + 1 NC	E	Width 17.5 mm
	2 NO + 1 NC	G	Width 17.5 mm
	2 NO + 2 NC	н	Width 22.5 mm
	4 NO + 1 NC	L	Width 22.5 mm
Rated control supply voltage	24 V DC	В	Depth 120 mm
	24 to 240 V AC/DC	w	Depth 90 mm
Versions	with protective coating on printed circuit board		0 A X 0
Example		3RQ1 0 0 0 - 1 E W 0 0	

Note:

ho artiala numbar aabama abawa an

The article number scheme shows an overview of product versions for better understanding of the logic behind the article numbers.

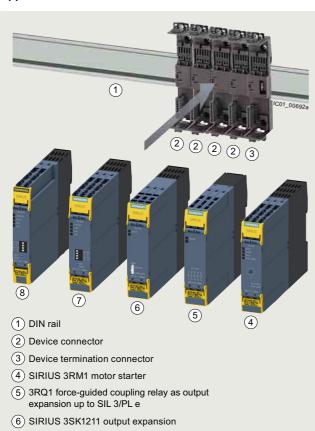
For your orders, please use the article numbers quoted in the selection and ordering data.

Benefits

- Wide-range voltage versions from 24 to 240 V AC/DC available with a mounting depth of 90 mm for all versions
- Permanent wiring thanks to removable terminals in screw or spring-loaded technology (push-in)
- Replacement of individual terminals minimizes wiring effort
- Can be used as output extension for SIRIUS 3SK safety relays via device connectors
- · All versions with real load contacts, also in the NC circuit
- Safety certification according to functional safety SIL 3/PL e
- Device versions with protective coating on printed circuit board
- International standards and certifications including CE, UL/CSA, EAC, railway approvals, and more

NEW SIRIUS 3RQ1 force-guided coupling relays, fail-safe up to SIL 3/PL e

Application



- Safe coupling up to SIL 3/PL e of control signals from and to a control system
- Output expansion for 3SK safety relays
- Use of force-guided contacts for reading back relay states
- For reliable diagnostics or signaling or for antivalent switching of loads
- · Safe coupling:
 - Electrical separation between the input and output circuit
- Adjustment of different signal levels
- Signal amplification
- Contact multiplication

3RQ1 output expansion (up to SIL 3/PL e) for the 3SK system

The 3RQ1 force-guided coupling relays with a mounting depth of 120 mm can be used as an output expansion up to SIL 3/PL e and can be connected by wiring to all 3SK basic units and by using the 3ZY12 device connector to all 3SK1 and 3SK2 Advanced basic units.

They have a switching capacity of AC-15 5/3 A (like 3SK1211) at a switching voltage of 230 V and are available in widths of 17.5 mm and 22.5 mm. Furthermore, they have NC contacts with a switching capacity of AC-15 2/1.5 A for direct switching of loads (anti-parallel switching, signaling, etc.).

Suitable for use in harsh ambient conditions

Versions with protective coating on the printed circuit board according to IPC-A-610 are available for use in environments that are exposed to dust, condensation, rapid temperature changes and corrosion. These are intended for applications in rail systems, agriculture, mining, woodworking, etc.

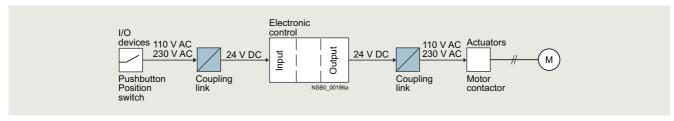
Note:

Other device versions with protective coating on the printed circuit board are available on request.

System configuration example with SIRIUS 3SK safety relays

(7) SIRIUS 3SK1121 Advanced basic unit

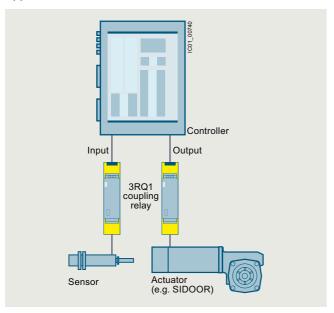
(8) SIRIUS 3SK1220 sensor expansion



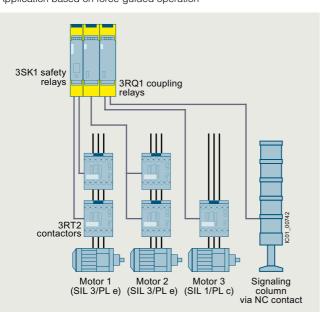
Typical application with a fail-safe control system

SIRIUS 3RQ1 force-guided coupling relays, fail-safe up to SIL 3/PL e NEW

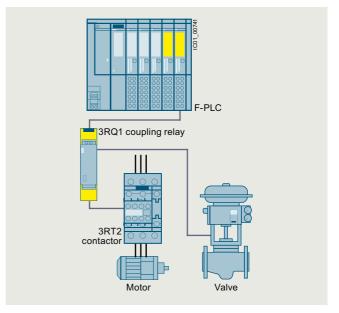
Applications



Application based on force-guided operation



3RQ1 as output expansion (SIL 1 to 3) for 3SK with direct control of actuators and signaling elements



3RQ1 as coupling link for signals, e.g. for a fail-safe control system

NEW SIRIUS 3RQ1 force-guided coupling relays, fail-safe up to SIL 3/PL e

Technical specifications

More information	
https://support.industry.siemens.com/cs/ww/en/ps/26008/td	Manuals, see https://support.industry.siemens.com/cs/ww/en/ps/26008/man Equipment Manual 3SK1/3RQ1, see https://support.industry.siemens.com/cs/ww/en/view/67585885

Article number	3RQ1000- .EB00, .GB00	3RQ1200- .EB00	3RQ1000- .EW00, .GW00	3RQ1200- .EW00	3RQ1000- .HB00, .LB00	.HW00, .LW00	2HW00-0AX0
General data							
Dimensions (W x H x D)	17.5 x 100 x 1	20	17.5 x 100 x 90	0	22.5 x 100 x 120	22.5 x 100 x 9	0
Safety Integrity Level (SIL) according to IEC 62061	2	3	2	3	2		
Performance Level (PL) according to ISO 13849-1	С	е	С	е	С		
Certificate of suitability							
UL approvalTÜV approval	Yes Yes						
Insulation voltage for overvoltage V category III according to IEC 60664 for pollution degree 3	300						
Protective coating on printed circuit board	No;						Yes, according to IPC-A-610
Ambient temperature							
During operationDuring storageC	-25 +60 -40 +80						
Degree of protection IP	IP20						
Control circuit							
Control supply voltage							
 At AC At 50 Hz At 60 Hz At DC V	 24 24		24 240 24 240 24 240		 24 24	24 240 24 240 24 240	
Operating range factor of the control supply voltage, rated value at DC	0.8 1.2		0.7 1.1		0.8 1.2	0.7 1.1	
Load circuit							
Thermal current of the non-solid-state A contact blocks, maximum	5						
Mechanical endurance (operating cycles) typical	10 000 000						

Article number		3RQ1000-1., 3RQ1200-1.	3RQ1000-2., 3RQ1200-2.
Type of electrical connection		Screw terminals	∴ Spring-loaded terminals ☐ (push-in)
Type of connectable conductor cross-sections			
SolidFinely stranded with end sleeveSolid for AWG cables		1x (0.5 4 mm ²), 2x (0.5 2.5 mm ²) 1x (0.5 4 mm ²), 2x (0.5 1.5 mm ²) 1x (20 12), 2x (20 14)	1x (0.5 4 mm ²) 1x (0.5 2.5 mm ²) 1x (20 12)
Tightening torque	Nm	0.6 0.8	

SIRIUS 3RQ1 force-guided coupling relays, fail-safe up to SIL 3/PL e

Selection and ordering data

PU (UNIT, SET, M) = 1 PS* = 1 unitPG = 41H

Multi-unit packaging, see page 16/7.

Control si voltage at AC at 50/60 Hz	at DC	Number of auxiliary contacts	·	Suitable for use with 3ZY12 device connector	Protective coating on printed circuit board	Screw terminals	+	Spring-loaded terr (push-in)	minals	<u></u>
V	V	NO NC	mm			Article No.	Price per PU	Article No.		Price r PU

Width 17.	5 mm



3RQ1000-2EW00 1EW00

Fail-safe	ир	to	SIL	2/PL	С

Fail	-safe up to SIL 3	3/PL	e				
24	240 24 240 2	1	90	No	No	3RQ1000-1GW00	3RQ1000-2GW00
24	240 24 240 1	1	90	No	No	3RQ1000-1EW00	3RQ1000-2EW00
	24 24 2	1	120	Yes	No	3RQ1000-1GB00	3RQ1000-2GB00
	24 24 1	- 1	120	168	INO	3HQ1000-1ED00	3NQ1000-2EB00

	24		1	1)	120	Yes	INO	3RQ1200-1EB00	3RQ1200-2EB00
24	240 24	. 240	1	1	90	No	No	3RQ1200-1EW00	3RQ1200-2EW00

Width 22.5 mm



3RQ1000-1LW00

3RQ1000-

2LW00

1) NC contact designed to act as feedback contact.

Fail-safe up to SIL 2/PL c

	24 24	2	2	120	Yes	No	3RQ1000-1HB00
	24 24	4	1	120	Yes	No	3RQ1000-1LB00
24 240	24 240	2	2	90	No	No	3RQ1000-1HW00
24 240	24 240	2	2	90	No	Yes NEW	-
24 240	24 240	4	1	90	No	No	3RQ1000-1LW00

3RQ1000-2HB00 3RQ1000-2LB00 3RQ1000-2HW00 3RQ1000-2HW00-0AX0 3RQ1000-2LW00

All 3RQ1 force-guided coupling relays have safety certification up to SIL 2/PL c or SIL 3/PL e according to IĖC 62061/ISO 13849.

To achieve SIL 3/PL e, two 3RQ10 devices can also be wired in series, see Equipment Manual.

In addition, the 3SK1211 devices (output expansions for 3SK) provide force-guided coupling relays with 4 NO contacts and 1 NC contact up to SIL 3/PL e with 24 V AC, 24 V DC, and 110 to 240 V AC/DC.

For applications with high currents up to a switching capacity of 10 A AC-15, the 3SK1213 output expansions are also available with 24 V AC, 24 V DC and 110 to 240 V AC/DC.

These devices can be used in the same way as the 3RQ1 coupling relays for coupling to and from safe control systems, they feature 4 NO contacts and 1 NC contact, and are available as versions with 24 V AC, 24 V DC and 110 to 240 V AC/DC (see page 11/27).

Other device versions with protective coating on the printed circuit board are available on request.

Notes:

VEW SIRIUS 3RQ1 force-guided coupling relays, fail-safe up to SIL 3/PL e

Accessories

More information					
Manuals, see https://support.industry	y.siemens.com/cs/ww/en/ps/26008/man				
	Version	Article No. Price per PU		PS*	PG
Device connectors in the industrial DI	s for the electrical connection of SIRIUS devices N-rail enclosure				
Mills Mills	Device connectors				
	Width 17.5 mm (for 3RQ1000EB00/GB00, 3RQ1200EB00)	3ZY1212-1BA00	1	1 unit	41L
	• Width 22.5 mm (for 3RQ1000HB00/LB00)	3ZY1212-2BA00	1	1 unit	41L
3ZY1212- 3ZY1212- 1BA00 2BA00					
	Device termination connectors				
	 Width 17.5 mm (for 3RQ1000EB00/GB00, 3RQ1200EB00) 	3ZY1212-1DA00	1	1 unit	41L
	Width 22.5 mm (for 3RQ1000HB00/LB00) Note: Observe positions of the slide switch for width 22.5 mm, see Equipment Manual.	3ZY1212-2DA00	1	1 unit	41L
3ZY1212- 2DA00					
	Device daisy chain connector 24 V DC, 22.5 mm, for implementation of distances between devices according to the installation quidelines	3ZY1212-2AB00	1	1 unit	41L
	Device connector	3ZY1210-2AA00	1	1 unit	41L
	For height adjustment for device arrangements without electrical connection via device connector, with a width of 22.5 mm or greater				
Terminals for SIRI	US devices in the industrial DIN-rail enclosure				
	Removable terminals	Screw terminals			
	• 2-pole, up to 1 x 4 mm ² or 2 x 2.5 mm ²	3ZY1122-1BA00 Spring-loaded terminals (push-in)	1	6 units	41L
3ZY1122- 3ZY1122 1BA00 2BA00	• 2-pole, up to 1 x 4 mm² or 2 x 1.5 mm² (in shared end sleeve)	3ZY1122-2BA00	1	6 units	41L



SIRIUS 3RQ1 force-guided coupling relays, fail-safe up to SIL 3/PL e Price Article No. PU PS* PG Version per PU (UNIT, SET, M) Accessories for enclosures Sealing covers • 17.5 mm 3ZY1321-1AA00 5 units 41L • 22.5 mm 3ZY1321-2AA00 5 units 41L 3ZY1321-2AA00 Push-in lugs 3ZY1311-0AA00 1 10 units 41L For wall mounting 3ZY1311-0AA00 **Coding pins**For removable terminals of SIRIUS devices 3ZY1440-1AA00 41L 1 12 units in the industrial DIN-rail enclosure; they enable the mechanical coding of terminals, see Equipment Manual. 3ZY1440-1AA00 Hinged covers Replacement cover, without terminal labeling, yellow • 17.5 mm wide 3ZY1450-1BA00 5 units 41L • 22.5 mm wide 3ZY1450-1BB00 5 units 41L 3ZY1450-1BB00 3ZY1450-1BA00 Blank labels Unit labeling plates1) For SIRIUS devices 3RT2900-1SB10 • 17.5 mm: 10 mm x 7 mm, titanium gray 100 816 41B units 3RT2900-1SB20 340 • 22.5 mm: 20 mm x 7 mm, titanium gray 100 41B units Tools for opening spring-loaded terminals Spring-loaded terminals (push-in) Screwdriver For all SIRIUS devices with spring-loaded terminals 3.0 mm x 0.5 mm, 3RA2908-1A 41B 1 unit length approx. 200 mm, titanium gray/black, 3RA2908-1A

partially insulated

¹⁾ PC labeling system for individual inscription of unit labeling plates available from: murrplastik Systemtechnik GmbH (see page 16/18).

SIRIUS 3RQ2 coupling relays with industrial enclosure

Overview



SIRIUS 3RQ2 coupling relay, screw terminals, 3 changeover contacts

More information

Homepage, see www.siemens.com/sirius-coupling-relays

SiePortal, see www.siemens.com/product?3RQ2

TIA Selection Tool Cloud (TST Cloud), see

www.siemens.com/tstcloud/?node=SIRIUSRelais Conversion tool, see www.siemens.com/conversion-tool

Article number scheme

3RQ2 coupling relays in their 22.5 mm industrial enclosure serve to couple control signals to and from a controller and replace the 3RS18 coupling relays. The 3RQ2 has an impressively high-quality industrial enclosure finished in modern titanium gray so that it fits in visually with the SIRIUS series of relays.

The series consists of devices with up to three changeover contacts with screw or spring-loaded terminals (push-in) and, with its wide voltage range from 24 to 240 V AC/DC, is a genuine highlight in the coupling relay market.

Replacement terminals, hinged covers, push-in lugs for wall mounting, and coding pins are available as accessories, see page 5/31.

Note:

Device versions with protective coating on the printed circuit board are available on request. Comparable device versions are already available for 3RQ1 (see page 5/21 onwards) and 3RQ3 (see page 5/33 onwards) coupling relays.

Product versions		Article number	
Coupling relays, standard		3RQ2000 - □ □ □ 0 □	
Connection methods	Screw terminals	1	
	Spring-loaded terminals (push-in)	2	
Outputs	1 CO contact	A	
	2 CO contacts	В	
	3 CO contacts	C	
Rated control supply voltage	24 240 V AC/DC	W	
Material of switching contacts	0 = AgSnO2	0	
	1 = AgNi + Au	1	
Example		3RQ2000 - 1 C W 0 1	

Note:

The article number scheme shows an overview of product versions for better understanding of the logic behind the article numbers.

For your orders, please use the article numbers quoted in the selection and ordering data.

Benefits

- Permanent wiring thanks to removable terminals in screw or spring-loaded technology (push-in)
- Replacement of individual terminals minimizes wiring effort
- A product for all voltages from 24 to 240 V AC/DC
- · Reduced costs thanks to fewer versions
- Especially high contact reliability even at low currents thanks to versions with hard gold-plated contacts
- International standards and certifications including CE, UL/CSA, EAC, railway approvals, and more

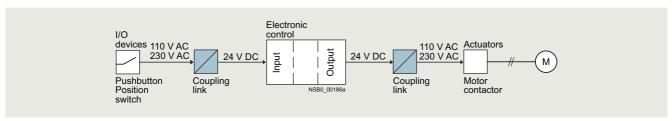
5/29

SIRIUS 3RQ2 coupling relays with industrial enclosure

Application

- Electrical separation between the input and output circuit
- Adjustment of different signal levels

- Signal amplification
- Contact multiplication



Application example motor controller

Technical specifications

More information			
Technical specifications, see https://support.industry.siemens.com/cs/ww/en/ps/25158/td		Operating Instructions, see https://support.industry.siemens.com/cs	s/ww/en/ps/25158/man
Article number		3RQ2000AW00 3RQ2000BW00 3RQ2000CW00	3RQ2000CW01
General data			
Width x height x depth	mm	22.5 x 100 x 90	
Insulation voltage for overvoltage category III according to IEC 60664 for pollution degree 3	V	300	
Max. permissible voltage for protective separation between control circuit and auxiliary circuit according to IEC 60947-1	V	300	
Ambient temperature			
During operation	°C	-40 +60	
During storage	°C	-40 +80	
Degree of protection IP		IP20	
Control circuit			
Control supply voltage	V	24 240 AC/DC; 50/60 Hz	
Operating range factor of the control supply voltage, rated value at AC at 50 Hz		0.7 1.1	
Load circuit			
Thermal current of the non-solid-state contact blocks, maximum	Α	5	
Current-carrying capacity of the output relay			
At AC-15 at 250 V	Α	3	
At DC-13 at 24 V	Α	1	
At DC-13 at 125 V	Α	0.2	
• At DC-13 at 250 V	Α	0.1	
Mechanical endurance (operating cycles) typical		10 000 000	
Electrical endurance (operating cycles) for AC-15 at 230 V, typical	l	100 000	
Material of switching contacts		AgSnO2	AgNi + Au
Article number	-	3RQ2000-1.	3RQ2000-2.
Type of electrical connection		Screw terminals	○ Spring-loaded terminals□ (push-in)
Type of connectable conductor cross-sections			
• Solid		1x (0.5 4 mm ²), 2x (0.5 2.5 mm ²)	1x (0.5 4 mm ²)
Finely stranded with end sleeve		1x (0.5 4 mm ²), 2x (0.5 1.5 mm ²)	1x (0.5 2.5 mm ²)
Solid for AWG cables		1x (20 12), 2x (20 14)	1x (20 12)
Tightening torque	Nm	0.6 0.8	

SIRIUS 3RQ2 coupling relays with industrial enclosure

Selection and ordering data

PU (UNIT, SET, M) = 1 PS* PG = 1 unit = 41H

Multi-unit	packaging,
see page	16/7.

Control sup at AC at 50 Hz	ply voltage at DC	Number of CO contacts for auxiliary contacts	Material of switching contacts	Screw terminals	+	Spring-loaded t (push-in)
V	V			Article No.	Price per PU	Article No.

Coupling relays with industrial enclosure, 22.5 mi







oti idi Cili	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	0		
4 240	24 240	1	AgSnO2	3RQ2000-1AW00
		2	AgSnO2	3RQ2000-1BW00
		3	AgSnO2	3RQ2000-1CW00
			AgNi + Au	3RQ2000-1CW01

3RQ2000-2AW00 3RQ2000-2BW00 3RQ2000-2CW00 3RQ2000-2CW01

terminals

Price

per PU

Accessories

More information					
Operating Instructions https://support.industr	s, see ry.siemens.com/cs/ww/en/ps/25158/man	onversion tool, see www.siemens.com/conversion	sion-tool		
	Version	Article No. Prica per PU		PS*	PC
Terminals for SIR	IUS devices in the industrial DIN-rail enclosure				
47	Removable terminals	Screw terminals)		
3	• 2-pole, up to 1 x 4 mm ² or 2 x 2.5 mm ²	3ZY1122-1BA00	1	6 units	41l
		Spring-loaded terminals (push-in))		
3ZY1122-1BA00	 2-pole, up to 1 x 4 mm² or 2 x 1.5 mm² (in shared end sleeve) 	3ZY1122-2BA00	1	6 units	41L
Accessories for e	nclosures		_		
	Hinged covers Replacement cover, without terminal labeling, titanium gray, 22.5 mm wide	3ZY1450-1AB00	1	5 units	41L
BZY1450-1AB00					
9	Push-in lugs For wall mounting	3ZY1311-0AA00	1	10 units	41L
3ZY1311-0AA00	Coding pins	3ZY1440-1AA00	1	12 units	411
37Y1440-1AA00	For removable terminals of SIRIUS devices in the industrial DIN-rail enclosure; they enable the mechanical coding of terminals	3211770-12400	<u>'</u>	12 units	416
Blank labels					
□ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □	Unit labeling plates For SIRIUS devices 20 mm x 7 mm, titanium gray ¹⁾	3RT2900-1SB20	100	340 units	418
	spring-loaded terminals				
	Screwdriver For all SIRIUS devices with spring-loaded terminals	Spring-loaded terminals (push-in)			

¹⁾ PC labeling system for individual inscription of unit labeling plates available from: murrplastik Systemtechnik GmbH (see page 16/18).

3RA2908-1A

3.0 mm x 0.5 mm, length approx. 200 mm,

titanium gray/black, partially insulated

3RA2908-1A

1 unit

41B

SIRIUS 3RQ2 coupling relays with industrial enclosure

More information

Code conversion table

SIRIUS 3RS18 cou	upling relays			Comparison type	SIRIUS 3RQ2 coupli	ng relays	
Screw terminals	Spring-loaded terminals	Version	Contacts	Screw terminals	Spring-loaded terminals (push-in)	Version	Contacts
3RS1800-1AQ00	3RS1800-2AQ00	24 V AC/DC; 110 120 V AC		3RQ2000-1AW00	3RQ2000-2AW00	24 240 V AC/DC	1 CO
3RS1800-1AP00	3RS1800-2AP00	24 V AC/DC; 220 240 V AC	contact				contact
3RS1800-1BW00	3RS1800-2BW00	24 240 V AC/DC	2 CO	3RQ2000-1BW00	3RQ2000-2BW00	24 240 V AC/DC	2 CO
3RS1800-1BQ00	3RS1800-2BQ00	24 V AC/DC; 110 120 V AC	contacts				contacts
3RS1800-1BP00	3RS1800-2BP00	24 V AC/DC; 220 240 V AC					
3RS1800-1HW00	3RS1800-2HW00	24 240 V AC/DC	3 CO	3RQ2000-1CW00	3RQ2000-2CW00	24 240 V AC/DC	
3RS1800-1HQ00	3RS1800-2HQ00	24 V AC/DC; 110 120 V AC	contacts				contacts
3RS1800-1HP00	3RS1800-2HP00	24 V AC/DC; 220 240 V AC					
3RS1800-1HW01	3RS1800-2HW01	24 240 V AC/DC	3 CO	3RQ2000-1CW01	3RQ2000-2CW01	24 240 V AC/DC	
3RS1800-1HQ01	3RS1800-2HQ01	24 V AC/DC; 110 120 V AC	contacts, hard				contacts, hard
3RS1800-1HP01	3RS1800-2HP01	24 V AC/DC; 220 240 V AC	gold-plated				gold-plated

SIRIUS 3RQ3 coupling relays, narrow design

Overview



SIRIUS 3RQ3 coupling relays

More information

Homepage, see www.siemens.com/sirius-coupling-relays SiePortal, see www.siemens.com/product?3RQ3

TIA Selection Tool Cloud (TST Cloud),

see www.siemens.com/tstcloud/?node=SIRIUSRelais

Conversion tool, see www.siemens.com/conversion-tool

SIRIUS 3RQ3 coupling relays in narrow design are used for coupling control signals from and to a controller, and they are available in different versions:

- Coupling relays with relay output (not plug-in)
- · Coupling relays with plug-in relays
- Coupling relays with semiconductor output (not plug-in)

Versions with protective coating on the printed circuit board according to IPC-A-610 are available for use in harsh ambient conditions (other device versions are available on request).

Coupling relays with relay output (not plug-in) AC and DC operation

IEC 60947-5-1

The input and output coupling relays differ with regard to the positioning of the terminals and the LEDs.

Coupling relays with plug-in relays AC and DC operation

IEC 60947-1

The coupling relays are plug-in, so the relay can be replaced quickly at the end of its service life without detaching the wiring.

Coupling relays with semiconductor output (not plug-in) AC and DC operation

IEC 60947-1, EN 60664-1 and EN 50005; coupling relays with semiconductor output: EN 60747-5; programmable logic controllers: IEC 61131-2

The input and output coupling relays differ with regard to the positioning of the terminals and the LEDs.

The coupling relays with semiconductor output have extremely high contact reliability, so they are especially suitable for solid-state systems.

For test purposes, versions are available with manual-OFFautomatic switches.

SIRIUS 3RQ3 coupling relays, narrow design

Article number schemes

Product versions		Article number	
Coupling relays with relay of	output (not plug-in)	3RQ30 □ 8 - □ A □ 0 □	
Design and type of output	Output coupler, without manual-OFF-automatic switch	1	
	Input coupler	3	
Type of electrical connection	Screw terminals	1	
	Spring-loaded terminals (push-in)	2	
Control supply voltage	24 V AC/DC	В	
	115 V AC/DC	E	
	230 V AC/DC	F	
Material of switching	e.g.		
contacts	0 = AgSnO2		
	1 = AgSnO2 hard gold-plated		
Example		3RQ30 1 8 - 1 A B 0 1	

Product versions		Article number	
Coupling relays with relay output (not plug-in)		3RQ30 1 8 - 2 A □ 0 8 - 0	A 🗆 0
Railway version with exten	ded operating range 0.7 1.2 x U _s		
Control supply voltage	24 V DC	М	
	110 V DC	N	
Standard printed circuit board			A
Versions	with protective coating on printed circuit board		X
Example		3RQ30 1 8 - 2 A M 0 8 - 0	A A 0

Product versions		Article number	
Coupling relays with plug-ir	n relays	3RQ31 1 8 - □ A □ 0 □	
Type of electrical connection	Screw terminals	1	
	Spring-loaded terminals (push-in)	2	
Control supply voltage	24 V AC/DC	В	
	115 V AC/DC	E	
	230 V AC/DC	F	
	24 V DC	M	
Material of switching	AgSnO2	0	
contacts	AgSnO2 hard gold-plated	1	
Example		3RQ31 1 8 - 1 A B 0 1	

Product versions		Article nur	nbe	r			
Coupling relays with semic	onductor output (not plug-in)	3RQ30 □ □] -		S 🗆 🗆 0		
	Current-carrying capacity of the semiconductor output					Control supply voltage	Switching voltage of the semiconductor output
Output coupler							
 Without manual-OFF- 	1 mA 0.5 A	5 0)		M 5	11 30 V DC	10 60 V DC
automatic switch	5 mA 2 A	5 2	2		М 3	11 30 V DC	10 30 V DC
	1 mA 2 A	5 2	2		M 4	11 30 V DC	10 60 V DC
	5 mA 2 A	5 2	2		M 5	11 30 V DC	20 264 V AC
	1 mA 3 A	5 3	3		G 3	110 230 V AC/DC	10 30 V DC
	5 mA 5 A	5 5	5		М 3	11 30 V DC	10 30 V DC
With manual-OFF- automatic switch	5 mA 5 A	6 5	5		М 3	11 30 V DC	10 30 V DC
Input coupler	10 mA 0.5 A	7 0)		B 3	11 30 V AC/DC	10 30 V DC
		7 0)		G 3	110 230 V AC/DC	10 30 V DC
Type of electrical connection	Screw terminals			1			
	Spring-loaded terminals (push-in)			2			
Example		3RQ30 7 0) –	1 5	S B 3 0		

Note:

These article number schemes show an overview of product versions for better understanding of the logic behind the article numbers.

For your orders, please use the article numbers quoted in the selection and ordering data.

SIRIUS 3RQ3 coupling relays, narrow design

Benefits

General

- All versions with screw terminals or spring-loaded terminals (push-in technology)
- TOP wiring with spring-loaded terminals (push-in) for quick and reliable wiring
- Low space requirements in the control cabinet thanks to a consistent width of 6.2 mm
- · Reduced stock-keeping due to fewer variants
- Clearly visible functional state of the coupling relay by green LED
- Integrated reverse polarity protection and EMC suppressor diode
- Standardized accessories across the entire 3RQ3 series
- Universal bridging option using connecting combs for all terminals
- Galvanic isolation plate for isolating different voltages for neighboring units
- Device versions with protective coating on printed circuit board
- · Clip-on labels available as set for individual labeling

Coupling relays with relay output (not plug-in)

- Relays fixed in enclosure for increased contact reliability
- Device versions with hard gold-plated contacts, hence high contact reliability at low currents

Coupling relays with plug-in relays

- · Fast replacement of the relays with existing wiring
- Shorter installation times thanks to certified complete units
- Individual relays available as spare parts
- Device versions with hard gold-plated contacts, hence high contact reliability at low currents

Coupling relays with semiconductor output (not plug-in)

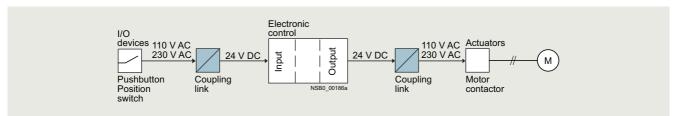
- Long service life since there is no mechanical wear
- · High switching frequency thanks to short make-break times
- Vibration-resistant
- No contact bounce
- · Extremely high contact reliability
- Noise-free switching
- · Low control power required
- · Switching of DC and capacitive loads

Note:

With semiconductors, the switching current is not dependent on the inductance of the load, i.e. the switching current for an inductive DC-13 load is the same as that for a DC-12 load. This means that coupling links with a semiconductor output are particularly suitable for inductive loads such as solenoid valves. It is not relevant to specify the number of operating cycles, because this does not affect the endurance of the semiconductor, provided it is not overheated.

Application

- Electrical separation between the input and output circuit
- · Adjustment of different signal levels
- · Signal amplification



Application example motor controller

Suitable for use in harsh ambient conditions

Versions with protective coating on the printed circuit board according to IPC-A-610 are available for use in environments that are exposed to dust, condensation, rapid temperature changes and corrosion. These are intended for applications in rail systems, agriculture, mining, woodworking, etc.

Note:

Other device versions with protective coating on the printed circuit board are available on request.

SIRIUS 3RQ3 coupling relays, narrow design

Technical specifications

More information	
Technical specifications, see https://support.industry.siemens.com/cs/ww/en/ps/16198/td	Operating Instructions, see https://support.industry.siemens.com/cs/ww/en/ps/16198/man
	FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/16198/faq

Coupling relays with relay output (not plug-in)

Article number		3RQ30.	8-					3RQ301	8-		
		.AB00	.AB01	.AE00	.AE01	AF00	.AF01	2AM08- 0AA0	2AM08- 0AX0	2AN08- 0AA0	2AN08- 0AX0
General technical specifications											
Width x height x depth	mm	6.2 x 93	x 72.5								
Insulation voltage for overvoltage category III according to IEC 60664 for pollution degree 3	V	300									
Max. permissible voltage for protective separation between control circuit and auxiliary circuit	V	300									
Protective coating on printed circuit board		No;							Yes, according to IPC-A-610	No;	Yes, according to IPC-A-610
Ambient temperature											
During operation	°C	-25 +	60					-40 +7	70		
During storage	°C	-40 +	85								
Degree of protection IP		IP20									
Version of the fuse link required for short-circuit protection of the auxiliary switch		Fuse gG	G: 4 A								
Operational current of the auxiliary contacts											
• At AC-15											
- At 24 V	Α	3									
- At 250 V	Α	3									
• At DC-13											
- At 24 V	A	1									
- At 125 V	A	0.2									
- At 250 V	Α	0.1	E \ /	47.17	E \ /	47.17	E \ /	47.17			
Contact reliability of the auxiliary contacts		17 V, 5 mA	5 V, 1 mA	17 V, 5 mA	5 V, 1 mA	17 V, 5 mA	5 V, 1 mA	17 V, 5 mA			
(one contact failure per 100 million) Mechanical endurance (operating cycles) typical		10 000 (200								
Electrical endurance (operating cycles) for AC-15 at 250 V typical		100 000									
Operating range factor of the control supply voltage, rated value											
• At AC											
- At 50 Hz		0.8 1.	.25	0.8 1	.1						
- At 60 Hz		0.8 1.	.25	0.8 1	.1						
• At DC		0.8 1.	.25	0.8 1	.1			0.7 1.2	25		
Active power input	W	0.3		0.5		1		0.3		0.6	
Thermal current	Α	6;						6; Derati	ng, see char	racteristic	curves

SIRIUS 3RQ3 coupling relays, narrow design

Coupling relays with plug-in relays

Article number		3RQ3118- .AB00	.AB01	.AE00	.AE01	.AF00	.AF01	.AM00	.AM01
General technical specifications									
Width x height x depth	mm	6.2 x 93 x	76						
Insulation voltage for overvoltage category III according to IEC 60664 for pollution degree 3	V	300							
Max. permissible voltage for protective separation between control circuit and auxiliary circuit	V	300							
Ambient temperature									
During operation	°C	-25 +60)						
During storage	°C	-40 +85	5						
Degree of protection IP		IP20							
Version of the fuse link required for short-circuit protection of the auxiliary switch		Fuse gG:	4 A						
Operational current of the auxiliary contacts									
• At AC-15									
- At 24 V	Α	3							
- At 250 V	Α	3							
• At DC-13									
- At 24 V	Α	1							
- At 125 V	Α	0.2							
- At 250 V	Α	0.1							
Contact reliability of the auxiliary contacts		17 V,	5 V,	17 V,	5 V,	17 V,	5 V,	17 V,	5 V,
(one contact failure per 100 million)		5 mA	1 mA	5 mA	1 mA	5 mA	1 mA	5 mA	1 mA
Mechanical endurance (operating cycles) typical		10 000 00	0						
Electrical endurance (operating cycles) for AC-15 at 250 V typical		100 000							
Operating range factor of the control supply voltage, rated value									
• At AC									
- At 50 Hz		0.8 1.25	5	0.8 1.1					
- At 60 Hz		0.8 1.25	5	0.8 1.1					
• At DC		0.8 1.25	5	0.8 1.1				0.8 1.2	25
Active power input	W	0.3		0.5		1		0.3	
Thermal current	Α	6							

SIRIUS 3RQ3 coupling relays, narrow design

Coupling relays with semiconductor output (not plug-in)

Article number		2002050	2BO2050			2DO2052	2BO2055	2BO2065	2BO2070	
Article number		3RQ3050- .SM50	3RQ3052- .SM30	.SM40	.SM50	3RQ3053- .SG30	3RQ3055- .SM30	3RQ3065- .SM30	3RQ3070- .SB30	.SG30
General technical specification	S									
Width x height x depth	mm	6.2 x 93 x 72.	5					6.2 x 93 x 75	6.2 x 93 x	72.5
Insulation voltage for overvoltage category III according to IEC 60664 for pollution degree 3	V	50			300		50			
Ambient temperature										
During operation	°C	-25 +60								
During storage	°C	-40 +85								
Degree of protection IP		IP20								
Switching voltage of the semiconductor output										
• At AC	V				20 264					
At DC	V	10 60	10 30	10 60		10 30				
Current-carrying capacity of the semiconductor output										
• At AC	Α				0.005 2					
At DC	Α	0.001 0.5	0.005 2	0.001 2		0.001 3	0.005 5		0.01 0.5	
Operating range factor of the control supply voltage, rated value										
• At AC										
- At 50 Hz						0.7 1.1			1 1	0.7 1.1
- At 60 Hz						0.7 1.1			1 1	0.7 1.1
At DC		1 1				0.7 1.1	1 1			0.7 1.1
Active power input	W	0.3			0.25	0.3			0.5	
Thermal current	Α	0.5	2			3	5		0.5	
Article number		3RQ31				3RQ32				
Type of electrical connection for auxiliary and control circuits	Screw terminals				Spring-loaded terminals (push-in)					
Type of connectable conductor cross-sections										
• Solid		1x (0.25 2.5	5 mm ²)							
Finely stranded										
- Without end sleeves						1x (0.25	2.5 mm ²)			
- With end sleeves		1x (0.25 1.5	5 mm ²)							
0 11 17 1110 11										

• Solid for AWG cables

1x (20 ... 14)

SIRIUS 3RQ3 coupling relays, narrow design

voltage		at 60 Hz	voltage at DC	Number of CO contacts for auxiliary contacts	Material of switching contacts	Protective coating on printed circuit board	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PC
	V	V	V								
ng relays v	vith rel	ay outp	ut (not	plug-in)							
Outpu	ıt coup	ling lini	ks								
AC/DC	24	24	24	1	AgSnO2	No	3RQ3018-□AB00		1	5 units	411
					AgSnO2 Hard gold-plated	No	3RQ3018-□AB01		1	5 units	411
	115	115	115	1	AgSnO2	No	3RQ3018-□AE00		1	5 units	41F
	230	230	230	1	AgSnO2	No	3RQ3018-□AF00		1	5 units	41F
DC			24	1	AgSnO2	No	3RQ3018-2AM08-0AA0		1	5 units	41H
					AgSnO2	Yes NEW	3RQ3018-2AM08-0AX0		1	5 units	41H
			110	1	AgSnO2	No	3RQ3018-2AN08-0AA0		1	5 units	41H
					AgSnO2	Yes NEW	3RQ3018-2AN08-0AX0		1	5 units	41F
_	-	ng links									
AC/DC	24	24	24	1	AgSnO2	No	3RQ3038-□AB00		1	5 units	41H
					AgSnO2 Hard gold-plated	No	3RQ3038-□AB01		1	5 units	41⊦
	115	115	115	1	AgSnO2	No	3RQ3038-□AE00		1	5 units	41H
					AgSnO2 Hard gold-plated	No	3RQ3038-□AE01		1	5 units	41H
	230	230	230	1	AgSnO2	No	3RQ3038-□AF00		1	5 units	41H
					AgSnO2 Hard gold-plated	No	3RQ3038-□AF01		1	5 units	41H
g relays v	with plu	ıg-in re	lays		<u> </u>						
Outpu	ıt coup	ling lini	ks								
AC/DC	24	24	24	1	AgSnO2	No	3RQ3118-□AB00		1	5 units	41H
					AgSnO2 Hard gold-plated	No	3RQ3118-□AB01		1	5 units	41H
	115	115	115	1	AgSnO2	No	3RQ3118-□AE00		1	5 units	41H
					AgSnO2 Hard gold-plated	No	3RQ3118-□AE01		1	5 units	41H
ļ-	230	230	230	1	AgSnO2	No	3RQ3118-□AF00		1	5 units	41H
					AgSnO2 Hard gold-plated	No	3RQ3118-□AF01		1	5 units	41H
DC			24	1	AgSnO2	No	3RQ3118-□AM00		1	5 units	41F
					AgSnO2 Hard gold-plated	No	3RQ3118-□AM01		1	5 units	41H

Note:

Other device versions with protective coating on the printed circuit board are available on request.

SIRIUS 3RQ3 coupling relays, narrow design

	Type of voltage	Control	supply \	oltage/	Current-carr of the semic output	rying capacity conductor	mode selectable	de per PL ectable			PS*	PG
		at AC at 50 Hz	at 60 Hz	at DC	at AC	at DC	via switch position					
Coupling I	elavs w	ith ser	nicondi	ıctor oı	itput (not n	lug-in)						
ooupining i			ing link		rput (110t p	nag m,		•				
	DC			11		1 mA 0.5 A		3RQ3050-□SM50		1	5 units	41H
				30 V		5 mA 2 A		3RQ3052-□SM30		1	5 units	41H
						1 mA 2 A		3RQ3052-□SM40		1	5 units	41H
					5 mA 2 A			3RQ3052-□SM50		1	5 units	41H
						5 mA 5 A		3RQ3055-□SM30		1	5 units	41H
3RQ3050-							Manual/ Off/ Automatic	3RQ3065-□SM30		1	5 units	41H
2SM50	AC/DC	110 230 V	110 230 V	110 230 V		1 mA 3 A		3RQ3053-□SG30		1	5 units	41H
	Input o	ouplin	g links						-			
	AC/DC	11 30 V	11 30 V	11 30 V		10 mA 0.5 A		3RQ3070-□SB30		1	5 units	41H

3RQ3070-□SG30

10 mA ...

0.5 A

Type of electrical connection

- Screw terminals
- Spring-loaded terminals (push-in)

110 ... 110 ... 110 ... --230 V 230 V 230 V

5 units

Switching devices – Contactors and contactor assemblies – Contactor relays and relays Coupling relays

SIRIUS 3RQ3 coupling relays, narrow design

Accessories									
	Version				Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Galvanic isolatio	n plates								
1	For electrical se of different types		3RQ3900-0A		1	10 units	41H		
3RQ3900-0A					_				
Connecting comb	For linking the sacurrent carrying • 2-pole				3RQ3901-0A		1	10 units	41H
	4-pole8-pole				3RQ3901-0B 3RQ3901-0C		1	10 units 10 units	41H 41H
	• 16-pole				3RQ3901-0D		1	10 units	41H
Clip-on labels ¹⁾									
3RQ3902-0A	For terminal and • 5 x 5 mm • 6 x 12 mm (for		oeling, white		3RQ3902-0A 3RQ3902-0B			2000 units 1200 units	41H 41H
Tools for opening	g spring-loaded	terminals							
3RA2908-1A	Screwdriver For all SIRIUS de 3.0 mm x 0.5 mr length approx. 2 titanium gray/bla partially insulate		Spring-loaded term (push-in) 3RA2908-1A	ninals 🕥	1	1 unit	41B		
 PC labeling system plates available fro Conta-Clip Verbino (see page 16/18). 	m:		abeling						
	Coupling relays with plug-in relays	Control supply voltage	Material of switching contacts	Number of CO contacts for auxiliary contacts	Article No.	Price per PU		PS*	PG
	Туре	V							
Replacement mo	0000110 11100	04.00	relays with plug-in	relays	0TV7044 7DM00			d E ita	4411
	3RQ3118AM00 3RQ3118AM01		AgSnO2 AgSnO2 hard gold-plated	1	3TX7014-7BM00 3TX7014-7BM02		1	15 units 15 units	41H 41H
	3RQ3118AB00	24 AC/DC	AgSnO2	1	3TX7014-7BM00		1	15 units	41H
	3RQ3118AB01		AgSnO2 hard gold-plated		3TX7014-7BM02		1	15 units	41H
	3RQ3118AE00	115 AC/DC	AgSnO2	1	3TX7014-7BP00		1	20 units	41H
	3RQ3118AF00	230 AC/DC	AgSnO2						
	3RQ3118AE01		AgSnO2 hard gold-plated	1	3TX7014-7BP02		1	20 units	41H
	3RQ3118AF01	230 AC/DC	AgSnO2 hard gold-plated						

Switching devices – Contactors and contactor assemblies – Contactor relays and relays Coupling relays

LZS coupling relays with plug-in relays

Overview

More information

Homepage, see www.siemens.com/sirius-coupling-relays SiePortal, see www.siemens.com/product?3RQ_3RS_LZ TIA Selection Tool Cloud (TST Cloud), see www.siemens.com/tstcloud/?node=SIRIUSRelais

LZS coupling relays with plug-in relays can be ordered as complete units or as individual modules for customer assembly.

Function

The coupling relays with semiconductor output have low power consumption and are therefore particularly well-suited to solid-state systems. In the versions equipped with LEDs, these indicate the switching state. The LZS:PT coupling relays have a test button. This can be used to force the relays into the switching state and to lock it without electrical control. This is indicated by a raised petrol-colored lever.

Control with solid-state output

In the case of solid-state outputs (e.g. proximity switch) with overload and short-circuit protection, you must make allowance during configuration for the temporarily flowing capacitor charging currents! This is possible, for example, by using a suitable LZS coupling relay with plug-in relay.

Surge suppression

The 24 V DC relays LZX:RT and LZX:PT with LEDs can be supplied with, all others without integral surge suppression (freewheeling diode connected in parallel with A1/A2). The positive control supply voltage must be connected to coil terminal A1.

Mounting

The relays are plugged into the base and this is snapped onto a TH 35 DIN rail according to IEC 60715.

For the RT and PT series, a combined fixing and ejection bracket is available which can be used to disassemble the relays when they are mounted side-by-side.

They can be mounted as required.

Logical separation

The terminals for the contacts and the terminals for the coil are arranged on separate levels, e.g. above for contacts and below for coil. Logical separation is not necessarily protective separation.

Protective separation

For protective separation, transfer of the voltage of one circuit to another circuit is prevented to a suitable degree of safety (requirements and tests are described in IEC 60947-1 in Annex N).

Switching devices – Contactors and contactor assemblies – Contactor relays and relays Coupling relays

LZS coupling relays with plug-in relays

Technical specifications

More information	
Technical specifications, see https://support.industry.siemens.com/cs/ww/en/ps/16204/td	Manuals, see https://support.industry.siemens.com/cs/ww/en/ps/16204/man

Relay type		LZX:RT print rela (12.7 mm) 1 CO/2				LZX:PT industrial relay, 8-, 11- and 14-pole, (22.5 mm) 2 CO/3 CO/4 CO				
General data										
Dimensions (W x H x D)										
LZS:RT.A4/LZS:PT.A5	mm	15.5 x 78 x 71			28 x 74 x	72				
LZS:RT.B4/LZS:PT.B5	mm	15.5 x 77 x 71			28 x 77 x	79				
LZS:RT.D4/LZS:PT.D5	mm	15.5 x 98 x 71			28 x 98 x	79				
Rated control supply voltage $U_{\rm s}^{\ 1)}$	V	24 24 AC DC	115 AC	230 AC	24 DC	24 AC	115 AC	230 AC		
Rated insulation voltage <i>U</i> i	V	250								
pollution degree 3)										
Overvoltage category according to IEC 60664-1		III								
Protective separation Detween coil and contacts Detween to IEC 60947-1, Annex N		Up to 250 V (with No (for complete			No					
Degree of protection										
Relays		IP67			IP50					
Bases		IP20								
Permissible ambient temperature										
During operation	°C	-40 +70								
During storage	°C	-40 +80								
Conductor cross-sections										
Connection type		Screw term	inals							
Solid	mm^2	2 x 2.5								
Finely stranded with end sleeve	mm^2	2 x 1.5								
Corresponding opening tool		Screwdriver, size	3.0 3.5 mm x	0.5 mm (3RA2	908-1A)					
Connection type		Plug-in term	ninals (push-ir	1)						
Solid	mm^2	1 x (0.75 1.5), 2	2 x (0.75 1 0)	. 2 x 1.5						
Finely stranded without end sleeve	mm ²	1 x (0.75 1.5), 2	,							
Finely stranded with end sleeve	mm ²	1 x (0.75 1.0), 2	,							

¹⁾ AC voltages, 50 Hz; for 60 Hz operation, the lower response value must be increased by 10%; the power loss will decrease slightly.

Switching devices – Contactors and contactor assemblies – Contactor relays and relays Coupling relays

LZS coupling relays with plug-in relays

Relay type		LZX:RT pri (12.7 mm)	int relay, 8-p 1 CO/2 CO	oole,			lustrial rela 2 CO/3 CO/4	y, 8-, 11- and I CO	14-pole,
Rated control supply voltage $U_s^{1)}$	V	24 DC	24 AC	115 AC	230 AC	24 DC	24 AC	115 AC	230 AC
Control side									
Operating range factor		0.9 1.4	0.9 1.1			0.9 1.4	0.9 1.1		
Power consumption at <i>U</i> _s									
• AC	VA		0.75				1		
• DC	W	0.4		17.0	0.4.5	0.75		04.5	00
Release voltage	V	2.4	3.6	17.3	34.5	2.4	7.2	34.5	69
Protection circuit		Freewheel- ing diode for com- plete unit				Freewheel- ing diode in LED module			
Load side									
Switching voltage AC/DC	V	24 250							
Rated currents ²⁾									
Conventional thermal current I _{th} 1 CO contact 2 CO contacts 3 CO contacts 4 CO contacts	A A A	16 8 				 12 10 6			
Rated operational current I _e AC-15 according to utilization categories (IEC 60947-5-1) 1 CO contact 2 CO contacts 3 CO contacts 4 CO contacts	A A A	6 3	3			4 4 4 4	2 2 2 2		
 Rated operational current I_e DC-13 with suppressor diode according to utilization categories (IEC 60947-5-1) 	Α	2 at 24 V, 0.27 at 230	V			PT2, PT3, P 4 at 24 V, 0.5 at 230 V	T5:		
Short-circuit protection									
Short-circuit test with fuse links of operational class gG with short-circuit current I_k = 1 kA according to IEC 60947-5-1									
DIAZED, type 5SB	Α	10				6			
Min. contact load (reliability: 1 ppm)		Standard 1 hard gold-p	7 V, 10 mA; plated 17 V/0).1 mA		Standard 17 hard gold-p	7 V, 10 mA; plated 20 V/1	mA	
Mechanical endurance									
• 1 CO contact	Oper- ating cycles	30 x 10 ⁶	10 x 10 ⁶	1 x 10 ⁵	7 x 10 ⁴	30 x 10 ⁶	20 x 10 ⁶		
• 2 CO contacts	Oper- ating cycles	30 x 10 ⁶	5 x 10 ⁶	1 x 10 ⁵	8 x 10 ⁴	30 x 10 ⁶	20 x 10 ⁶		
• 3 CO contacts	Oper- ating cycles					30 x 10 ⁶	20 x 10 ⁶		
• 4 CO contacts	Oper- ating cycles					30 x 10 ⁶	20 x 10 ⁶		
Electrical endurance (resistive load at 250 V AC)									
• 1 CO contact	Oper- ating cycles	1 x 10 ⁵	7 x 10 ⁴						
• 2 CO contacts	,	1 x 10 ⁵	8 x 10 ⁴			180 x 10 ³			
• 3 CO contacts	Oper- ating cycles					180 x 10 ³			
4 CO contacts	Oper- ating cycles					250 x 10 ³			

AC voltages, 50 Hz; for 60 Hz operation, the lower response value must be increased by 10%; the power loss will decrease slightly.

²⁾ Capacitive loads can result in micro-welding on the contacts.

Switching devices - Contactors and contactor assemblies - Contactor relays and relays Coupling relays

LZS coupling relays with plug-in relays

Selection	and	ordering	data
-----------	-----	----------	------

	Version	Rated control supply voltage $U_{\rm S}$ at 50/60 Hz AC	Contacts, number of CO contacts		Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		V		mm					
te units	s, 11- and 14-pole, P								
	Comprising: Coupling relay wit Standard plug-in s	ng on TH 35 DIN rail h plug-in relay socket with screw terminal DC version: LED module		eeling	Screw terminals	+			
_24	3 CO contacts	24 DC 24 AC 115 AC 230 AC	3	28	LZS:PT3A5L24 LZS:PT3A5R24 LZS:PT3A5S15 LZS:PT3A5T30		1 1 1 1	5 units 5 units 5 units 5 units	41H 41H 41H 41H
	4 CO contacts	24 DC 24 AC 115 AC 230 AC	4	28	LZS:PT5A5L24 LZS:PT5A5R24 LZS:PT5A5S15 LZS:PT5A5T30		1 1 1 1	5 units 5 units 5 units 5 units	41H 41H 41H 41H
	Comprising: • Coupling relay wit • Plug-in socket with	ntion ng on TH 35 DIN rail n plug-in relay n logical separation and so DC version: LED module							
	4 CO contacts	24 DC 24 AC 115 AC 230 AC	4	28	LZS:PT5B5L24 LZS:PT5B5R24 LZS:PT5B5S15 LZS:PT5B5T30		1 1 1 1	5 units 5 units 5 units 5 units	41H 41H 41H 41H
units	s, 8- and 14-pole, PT	series							
	Complete units wit With logical separa For snap-on mountil Comprising: • Coupling relay wit	ation ng on TH 35 DIN rail			Plug-in terminals (push-in)	٥			

LZS:PT5D5L24

- Plug-in socket with logical separation and plug-in terminals (push-in)

 LED module (24 V DC version: LED module with freewheeling
- diode)
- Fixing/ejection bracket
- Labeling plate 2

4

Laboiii ig piato			
CO contacts	24 DC 230 AC	2	28
CO contacts	24 DC 24 AC 115 AC 230 AC	4	28

LZS:PT2D5L24 LZS:PT2D5T30 5 units 41H 5 units 41H LZS:PT5D5L24 5 units 41H LZS:PT5D5R24 5 units 41H LZS:PT5D5S15 5 units 41H LZS:PT5D5T30 5 units 41H

Note:

Logical separation: The terminals for the contacts and the terminals for the coil are arranged on separate levels, e.g. above for contacts and below for the coil. Logical separation is not necessarily protective separation.

Protective separation: Protective separation prevents voltage of one circuit affecting another circuit with sufficient protection (IEC 61140).

Switching devices – Contactors and contactor assemblies – Contactor relays and relays Coupling relays

LZS coupling relays with plug-in relays

	Version	Rated control supply voltage $U_{\rm s}$ at 50/60 Hz AC	Contacts, number of CO contacts	Width	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		V		mm					
Individual mod	lules for customer a								
	-	8-, 11-, and 14-pole							
1	Mini industrial relay								
	 With test bracket a switch position ind 	ind mechanical icator, without LED ¹⁾							
	·	24 DC	2	22.5	LZX:PT270024		1	1 unit	41H
SIEMENS ZX: PT370024			3 4		LZX:PT370024 LZX:PT570024		1	1 unit 1 unit	41H 41H
LZX:PT370024		24 AC	2	22.5	LZX:PT270524		1	1 unit	41H
		21710	3	ZZ.O	LZX:PT370524		1	1 unit	41H
		445.40	4		LZX:PT570524		1	1 unit	41H
		115 AC	2	22.5	LZX:PT270615 LZX:PT370615		1	1 unit 1 unit	41H 41H
			4		LZX:PT570615		1	1 unit	41H
		230 AC	2	22.5	LZX:PT270730		1	1 unit	41H
			3 4		LZX:PT370730 LZX:PT570730		1 1	1 unit 1 unit	41H 41H
	With hard gold-pla	ting							
		24 DC	4	22.5	LZX:PT580024		1	1 unit	41H
	- \A(\frac{1}{2} \rightarrow \frac{1}{2} \rightarrow \f	230 AC			LZX:PT580730		1	1 unit	41H
	Without test bracket	et 24 DC	4	22.5	LZX:PT520024		1	1 unit	41H
		230 AC	4	22.5	LZX:PT520024 LZX:PT520730		1	1 unit	41H
and the second	Plug-in sockets i	for PT relays							
0000	Standard plug-in so For mounting on TH	ockets 35 DIN rail			Screw terminals	1			
A			2	28	LZS:PT78720		1	1 unit	41H
			4		LZS:PT78730 LZS:PT78740		1	1 unit 1 unit	41H 41H
3001									
LZS:PT78740									
	Plug-in sockets wit For mounting on TH	h logical separation 35 DIN rail							
5 6			2	28	LZS:PT78722		1	1 unit	41H
2000			4		LZS:PT78742		1	1 unit	41H
6									
10 C 65									
LZS:PT78722									
		h logical separation			Plug-in terminals				
	For mounting on TH	35 DIN rail			(push-in)				
200			2 4	28	LZS:PT7872P LZS:PT7874P		1	1 unit 1 unit	41H 41H
2500					220.110141			i dini	
1.70.DT7074D									
LZS:PT7874P									

LZS:PT7874F

Note:

Logical separation: The terminals for the contacts and the terminals for the coil are arranged on separate levels, e.g. above for contacts and below for the coil. Logical separation is not necessarily protective separation.

Protective separation: Protective separation prevents voltage of one circuit affecting another circuit with sufficient protection (IEC 61140).

¹⁾ The test bracket is designed to be non-latching. If the test bracket is pressed further until 90° has been reached, two small lugs break off and the test bracket can be latched in position.

Switching devices - Contactors and contactor assemblies - Contactor relays and relays Coupling relays

LZS coupling relays with plug-in relays

	Version	Rated control supply voltage $U_{\rm S}$ at 50/60 Hz AC	Contacts, number of CO contacts	Width	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		V		mm					
Individual mod	ules for customer ass	embly, PT series							
	More individual mo	dules							
	LED modules								
	• Red								
	- With freewheeling	24 DC		12.5	LZS:PTML0024		1	1 unit	41H
LZS:PTML0024	diode - Without freewheeling diode	24 AC/DC 110 230 AC			LZS:PTML0524 LZS:PTML0730		1 1	1 unit 1 unit	41H 41H
	• Green								
	 With freewheeling diode 	24 DC		12.5	LZS:PTMG0024		1	1 unit	41H
LZS:PT17021	- Without freewheeling diode	24 AC/DC 110 230 AC			LZS:PTMG0524 LZS:PTMG0730		1 1	1 unit 1 unit	41H 41H
£ 1	Fixing/ejection bracke With logical separation								
	Screw terminals and plug-in terminals (push-in)			26	LZS:PT17021		100	10 units	41H
	Fixing/ejection bracke Without logical separa		n socket						
LZS:PT17024	Screw terminals			26	LZS:PT17024		100	10 units	41H
	Labeling plates								
	-			26	LZS:PT17040		100	10 units	41H
LZS:PT17040	RC elements								
		6 60 AC		26	LZS:PTMU0524		1	1 unit	41H
		110 230 AC			LZS:PTMU0730		1	1 unit	41H
	Freewheeling diode w								
		6 230 DC		26	LZS:PTMT00A0		1	1 unit	41H
S:PTMU0730	Connecting combs for								
	6-pole, 10 A current-cal natural-colored	rrying capacity,							
					LZS:PT170R6		1	10 units	41H
	Connecting brackets f	•							
	2-pole, 10 A current-cal natural-colored	rrying capacity,							
					LZS:PT170P1		1	10 units	41H

Note:

Logical separation: The terminals for the contacts and the terminals for the coil are arranged on separate levels, e.g. above for contacts and below for the coil. Logical separation is not necessarily protective separation.

Protective separation: Protective separation prevents voltage of one circuit affecting another circuit with sufficient protection (IEC 61140).

SITOP DC power supplies such as 6EP1331-5BA00 or 6EP1331-5BA10 can be used for unavailable coil voltages, see page 15/1 or Catalog KT 10.1.

Switching devices - Contactors and contactor assemblies - Contactor relays and relays Coupling relays

LZS coupling relays with plug-in relays

	Version	Rated control supply voltage $U_{\rm S}$ at 50/60 Hz AC	Contacts, number of CO contacts	Width	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		V		mm					
Complete units,	, 8-pole, 5 mm pinn	ing, RT series							
	For snap-on mountir Comprising: Coupling relay with Standard plug-in s LED module (24 V diode) Fixing/ejection bra Labeling plate	n plug-in relay ocket with screw terminals DC version: LED module v	s with freewh		Screw terminals	+			
LZS:RT4A4T30	1 CO contact	24 DC 24 AC 115 AC 230 AC	1	15.5	LZS:RT3A4L24 LZS:RT3A4R24 LZS:RT3A4S15 LZS:RT3A4T30		1 1 1 1	5 units 5 units 5 units 5 units	41H 41H 41H 41H
	2 CO contacts	24 DC 24 AC 115 AC 230 AC	2	15.5	LZS:RT4A4L24 LZS:RT4A4R24 LZS:RT4A4S15 LZS:RT4A4T30		1 1 1	5 units 5 units 5 units 5 units	41H 41H 41H 41H
		tion g on TH 35 DIN rail n plug-in relay logical separation and so DC version: LED module							
LZS:RT4B4T30	1 CO contact	24 DC 24 AC 115 AC 230 AC	1	15.5	LZS:RT3B4L24 LZS:RT3B4R24 LZS:RT3B4S15 LZS:RT3B4T30		1 1 1 1	5 units 5 units 5 units 5 units	41H 41H 41H 41H
	2 CO contacts	24 DC 24 AC 115 AC 230 AC	2	15.5	LZS:RT4B4L24 LZS:RT4B4R24 LZS:RT4B4S15 LZS:RT4B4T30		1 1 1 1	5 units 5 units 5 units 5 units	41H 41H 41H 41H
	(push-in)	tion g on TH 35 DIN rail n plug-in relay logical separation and pl DC version: LED module			Plug-in terminals (push-in)				
LZS:RT3D4L24	1 CO contact	24 DC 24 AC 115 AC 230 AC	1	15.5	LZS:RT3D4L24 LZS:RT3D4R24 LZS:RT3D4S15 LZS:RT3D4T30		1 1 1 1	5 units 5 units 5 units 5 units	41H 41H 41H 41H
	2 CO contacts	24 DC 24 AC 115 AC 230 AC	2	15.5	LZS:RT4D4L24 LZS:RT4D4R24 LZS:RT4D4S15 LZS:RT4D4T30		1 1 1 1	5 units 5 units 5 units 5 units	41H 41H 41H 41H

Note:

Logical separation: The terminals for the contacts and the terminals for the coil are arranged on separate levels, e.g. above for contacts and below for the coil. Logical separation is not necessarily protective separation.

Protective separation: Protective separation prevents voltage of one circuit affecting another circuit with sufficient protection (IEC 61140).

Switching devices – Contactors and contactor assemblies – Contactor relays and relays Coupling relays

LZS coupling relays with plug-in relays

	Version	Rated control supply voltage <i>U</i> _s at 50/60 Hz AC	Contacts, number of CO contacts	Width	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		V		mm					
Individual mod	ules for customer asse	• •							
	Print relays, 8-pole, or Print relays With hard gold-plating Version with 1 CO contact	, ,							
LZX:RT314024		24 DC 230 AC	1	12.7	LZX:RT315024 LZX:RT315730		1 1	1 unit 1 unit	41H 41H
	Print relays Version with 1 CO contact	et							
		24 DC 24 AC 115 AC 230 AC	1	12.7	LZX:RT314024 LZX:RT314524 LZX:RT314615 LZX:RT314730		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41H 41H 41H 41H
00.	Version with 2 CO contact	ets 12 DC	2	12.7	LZX:RT424012		1	1 unit	41H
LZS:RT78725		24 DC 24 AC	_		LZX:RT424024 LZX:RT424524		1	1 unit	41H 41H
6 G		115 AC 230 AC			LZX:RT424324 LZX:RT424615 LZX:RT424730		1 1	1 unit 1 unit 1 unit	41H 41H
C C	Standard plug-in socke For mounting on TH 35 D				Screw terminals	+			
	Plug-in socket with logi	 ical congration		15.5	LZS:RT78725		1	1 unit	41H
00	For mounting on TH 35 D								
LZS:RT78726	Plug-in socket with logi	 ical senaration		15.5	LZS:RT78726 Plug-in terminals		1	1 unit	41H
	For mounting on TH 35 D			15.5	(push-in) LZS:RT7872P		1	1 unit	41H
	LED modules • Red			10.0	L23.1117072F		<u>'</u>	1 Unit	4111
	With freewheeling diode	24 DC		15.5	LZS:PTML0024		1	1 unit	41H
LZS:RT7872P	Without freewheeling diode	24 AC/DC 110 230 AC			LZS:PTML0524 LZS:PTML0730		1 1	1 unit 1 unit	41H 41H
LZ5:R17872P	 Green With freewheeling diode 	24 DC		15.5	LZS:PTMG0024		1	1 unit	41H
•	Without freewheeling diode	24 AC/DC 110 230 AC		10.0	LZS:PTMG0524 LZS:PTMG0730		1	1 unit 1 unit	41H 41H
LZS:PTML0024	Fixing/ejection brackets For RT base	S							
60 6				15.5	LZS:RT17016		100	10 units	41H
LZS:RT17016	Labeling plates			15.5	LZS:RT17040		100	10 units	41H
	RC elements	6 60 AC 110 230 AC		15.5	LZS:PTMU0524 LZS:PTMU0730		1	1 unit 1 unit	41H 41H
LZS:RT17040	Freewheeling diode wit				EZS.F TWOO730		1	T GITTE	4111
		6 230 DC		15.5	LZS:PTMT00A0		1	1 unit	41H
	Connecting combs for last the second				LZS:RT170R8		1	10 units	41H
LZS:PTMU0730	capacity, natural-colored Connecting brackets fo 2-pole,				LZS:RT170P1		100	10 units	41H
	10 A current-carrying capacity, natural-colored								

Note:

SITOP DC power supplies such as 6EP1331-5BA00 or 6EP1331-5BA10 can be used for unavailable coil voltages, see page 15/1 or Catalog KT 10.1.

Switching devices – Contactors and contactor assemblies – Contactor relays and relays

Notes





Price groups

PG 140, 41B, 41C, 41E, 41H, 41L, 42G, 42J, 42S

Introduction

SIRIUS 3RW soft starters

General data

High Performance soft starters

3RW55 soft starters

6/15 - General data

- Standard (inline) circuit

- Inside-delta circuit

- Accessories

3RW55 Failsafe soft starters

- General data

- Standard (inline) circuit

- Inside-delta circuit

- Accessories

General Performance soft starters

3RW52 soft starters

- General data

- Standard (inline) circuit

6/69 - Inside-delta circuit

- Accessories

Basic Performance soft starters

3RW50 soft starters

- General data

- Standard (inline) circuit

- Accessories

3RW40 soft starters

- General data

- Standard (inline) circuit

- Accessories

3RW30 soft starters

- General data

6/94

6/104

- Standard (inline) circuit 6/103

- Accessories

Spare parts

6/106 For 3RW55

6/110 For 3RW55 Failsafe

6/112 For 3RW52

6/115 For 3RW50

Software

Simulation Tool for Soft Starters (STS)

SIRIUS Soft Starter ES

(TIA Portal) **NEW**

SIRIUS 3RW soft starter block library for

SIMATIC PCS 7

SIRIUS Sim

Solid-state switching devices for resistive/inductive loads

SIRIUS 3RF2 solid-state relays and

solid-state contactors

General data

Solid-state relays

6/121 - General data

6/122

6/136

- SIRIUS 3RF21 solid-state relays,

1-phase, 22.5 mm

6/128 - SIRIUS 3RF20 solid-state relays, 1-phase, 45 mm

- SIRIUS 3RF22 solid-state relays, 6/132

3-phase, 45 mm

Solid-state contactors

6/135 - General data

- SIRIUS 3RF23 solid-state contactors,

1-phase

6/146 - SIRIUS 3RF24 solid-state contactors,

3-phase

SIRIUS 3RF29 function modules

6/150 General data

6/152 SIRIUS converters for 3RF2

6/153 SIRIUS load monitoring for 3RF2

6/154 SIRIUS heating current monitoring

for 3RF2

6/155 SIRIUS power controllers for 3RF2

SIRIUS power regulators for 3RF2 6/157

SIRIUS 3RF34 solid-state switching devices for switching motors

Solid-state contactors

6/159 General data

SIRIUS 3RF34 solid-state contactors, 6/162

3-phase

6/165 SIRIUS 3RF34 solid-state reversing

contactors, 3-phase

Introduction

Overview

More information

Homepage, see www.siemens.com/sirius-soft-starter SiePortal, see www.siemens.com/product?3RW

TIA Selection Tool Cloud (TST Cloud), see www.siemens.com/tstcloud/?node=Śirius3rwFolder SiePortal topic page, see

https://support.industry.siemens.com/cs/ww/en/view/109747404

Simulation Tool for Soft Starters (STS), see page 6/9 or https://support.industry.siemens.com/cs/ww/en/view/101494917

Conversion tool, see www.siemens.com/conversion-tool













3RW55

3RW55 Failsafe

Article No.

3RW55..-.HA..

3RW55..-.HF..

Page

6/15

6/39

3RW soft starters

High Performance soft starters

3RW55 soft starters

- TIA integration optional
- Plug-in communications modules for PROFINET, PROFIBUS, EtherNet/IP and Modbus
- Removable HMI module with color display, local interface and slot for a micro SD memory card
- Extended protection functions
- Up to 1 200 kW at 400 V (can be used in supply systems up to 690 V)
- · Automatic parameterization for simple commissioning and reliability even under changing load conditions
- Hybrid switching technology for minimum power loss and 3-phase motor control for optimum/symmetrical motor control
- Pump stop for reduced mechanical loading and optimum pump stop control
- ATEX/IECEx certification
- System redundancy S2 (with PROFINET High-Feature communications module)

3RW55 Failsafe soft starters

- TIA integration optional
- Plug-in communications modules for PROFINET, PROFIBUS, EtherNet/IP and Modbus
- · Removable HMI module with color display, local interface and slot for a micro SD memory card
- · Extended protection functions
- Up to 560 kW at 400 V (can be used in supply systems up to 480 V)
- SIL 1/PL c/STO without additional components
- SIL 3/PL e/STO with additional contactor and safety relay
- Hybrid switching technology for minimum power loss and 3-phase motor control for optimum/symmetrical motor control
- Pump stop for reduced mechanical loading and optimum pump stop control
- ATEX/IECEx certification
- System redundancy S2 (with PROFINET High-Feature communications module)

General Performance soft starters

3RW52 soft starters

- TIA integration optional
- Plug-in communications modules for PROFINET, PROFIBUS, EtherNet/IP and Modbus
- HMI modules optional
- · Soft starting and stopping
- Current limiting
- Motor overload protection (optionally with thermistor motor protection)
- Analog output (optional)
- Up to 560 kW at 400 V (can be used in supply systems up to 600 V)
- Hybrid switching technology for minimum power loss and 3-phase motor control for optimum/symmetrical motor control
- Soft Torque for reduced mechanical loading and optimum pump stop
- · Parameterization using potentiometers

3RW52

6/55

Introduction













3RW55

3RW55 Failsafe

7750

Article No. Page

3RW30

3RW soft starters

Basic	Performance	soft starters

3RW50 soft starters	 TIA integration optional Communications modules for PROFINET, PROFIBUS, EtherNet/IP and Modbus HMI modules optional Soft starting and stopping Current limiting Motor overload protection (optionally with thermistor motor protection) Analog output (optional) Up to 315 kW at 400 V (can be used in supply systems up to 600 V) Hybrid switching technology for minimum power loss and 2-phase motor control Soft Torque for reduced mechanical loading and optimum pump stop Parameterization using potentiometers ATEX/IECEx certification 	3RW50	6/73
3RW40 soft starters	 Soft starting and stopping Current limiting Motor overload protection (optionally with thermistor motor protection) Up to 55 kW at 400 V (can be used in supply systems up to 600 V) Hybrid switching technology for minimum power loss and 2-phase motor control ATEX certification 	3RW40	6/84
3RW30 soft starters	 Soft starting with voltage ramp Up to 55 kW at 400 V (can be used in supply systems up to 480 V) 	3RW30	6/96

Use of SIRIUS 3RW soft starters in conjunction with IE3 and IE4 motors

Note:

For the use of SIRIUS 3RW soft starters in conjunction with highly efficient IE3 and IE4 motors, please observe the information on dimensioning and configuring, see Application Manual.

For more information, see page 1/8.

Decision support for motor start – Starting and running three-phase asynchronous motors efficiently



Decision support tool for motor start

By asking some short questions about the application, this tool provides the optimum individual drive solution.

Based on this approach, you are taken to the correct product configurator where you can select suitable products, see www.siemens.com/motorstart-guide.

Introduction

More information SiePortal, see www.siemens.com/product?3RF Online configurator, see www.siemens.com/sirius/configurators Conversion tool, see www.siemens.com/conversion-too 3RF23 3RF21 3RF20 3RF22 3RF24 3RF29 3RF34 (motor) Article No. Page SIRIUS solid-state switching devices for switching resistive/inductive loads Solid-state relays 3RF21 3RF20 3RF22 Solid-state relays • Widths of 22.5 mm and 45 mm 6/122 6/128 · Compact and space-saving design 6/132 • "Zero-point switching" version · Mounting on existing cooling surfaces Solid-state contactors Solid-state contactors • Complete units comprising a solid-state relay and an optimized heat sink, "ready to use" 3RF24 6/146 · Compact and space-saving design Versions for resistive loads "zero-point switching" and inductive loads "instantaneous switching" • Special "low noise" and "short-circuit-proof" versions Function modules For extending the functionality of the 3RF21 solid-state relays and the 3RF23 solid-state contactors for many different applications For converting an analog input signal into an on/off ratio; can also be used on 3RF22 and 3RF24 3-phase switching devices 3RF2900-0EA18 Converters 6/152 Load monitoring • For load monitoring of one or more loads (partial loads) 3RF29..-0FA08, 6/153 3RF29.0-0GA1. Heating current monitoring • For load monitoring of one or more loads (partial loads); 3RF29..-0JA.. 6/154 remote teach 3RF29..-0KA.. Power controllers • For setting the current by means of a solid-state switching device 6/155 depending on a setpoint value set by the power controlled There is a choice of full-wave control and generalized phase control 3RF29.0-0HA.. **Power regulators** • For regulating the current by means of a solid-state switching device, 6/157 depending on a setpoint value set by the power regulator. Closed-loop control: full-wave control or generalized phase control SIRIUS solid-state switching devices for switching motors Solid-state contactors • Complete units in the insulated enclosure with integrated heat sink, 3RF34 6/162, 6/165 Solid-state contactors,

Use of SIRIUS 3RF34 solid-state switching devices for switching motors in conjunction with IE3 and IE4 motors

"ready to use"

Compact and space-saving designVersion for motors, "instantaneous switching"

Note:

For the use of SIRIUS 3RF34 solid-state switching devices for switching motors in conjunction with highly efficient IE3 and IE4 motors, please observe the information on dimensioning and configuring, see Application Manual.

For more information, see page 1/8.

solid-state reversing contactors

Switching devices – Soft starters and solid-state switching devices SIRIUS 3RW soft starters

General data

Overview

More information

Homepage, see www.siemens.com/sirius-soft-starter

SiePortal, see www.siemens.com/product?3RW

TIA Selection Tool Cloud (TST Cloud), see

www.siemens.com/tstcloud/?node=Sirius3rwFolder

SiePortal topic page, see

https://support.industry.siemens.com/cs/ww/en/view/109747404

Simulation Tool for Soft Starters (STS), see page 6/9 or https://support.industry.siemens.com/cs/ww/en/view/101494917

SIRIUS Soft Starter ES (TIA Portal), see page 6/9 or https://support.industry.siemens.com/cs/ww/en/ps/24230/dl

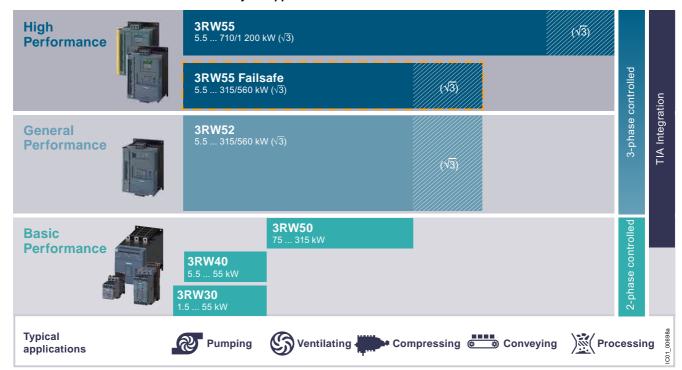
Decision support for motor start – Starting and operating three-phase asynchronous motors efficiently, see www.siemens.com/motorstart-guide

Conversion tool, see www.siemens.com/conversion-tool



Video: Soft starter teaser

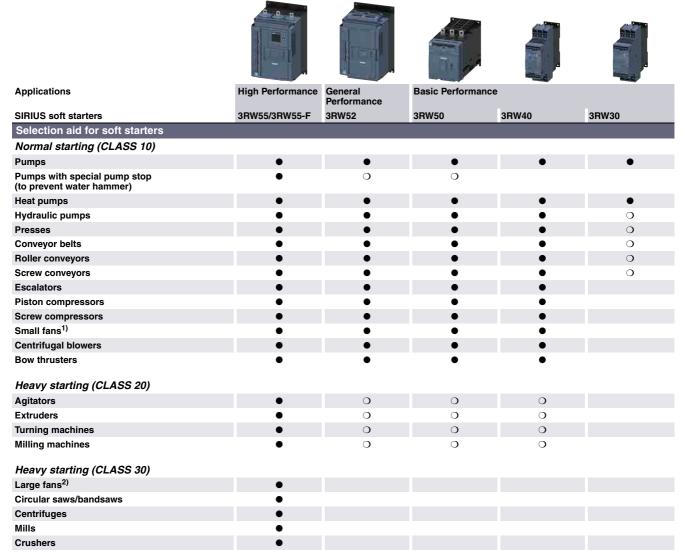
SIRIUS 3RW soft starters - as versatile as your application



SIRIUS 3RW soft starters

Switching devices – Soft starters and solid-state switching devices SIRIUS 3RW soft starters

General data



Recommended soft starter

O Possible soft starter

¹⁾ The mass inertia of the fan is <10 times the mass inertia of the motor.

 $^{^{2)}\,}$ The mass inertia of the fan is $\geq \! 10$ times the mass inertia of the motor.

Switching devices – Soft starters and solid-state switching devices SIRIUS 3RW soft starters

General data













					-		
Applications		High Performa	ance	General Performance	Basic Performance		
SIRIUS soft starters		3RW55	3RW55-F	3RW52	3RW50	3RW40	3RW30
General technical specifications							
Operational current at 40 °C	Α	13 2 217	13 987	13 987	143 570	12.5 106	3 106
Operational voltage	V	200 690 ¹⁾	200 480	200 600	200 600	200 600	200 480
Operating power for three-phase motors							
 At 400 V, at 40 °C Standard (inline) circuit Inside-delta circuit 	kW kW	5.5 710 11 1 200	5.5 315 11 560	5.5 315 11 560	75 315 	5.5 55 	1.5 55
At 460/480 V at 50 °C Standard (inline) circuit Inside-delta circuit	hp hp	7.5 1 000 10 1 700	7.5 400 10 750	7.5 400 10 750	100 400	7.5 75 	1.5 75
Ambient temperature ²⁾	°C	-25 +60	-25 +60	-25 +60	-25 +60	-25 +60	-25 +60
Soft starting/stopping		1	1	1	/	1	√ 3)
Voltage ramp		/	1	1	/	/	/
Starting voltage	%	20 100	20 100	30 100	30 100	40 100	40 100
Ramp-up and ramp-down time	S	0 360	0 360	0 20	0 20	0 20	0 20 ³⁾
Pump stop (torque control) ⁴⁾	_	1	✓ J				
Starting torque	%	10 100	10 100				
Torque limit	%	20 200	20 200				
Soft Torque (torque limit)				1	/		
Integral bypass contact system		1	1	1	1	1	1
Intrinsic device protection		/	/	/	1	/	
Motor overload protection		✓ ⁵⁾	✓ ⁵⁾	1	√ ⁵⁾	√ ⁵⁾	
Thermistor motor protection evaluation		1	/	√ ⁶⁾	√ 6)	√ 6)	
Analog output		1	✓	√ 6)	√ 6)		
Remote RESET		/	/	/	1	/	
Adjustable current limiting		1	1	1	1	1	
Inside-delta circuit ¹⁾		1	1	1			
Breakaway pulse		1	✓				
Automatic parameterization		1	1				
Pump cleaning		1	1				
Condition monitoring		1	1				
User account administration ⁷⁾		1	1				
Creep speed in both directions of rotation		/					
Reversing operation		1	✓				
Reversing DC braking ⁴⁾⁸⁾		1					
DC braking ⁴⁾⁸⁾		1					
Dynamic DC braking ⁴⁾⁸⁾		1					
Motor heating		/					
Communication function ⁹⁾		1	1	1	1		
HMI module installable in the control cabinet door		√	1	√ 9)	√ 9)		
Operating measured value display		1	✓	√ ⁹⁾	√ ⁹⁾		
Logbooks		✓	✓	√ ⁹⁾	√ ⁹⁾		
Statistical data and min/max pointer function		✓	✓	√ 9)	✓ ⁹⁾		
Trace function ⁷⁾		1	1				
Programmable control inputs and outputs		/	✓				
Number of parameter sets		3	3	1	1	1	1
Configurable via software ⁷⁾		1	1				
Number of controlled phases		3	3	3	2	2	2
Heavy starting CLASS 30 ⁴⁾		✓	✓				

[✓] Function available

⁻⁻ Function not available

¹⁾ Inside-delta circuit only up to operational voltage 600 V.

²⁾ Note derating above 40 °C.

³⁾ Only soft starting available for 3RW30.

⁴⁾ Calculate soft starter and motor with overdimension where required.

⁵⁾ When using the motor overload protection according to ATEX/IECEx, an upstream contactor may be required, see page 6/13.

⁶⁾ Special device versions only.

⁷⁾ With software Soft Starter ES (TIA Portal).

⁸⁾ Not possible in inside-delta circuit.

⁹⁾ Only in conjunction with special accessories.

Switching devices – Soft starters and solid-state switching devices SIRIUS 3RW soft starters

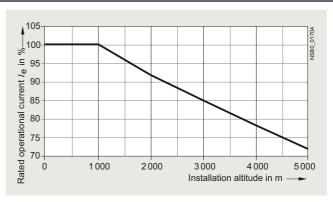
General data

Constraints

The 3RW soft starters should always be designed on the basis of the required rated operational current of the motor. The motor ratings listed in the selection and ordering data are rough guide values and designed for basic starting conditions (CLASS 10). For other starting conditions, we recommend the Simulation Tool for Soft Starters (STS).

Motor rating data in kW and hp are based on IEC 60947-4-1.

At an installation altitude above 2 000 m, the max. permissible operational voltage is reduced to 480 $\rm V$.



Installation altitude for SIRIUS 3RW soft starters

The selection and ordering data were determined for the following constraints (stand-alone installation without auxiliary fan)



Applications		High Performance	General Performance	Basic Performand	e	
SIRIUS soft starters		3RW55/3RW55-F	3RW52	3RW50	3RW40	3RW30
Constraints						
Maximum starting time	S	20	10			3
Maximum starting current in % of motor current	I_{e}	300				
Maximum number of starts per hour	1/h	5				20

Switching devices – Soft starters and solid-state switching devices SIRIUS 3RW soft starters

General data

Simulation Tool for Soft Starters (STS) (see page 14/4)



Easy input of motor and load data

The Simulation Tool for Soft Starters (STS) provides a convenient means of designing soft starters using a simple, quick and easy-to-use interface. Entering the motor and load data will simulate the application and prompt suggestions for suitable soft starters.

- Simple, quick and user-friendly interface
- Detailed and up-to-date Siemens motor database, including IE3 and IE4 motors
- Simulation of heavy starting up to CLASS 30
- Update-capable (e.g. motors, load types, functions)
- · Fast simulations with minimum input data
- Immediate, graphical curve charts of start operations with limit values
- Table view of suitable soft starters for the application

The Simulation Tool for Soft Starters (STS) is available as a free download for Windows and as an app (for Android and iOS).

SIRIUS Soft Starter ES (TIA Portal) (see page 14/5 onwards)



Easy and clearly arranged parameter setting of the SIRIUS 3RW44 and 3RW55 soft starters with SIRIUS Soft Starter ES (TIA Portal)

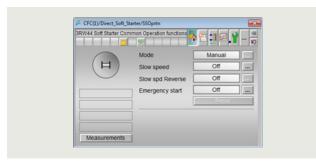
The SIRIUS Soft Starter ES (TIA Portal) software permits quick and easy parameterization, monitoring and diagnostics of SIRIUS 3RW44 and 3RW5 soft starters for service purposes.

- Transparent setting of the device functions and their parameters – online and offline
- Effective diagnostics functions on the soft starter and display of the most important measured values
- Trace function (oscilloscope function) for recording measured values and events (only in the Professional software version)
- Time savings through shorter startup times
- Fast, low-cost licensing using a simple licensing procedure (also available online)

Switching devices – Soft starters and solid-state switching devices SIRIUS 3RW soft starters

General data

SIRIUS 3RW soft starter block library for SIMATIC PCS 7 (see page 14/8 onwards)

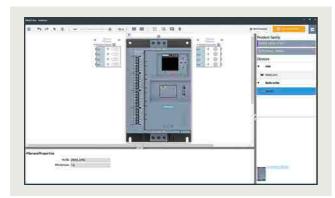


Faceplate of the motor block

The SIRIUS 3RW soft starter block library for PCS 7 can be used for simple and convenient integration of SIRIUS 3RW44, 3RW52 and 3RW55 soft starters into the SIMATIC PCS 7 process control system.

The SIRIUS 3RW soft starter block library for PCS 7 contains the diagnostics and driver blocks that correspond to the SIMATIC PCS 7 diagnostics and driver concept as well as the elements (symbols and faceplates) required for operator control and process monitoring.

SIRIUS Sim (see page 14/25 onwards)



SIRIUS Sim 3RW55

The SIRIUS simulation tool can be used to quickly and easily test functions and configurations in an office environment. These configurations can then be loaded directly into real devices.

SIRIUS Sim V2.0 integrates the SIRIUS 3RW55 and SIRIUS 3RW55 Failsafe soft starters with the following features:

- Complete parameterization of the SIRIUS 3RW55 High Performance soft starters
- Complete navigation with the same menu structure as on the HMI
- Optional storage of the parameterization on a micro SD memory card for transfer to the real soft starter
- Simulation of starting and stopping, including operating phases as well as different fault conditions

SIRIUS Sim is available as a free download.

SIRIUS 3RW55 and 3RW55 Failsafe system redundancy S2 with PROFINET High-Feature communications module (see pages 6/37 and 6/53)



PROFINET High-Feature communications module 3RW5950-0CH00

The PROFINET High-Feature communications module for the SIRIUS 3RW55 and SIRIUS 3RW55 Failsafe soft starters supports the S2 system redundancy mechanisms of PROFINET IO from firmware version 3.0 and can therefore be operated directly on fault-tolerant systems, such as SIMATIC S7-400H and S7-1500H. As such, 3RW55 and 3RW55 Failsafe soft starters can provide decisive added value also for the field level of plants in which plant availability and control system redundancy are priorities.

Switching devices – Soft starters and solid-state switching devices SIRIUS 3RW soft starters

General data

Circuit concept

3-phase controlled SIRIUS 3RW soft starters can be operated in two different types of circuit:

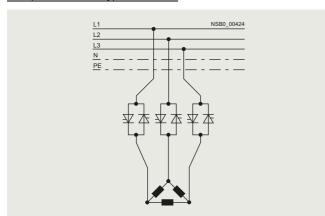
• Standard (inline) circuit

The controls for isolating and protecting the motor are simply connected in series with the soft starter. The motor is connected to the soft starter with three cables.

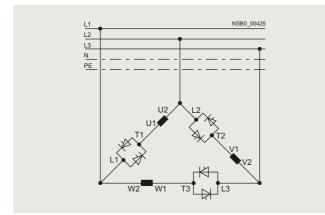
• Inside-delta circuit

The wiring is similar to that of star-delta (wye-delta) starters. The phases of the soft starter are connected in series with the individual motor windings. The soft starter then only has to carry the phase current, amounting to about 58% of the rated motor current (conductor current).

Comparison of the types of circuit



Standard (inline) circuit: Rated current $I_{\rm e}$ corresponds to the rated motor current $I_{\rm D}$, three cables to the motor



Inside-delta circuit: Rated current $I_{\rm e}$ corresponds to approx. 58% of the rated motor current $I_{\rm n}$, six cables to the motor (as for star-delta (wye-delta) starters)

Which circuit?

Using the standard (inline) circuit involves the lowest wiring outlay. If the soft starter to motor connections are long, this circuit is preferable.

The wiring complexity is twice as high when using the insidedelta circuit, but a smaller device can be used with the same rating. Thanks to the choice of operating mode between the standard (inline) circuit and inside-delta circuit, it is always possible to select the most favorable solution.

The braking function is possible only in the standard (inline) circuit. The inside-delta circuit cannot be used in 690 V line supplies.

Configuration

The solid-state 3RW soft starters are designed for normal starting. In case of heavy starting or increased starting frequency, a larger unit must be selected. The 3RW50 and 3RW52 soft starters may be used in isolated supply networks (IT systems) up to 600 V AC and the 3RW55 soft starters even up to 690 V.

For long starting times it is recommended to have a PTC thermistor or temperature switch in the motor. This also applies for the ramp-down modes torque control, pump stop and DC braking, because during the ramp-down time in these modes, an additional current loading applies in contrast to free ramp-down.

No capacitive elements are permitted in the motor feeder between the SIRIUS 3RW soft starter and the motor (e.g. no reactive power compensation equipment). In addition, neither static systems for reactive power compensation nor dynamic PFC (Power Factor Correction) must be operated in parallel during starting and stopping of the soft starter. This is important to prevent faults arising on the compensation equipment and/or the soft starter.

All elements of the main circuit (such as fuses and switching devices) should be dimensioned for direct-on-line starting, following the local short-circuit conditions. Fuses and switching devices must be ordered separately. The harmonic component load of the starting current must be taken into consideration for the selection of motor starter protectors/circuit breakers (selection of release). Please observe the maximum switching frequencies specified in the technical specifications.

Notes:

When three-phase motors are switched on, voltage drops occur as a rule on starters of all types (direct-on-line starters, star-delta (wye-delta) starters, soft starters). The infeed transformer must always be dimensioned such that the voltage dip when starting the motor remains within the permissible tolerance. If the infeed transformer is dimensioned with only a small margin, it is best for the control voltage to be supplied from a separate circuit (independently of the main voltage) in order to avoid the potential switching off of the soft starter.

For dimensioning soft starters, we recommend our Simulation Tool for Soft Starters (STS), see page 6/9 or our Technical Support, www.siemens.com/support-request.

Recommended parameters for the initial commissioning of our SIRIUS 3RW soft starters are listed in every report of our Simulation Tool for Soft Starters (STS). In addition, our High Performance soft starters provide support by means of their commissioning wizards.

Switching devices – Soft starters and solid-state switching devices SIRIUS 3RW soft starters

General data

Motor feeders with soft starters

The type of coordination according to which the motor feeder with soft starter is mounted depends on the application-specific requirements. Normally, fuseless mounting (combination of motor starter protector/circuit breaker and soft starter) is sufficient.

If type of coordination "2" is to be fulfilled, then semiconductor fuses must be fitted in the motor feeder.

ToC 1 Type of coordination "1" according to IEC 60947-4-1: After a short-circuit incident, the unit is defective and therefore unsuitable for further use (protection of persons and system guaranteed).

ToC 2 Type of coordination "2" according to IEC 60947-4-1: After a short-circuit incident the unit is suitable for further use (protection of persons and system quaranteed).

The type of coordination refers to soft starters in combination with the stipulated protective device (motor starter protector/circuit breaker, fuse), not to any additional components in the feeder.

The types of coordination are indicated in the corresponding tables by the symbols shown on orange backgrounds.

Feeder tests and results

To keep the scope of feeder tests with SIRIUS 3RW soft starters within economically reasonable limits, tests were conducted with feeder components (motor starter protectors/circuit breakers, fuses) that cover the greatest number of use cases (different soft starter versions depending on, for example, mains voltage, type of circuit, or necessary overdimensioning). For the combined tests that were conducted, the values for the short-circuit breaking capacity $I_{\rm q}$ in kA were determined and documented.

If the short-circuit breaking capacity is the same, of course, smaller motor starter protectors/circuit breakers or fuses can also be used for the selected soft starter provided the dimensioning of the short-circuit components is suitable for the connected three-phase motor and the line protection for the cables used. For type of coordination "2" (with semiconductor protection), it is also necessary to compare the characteristics because the protection function would no longer be completely ensured if too small a fuse were selected. If the soft starter does not have a motor protection function, the motor protection must also be dimensioned appropriately.

Setting the motor current

If circuit breakers with an overload release are used (e.g. SIRIUS 3RV20 motor starter protector), we recommend activating the motor protection function of the SIRIUS 3RW soft starter to protect the motor and setting the soft starter to the rated operational current $I_{\rm e}$ of the motor. We recommend setting the motor starter protector/circuit breaker in such a way that it provides line protection but does not usually trip before the soft starter when a motor overload occurs.

Line protection and motor protection

Line protection and motor protection are not ensured in all operating cases, depending on:

- How the motor feeder is constructed (e.g. with fuses or motor starter protectors)
- Whether the SIRIUS 3RW soft starters are operated within the specification relevant for the tests (IEC 60947-4-2)
- Or whether the documented constraints (see page 6/8) have been observed

There are operating states of the thyristors (caused, for example, by high starting frequencies or heavy starting) that do not permit an overload to be disconnected by the SIRIUS 3RW soft starter. These cases are very rare but can not be ruled out in all cases.

According to IEC 60947-4-2, the SIRIUS 3RW soft starters are dimensioned and checked for operation with up to 8 times the rated operational current $I_{\rm e}$. For currents larger than this, reliable disconnection of an overcurrent by the SIRIUS 3RW soft starter is not ensured. Such large overcurrents have to be disconnected by a switching device at a higher level (e.g. by a circuit breaker or a fuse in conjunction with an optional line contactor).

Motor protection by the SIRIUS 3RW soft starter is ensured for currents up to 8 times the rated operational current $I_{\rm e}$ in any case. Line protection is covered by the line-side motor starter protector/circuit breaker or fuse.

These motor feeder components must be dimensioned accordingly and the cable cross-sections must be chosen to match.

Line protection

Line protection in motor feeders with soft starters is always covered by a fuse or a circuit breaker both in case of an overload and in case of a short circuit. The motor starter protector/circuit breaker must have an overload release. That is the case for motor starter protectors (e.g. SIRIUS 3RV20).

Circuit breakers without an overload release (e.g. SIRIUS 3RV23 motor starter protectors) must not be used because they do not provide overload protection. The feeder tests for these were therefore not performed. If the motor feeder with SIRIUS 3RW soft starters is configured without a fuse, motor starter protectors must be used that ensure tripping on an overload in all cases.

Motor protection

If fuses are used to provide protection against overload and short circuit of the cables, the motor is protected by the SIRIUS 3RW soft starter. If the constraints (simple starting conditions CLASS 10, listed maximum values for starting current, starting time and number of starts per hour) of page 6/8 are observed, the motor feeders can be configured according to IEC as described in the section about soft starters (an optional line contactor is not required). If these preconditions are met, the SIRIUS 3RW soft starters are able to trip on overloads to protect the motor in any case.

In other starting conditions and on heavy starting, the following must be considered:

Trip classes

Tested fuseless switchgear assemblies comprising SIRIUS 3RW soft starters and motor starter protectors only comply with CLASS 10.

To configure tested motor feeders, for example, for CLASS 20 or CLASS 30, fuses must be used together with SIRIUS 3RW soft starters.

Line contactor

In applications with high starting frequencies or heavy starting as of CLASS 20, we recommend combining fuses with the use of a line contactor on the line side so that a motor overload is disconnected by the fault signaling contact of the soft starter in any case (that is, even in rare cases in which disconnection by the SIRIUS 3RW soft starter is no longer possible due to the operating state of the thyristors).

Switching devices – Soft starters and solid-state switching devices SIRIUS 3RW soft starters

General data

ATEX/IECEx - certified motor overload protection

Ambient temperature during operation

The SIRIUS 3RW soft starters are approved for operation in a temperature range of -25 to +60 °C.

Please take into account derating of the rated operational current for ambient temperatures above 40 °C.

For more information, see the Equipment Manual and the technical product data sheet of the selected soft starter.

Trip class (electronic overload protection)

The motor and cables must be dimensioned for the selected trip class.

The rated data of the soft starters refer to normal starting (CLASS 10). For heavy starting (> CLASS 10), the soft starter may need to be overdimensioned as only a rated motor current that is lower than the soft starter rated current can be set.

Short-circuit protection

The SIRIUS 3RW soft starter does not have short-circuit protection. Short-circuit protection must be ensured.

Line protection

Avoid impermissibly high cable surface temperatures by correctly dimensioning the cross-sections.

The cable cross-section must be adequately dimensioned.

Line contactor or additional undervoltage release on the motor starter protector/circuit breaker

In many ATEX/IECEx applications no additional measures (e.g. the use of a line contactor) are necessary with regard to the motor feeder configuration.

The operation of the selected soft starter may, depending on the amplitude of the mains voltage and the type of motor connection (standard (inline) circuit or inside-delta circuit), result in the loss of the certified motor overload protection according to ATEX/IECEx if one of the two remedial measures listed below is not implemented.

Remedial measures

- An additional line contactor in the main circuit
- An additional undervoltage release for a motor feeder configuration with a motor starter protector/circuit breaker

The line contactor or the undervoltage release are connected to error outputs 95, 96 and 98 of the selected soft starter.

Note:

For ATEX/IECEx applications, the accompanying information on parameterization and commissioning must be observed in the ATEX/IECEx chapters of the Equipment Manual for the selected soft starter.

Article number scheme

Product versions		Article number
Device type	High Performance soft starters	3RW55
	General Performance soft starters	3RW52
	Basic Performance soft starters	3RW50
		3RW40
		3RW30
Size/rated operational current I _e	e.g. 15 = 25 A in size S1	
Connection type	e.g. 1 = screw terminal	
Soft starter functionality	e.g. AC = with bypass and analog output, 3-phase controlled	
Rated control supply voltage U _s	e.g. 0 = 24 V AC/DC	
Rated operational voltage U _e	e.g. 4 = 200 480 V AC	
Example		3RW52 1 5 - 1 A C 0 4

Note:

The article number scheme shows an overview of product versions for better understanding of the logic behind the article numbers.

For your orders, please use the article numbers quoted in the selection and ordering data.

Switching devices – Soft starters and solid-state switching devices SIRIUS 3RW soft starters

General data

Benefits

Can be flexibly deployed in many applications

Strong portfolio: wide range of matching products

- The right hardware for all requirements. soft starters for tasks ranging from simple to demanding starting in Basic, General and High Performance versions
- Extensive portfolio for individual expansion: Optional HMIs for installation in the device or mounting on the control cabinet door
- Communication via PROFINET, PROFIBUS, EtherNet/IP and Modbus
- Design enclosure with removable terminals, space-saving thanks to compact design and rugged thanks to coated printed circuit boards
- Can be used worldwide thanks to numerous certificates and approvals: IEC, UL, CSA, CCC, ATEX/IECEx, shipbuilding

Intelligent operation: concentrated, application-specific functionality

- Can be used in a wide variety of applications: Pumping, ventilating, compressing, conveying and processing
- Integrated, self-learning automatic parameterization depending on motor starting conditions
- Application-specific functionality such as pump cleaning and pump stop
- · Condition monitoring: Current and power monitoring with warning and alarm limits, starting time monitoring

Efficient switching: hybrid switching technology on board

- Energy-efficient switching and mechanical protection of the drive train thanks to soft starters with hybrid switching technology
- Low-wear switching extends the service life of the devices
- · Soft starting prevents current peaks, thereby increasing the network stability
- Protection against disturbances in the application: Mechanical protection for the drive train

Ready for a digital future: data available whenever and wherever needed

- Support from tools and data during engineering
- Simulation Tool for Soft Starters for support during product selection
- · Very simple, standardized commissioning and configuration via Soft Starter ES in TIA Portal
- Integration in the automation system via communication links
- Data availability and analysis: Large volumes of data at any time and anywhere, even in Insights Hub

Switching devices – Soft starters and solid-state switching devices SIRIUS 3RW soft starters High Performance soft starters

3RW55 soft starters > General data

Overview

More information

Homepage, see www.siemens.com/sirius-soft-starter SiePortal, see www.siemens.com/product?3RW55

TIA Selection Tool Cloud (TST Cloud), see

www.siemens.com/tstcloud/?node=3rw55

SiePortal topic page, see

https://support.industry.siemens.com/cs/ww/en/view/109747404

Simulation Tool for Soft Starters (STS), see page 6/9 or https://support.industry.siemens.com/cs/ww/en/view/101494917 SIRIUS Soft Starter ES (TIA Portal), see page 6/9 or https://support.industry.siemens.com/cs/ww/en/ps/24230/dl

SIRIUS 3RW soft starter block library for SIMATIC PCS 7, see page 6/10 or https://support.industry.siemens.com/cs/ww/en/view/109770336

Decision support for motor start - Starting and operating three-phase asynchronous motors efficiently, see www.siemens.com/motorstart-guide

SIRIUS Sim, see page 6/10 or https://support.industry.siemens.com/cs/ww/en/view/109763750

Conversion tool, see www.siemens.com/conversion-tool

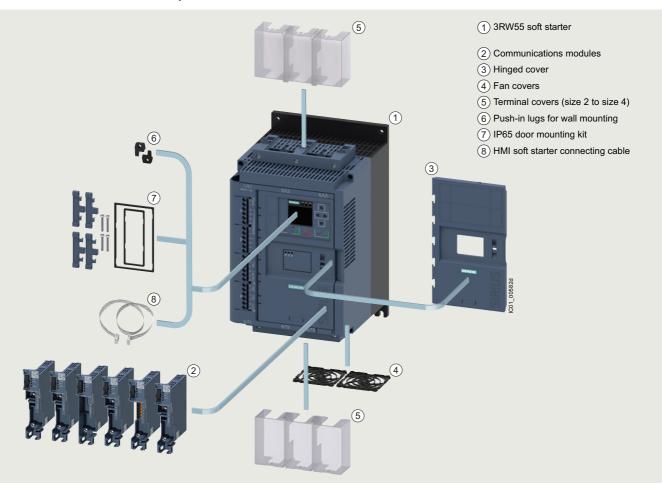


Equipped with the utmost functionality, the SIRIUS 3RW55 High Performance soft starters confidently handle even difficult starting and stopping operations. Thanks to innovative torque control, the device can be used for drives with an output of between 5.5 kW and 1 200 kW (at 400 V).

The functions have been specially designed to offer maximum user friendliness. The HMI (with color display, local interface and a slot for micro SD memory card) and plug-in communications modules (PROFINET, PROFIBUS, EtherNet/IP and Modbus) ensure maximum flexibility.

With their modern hybrid switching technology, the SIRIUS 3RW55 soft starters offer efficient switching for long-term, energy-saving use.

SIRIUS 3RW55 soft starters device family



SIRIUS 3RW55 High Performance soft starter with accessories (see page 6/37)

SIRIUS 3RW soft starters

High Performance soft starters

3RW55 soft starters > General data

Benefits



Product characteristics/function	Performance features/benefits
Automatic parameterization	Extremely easy commissioning and reliability even under changing load conditions
Hybrid switching technology and 3-phase motor control	Minimum power loss and optimum/symmetrical motor control
TIA integration – communications modules optional	Efficient configuration and maximum flexibility in automation engineering
Removable HMI with color display, local interface, slot for micro SD memory card	Maximum flexibility with regard to user interface and intuitive menu guidance
Pump stop and torque control	Reduced mechanical loading and optimum pump stop control
Certified according to ATEX/IECEx Directive	Suitable for the starting of explosion-proof motors
System redundancy S2	Simple and straight-forward integration into fault-tolerant automation systems
Direct integration in Insights Hub via the OPC UA server	Worldwide data availability for optimal plant operation

Switching devices - Soft starters and solid-state switching devices SIRIUS 3RW soft starters

High Performance soft starters

3RW55 soft starters > General data

Technical specifications

More information

Technical specifications, see

https://support.industry.siemens.com/cs/ww/en/ps/25099/td

Equipment Manual, see https://support.industry.siemens.com/cs/ww/en/view/109753752

FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/25099/faq Simulation Tool for Soft Starters (STS), see page 6/9 or https://support.industry.siemens.com/cs/ww/en/view/101494917

Туре		3RW551.		3RW552.,		3RW554.		3RW555.	
		HA.4	HA.5	HA.4	HA.6	HA.4	HA.6	HA.4	HA.6
Installation/fixing/dimensions									
Width x height x depth	nm	170 x 275 x	152	185 x 306 :	x 203	210 x 393	x 203	478 x 764	x 241
T W O									
Type of mounting		Screw fixing	g						
Mounting position		Vertical (ca	n be rotated	+/- 90° and	tilted +/- 22	.5° forward	or backward)	
Distance to be maintained with side-by-side mounting									
• Above	nm	100							
• At the side	nm	5							
• Below r	nm	75							
Installation altitude at height above sea level, maximum ¹⁾	n	5 000			2 000	5 000	2 000	5 000	2 000
Degree of protection IP on the front according to IEC 60529		IP20		IP00 (IP20	with cover)			IP00	
Touch protection on the front according to IEC 60529			for vertical om the front		for vertical	touching fro	m the front		
Ambient conditions									
Ambient temperature									
• During operation ²⁾	C	-25 +60							
During storage and transport	C	-40 +80	-25 +80	-40 +80					
Environmental category according to IEC 60721									
During operation		3K6 (no ice formation, only occasional condensation), 3C3 (no salt mist), 3S2 (sand must not get into the devices), 3M6							
During storage		1K6 (only occasional condensation), 1C2 (no salt mist), 1S2 (sand must not get into the devices), 1M4							
During transport		2K2, 2C1, 2S1, 2M2 (max. height of fall 0.3 m)							

¹⁾ Derating from 1 000 m, see characteristic curve on page 6/8.

²⁾ Note derating above 40 °C.

Switching devices – Soft starters and solid-state switching devices SIRIUS 3RW soft starters

High Performance soft starters

Туре		3RW55HA0.	3RW55HA1.	
Control circuit/control				
Control supply voltage				
At AC/DC	V	24/24	/	
• At AC	V		110 250	
Relative negative tolerance/relative positive tolerance with AC	%	-20/20	-15/10	
Relative negative tolerance/relative positive tolerance with DC	%	-20/20	/	
Frequency of the control supply voltage	Hz	50 60		
• Relative negative tolerance/relative positive tolerance %		-10/10		
Type of overvoltage protection		Varistors		
Type of short-circuit protection for control circuit ¹⁾		Fuse 4 A gG (I_{CU} = 1 kA), fuse 6 A quick-response (I_{CU} = 1 kA), MCB C1 (I_{CU} = 600 A), MCB C6 (I_{CU} = 300 A)		

¹⁾ Not included in scope of supply.

Туре		3RW55HA.4	3RW55HA.5	3RW55HA.6
Power electronics				
Operational voltage	V	200 480	200 600	200 690
Relative negative tolerance/relative positive tolerance	%	-15/10		
Operational voltage for inside-delta circuit	V	200 480	200 600	
Relative negative tolerance/relative positive tolerance	%	-15/10		
Operating frequency	Hz	50 60		
Relative negative tolerance/relative positive tolerance	%	-10/10		
Minimum load [% of $I_{\rm M}$] ¹⁾	%	10		
Maximum cable length between soft starter and motor	m	800		

¹⁾ Relative to set $I_{\rm e}$.

Switching devices – Soft starters and solid-state switching devices SIRIUS 3RW soft starters High Performance soft starters

Туре		3RW5513	3RW5514	3RW5515	3RW5516	3RW5517
Rated operational current I _e	А	13	18	25	32	38
Power electronics						
Load rating with rated operational current I_e						
IEC + UL/CSA, individual mounting at 40/50/60 °C, AC-53a	Α	13/11.5/10.5	18/15.9/13.8	25/22.3/19.6	32/28.4/26	38/33.5/30.5
Permissible rated motor current and starts	s/h					
Normal starting (CLASS 10A)						
Rated motor current $I_{\rm M}$, $T_{\rm u} = 40/50/60$ °C ON period = 70%; motor protection activated	Α	13/11.5/10.5	18/15.9/13.8	25/22.3/19.6	32/28.4/26	38/33.5/30.5
• 300% I _M - Startup time 5 s - Startup time 10 s	1/h 1/h	43 18	43 18	43 18	43 18	43 18
• 350% I _M - Startup time 5 s - Startup time 10 s	1/h 1/h	28 10	28 10	28 10	28 10	28 10
Normal starting (CLASS 10E)						
Rated motor current $I_{\rm M}$, $T_{\rm u} = 40/50/60$ °C ON period = 70%; motor protection activated	Α	13/11.5/10.5	18/15.9/13.8	25/22.3/19.6	32/28.4/26	38/33.5/30.5
• 300% I _M - Startup time 10 s - Startup time 20 s	1/h 1/h	21	21 8	21 8	21 8	21 8
• 350% I _M - Startup time 10 s - Startup time 20 s	1/h 1/h	13 4	13 4	13 4	13 4	13 4
Heavy starting (CLASS 20E)						
Rated motor current $I_{\rm M}$, $T_{\rm u}$ = 40/50/60 °C ON period = 70%; motor protection activated	Α	13/11.5/10.5	18/15.9/13.8	25/22.3/19.6	29.6/27.2/23.6	33.5/30.5/27.5
• 300% I _M - Startup time 20 s - Startup time 40 s	1/h 1/h	10 4	10 4	10 4	10 4	10 4
• 350% I _M - Startup time 20 s - Startup time 40 s	1/h 1/h	7 2.5	7 2.5	7 2.5	7 2.5	7 2.5
Heavy starting (CLASS 30E)						
Rated motor current $I_{\rm M}$, $T_{\rm u}$ = 40/50/60 °C ON period = 70%; motor protection activated	Α	13/11.5/10.5	18/15.9/13.8	25/22.3/19.6	26/23.6/21.2	29/26/23
• 300% I _M - Startup time 30 s - Startup time 60 s	1/h 1/h	7 3	7 3	7 3	7 3	7 3
• 350% I _M - Startup time 30 s - Startup time 60 s	1/h 1/h	4 1.8	4 1.8	4 1.8	4 1.8	4 1.8
Adjustable rated motor current I _M						
Minimum/maximum	Α	2.5/13	3.5/18	5/25	6.5/32	7.5/38
Minimum/maximum in inside-delta circuits	Α	4.3/22.5	6.1/31.1	8.7/43.3	11.3/55.4	13/65.8

Switching devices – Soft starters and solid-state switching devices SIRIUS 3RW soft starters High Performance soft starters

Туре		3RW5521	3RW5524	3RW5525	3RW5526	3RW5527
Rated operational current I _e	Α	25	47	63	77	93
Power electronics					•	•
Load rating with rated operational current I_e						
IEC + UL/CSA, individual mounting at 40/50/60 °C, AC-53a	Α	25/22.3/19.6	47/41.6/36.2	63/55.5/50.5	77/68/62	93/82.5/75.5
Permissible rated motor current and starts	s/h					
Normal starting (CLASS 10A)						
Rated motor current I_{M} , $T_{\text{u}} = 40/50/60 ^{\circ}\text{C}$ ON period = 70%; motor protection activated	Α	25/22.3/19.6	47/41.6/36.2	63/55.5/50.5	77/68/62	93/82.5/75.5
• 300% I _M - Startup time 5 s - Startup time 10 s	1/h 1/h	43 18	43 18	43 18	43 18	43 18
• 350% I _M - Startup time 5 s - Startup time 10 s	1/h 1/h	28 10	28 10	28 10	28 10	28 10
Normal starting (CLASS 10E)						
Rated motor current I_M , $T_u = 40/50/60$ °C ON period = 70%; motor protection activated	Α	25/22.3/19.6	47/41.6/36.2	63/55.5/50.5	77/68/62	93/82.5/75.5
 300% I_M Startup time 10 s Startup time 20 s 	1/h 1/h	21 8	21 8	21 8	21 8	21 8
• 350% I _M - Startup time 10 s - Startup time 20 s	1/h 1/h	13 4	13 4	13 4	13 4	13 4
leavy starting (CLASS 20E)						
Rated motor current I_{M} , $T_{u} = 40/50/60$ °C ON period = 70%; motor protection activated	Α	25/22.3/19.6	47/41.6/36.2	63/55.5/50.5	77/68/62	93/82.5/75.5
• 300% I _M - Startup time 20 s - Startup time 40 s	1/h 1/h	10 4	10 4	10 4	10 4	10 4
• 350% <i>I</i> _M - Startup time 20 s - Startup time 40 s	1/h 1/h	7 2.5	7 2.5	7 2.5	7 2.5	7 2.5
leavy starting (CLASS 30E)						
Rated motor current $I_{\rm M}$, $T_{\rm u}$ = 40/50/60 °C DN period = 70%; motor protection activated	Α	25/22.3/19.6	43.4/38/34.4	53/48/43	68/62/56	82.5/75.5/65
· 300% I _M - Startup time 30 s - Startup time 60 s	1/h 1/h	7 3	7 3	7 3	7 3	7 3
· 350% <i>I</i> _M - Startup time 30 s - Startup time 60 s	1/h 1/h	4 1.8	4 1.8	4 1.8	4 1.8	4 1.8
Adjustable rated motor current I _M						
• Minimum/maximum	Α	5/25	10/47	13/63	16/77	19/93
 Minimum/maximum in inside-delta circuits 	Α	8.7/43.3	17.3/81.4	22.5/109	27.7/133	32.9/161

Switching devices - Soft starters and solid-state switching devices SIRIUS 3RW soft starters

High Performance soft starters

ш.	COTT C	tarters >	(-anaral	l data

Туре		3RW5534	3RW5535	3RW5536
Rated operational current I _e	Α	113	143	171
Power electronics				
Load rating with rated operational current I _e				
IEC + UL/CSA, individual mounting at 40/50/60 °C, AC-53a	Α	113/101/89	143/128/118	171/153/141
Permissible rated motor current and starts	s/h			
Normal starting (CLASS 10A)				
Rated motor current $I_{\rm M}$, $T_{\rm u}$ = 40/50/60 °C ON period = 70%; motor protection activated	Α	113/101/89	143/128/118	171/153/141
• 300% I _M - Startup time 5 s - Startup time 10 s	1/h 1/h	43 18	43 18	43 18
• 350% I _M - Startup time 5 s - Startup time 10 s	1/h 1/h	28 10	28 10	28 10
Normal starting (CLASS 10E)				
Rated motor current $I_{\rm M}$, $T_{\rm u}$ = 40/50/60 °C ON period = 70%; motor protection activated	Α	113/101/89	143/128/118	171/153/141
• 300% I _M - Startup time 10 s - Startup time 20 s	1/h 1/h	21	21 8	21 8
• 350% I _M - Startup time 10 s - Startup time 20 s	1/h 1/h	13 4	13 4	13 4
Heavy starting (CLASS 20E)				
Rated motor current I_{M} , $T_{\text{u}} = 40/50/60 ^{\circ}\text{C}$ ON period = 70%; motor protection activated	Α	109/97/85	128/113/103	141/129/117
• 300% I _M - Startup time 20 s - Startup time 40 s	1/h 1/h	10 4	10 4	10 4
• 350% I _M - Startup time 20 s - Startup time 40 s	1/h 1/h	7 2.5	7 2.5	7 2.5
Heavy starting (CLASS 30E)				
Rated motor current $I_{\rm M}$, $T_{\rm u}$ = 40/50/60 °C ON period = 70%; motor protection activated	Α	89/81/74	108/98/88	117/105/93
• 300% I _M - Startup time 30 s - Startup time 60 s	1/h 1/h	7 3	7 3	7 3
• 350% <i>I</i> _M - Startup time 30 s - Startup time 60 s	1/h 1/h	4 1.8	4 1.8	4 1.8
Adjustable rated motor current I _M				
Minimum/maximum Minimum/maximum in inside-delta circuits	A A	23/113 39.8/195	29/143 50.2/247	34/171 58.9/296
,		22.2, .00	,	

Switching devices – Soft starters and solid-state switching devices SIRIUS 3RW soft starters High Performance soft starters

Туре		3RW5543	3RW5544	3RW5545	3RW5546	3RW5547	3RW5548
Rated operational current I _e	Α	210	250	315	370	470	570
Power electronics							
Load rating with rated operational current $I_{\rm e}$							
IEC + UL/CSA, individual mounting at 40/50/60 °C, AC-53a	Α	210/186/170	250/220/200	315/279/255	370/328/300	470/416/380	570/504/460
Permissible rated motor current and starts/h							
Normal starting (CLASS 10A)							
Rated motor current $I_{\rm M}$, $T_{\rm u}$ = 40/50/60 °C ON period = 70%; motor protection activated	Α	210/186/170	250/220/200	315/279/255	370/328/300	470/416/380	570/504/460
• 300% I _M - Startup time 5 s - Startup time 10 s	1/h 1/h	43 18	43 18	43 18	43 18	40 17	20 6
• 350% $I_{\rm M}$ - Startup time 5 s - Startup time 10 s	1/h 1/h	28 10	28 10	28 10	28 10	26 10	9 1
Normal starting (CLASS 10E)							
Rated motor current $I_{\rm M}$, $T_{\rm u}$ = 40/50/60 °C ON period = 70%; motor protection activated	А	210/186/170	250/220/200	315/279/255	370/328/300	470/416/380	551/490/445
• 300% I _M - Startup time 10 s - Startup time 20 s	1/h 1/h	21	21 8	21 8	21 8	17 6	8
• 350% I _M - Startup time 10 s - Startup time 20 s	1/h 1/h	13 4	13 4	13 4	13 4	10 2	2
Heavy starting (CLASS 20E)							
Rated motor current $I_{\rm M}$, $T_{\rm u}$ = 40/50/60 °C ON period = 70%; motor protection activated	Α	162/146/130	200/180/160	231/207/183	258/230/202	272/254/236	284/262/240
• 300% I _M - Startup time 20 s - Startup time 40 s	1/h 1/h	10 4	10 4	10 4	10 4	10 4	10 4
• 350% I _M - Startup time 20 s - Startup time 40 s	1/h 1/h	7 2.5	7 2.5	7 2.5	7 2.5	7 2.5	7 2.5
Heavy starting (CLASS 30E)							
Rated motor current $I_{\rm M}$, $T_{\rm u} = 40/50/60$ °C ON period = 70%; motor protection activated	Α	138/122/106	160/140/120	183/159/135	202/174/160	210/190/170	220/200/180
• 300% $I_{\rm M}$ - Startup time 30 s - Startup time 60 s	1/h 1/h	7 3	7 3	7 3	7 3	7 3	7 3
• 350% $I_{ m M}$ - Startup time 30 s - Startup time 60 s	1/h 1/h	4 1.8	4 1.8	4 1.8	4 1.8	4 1.8	4 1.8
Adjustable rated motor current I _M							
Minimum/maximum Minimum/maximum in inside-delta circuits	A A	42/210 72.7/363	50/250 86.6/433	63/315 109.1/545	74/370 128.2/640	94/470 162.8/814	114/570 197.5/987
Mınımum/maxımum ın inside-delta circuits	А	72.7/363	86.6/433	109.1/545	128.2/640	162.8/814	197.5/987

Switching devices – Soft starters and solid-state switching devices SIRIUS 3RW soft starters High Performance soft starters

Туре		3RW5552	3RW5553	3RW5554	3RW5556	3RW5558
Rated operational current I _e		630	720	840	1 100	1 280
Power electronics						
Load rating with rated operational current I_e						
IEC + UL/CSA, individual mounting at 40/50/60 $^{\circ}$ C, AC-53a	Α	630/561/510	720/641/580	840/748/670	1 100/979/890	1 280/1 139/1 030
Permissible rated motor current and start	s/h					
Normal starting (CLASS 10A)						
Rated motor current $I_{\rm M}$, $T_{\rm u} = 40/50/60^{\circ}{\rm C}$ ON period = 70%; motor protection activated	Α	630/561/510	720/641/580	840/748/670	1 100/979/890	1 280/1 139/1 030
• 300% I _M - Startup time 5 s - Startup time 10 s	1/h 1/h	43 18	43 18	42 18	43 18	32 12
• 350% I _M - Startup time 5 s - Startup time 10 s	1/h 1/h	28 10	28 10	25 10	27 9	17 4
Normal starting (CLASS 10E)						
Rated motor current $I_{\rm M}$, $T_{\rm u} = 40/50/60$ °C ON period = 70%; motor protection activated	Α	630/561/510	720/641/580	840/748/670	1 100/979/890	1 225/1 130/1 030
• 300% I _M - Startup time 10 s - Startup time 20 s	1/h 1/h	21 8	21 8	19 7	18 7	15 5
• 350% I _M - Startup time 10 s - Startup time 20 s	1/h 1/h	13 4	13 4	10 2	9 2	1 1
Heavy starting (CLASS 20E)						
Rated motor current $I_{\rm M}$, $T_{\rm u} = 40/50/60$ °C ON period = 70%; motor protection activated	Α	500/450/400	520/470/420	570/520/470	920/840/760	980/900/810
• 300% I _M - Startup time 20 s - Startup time 40 s	1/h 1/h	10 4	10 4	10 4	10 4	10 4
• 350% I _M - Startup time 20 s - Startup time 40 s	1/h 1/h	7 2.5	7 2.5	7 2.5	7 2.5	7 2.5
Heavy starting (CLASS 30E)						
Rated motor current $I_{\rm M}$, $T_{\rm u} = 40/50/60$ °C ON period = 70%; motor protection activated	Α	380/340/300	400/360/320	420/380/340	740/670/600	790/720/650
• 300% I _M - Startup time 30 s - Startup time 60 s	1/h 1/h	7 3	7 3	7 3	7 3	7 3
• 350% $I_{\rm M}$ - Startup time 30 s - Startup time 60 s	1/h 1/h	4 1.8	4 1.8	4 1.8	4 1.8	4 1.8
Adjustable rated motor current I _M						
Minimum/maximum	Α	114/630	144/720	168/840	220/1 100	258/1 280
Minimum/maximum in inside-delta circuits	Α	197.5/987	249.4/1 247	291/1 454	381.1/1 905	446.9/2 217

SIRIUS 3RW soft starters

High Performance soft starters

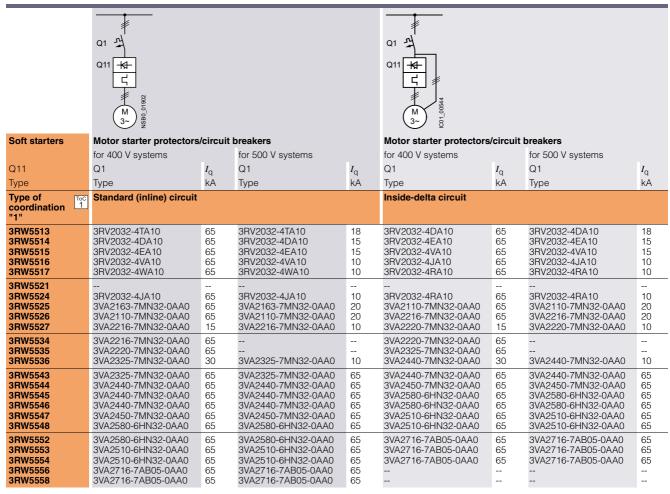
3RW55 soft starters > General data

Motor feeders according to IEC with 3RV2 motor starter protectors/3VA circuit breakers (without semiconductor protection)

Type of coordination "1", CLASS 10, short-circuit breaking capacity I_q in kA, see table

Note:

For general recommendations for constructing motor feeders with soft starters, see page 6/12.



Note:

The service factor and measurement inaccuracies, for example, have been taken into account for the selection of the specified motor starter protectors/circuit breakers; the specified short-circuit breaking capacities $I_{\rm q}$ in kA are covered by combination tests. Smaller motor starter protectors/circuit breakers from the same series can be used at any time as smaller ones trip more quickly in the event of a short circuit (unchanged short-circuit breaking capacity) and thus protect the soft starter in any case. The dimensioning of the short-circuit components must match the connected three-phase motor, the short-circuit and overload requirements of the application, and the line protection for the cables used

When using braking functions, the use of fuses is recommended to avoid the risk of false tripping of 3VA circuit breakers with electronic motor protection function during braking.

In motor feeder tests with soft starters conducted in 690 V systems, demonstrable short-circuit breaking capacities could only be achieved using fuses ($I_{\rm q} > 5$ to 10 kA).

SIRIUS 3RW soft starters
High Performance soft starters

3RW55 soft starters > General data

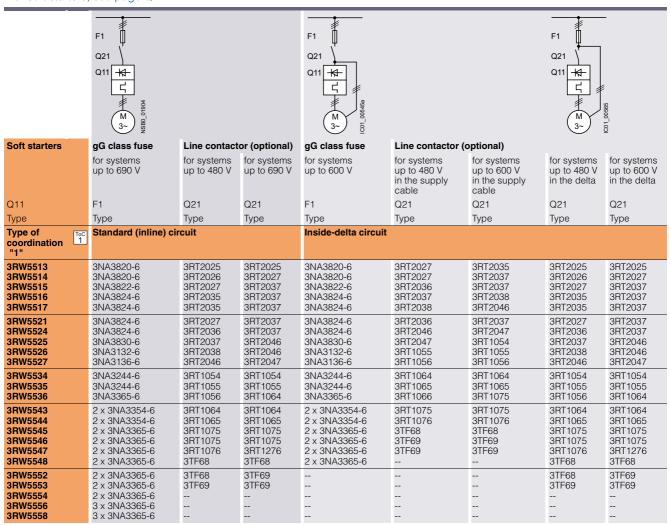
Motor feeders according to IEC with 3NA3 fuses

gG class full-range fuses for cable and line protection according to IEC 60269-2, without semiconductor protection

Type of coordination "1", short-circuit breaking capacity $I_{color} = 65 \text{ kA}$

Note:

For general recommendations for constructing motor feeders with soft starters, see page 6/12.



Note:

The specified short-circuit breaking capacities $I_{\rm q}$ in kA are covered by combination tests. Smaller fuses than those specified can be used at any time as smaller ones trip more quickly in the event of a short circuit (unchanged short-circuit breaking capacity) and thus protect the soft starter in any case. The dimensioning of the short-circuit components must, however, be suitable for the connected three-phase motor and the line protection for the cables used.

In inside-delta circuits, motor feeders with soft starters can only be operated in systems with up to 600 V.

SIRIUS 3RW soft starters

High Performance soft starters

3RW55 soft starters > General data

Motor feeders according to IEC with 3NE1/3NB3 SITOR fuses

gR/gS class full-range fuses for semiconductor protection, cable and line protection (gS)

Type of coordination "2", short-circuit breaking capacity $I_{cont} = 65 \text{ kA}$

Note:

For general recommendations for constructing motor feeders with soft starters, see page 6/12.

	F'1		
	C21 \		
	Q11 		
	4		
	M 3~ 010008		
	_		
Soft starters	gR/gS class fuse	Line contactor (option	·
	for systems up to 690 V	for systems up to 480 V	for systems up to 690 V
Q11	F'1	Q21	Q21
Туре	Туре	Туре	Туре
Type of coordination	Standard (inline) circui	t	
"2"			
3RW5513 3RW5514	3NE1815-0 3NE1802-0	3RT2025 3RT2026	3RT2025 3RT2027
3RW5515	3NE1817-0	3RT2027	3RT2037
3RW5516 3RW5517	3NE1818-0 3NE1820-0	3RT2035 3RT2035	3RT2037 3RT2037
3RW5521 3RW5524	3NE1817-0 3NE1021-2	3RT2027	3RT2037 3RT2037
3RW5525	3NE1022-0	3RT2036 3RT2037	3RT2046
3RW5526 3RW5527	3NE1224-0 3NE1224-0	3RT2038 3RT2046	3RT2046 3RT2047
3RW5534	3NE1225-0	3RT1054	3RT1054
3RW5535 3RW5536	3NE1227-0 3NE1230-0	3RT1055 3RT1056	3RT1055 3RT1064
3RW5543	3NE1230-2 ¹⁾	3RT1064	3RT1064
3RW5544 3RW5545	3NE1331-0 3NE1334-2	3RT1065 3RT1075	3RT1065 3RT1075
3RW5546 3RW5547	3NE1334-2 3NE1436-2	3RT1075 3RT1076	3RT1075 3RT1276
3RW5548	3NE1437-2	3TF68	3TF68
3RW5552 3RW5553	3NB3350-1KK26 3NB3351-1KK26	3TF68 3TF69	3TF69 3TF69
3RW5554	3NB3351-1KK26		
3RW5556 3RW5558	3NB3354-1KK26 3NB3357-1KK26		
1) -			

¹⁾ For systems up to 500 V.

Note:

The specified short-circuit breaking capacities $I_{\rm q}$ in kA are covered by combination tests. Smaller fuses than those specified can be used at any time as smaller ones trip more quickly in the event of a short circuit (unchanged short-circuit breaking capacity) and thus protect the soft starter in any case. The dimensioning of the short-circuit components must, however, be suitable for the connected three-phase motor and the line protection for the cables used.

In inside-delta circuits, a gR/gS class full-range fuse could not provide the semiconductor protection of the delta-connected soft starter with a short-circuit breaking capacity that is adequate for practical use. In this case, we recommend using aR class partial-range fuses for semiconductor protection for type of coordination "2" (see page 6/27).

SIRIUS 3RW soft starters High Performance soft starters

3RW55 soft starters > General data

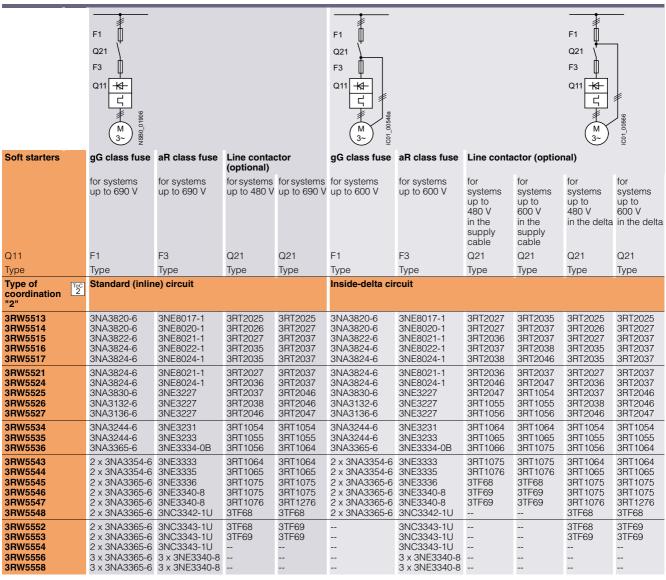
Motor feeders according to IEC with 3NE8/3NE3/3NC3 fuses

aR class partial-range fuses for semiconductor protection

Type of coordination "2", short-circuit breaking capacity $I_{\rm q}$ = 65 kA

Note:

For general recommendations for constructing motor feeders with soft starters, see page 6/12.



Note:

The specified short-circuit breaking capacities $I_{\rm q}$ in kA are covered by combination tests. Smaller fuses than those specified can be used at any time as smaller ones trip more quickly in the event of a short circuit (unchanged short-circuit breaking capacity) and thus protect the soft starter in any case. The dimensioning of the short-circuit components must, however, be suitable for the connected three-phase motor and the line protection for the cables used.

For CLASS 10 applications, as an alternative to the 3NA3 gG class full-range fuses for cable and line protection (F1), 3RV2 motor starter protectors/3VA circuit breakers can also be used, possibly with reduced short-circuit breaking capacity (see page 6/24). In these cases, optional line contactors can be dispensed with.

In inside-delta circuits, motor feeders with soft starters can only be operated in systems with up to 600 V.

SIRIUS 3RW soft starters

High Performance soft starters

3RW55 soft starters > General data

Reversing operation with reversing contactors

Note:

For general recommendations for constructing motor feeders with soft starters, see page 6/12.

(Example circuit, see

3RW55 Equipment Manual, Appendix A.3)

Soft starters	Reversing contactor asse	embly	Reversing contactor	
	for systems up to 480 V	for systems up to 690 V	for systems up to 480 V	for systems up to 690 V
Q11	Q21/Q22	Q21/Q22	Q21/Q22	Q21/Q22
Туре	Туре	Туре	Туре	Туре
3RW5513 3RW5514 3RW5515 3RW5516 3RW5517	3RA2325 3RA2326 3RA2327 3RA2335 3RA2335	3RA2325 3RA2327 3RA2337 3RA2337 3RA2337	3RT2025 3RT2026 3RT2027 3RT2035 3RT2035	3RT2025 3RT2027 3RT2037 3RT2037 3RT2037
3RW5521 3RW5524 3RW5525 3RW5526 3RW5527	3RA2327 3RA2336 3RA2337 3RA2338 3RA2346	3RA2337 3RA2337 3RA2346 3RA2346 3RA2347	3RT2027 3RT2036 3RT2037 3RT2038 3RT2046	3RT2037 3RT2037 3RT2046 3RT2046 3RT2047
3RW5534 3RW5535 3RW5536		 	3RT1054 3RT1055 3RT1056	3RT1054 3RT1055 3RT1064
3RW5543 3RW5544 3RW5545 3RW5546 3RW5547 3RW5548	 	 	3RT1064 3RT1065 3RT1075 3RT1075 3RT1076 3TF68	3RT1064 3RT1065 3RT1075 3RT1075 3RT1276 3TF68
3RW5552 3RW5553 3RW5554 3RW5556 3RW5558	 	 	3TF68 3TF69 	3TF69 3TF69

DC braking with braking contactors

Note:

For general recommendations for constructing motor feeders with soft starters, see page 6/12.

(Example circuit, see

3RW55 Equipment Manual, Appendix A.3)

Soft starters	DC braking contactor	DC braking contactor a	ssembly		
	for systems up to 400 V	for systems up to 480 V		for systems up to 690 V	
	with 2 NC contacts + 2 NO contacts parallel	with 3 NO contacts parallel	with 3 NO contacts parallel	with 3 NO contacts parallel	with 3 NO contacts parallel
Q11	Q93	Q91	Q92	Q91	Q92
Туре	Туре	Туре	Туре	Туре	Туре
3RW5513 3RW5514 3RW5515 3RW5516 3RW5517	3RT2517 3RT2518 3RT2526 3RT2526 3RT2535	3RT2015 3RT2015 3RT2015 3RT2015 3RT2015	3RT2016 3RT2017 3RT2025 3RT2025 3RT2027	3RT2015 3RT2015 3RT2015 3RT2015 3RT2015	3RT2016 3RT2023 3RT2025 3RT2027 3RT2027
3RW5521 3RW5524 3RW5525 3RW5526 3RW5527	3RT2526 3RT2535 	3RT2015 3RT2016 3RT2024 3RT2025 3RT2027	3RT2025 3RT2027 3RT2027 3RT2035 3RT2036	3RT2015 3RT2016 3RT2024 3RT2025 3RT2027	3RT2025 3RT2035 3RT2037 3RT2037 3RT2037
3RW5534 3RW5535 3RW5536	 	3RT2035 3RT2036 3RT2037	3RT2037 3RT2038 3RT2046	3RT2035 3RT2036 3RT2037	3RT2038 3RT2046 3RT2047
3RW5543 3RW5544 3RW5545 3RW5546 3RW5547 3RW5548	 	3RT2045 3RT2045 3RT2446 3RT1055 3RT1456 3RT1456	3RT2047 3RT1055 3RT1056 3RT1056 3RT1065 3RT1065	3RT2045 3RT2045 3RT2446 3RT1055 3RT1456 3RT1456	3RT1054 3RT1055 3RT1056 3RT1064 3RT1065 3RT1075
3RW5552 3RW5553 3RW5554 3RW5556 3RW5558	 	3RT1065 3RT1065 3RT1466 3RT1476 3RT1476	3RT1075 3RT1075 3RT1076 3TF68 3TF69	3RT1065 3RT1065 3RT1466 3RT1476 3RT1476	3RT1075 3RT1075 3RT1076 3TF68 3TF69

SIRIUS 3RW soft starters
High Performance soft starters

IE3/IE4 ready

3RW55 soft starters > Standard (inline) circuit

Selection and ordering data

For normal starting (CLASS 10E)





	-
3D/V	1551

										3877551		3HW552.		
At 40 °C	;				At 50 °C	;				Article No.	Price	PU	PS*	PG
Opera- tional	three-		ower fo motors		Opera- tional	Operating	power [hp]	for three-ph	ase motors		per PU	(UNIT, SET, M)		
current	at 230 V	at 400 V	at 500 V	at 690 V	current	al	at 220/230 V	at 460/480 V	at 575/600 V					
Α	kW	kW	kW	kW	Α	hp	hp	hp	hp					
Opera	tional	volta	ge 200	48	0 V									
13	3	5.5			11.5	2	3	7.5		3RW5513-□HA□4		1	1 unit	42S
18	4	7.5			15.9	3	5	10		3RW5514-□HA□4		1	1 unit	42S
25	5.5	11			22.3	5	7.5	15		3RW5515-□HA□4		1	1 unit	42S
32	7.5	15			28.4	7.5	10	20		3RW5516-□HA□4		1	1 unit	42S
38	11	18.5			33.5	10	10	20		3RW5517-□HA□4		1	1 unit	42S
47	11	22			41.6	10	10	30		3RW5524-□HA□4		1	1 unit	42S
63	18.5	30			55.5	15	20	40		3RW5525-□HA□4		1	1 unit	42S
77	22	37			68	20	25	50		3RW5526-□HA□4		1	1 unit	42S
93	22	45			82.5	25	30	60		3RW5527-□HA□4		1	1 unit	42S
Tuna af	-14	!				al airauit								

Type of electrical connection for the control circuit Screw terminals

Spring-loaded terminals

Control supply voltage

24 V AC/DC 110 ... 250 V AC

Note:

SIRIUS 3RW soft starters

High Performance soft starters

3RW55 soft starters > Standard (inline) circuit IE3/IE4 ready

For normal starting (CLASS 10E)







At 40 °C					At 50 °C					Article No.	Price per PU	PU (UNIT,	PS*	PG
Opera- tional three-phase motors					Opera- tional	Operating	power [hp]	for three-ph	ase motors		perro	SET, M)		
current	at 230 V	at 400 V	at 500 V	at 690 V	current	at 200/208 V	at 220/230 V	at 460/480 V	at 575/600 V					
А	kW	kW	kW	kW	А	hp	hp	hp	hp					
Operat	tional	volta	ge 200	48	0 V									
113	30	55			101	30	30	75		3RW5534-□HA□4		1	1 unit	42S
143	37	75			128	40	40	100		3RW5535-□HA□4		1	1 unit	42S
171	45	90			153	50	50	100		3RW5536-□HA□4		1	1 unit	42S
210	55	110			186	60	60	150		3RW5543-□HA□4		1	1 unit	42S
250 315	75 90	132			220 279	60 75	75	150		3RW5544-□HA□4		1	1 unit	42S 42S
		160			-		100	200		3RW5545-□HA□4			1 unit	
370	110	200			328	100	125	250		3RW5546-□HA□4		1	1 unit	42S
470 570	132 160	250 315			416 504	150 150	150 200	350 400		3RW5547-□HA□4 3RW5548-□HA□4		1	1 unit 1 unit	42S 42S
630 720	200 200	355 400			561 641	200 200	200 250	450 500		3RW5552-□HA□4 3RW5553-□HA□4		1	1 unit	42S 42S
840	250	450			748	250	300	600		3RW5554-□HA□4		1	1 unit 1 unit	42S
					-									
1 100 1 280	315 400	560 710			979 1 139	350 400	400 450	850 1 000		3RW5556-□HA□4 3RW5558-□HA□4		1	1 unit 1 unit	42S 42S
1 200	400	, 10			1 139	400	400	1 000		JIIIV JJJJJ-LIIAL4		'	i ullit	423

Type of electrical connection for the control circuit Spring-loaded terminals Screw terminals

Control supply voltage

24 V AC/DC 110 ... 250 V AC

Note:

SIRIUS 3RW soft starters High Performance soft starters

IE3/IE4 ready 3RW55 soft starters > Standard (inline) circuit

For normal starting (CLASS 10E)



										3RW551.		3RW552.		
At 40 °C					At 50 °C	;				Article No.	Price	PU	PS*	PG
Opera- tional			ower fo motors		Opera- tional	Operating	power [hp]	for three-ph	ase motors		per PU	(UNIT, SET, M)		
current	at 230 V	at 400 V	at 500 V	at 690 V	current	at 200/208 V	at 220/230 V	at 460/480 V	at 575/600 V					
Α	kW	kW	kW	kW	Α	hp	hp	hp	hp					
Opera	tional	volta	ge 200	60	0 V									
13 18 25	3 4 5.5	5.5 7.5 11	7.5 11 15		11.5 15.9 22.3	2 3 5	3 5 7.5	7.5 10 15	10 10 20	3RW5513-□HA□5 3RW5514-□HA□5 3RW5515-□HA□5		1 1 1	1 unit 1 unit 1 unit	42S 42S 42S
32 38	7.5 11	15 18.5	18.5 22		28.4 33.5	7.5 10	10 10	20 20	25 30	3RW5516-□HA□5 3RW5517-□HA□5		1 1	1 unit 1 unit	42S 42S
Opera	tional	volta	ge 200	69	0 V									
25 47 63	5.5 11 18.5	11 22 30	15 30 37	22 45 55	22.3 41.6 55.5	5 10 15	7.5 10 20	15 30 40	20 40 50	3RW5521-□HA□6 3RW5524-□HA□6 3RW5525-□HA□6		1 1 1	1 unit 1 unit 1 unit	42S 42S 42S
77 93	22 22	37 45	45 55	75 90	68 82.5	20 25	25 30	50 60	60 75	3RW5526-□HA□6 3RW5527-□HA□6		1 1	1 unit 1 unit	42S 42S
Screw to	Type of electrical connection for the control circuit Screw terminals Spring-loaded terminals									1 3				

Control supply voltage 24 V AC/DC 110 ... 250 V AC

Note:

SIRIUS 3RW soft starters

High Performance soft starters

3RW55 soft starters > Standard (inline) circuit IE3/IE4 ready

For normal starting (CLASS 10E)







							31100333.			31100334.		31100333.			
At 40 °C					At 50 °C	;					Article No.	Price	PU	PS*	PG
Opera- tional		iting po phase i			Opera- tional	Operating	power [hp]	for three-ph	nase motors			per PU	(UNIT, SET, M)		
current	at 230 V	at 400 V	at 500 V	at 690 V	current	at 200/208 V	at 220/230 V	at 460/480 V	at 575/600 V						
Α	kW	kW	kW	kW	Α	hp	hp	hp	hp						
Opera	Operational voltage 200 690 V														
113 143 171	30 37 45	55 75 90	75 90 110	110 132 160	101 128 153	30 40 50	30 40 50	75 100 100	100 125 150		3RW5534-□HA□6 3RW5535-□HA□6 3RW5536-□HA□6		1 1 1	1 unit 1 unit 1 unit	42S 42S 42S
210 250 315	55 75 90	110 132 160	132 160 200	200 250 315	186 220 279	60 60 75	60 75 100	150 150 200	150 200 250		3RW5543-□HA□6 3RW5544-□HA□6 3RW5545-□HA□6		1 1 1	1 unit 1 unit 1 unit	42S 42S 42S
370 470 570	110 132 160	200 250 315	250 315 355	355 400 560	328 416 504	100 150 150	125 150 200	250 350 400	300 450 500		3RW5546-□HA□6 3RW5547-□HA□6 3RW5548-□HA□6		1 1 1	1 unit 1 unit 1 unit	42S 42S 42S
630 720 840	200 200 250	355 400 450	400 500 560	630 710 800	561 641 748	200 200 250	200 250 300	450 500 600	600 700 800		3RW5552-□HA□6 3RW5553-□HA□6 3RW5554-□HA□6		1 1 1	1 unit 1 unit 1 unit	42S 42S 42S
1 100 1 280	315 400	560 710	710 900	1 000 1 200		350 400	400 450	850 1 000	1 100 1 250		3RW5556-□HA□6 3RW5558-□HA□6		1 1	1 unit 1 unit	42S 42S
Type of electrical connection for the control circuit Spring-loaded terminals Screw terminals										2 6					

Control supply voltage

24 V AC/DC 110 ... 250 V AC

Note:

SIRIUS 3RW soft starters High Performance soft starters

IE3/IE4 ready

3RW55 soft starters > Inside-delta circuit

Selection and ordering data

For normal starting (CLASS 10E)





RW551.	
--------	--

									3RW551.		3RW552.		
At 40 °C	for insid	le-delta d	circuit	At 50 °C	for inside-c	lelta circuit			Article No.	Price	PU	PS*	PG
Opera- tional		ing powe		Opera- tional	Operating power [hp] for three-phase motors					per PU	(UNIT, SET, M)		
current	at 230 V	at 400 V	at 500 V	current	at 200/208 V	at 220/230 V	at 460/480 V	at 575/600 V					
Α	kW	kW	kW	А	hp	hp	hp	hp					
Operat	ional v	oltage :	200 4	80 V									
22.5 31.5 43.3	5.5 7.5 11	11 15 18.5	 	19.9 28 39	5 7.5 10	5 7.5 10	10 20 25	 	3RW5513-□HA□4 3RW5514-□HA□4 3RW5515-□HA□4		1 1 1	1 unit 1 unit 1 unit	42S 42S 42S
55.4 65.8	15 18.5	22 30		49 58	15 15	15 20	30 40	 	3RW5516-□HA□4 3RW5517-□HA□4		1 1	1 unit 1 unit	42S 42S
81.4 109 133 161	22 30 37 45	45 55 75 90	 	72 96 118 143	20 30 30 40	25 30 40 50	50 75 75 100	 	3RW5524-□HA□4 3RW5525-□HA□4 3RW5526-□HA□4 3RW5527-□HA□4		1 1 1	1 unit 1 unit 1 unit 1 unit	42S 42S 42S 42S
Screw te Spring-lo	erminals paded te	rminals	ction for	the cont	rol circuit				1 3				
24 V AC									0				

Note:

SIRIUS 3RW soft starters

High Performance soft starters

3RW55 soft starters > Inside-delta circuit IE3/IE4 ready

For normal starting (CLASS 10E)







31	RW553	3

3RW555.

						•	01177000			01111004.		011111000.		
At 40 °C	for insid	e-delta c	ircuit	At 50 °C	for inside-d	delta circuit			,	Article No.	Price	PU	PS*	PG
Opera- tional	tional three-phase motors				Operating	power [hp]	for three-ph	nase motors			per PU	(UNIT, SET, M)		
current	at 230 V	at 400 V	at 500 V	current	at 200/208 V	at 220/230 V	at 460/480 V	at 575/600 V						
Α	kW	kW	kW	Α	hp	hp	hp	hp						
Operat	tional v	oltage 2	200 4	80 V			_	_						
196	55	110		175	50	60	125			3RW5534-□HA□4		1	1 unit	42S
248	75	132		222	75 75	75	150			3RW5535-□HA□4		1	1 unit	42S
296	90	160		265	75	100	200		_	3RW5536-□HA□4		<u> </u>	1 unit	42S
364 433	110 132	200 250		322 381	100 125	125 150	250 300			3RW5543-□HA□4 3RW5544-□HA□4		1	1 unit 1 unit	42S 42S
546	160	315		483	150	200	400			3RW5545-□HA□4		1	1 unit	42S
641	200	355		568	200	200	450			3RW5546-□HA□4		1	1 unit	42S
814	250	400		721	250	250	600			3RW5547-□HA□4		1	1 unit	42S
987	315	560		873	300	350	750			3RW5548-□HA□4		1	1 unit	42S
1 091	355	630		972	350	400	850			3RW5552-□HA□4		1	1 unit	42S
1 247	400	710		1 110	400	450	950			3RW5553-□HA□4		1	1 unit	42S
1 454	450	800		1 295	450	550	1 150			3RW5554-□HA□4			1 unit	42S
1 905	560	1 000		1 695	600	700	1 500			3RW5556-□HA□4		1	1 unit	42S
2 217	710	1 200		1 973	700	850	1 700			3RW5558-□HA□4		1	1 unit	42S
	electrica		ction for	the cont	rol circuit									

Spring-loaded terminals Screw terminals

Control supply voltage

24 V AC/DC 110 ... 250 V AC

Note:

SIRIUS 3RW soft starters High Performance soft starters

IE3/IE4 ready 3RW55 soft starters > Inside-delta circuit

For normal starting (CLASS 10E)



					3RW551.		3RW552.		
At 40 °C for inside-delta circuit	At 50 °C for inside-d	elta circuit			Article No.	Price	PU	PS*	PG
Operating power for tional three-phase motors	tional	power [hp]	for three-ph	ase motors		per PU	(UNIT, SET, M)		
at at at at 230 V 400 V 500 V	current at 200/208 V	at 220/230 V	at 460/480 V	at 575/600 V					
A kW kW kW	A hp	hp	hp	hp					
Operational voltage 200 6	00 V								
22.5 5.5 11 15 31.5 7.5 15 18.5 43.3 11 18.5 22	19.9 5 28 7.5 39 10	5 7.5 10	10 20 25	15 25 30	3RW5513-□HA□5 3RW5514-□HA□5 3RW5515-□HA□5		1 1 1	1 unit 1 unit 1 unit	42S 42S 42S
55.4 15 22 30 65.8 18.5 30 37	49 15 58 15	15 20	30 40	40 50	3RW5516-□HA□5 3RW5517-□HA□5		1 1	1 unit 1 unit	42S 42S
43.3 11 18.5 22 81.4 22 45 45 109 30 55 55	39 10 72 20 96 30	10 25 30	25 50 75	30 60 75	3RW5521-□HA□6 3RW5524-□HA□6 3RW5525-□HA□6		1 1 1	1 unit 1 unit 1 unit	42S 42S 42S
133 37 75 90 161 45 90 110	118 30 143 40	40 50	75 100	100 125	3RW5526-□HA□6 3RW5527-□HA□6		1 1	1 unit 1 unit	42S 42S

Type of electrical connection for the control circuit

Screw terminals Spring-loaded terminals

Control supply voltage 24 V AC/DC 110 ... 250 V AC

Note:

SIRIUS 3RW soft starters

High Performance soft starters

3RW55 soft starters > Inside-delta circuit IE3/IE4 ready

For normal starting (CLASS 10E)







At 40 °C	At 40 °C for inside-delta circuit			At 50 °C	At 50 °C for inside-delta circuit				Article No.	Price	PU	PS*	PG
Opera- tional		ing powe		Opera- tional	Operating power [hp] for three-phase motors					per PU	(UNIT, SET, M)		
current	at 230 V	at 400 V	at 500 V	current	at 200/208 V	at 220/230 V	at 460/480 V	at 575/600 V					
Α	kW	kW	kW	Α	hp	hp	hp	hp					
Operati	ional v	oltage 2	200 6	00 V									
196	55	110	132	175	50	60	125	150	3RW5534-□HA□6		1	1 unit	42S
248	75	132	160	222	75	75	150	200	3RW5535-□HA□6		1	1 unit	42S
296	90	160	200	265	75	100	200	250	3RW5536-□HA□6		1	1 unit	42S
364	110	200	250	322	100	125	250	300	3RW5543-□HA□6		1	1 unit	42S
433	132	250	315	381	125	150	300	350	3RW5544-□HA□6		1	1 unit	42S
546	160	315	355	483	150	200	400	500	3RW5545-□HA□6		1	1 unit	42S
641	200	355	450	568	200	200	450	600	3RW5546-□HA□6		1	1 unit	42S
814	250	400	500	721	250	250	600	800	3RW5547-□HA□6		1	1 unit	42S
987	315	560	630	873	300	350	750	950	3RW5548-□HA□6		1	1 unit	42S
1 091	355	630	710	972	350	400	850	1 050	3RW5552-□HA□6		1	1 unit	42S
1 247	400	710	800	1 110	400	450	950	1 250	3RW5553-□HA□6		1	1 unit	42S
1 454	450	800	900	1 295	450	550	1 150	1 450	3RW5554-□HA□6		1	1 unit	42S
1 905	560	1 000	1 200	1 695	600	700	1 500	1 900	3RW5556-□HA□6		1	1 unit	42S
2 217	710	1 200	1 500	1 973	700	850	1 700	2 200	3RW5558-□HA□6		1	1 unit	42S

Type of electrical connection for the control circuit

Spring-loaded terminals Screw terminals

Control supply voltage

24 V AC/DC 110 ... 250 V AC

Note:

3RW55 soft starters > Accessories

Selection and ordering	ng data								
	Product designation	Manufacturer's article number of the soft starter	Product version	Application	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Fan covers									
A SOL	Fan cover	3RW551 (1x), 3RW552 (2x), 3RW553 (2x)			3RW5983-0FC00		1	1 unit	42S
		3RW554 (1x)			3RW5984-0FC00		1	1 unit	42S
3RW5983-0FC00		3RW555 (3x)			3RW5985-0FC00		1	1 unit	42S
Terminal covers	Terminal cover	3RW552 (2x), 3RW553 (2x)		-	3RW5983-0TC20		1	1 unit	42S
3RW5983-0TC20									
		3RW554 (2x)			3RW5984-0TC20		1	1 unit	42\$
3RW5984-0TC20									
Enclosure componen	ts Hinged cover	3RW55	Without cutout		3RW5950-0GL20		1	1 unit	42\$
Communications mod	dules								
	Communica- tions module ¹⁾	3RW55	PROFINET High-Feature with integral switch		3RW5950-0CH00		1	1 unit	42S
			PROFINET		3RW5980-0CS00		1	1 unit	42S
3RW5980-0CS00			PROFIBUS		3RW5980-0CP00		1	1 unit	428
3RW5980-0CE00			EtherNet/IP		3RW5980-0CE00		1	1 unit	42S
			Modbus TCP		3RW5980-0CR00		1	1 unit	42S
3RW5980-0CR00			Modbus TCP		3RW5980-0CT00		1	1 unit	42S

¹⁾ Use the recommended connection plugs for attaching the bus connection cable (e.g. angled or suitable for industrial use), see Equipment Manual for the relevant communications module.

^{*} You can order this quantity or a multiple thereof. Illustrations are approximate

SIRIUS 3RW soft starters High Performance soft starters

3RW55 soft starters > Accessories

	Product designation	Manufacturer's article number of the soft starter	Product version	Application	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
LIMI oo a dada a									
HMI modules	IDOS I	ODIMEE	IDOE	_	ODWESON SUDON			a .,	400
	IP65 door mounting kit for HMI modules	3RW55	IP65	For HMI modules	3RW5980-0HD00		1	1 unit	42S
3RW5980-0HD00									
Connecting cables		ODIA/SS	- '	_					400
 	HMI connecting	3RW55	5 m, round 2.5 m, round	For door	3RW5980-0HC60 3UF7933-0BA00-0		1	1 unit 1 unit	42S 42J
3UF7930BA00-0	cable		1.0 m, round	- mounting	3UF7933-0BA00-0 3UF7937-0BA00-0		1	1 unit	42J 42J
30F793UBA00-0			0.5 m, round	-	3UF7932-0BA00-0		1	1 unit	42J
Further accessories			0.0 111, 100110		001 7302 0DA00 0		'	1 dilit	720
P	Push-in lugs for wall mounting		Two lugs are required per device	For HMI modules and commu- nications modules	3ZY1311-0AA00		1	10 units	41L
3ZY1311-0AA00 Blank labels									
Blank labels	Unit labeling		20 mm x	For SIRIUS	3RT2900-1SB20		100	340	41B
3RT2900-1SB20	Unit labeling plates ¹⁾		7 mm, titanium gray	devices	3.112300-13B20		100	units	410

PC labeling system for individual inscription of unit labeling plates available from: murrplastik Systemtechnik GmbH (see page 16/18).

SIRIUS Soft Starter ES (TIA Portal), see page 6/9 or

3RW55 Failsafe soft starters > General data

Overview

More information

Homepage, see www.siemens.com/sirius-soft-starter

SiePortal, see www.siemens.com/product?3RW55Failsafe

TIA Selection Tool Cloud (TST Cloud),

see www.siemens.com/tstcloud/?node=3rw55

SiePortal topic page, see

https://support.industry.siemens.com/cs/ww/en/view/109747404

Simulation Tool for Soft Starters (STS), see page 6/9 or https://support.industry.siemens.com/cs/ww/en/view/101494917

https://support.industry.siemens.com/cs/ww/en/ps/24230/dl
Decision support for motor start - Starting and operating three-phase asynchronous motors efficiently, see www.siemens.com/motorstart-guide
SIRIUS Sim, see page 6/10 or
https://support.industry.siemens.com/cs/ww/en/view/109763750
Conversion tool, see www.siemens.com/conversion-tool



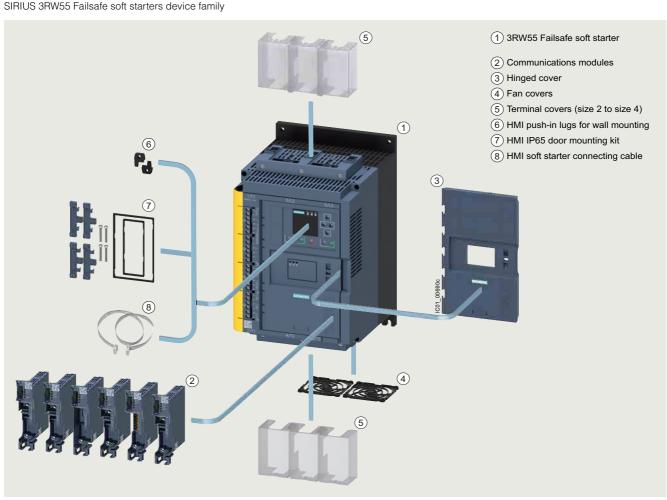
Video: Animation 3RW5 Failsafe soft starter



Equipped with the utmost functionality, the SIRIUS 3RW55 Failsafe High Performance soft starters confidently handle even difficult starting and stopping operations. Thanks to innovative torque control, the device can be used for drives with an output of between 5.5 kW and 560 kW (at 400 V).

The innovative 3RW55 Failsafe soft starter features an integrated fail-safe digital input for directly connecting the EMERGENCY STOP, and thus covers SIL 1 STO applications. The HMI (with color display, local interface and a slot for micro SD memory card) and plug-in communications modules (PROFINET, PROFIBUS, EtherNet/IP and Modbus) ensure maximum flexibility.

With their modern hybrid switching technology, the 3RW55 Failsafe soft starters offer efficient switching for long-term, energy-saving use.



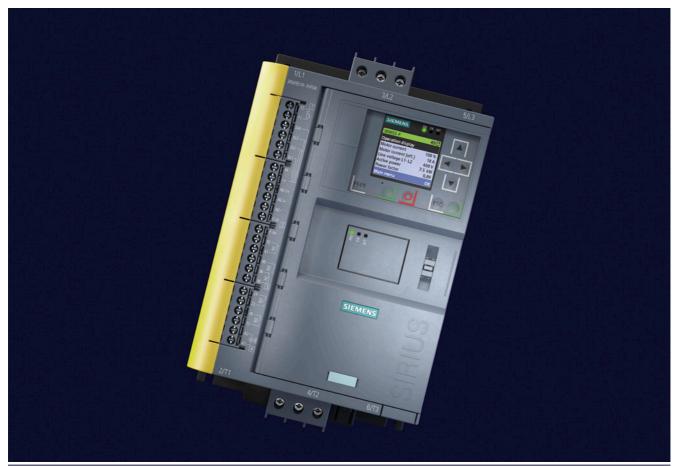
SIRIUS 3RW55 Failsafe High Performance soft starter with accessories (see page 6/53)

SIRIUS 3RW soft starters

High Performance soft starters

3RW55 Failsafe soft starters > General data

Benefits



Product characteristics/function	Performance features/benefits
Automatic parameterization	Extremely easy commissioning and reliability even under changing load conditions
Hybrid switching technology and 3-phase motor control	Minimum power loss and optimum/symmetrical motor control
TIA integration – communications modules optional	Efficient configuration and maximum flexibility in automation engineering
Removable HMI with color display, local interface, slot for micro SD memory card	Maximum flexibility with regard to user interface and intuitive menu guidance
Pump stop and torque control	Reduced mechanical loading and optimum pump stop control
Certified according to ATEX/IECEx Directive	Suitable for the starting of explosion-proof motors
Fail-safe disconnection up to SIL 3/PL e/STO	Reduced costs and space requirements thanks to direct wiring of the EMERGENCY STOP mushroom pushbutton to the soft starter for SIL 1/PL c
System redundancy S2	Simple and straight-forward integration into fault-tolerant automation systems
Direct integration in Insights Hub via the OPC UA server	Worldwide data availability for optimal plant operation

3RW55 Failsafe soft starters > General data

Technical specifications

More information	
Technical specifications, see https://support.industry.siemens.com/cs/ww/en/ps/25776/td Equipment Manual, see https://support.industry.siemens.com/cs/ww/en/view/109753752	FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/25776/faq Simulation Tool for Soft Starters (STS), see page 6/9 or https://support.industry.siemens.com/cs/ww/en/view/101494917

Туре		3RW551HF.4	3RW552HF.4 3RW553HF.4	3RW554HF.4			
Installation/fixing/dimensions							
Width x height x depth	mm	170 x 275 x 152	185 x 306 x 203	210 x 393 x 203			
Type of mounting		Screw fixing					
Mounting position		Vertical (can be rotated +/	'- 90° and tilted +/- 22.5°	forward or backward)			
Distance to be maintained with side-by-side mounting							
Above	mm	100					
At the side	mm	5					
• Below	mm	n 75					
Installation altitude at height above sea level, maximum ¹⁾	m	2 000					
Degree of protection IP on the front according to IEC 60529		IP20 IP00 (IP20 with cover)					
Touch protection on the front according to IEC 60529		Finger-safe for vertical touching from the front with cover					
Ambient conditions							
Ambient temperature							
 During operation²⁾ 	°C	-25 +60					
During storage and transport	°C	-40 +80					
Environmental category according to IEC 60721							
During operation		3K6 (no ice formation, only 3S2 (sand must not get in		on), 3C3 (no salt mist),			
During storage	1K6 (only occasional condensation), 1C2 (no salt mist), 1S2 (sand must not get into the devices), 1M4						
During transport		2K2, 2C1, 2S1, 2M2 (max	height of fall 0.3 m)				

1) Derating from 1 000 m, see characteristic curve on page 6/8.		²⁾ Note derating above 40 °C.						
Туре		3RW55HF04	3RW55HF14					
Control circuit/control								
Control supply voltage								
At AC/DC	V	24/24	/					
• At AC	V		110 250					
Relative negative tolerance/relative positive tolerance of the control supply voltage								
• At AC	%	-20/20	-15/10					
At DC	%	-20/20	/					
Frequency of the control supply voltage	Hz	50 60						
Relative negative tolerance/relative positive tolerance	%	-10/10						
Type of overvoltage protection		Varistors						
Type of short-circuit protection for control circuit ¹⁾		Fuse 4 A gG (I_{CU} =1 kA), fuse MCB C1 (I_{CU} = 600 A), MCB C	6 A quick-response (I_{CU} = 1 kA), 26 (I_{CU} = 300 A)					

¹⁾ Not included in scope of supply.

Туре		3RW55HF.4
Power electronics		
Operational voltage	V	200 480
Relative negative tolerance/relative positive tolerance	%	-15/10
Operational voltage for inside-delta circuit	V	200 480
Relative negative tolerance/relative positive tolerance	%	-15/10
Operating frequency	Hz	50 60
Relative negative tolerance/relative positive tolerance	%	-10/10
Minimum load [% of I _M] ¹⁾	%	10
Maximum cable length between soft starter and motor	m	800

¹⁾ Relative to set I_e .

Туре	_	3RW5513	3RW5514	3RW5515	3RW5516	3RW5517
Rated operational current I _e	Α	13	18	25	32	38
Power electronics						
Load rating with rated operational current I_e						
IEC + UL/CSA, individual mounting at 40/50/60 °C, AC-53a	Α	13/11.5/10.5	18/15.9/13.8	25/22.3/19.6	25/22.3/19.6	38/33.5/30.5
Permissible rated motor current and starts	s/h					
Normal starting (CLASS 10A)						
Rated motor current $I_{\rm M}$, $T_{\rm u} = 40/50/60$ °C ON period = 70%; motor protection activated	Α	13/11.5/10.5	18/15.9/13.8	25/22.3/19.6	32/28.4/26	38/33.5/30.5
• 300% I _M - Startup time 5 s - Startup time 10 s	1/h 1/h	43 18	43 18	43 18	43 18	43 18
• 350% I _M - Startup time 5 s - Startup time 10 s	1/h 1/h	28 10	28 10	28 10	28 10	28 10
Normal starting (CLASS 10E)						
Rated motor current $I_{\rm M}$, $T_{\rm u} = 40/50/60$ °C ON period = 70%; motor protection activated	Α	13/11.5/10.5	18/15.9/13.8	25/22.3/19.6	32/28.4/26	38/33.5/30.5
• 300% I _M - Startup time 10 s - Startup time 20 s	1/h 1/h	21	21 8	21 8	21 8	21 8
• 350% I _M - Startup time 10 s - Startup time 20 s	1/h 1/h	13 4	13 4	13 4	13 4	13 4
Heavy starting (CLASS 20E)						
Rated motor current $I_{\rm M}$, $T_{\rm u} = 40/50/60$ °C ON period = 70%; motor protection activated	Α	13/11.5/10.5	18/15.9/13.8	25/22.3/19.6	29.6/27.2/23.6	33.5/30.5/27.5
• 300% I _M - Startup time 20 s - Startup time 40 s	1/h 1/h	10 4	10 4	10 4	10 4	10 4
• 350% I _M - Startup time 20 s - Startup time 40 s	1/h 1/h	7 2.5	7 2.5	7 2.5	7 2.5	7 2.5
Heavy starting (CLASS 30E)						
Rated motor current I_M , $T_U = 40/50/60$ °C ON period = 70%; motor protection activated	Α	13/11.5/10.5	18/15.9/13.8	25/22.3/19.6	26/23.6/21.2	29/26/23
• 300% I _M - Startup time 30 s - Startup time 60 s	1/h 1/h	7 3	7 3	7 3	7 3	7 3
• 350% I _M - Startup time 30 s - Startup time 60 s	1/h 1/h	4 1.8	4 1.8	4 1.8	4 1.8	4 1.8
Adjustable rated motor current I _M						
Minimum/maximum	Α	2.5/13	3.5/18	5/25	6.5/32	7.5/38
 Minimum/maximum in inside-delta circuits 	Α	4.3/22.5	6.1/31.1	8.7/43.3	11.3/55.4	13/65.8

Туре		3RW5524	3RW5525	3RW5526	3RW5527
Rated operational current I _e	А	47	63	77	93
Power electronics					
Load rating with rated operational current I_e					
IEC + UL/CSA, individual mounting at 40/50/60 °C, AC-53a	Α	47/41.6/36.2	63/55.5/50.5	77/68/62	93/82.5/75.5
Permissible rated motor current and starts	s/h				
Normal starting (CLASS 10A)					
Rated motor current $I_{\rm M}$, $T_{\rm u}$ = 40/50/60 °C ON period = 70%; motor protection activated	Α	47/41.6/36.2	63/55.5/50.5	77/68/62	93/82.5/75.5
• 300% I _M - Startup time 5 s - Startup time 10 s	1/h 1/h	43 18	43 18	43 18	43 18
• 350% I _M - Startup time 5 s - Startup time 10 s	1/h 1/h	28 10	28 10	28 10	28 10
Normal starting (CLASS 10E)					
Rated motor current $I_{\rm M}$, $T_{\rm u}$ = 40/50/60 °C ON period = 70%; motor protection activated	Α	47/41.6/36.2	63/55.5/50.5	77/68/62	93/82.5/75.5
• 300% I _M - Startup time 10 s - Startup time 20 s	1/h 1/h	21	21 8	21 8	21 8
• 350% I _M - Startup time 10 s - Startup time 20 s	1/h 1/h	13 4	13 4	13 4	13 4
Heavy starting (CLASS 20E)					
Rated motor current $I_{\rm M}$, $T_{\rm u}$ = 40/50/60 °C ON period = 70%; motor protection activated	Α	47/41.6/36.2	63/55.5/50.5	77/68/62	93/82.5/75.5
• 300% I _M - Startup time 20 s - Startup time 40 s	1/h 1/h	10 4	10 4	10 4	10 4
• 350% I _M - Startup time 20 s - Startup time 40 s	1/h 1/h	7 2.5	7 0	7 0	7 0
Heavy starting (CLASS 30E)					
Rated motor current $I_{\rm M}$, $T_{\rm u}$ = 40/50/60 °C ON period = 70%; motor protection activated	Α	43.4/38/34.4	53/48/43	68/62/56	82.5/75.5/65
• 300% I _M - Startup time 30 s - Startup time 60 s	1/h 1/h	7 3	7 3	7 3	7 3
• 350% $I_{\rm M}$ - Startup time 30 s - Startup time 60 s	1/h 1/h	4	4 1.8	4 1.8	4 1.8
Adjustable rated motor current I _M					
Minimum/maximum	Α	10/47	13/63	16/77	19/93
Minimum/maximum in inside-delta circuits	Α	17.3/81.4	22.5/109	27.7/133	32.9/161

Туре		3RW5534	3RW5535	3RW5536
Rated operational current I _e	Α	113	143	171
Power electronics				
Load rating with rated operational current I_e				
IEC + UL/CSA, individual mounting at 40/50/60 °C, AC-53a	Α	113/101/89	143/128/118	171/153/141
Permissible rated motor current and starts	s/h			
Normal starting (CLASS 10A)				
Rated motor current $I_{\rm M}$, $T_{\rm u} = 40/50/60$ °C ON period = 70%; motor protection activated	Α	113/101/89	143/128/118	171/153/141
• 300% I _M - Startup time 5 s - Startup time 10 s	1/h 1/h	43 18	43 18	35 13
• 350% I _M - Startup time 5 s - Startup time 10 s	1/h 1/h	28 10	17 4	10 0
Normal starting (CLASS 10E)				
Rated motor current $I_{\rm M}$, $T_{\rm u}$ = 40/50/60 °C ON period = 70%; motor protection activated	Α	113/101/89	143/128/118	171/153/141
• 300% I _M - Startup time 10 s - Startup time 20 s	1/h 1/h	21 8	21 7	14 4
• 350% I _M - Startup time 10 s - Startup time 20 s	1/h 1/h	13 4	4 0	0 0
Heavy starting (CLASS 20E)				
Rated motor current $I_{\rm M}$, $T_{\rm u} = 40/50/60$ °C ON period = 70%; motor protection activated	А	109/97/85	128/113/103	141/129/117
• 300% I _M - Startup time 20 s - Startup time 40 s	1/h 1/h	10 4	10 4	10 4
• 350% I _M - Startup time 20 s - Startup time 40 s	1/h 1/h	7 0	6 0	6 0
Heavy starting (CLASS 30E)				
Rated motor current $I_{\rm M}$, $T_{\rm u}$ = 40/50/60 °C ON period = 70%; motor protection activated	Α	89/81/74	108/98/88	117/105/93
• 300% I _M - Startup time 30 s - Startup time 60 s	1/h 1/h	7 3	7 3	7 3
• 350% <i>I</i> _M - Startup time 30 s - Startup time 60 s	1/h 1/h	4 1.8	4 1.8	4 1.8
Adjustable rated motor current I_{M}				
Minimum/maximum	Α	23/113	29/143	34/171
Minimum/maximum in inside-delta circuits	Α	39.8/195	50.2/247	58.9/296

Туре		3RW5543	3RW5544	3RW5545	3RW5546	3RW5547	3RW5548
Rated operational current I _e	Α	210	250	315	370	470	570
Power electronics							
Load rating with rated operational current I_e							
IEC + UL/CSA, individual mounting at 40/50/60 °C, AC-53a	Α	210/186/170	250/220/200	315/279/255	370/328/300	470/416/380	570/504/460
Permissible rated motor current and starts	s/h						
Normal starting (CLASS 10A)							
Rated motor current I_{M} , $T_{\text{u}} = 40/50/60 ^{\circ}\text{C}$ ON period = 70%; motor protection activated	Α	210/186/170	250/220/200	315/279/255	370/328/300	470/416/380	570/504/460
• 300% I _M - Startup time 5 s - Startup time 10 s	1/h 1/h	43 13	43 18	38 14	43 18	32 13	13 3
• 350% I _M - Startup time 5 s - Startup time 10 s	1/h 1/h	14	28 10	19 5	28 10	19 6	4 0.4
Normal starting (CLASS 10E)							
Rated motor current I_{M} , $T_{\text{u}} = 40/50/60 ^{\circ}\text{C}$ ON period = 70%; motor protection activated	Α	210/186/170	250/220/200	315/279/255	370/328/300	470/416/380	551/490/445
• 300% I _M - Startup time 10 s - Startup time 20 s	1/h 1/h	13 2	21 8	14 4	20 8	13 3	5
• 350% I _M - Startup time 10 s - Startup time 20 s	1/h 1/h	0	13 4	5 0	12 3	6 0.4	1
Heavy starting (CLASS 20E)							
Rated motor current $I_{\rm M}$, $T_{\rm u}$ = 40/50/60 °C ON period = 70%; motor protection activated	Α	162/146/130	200/180/160	231/207/183	258/230/202	272/254/236	284/262/240
• 300% I _M - Startup time 20 s - Startup time 40 s	1/h 1/h	10 4	10 4	10 4	10 4	10 4	10 4
• 350% I _M - Startup time 20 s - Startup time 40 s	1/h 1/h	7	7 2.5	7 2.5	7 2.5	7 2.5	7 2.5
Heavy starting (CLASS 30E)							
Rated motor current $I_{\rm M}$, $T_{\rm u} = 40/50/60$ °C ON period = 70%; motor protection activated	Α	138/122/106	160/140/120	183/159/135	202/174/160	210/190/170	220/200/180
• 300% I _M - Startup time 30 s - Startup time 60 s	1/h 1/h	7 3	7 3	7 3	7 3	7 3	7 3
• 350% I _M - Startup time 30 s - Startup time 60 s	1/h 1/h	4 1.8	4 1.8	4 1.8	4 1.8	4 1.8	4 1.8
Adjustable rated motor current I _M							
Minimum/maximum	Α	42/210	50/250	63/315	74/370	94/470	114/570
Minimum/maximum in inside-delta circuits	Α	72.7/363	86.6/433	109.1/545	128.2/640	162.8/814	197.5/987

SIRIUS 3RW soft starters

High Performance soft starters

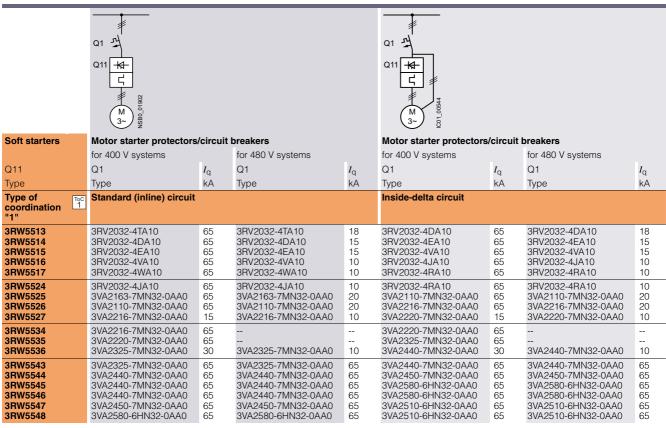
3RW55 Failsafe soft starters > General data

Motor feeders according to IEC with 3RV2 motor starter protectors/3VA circuit breakers (without semiconductor protection)

Type of coordination "1", CLASS 10, short-circuit breaking capacity I_q in kA, see table

Note:

For general recommendations for constructing motor feeders with soft starters, see page 6/12.



Note:

The service factor and measurement inaccuracies, for example, have been taken into account for the selection of the specified motor starter protectors/circuit breakers; the specified short-circuit breaking capacities $I_{\rm q}$ in kA are covered by combination tests. Smaller motor starter protectors/circuit breakers from the same series can be used at any time as smaller ones trip more quickly in the event of a short circuit (unchanged short-circuit breaking capacity) and thus protect the soft starter in any case. The dimensioning of the short-circuit components must match the connected three-phase motor, the short-circuit and overload requirements of the application, and the line protection for the cables used.

Switching devices – Soft starters and solid-state switching devices SIRIUS 3RW soft starters

SIRIUS 3RW soft starters
High Performance soft starters

3RW55 Failsafe soft starters > General data

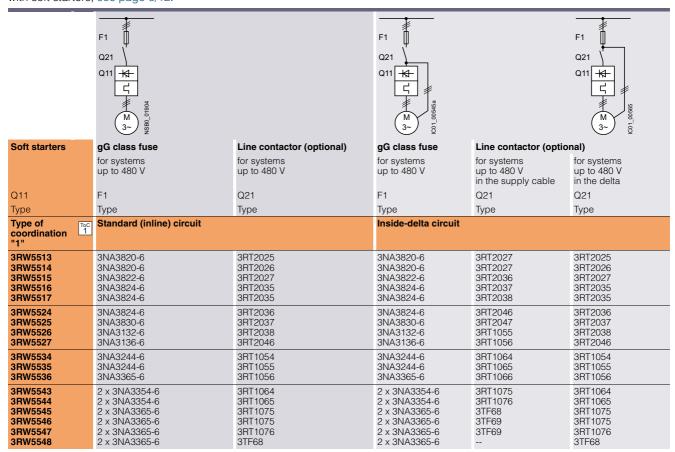
Motor feeders according to IEC with 3NA3 fuses

gG class full-range fuses for cable and line protection according to IEC 60269-2, without semiconductor protection

Type of coordination "1", short-circuit breaking capacity $I_{color} = 65 \text{ kA}$

Note:

For general recommendations for constructing motor feeders with soft starters, see page 6/12.



Note:

The specified short-circuit breaking capacities $I_{\rm q}$ in kA are covered by combination tests. Smaller fuses than those specified can be used at any time as smaller ones trip more quickly in the event of a short circuit (unchanged short-circuit breaking capacity) and thus protect the soft starter in any case. The dimensioning of the short-circuit components must, however, be suitable for the connected three-phase motor and the line protection for the cables used.

SIRIUS 3RW soft starters

High Performance soft starters

3RW55 Failsafe soft starters > General data

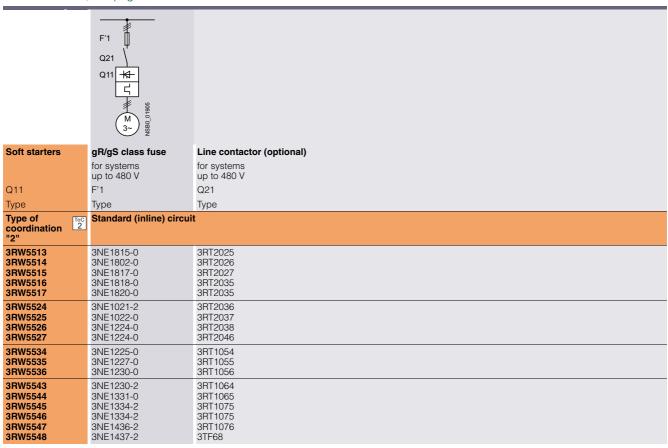
Motor feeders according to IEC with 3NE1 SITOR fuses

gR/gS class full-range fuses for semiconductor protection, cable and line protection (gS)

Type of coordination "2", short-circuit breaking capacity $I_q = 65 \text{ kA}$

Note:

For general recommendations for constructing motor feeders with soft starters, see page 6/12.



Note:

The specified short-circuit breaking capacities $I_{\rm q}$ in kA are covered by combination tests. Smaller fuses than those specified can be used at any time as smaller ones trip more quickly in the event of a short circuit (unchanged short-circuit breaking capacity) and thus protect the soft starter in any case. The dimensioning of the short-circuit components must, however, be suitable for the connected three-phase motor and the line protection for the cables used.

In inside-delta circuits, a gR/gS class full-range fuse could not provide the semiconductor protection of the delta-connected soft starter with a short-circuit breaking capacity that is adequate for practical use. In this case, we recommend using aR class partial-range fuses for semiconductor protection for type of coordination "2" (see page 6/49).

Switching devices – Soft starters and solid-state switching devices SIRIUS 3RW soft starters

High Performance soft starters

3RW55 Failsafe soft starters > General data

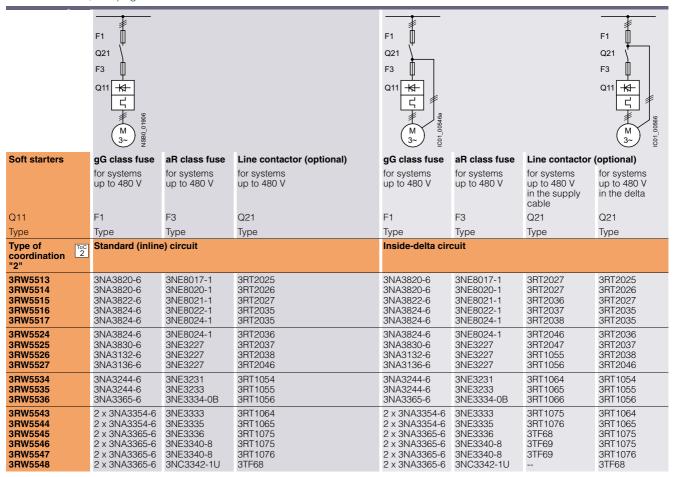
Motor feeders according to IEC with 3NE8/3NE3/3NC3 fuses

aR class partial-range fuses for semiconductor protection

Type of coordination "2", short-circuit breaking capacity $I_{\rm q}$ = 65 kA

Note:

For general recommendations for constructing motor feeders with soft starters, see page 6/12.



Note:

The specified short-circuit breaking capacities $I_{\rm q}$ in kA are covered by combination tests. Smaller fuses than those specified can be used at any time as smaller ones trip more quickly in the event of a short circuit (unchanged short-circuit breaking capacity) and thus protect the soft starter in any case. The dimensioning of the short-circuit components must, however, be suitable for the connected three-phase motor and the line protection for the cables used.

For CLASS 10 applications, as an alternative to the 3NA3 gG class full-range fuses for cable and line protection (F1), 3RV2 motor starter protectors/3VA circuit breakers can also be used, possibly with reduced short-circuit breaking capacity (see page 6/46). In these cases, optional line contactors can be dispensed with.

SIRIUS 3RW soft starters

High Performance soft starters

3RW55 Failsafe soft starters > General data

Reversing operation with reversing contactors

Note:

For general recommendations for constructing motor feeders with soft starters, see page 6/12.

(Example circuit, see

3RW55 Equipment Manual, Appendix A.3)

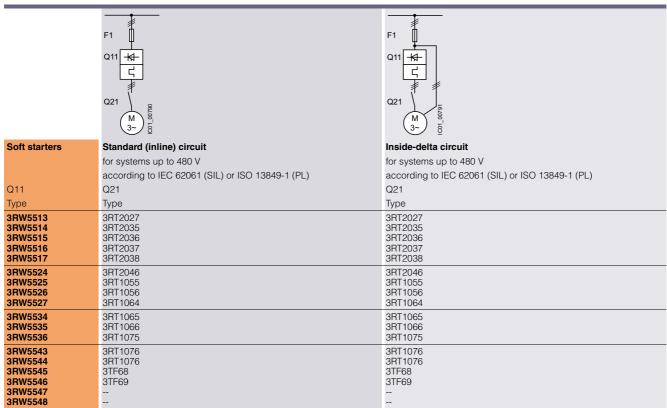
Soft starters	Reversing contactor assembly	Reversing contactor
	for systems up to 480 V	for systems up to 480 V
Q11	Q21/Q22	Q21/Q22
Туре	Type	Туре
3RW5513	3RA2325	3RT2025
3RW5514	3RA2326	3RT2026
3RW5515	3RA2327	3RT2027
3RW5516	3RA2335	3RT2035
3RW5517	3RA2335	3RT2035
3RW5524	3RA2336	3RT2036
3RW5525	3RA2337	3RT2037
3RW5526	3RA2338	3RT2038
3RW5527	3RA2346	3RT2046
3RW5534		3RT1054
3RW5535		3RT1055
3RW5536		3RT1056
3RW5543		3RT1064
3RW5544		3RT1065
3RW5545		3RT1075
3RW5546		3RT1075
3RW5547		3RT1076
3RW5548		3TF68

Redundant contactors for applications > SIL 1/PL c

For applications with a Safety Integrity Level > SIL 1 or a Performance Level > PL c in connection with the 3RW55 Failsafe soft starter, a redundant contactor is required.

Note:

For more details about safe disconnection according to IEC 62061 (SIL) or ISO 13849-1 (PL), see FAQ article.



SIRIUS 3RW soft starters High Performance soft starters

3RW55 Failsafe soft starters > Standard (inline) circuit

IE3/IE4 ready

Selection and ordering data

For normal starting (CLASS 10E)









53.			

At 40 °C	_		At 50 °C	_			Article No.	Price	PU	PS*	PG
Opera- tional		ng power for lase motors	Opera- tional	Operating po	ower [hp] for thr	ree-phase motors		per PU	(UNIT, SET, M)		
current	at 230 V	at 400 V	current	at 200/208 V	at 220/230 V	at 460/480 V					
Α	kW	kW	Α	hp	hp	hp					
Operat	ional volt	age 200 ⁽	480 V								
13	3	5.5	11.5	2	3	7.5	3RW5513-□HF□4		1	1 unit	42S
18	4	7.5	15.9	3	5	10	3RW5514-□HF□4		1	1 unit	42S
25	5.5	11	22.3	5	7.5	15	3RW5515-□HF□4		1	1 unit	42S
32	7.5	15	28.4	7.5	10	20	3RW5516-□HF□4		1	1 unit	42S
38	11	18.5	33.5	10	10	20	3RW5517-□HF□4		1	1 unit	42S
47	11	22	41.6	10	10	30	3RW5524-□HF□4		1	1 unit	42S
63	18.5	30	55.5	15	20	40	3RW5525-□HF□4		1	1 unit	42S
77	22	37	68	20	25	50	3RW5526-□HF□4		1	1 unit	42S
93	22	45	82.5	25	30	60	3RW5527-□HF□4		1	1 unit	42S
			I								

Type of electrical connection for the control circuit

Spring-loaded terminals

Control supply voltage

24 V AC/DC 110 ... 250 V AC

Note:

For the constraints for the motor outputs specified here, see page 6/8.

At 40 °C Opera-	Operation	g power for	At 50 °C Opera-	Operating po	wor [hp] for thr	ee-phase motors	Article No.	Price per PU	PU (UNIT,	PS*	PG
tional		ase motors	tional	Operating po	wer [rip] for trin	ee-priase motors			SÈT, M)		
current	at 230 V	at 400 V	current	at 200/208 V	at 220/230 V	at 460/480 V					
Α	kW	kW	Α	hp	hp	hp					
Operati	onal volta	age 200 4	180 V								
113 143 171	30 37 45	55 75 90	101 128 153	30 40 50	30 40 50	75 100 100	3RW5534-□HF□4 3RW5535-□HF□4 3RW5536-□HF□4		1 1 1	1 unit 1 unit 1 unit	42S 42S 42S
210 250 315	55 75 90	110 132 160	186 220 279	60 60 75	60 75 100	150 150 200	3RW5543-□HF□4 3RW5544-□HF□4 3RW5545-□HF□4		1 1 1	1 unit 1 unit 1 unit	42S 42S 42S
370 470 570	110 132 160	200 250 315	328 416 504	100 150 150	125 150 200	250 350 400	3RW5546-□HF□4 3RW5547-□HF□4 3RW5548-□HF□4		1 1 1	1 unit 1 unit 1 unit	42S 42S 42S
	aded termir	onnection fo nals	r the contro	ol circuit			2 6				
Control s 24 V AC/[110 25		age					0				

Note:

SIRIUS 3RW soft starters

High Performance soft starters

3RW55 Failsafe soft starters > Inside-delta circuit IE3/IE4 ready

Selection and ordering data

For normal starting (CLASS 10E)









3RW551.	
---------	--

3RW552.

3RW553.

3RW554.

At 40 °C fo	or inside-de	Ita circuit	At 50 °C fo	or inside-delta	circuit		Article No.	Price		PS*	PG
Opera- tional	three-pha		Opera- tional			ee-phase motors		per PU	(UNIT, SET, M)		
current	at 230 V	at 400 V	current	at 200/208 V	at 220/230 V	at 460/480 V					
Α	kW	kW	Α	hp	hp	hp					
Operation	onal volta	ge 200 4	180 V								
22.5	5.5	11	19.9	5	5	10	3RW5513-□HF□4		1	1 unit	42S
31.5	7.5	15	28	7.5	7.5	20	3RW5514-□HF□4		1	1 unit	42S
43.3	11	18.5	39	10	10	25	3RW5515-□HF□4		1	1 unit	42S
55.4	15	22	49	15	15	30	3RW5516-□HF□4		1	1 unit	42S
65.8	18.5	30	58	15	20	40	3RW5517-□HF□4		1	1 unit	42S
81.4	22	45	72	20	25	50	3RW5524-□HF□4		1	1 unit	42S
109	30	55	96	30	30	75	3RW5525-□HF□4		1	1 unit	42S
133	37	75	118	30	40	75	3RW5526-□HF□4		1	1 unit	42S
161	45	90	143	40	50	100	3RW5527-□HF□4		1	1 unit	42S

Type of electrical connection for the control circuit

Spring-loaded terminals

Control supply voltage

24 V AC/DC 110 ... 250 V AC

Note:

For the constraints for the motor outputs specified here, see page 6/8.

At 40 °C	for inside-d	elta circuit	At 50 °C	for inside-delta	circuit		Article No.	Price	PU	PS*	PG
Opera- tional		ng power for ase motors	Opera- tional	Operating po	ower [hp] for thr	ree-phase motors		per PU	(UNIT, SET, M)		
current	at 230 V	at 400 V	current	at 200/208 V	at 220/230 V	at 460/480 V					
Α	kW	kW	Α	hp	hp	hp					
Operati	ional volta	age 200 4	180 V								
196 248 296	55 75 90	110 132 160	175 222 265	50 75 75	60 75 100	125 150 200	3RW5534-□HF□4 3RW5535-□HF□4 3RW5536-□HF□4		1 1 1	1 unit 1 unit 1 unit	42S 42S 42S
364 433 546	110 132 160	200 250 315	322 381 483	100 125 150	125 150 200	250 300 400	3RW5543-□HF□4 3RW5544-□HF□4 3RW5545-□HF□4		1 1 1	1 unit 1 unit 1 unit	42S 42S 42S
641 814 987	200 250 315	355 400 560	568 721 873	200 250 300	200 250 350	450 600 750	3RW5546-□HF□4 3RW5547-□HF□4 3RW5548-□HF□4		1 1 1	1 unit 1 unit 1 unit	42S 42S 42S
Spring-lo Screw ter	aded termir rminals supply volt DC		r the contr	ol circuit			2 6		1		

Note:

3RW55 Failsafe soft starters > Accessories

Selection and ordering	ng data				- Criwoo i anoa				
	Product designation	Manufacturer's article number of the soft starter	Product version	Application	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Fan covers									
The state of the s	Fan cover	3RW551 (1x), 3RW552 (2x), 3RW553 (2x)			3RW5983-0FC00		1	1 unit	42S
3RW5983-0FC00		3RW554 (1x)			3RW5984-0FC00		1	1 unit	42S
Terminal covers									
Real Control of the State of th	Terminal cover	3RW552 (2x), 3RW553 (2x)			3RW5983-0TC20		1	1 unit	42S
3RW5983-0TC20									
la Manuel		3RW554 (2x)			3RW5984-0TC20		1	1 unit	42\$
3RW5984-0TC20									
Enclosure componen	Hinged cover	3RW55	Without cutout		3RW5950-0GL20		1	1 unit	42S
Communications mod	dules								
	Communica- tions module ¹⁾	3RW55	PROFINET High-Feature with integral switch		3RW5950-0CH00		1	1 unit	42S
E			PROFINET Standard		3RW5980-0CS00		1	1 unit	42S
3RW5980-0CS00			PROFIBUS		3RW5980-0CP00		1	1 unit	42S
3RW5980-0CE00			EtherNet/IP		3RW5980-0CE00		1	1 unit	428
			Modbus RTU Modbus TCP		3RW5980-0CR00 3RW5980-0CT00		1	1 unit 1 unit	42S 42S
3RW5980-0CR00			WIGGING TOP		C.1110300-00 100		1	i uniit	420

¹⁾ Use the recommended connection plugs for attaching the bus connection cable (e.g. angled or suitable for industrial use), see Equipment Manual for the relevant communications module.

^{*} You can order this quantity or a multiple thereof. Illustrations are approximate

SIRIUS 3RW soft starters

High Performance soft starters

3RW55 Failsafe soft starters > Accessories

	Product designation	Manufacturer's article number of the soft starter	Product version	Application	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
HMI modules									
3RW5980-0HD00	IP65 door mounting kit for HMI modules	3RW55	IP65	For HMI modules	3RW5980-0HD00		1	1 unit	42S
Connecting cables									
bearing dubies	НМІ	3RW55	5 m, round	For	3RW5980-0HC60		1	1 unit	42S
,	connecting		2.5 m, round	door	3UF7933-0BA00-0		1	1 unit	42J
3UF7930BA00-0	cable		1.0 m, round	- mounting —	3UF7937-0BA00-0		1	1 unit	42J
			0.5 m, round		3UF7932-0BA00-0		1	1 unit	42J
Further accessories									
3ZY1311-0AA00	Push-in lugs for wall mounting		Two lugs are required per device	For HMI modules and commu- nications modules	3ZY1311-0AA00		1	10 units	41L
Blank labels									
3RT2900-1SB20	Unit labeling plates ¹⁾		20 mm x 7 mm, titanium gray	For SIRIUS devices	3RT2900-1SB20		100 (340 units	41B

PC labeling system for individual inscription of unit labeling plates available from: murrplastik Systemtechnik GmbH (see page 16/18).

3RW52 soft starters > General data

Overview

More information

Homepage, see www.siemens.com/sirius-soft-starter SiePortal, see www.siemens.com/product?3RW52

TIA Selection Tool Cloud (TST Cloud), see www.siemens.com/tstcloud/?node=3rw52

SiePortal topic page, see

https://support.industry.siemens.com/cs/ww/en/view/109747404

Simulation Tool for Soft Starters (STS), see page 6/9 or https://support.industry.siemens.com/cs/ww/en/view/101494917

asynchronous motors efficiently, see www.siemens.com/motorstart-guide
Conversion tool, see www.siemens.com/conversion-tool

SIRIUS 3RW52 General Performance soft starters are the idea

SIRIUS 3RW soft starter block library for SIMATIC PCS 7, see page 6/10 or https://support.industry.siemens.com/cs/ww/en/view/109770336

Decision support for motor start - Starting and operating three-phase

SIRIUS Soft Starter ES (TIA Portal) for diagnostics, see page 6/9 or https://support.industry.siemens.com/cs/ww/en/ps/24230/dl

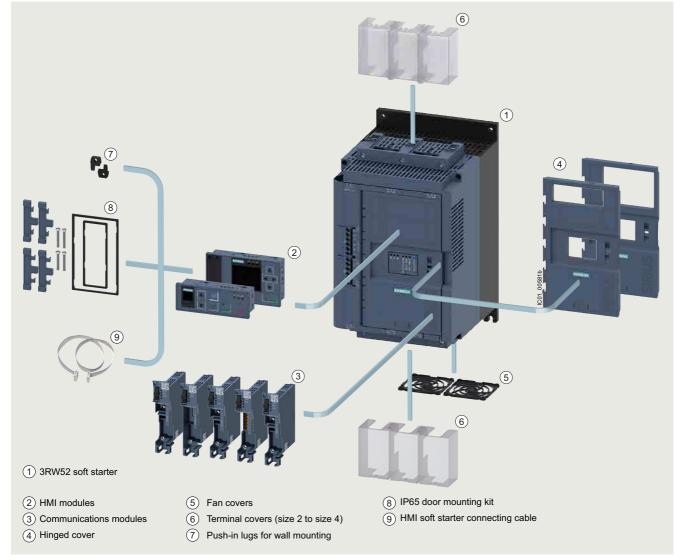


SIRIUS 3RW52 soft starters device family

SIRIUS 3RW52 General Performance soft starters are the ideal solution for standard applications. With ideal 3-phase motor control, they cover the performance range from 5.5 kW to 560 kW (at 400 V).

Optional HMI modules, plug-in communications modules (PROFINET, PROFIBUS, EtherNet/IP and Modbus) and either an analog output or thermistor motor protection ensure maximum flexibility.

With their modern hybrid switching technology, the SIRIUS 3RW52 soft starters offer efficient switching for long-term, energy-saving use.



SIRIUS 3RW52 General Performance soft starter with accessories (see page 6/71), for expansion with HMI module or communications module

SIRIUS 3RW soft starters

General Performance soft starters

3RW52 soft starters > General data

Benefits



Product characteristics/function	Performance features/benefits
Hybrid switching technology and 3-phase motor control	Minimum power loss and optimum/symmetrical motor control
TIA integration – communications modules and HMI modules optional	Efficient configuration and maximum flexibility in automation engineering
Soft Torque	Reduced mechanical loading and optimum pump stop
Parameterization using potentiometers	Simple and fast commissioning
Wide range for control supply and main voltage	Low variance, high system availability even with weak supply networks

3RW52 soft starters > General data

Technical specifications

More information									
Technical specifications, see https://support.industry.siemens.com/cs/ww/en/ps/25100/td Equipment Manual, see https://support.industry.siemens.com/cs/ww/en/view/10975375	51	FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/25100/f Simulation Tool for Soft Starters (STS), see page 6/9 or https://support.industry.siemens.com/cs/ww/en/view/101494917							
Туре	3RW	/5213 /5214 /5215	3RW5216 3RW5217	3RW5224 3RW5225	3RW5226 3RW5227 3RW5234 3RW5235 3RW5236	3RW5243 3RW5244 3RW5245 3RW5246 3RW5247 3RW5248			
Installation/fixing/dimensions Width x height x depth m	nm 170	x 275 x 152		185 x 306 x 203		210 x 393 x 203			
widan'x neight x depair	170	X 273 X 132		160 X 300 X 203		210 x 393 x 200			
Type of mounting	Scre	w fixing							
Mounting position	mou can +/-10 forw	vertical inting surface be rotated 0° and tilted ard or kward	For vertical mounting surface can be rotated +/- 90°, for vertical mounting surface can be tilted +/- 22.5° forward or backward	For vertical mounting surface can be rotated +/-10° and tilted forward or backward	for vertical mou	+/- 90°,			
Distance to be maintained with side-by-side mounting									
	m 100								
	ım 5								
	m 75								
Installation altitude at height above sea level, m maximum ¹⁾	5 00	10							
Degree of protection IP on the front according to IEC 60529	IP20)		IP00 (IP20 with co	over)				
Touch protection on the front according to IEC 60529		er-safe for ve the front	rtical touching	Finger-safe for ve with cover	rtical touching fro	om the front			
Ambient conditions									
Ambient temperature									
• During operation ²⁾ °C		+60							
• During storage and transport	C -40 .	+80							
Environmental category according to IEC 60721	0115	, . ,			200 ()				
During operation	3S2	(sand must n	ot get into the devi	**),			
During storage	1S2	(sand must n	ot get into the dev	**	,				
During transport	2K2	, 2C1, 2S1, 2I	M2 (max. height of	fall 0.3 m)					
) Derating from 1 000 m, see characteristic curve on page 6/8	3								

 $^{^{1)}}$ Derating from 1 000 m, see characteristic curve on page 6/8. $^{2)}$ Note derating above 40 $^{\circ}\mathrm{C}.$

Switching devices – Soft starters and solid-state switching devices SIRIUS 3RW soft starters

General Performance soft starters

Туре		3RW52C0.	3RW52C1.	
Control circuit/control				
Control supply voltage				
• At AC/DC	V	24/24	/	
• At AC	V		110 250	
Relative negative tolerance/relative positive tolerance with AC	%	-20/20	-15/10	
Relative negative tolerance/relative positive tolerance with DC	%	-20/20	/	
Frequency of the control supply voltage	Hz	50 60		
Relative negative tolerance/relative positive tolerance	%	-10/10		
Type of overvoltage protection		Varistors		
Type of short-circuit protection for control circuit ¹⁾		Fuse 4 A gG (I_{CU} = 1 kA), fuse 6 A quick-response (I_{CU} = 1 kA), MCB C1 (I_{CU} = 600 A), MCB C6 (I_{CU} = 300 A)		

¹⁾ Not included in scope of supply.

Туре		3RW52C.4	3RW52C.5
Power electronics			
Operational voltage	V	200 480	200 600
Relative negative tolerance/relative positive tolerance	%	-15/10	
Operational voltage for inside-delta circuit	V	200 480	200 600
Relative negative tolerance/relative positive tolerance	%	-15/10	
Operating frequency	Hz	50 60	
Relative negative tolerance/relative positive tolerance	%	-10/10	
Minimum load [% of $I_{\rm M}$] ¹⁾	%	15	
Maximum cable length between soft starter and motor	m	800	

 $^{^{1)}}$ Relative to the smallest adjustable I_{e} .

Туре		3RW5213	3RW5214	3RW5215	3RW5216	3RW5217
Rated operational current I _e	А	13	18	25	32	38
Power electronics						
Load rating with rated operational current I _e						
IEC + UL/CSA, individual mounting at 40/50/60 °C, AC-53a	Α	13/11.5/10.5	18/15.9/13.8	25/22.3/19.6	32/28.4/26	38/33.5/30.5
Permissible rated motor current and starts	s/h					
Normal starting (CLASS 10A)						
Rated motor current I_{M} , $T_{\text{u}} = 40/50/60 ^{\circ}\text{C}$ ON period = 70%; motor protection activated	Α	13/11.5/10.5	18/15.9/13.8	25/22.3/19.6	32/28.4/26	38/33.5/30.5
• 300% I _M - Startup time 5 s - Startup time 10 s	1/h 1/h	43 18	43 18	43 18	43 18	43 18
• 350% I _M - Startup time 5 s - Startup time 10 s	1/h 1/h	28 10	28 10	28 10	28 10	28 10
Normal starting (CLASS 10E)						
Rated motor current $I_{\rm M}$, $T_{\rm u}$ = 40/50/60 °C ON period = 70%; motor protection activated	Α	13/11.5/10.5	18/15.9/13.8	25/22.3/19.6	32/28.4/26	38/33.5/30.5
• 300% I _M - Startup time 10 s - Startup time 20 s	1/h 1/h	21 8	21 8	21 8	21 8	21 8
• 350% I _M - Startup time 10 s - Startup time 20 s	1/h 1/h	13 4	13 4	13 4	13 4	13 4
Heavy starting (CLASS 20E)						
Rated motor current I_{M} , $T_{\rm u} = 40/50/60$ °C ON period = 70%; motor protection activated	Α	13/11.5/10.5	18/15.9/13.8	25/22.3/19.6	29.6/27.2/23.6	33.5/30.5/27.5
• 300% I _M - Startup time 20 s - Startup time 40 s	1/h 1/h	10 4	10 4	10 4	10 4	10 4
• 350% I _M - Startup time 20 s - Startup time 40 s	1/h 1/h	7 2.5	7 2.5	7 2.5	7 2.5	7 2.5
Adjustable rated motor current I_{M}						
Minimum/maximum	Α	5.5/13	7.5/18	11.5/25	14/32	15.5/38
Minimum/maximum in inside-delta circuits	Α	9.5/22.5	13/31.2	19.9/43.3	24.2/55.4	26.8/65.8

Туре		3RW5224	3RW5225	3RW5226	3RW5227			
Rated operational current I _e	Α	47	63	77	93			
Power electronics								
Load rating with rated operational current I _e								
IEC + UL/CSA, individual mounting at 40/50/60 °C, AC-53a	Α	47/41.6/36.2	63/55.5/50.5	77/68/62	93/82.5/75.5			
Permissible rated motor current and starts	Permissible rated motor current and starts/h							
Normal starting (CLASS 10A)								
Rated motor current $I_{\rm M}$, $T_{\rm u}$ = 40/50/60 °C ON period = 70%; motor protection activated	Α	47/41.6/36.2	63/55.5/50.5	77/68/62	93/82.5/75.5			
• 300% I _M - Startup time 5 s - Startup time 10 s	1/h 1/h	43 18	43 18	43 18	43 18			
• 350% I _M - Startup time 5 s - Startup time 10 s	1/h 1/h	28 10	28 10	28 10	28 10			
Normal starting (CLASS 10E)				_				
Rated motor current I_{M} , $T_{\text{U}} = 40/50/60 ^{\circ}\text{C}$ ON period = 70%; motor protection activated	Α	47/41.6/36.2	63/55.5/50.5	77/68/62	93/82.5/75.5			
• 300% $I_{\rm M}$ - Startup time 10 s - Startup time 20 s	1/h 1/h	21 8	21 8	21 8	21 8			
• 350% $I_{\rm M}$ - Startup time 10 s - Startup time 20 s	1/h 1/h	13 4	13 4	13 4	13 4			
Heavy starting (CLASS 20E)								
Rated motor current $I_{\rm M}$, $T_{\rm u}$ = 40/50/60 °C ON period = 70%; motor protection activated	Α	47/41.6/36.2	63/55.5/50.5	65/59/53	93/82.5/75.5			
• 300% $I_{\rm M}$ - Startup time 20 s - Startup time 40 s	1/h 1/h	10 4	10 3	10 4	10 4			
• 350% I _M - Startup time 20 s - Startup time 40 s	1/h 1/h	7 2	4 0	7 2.5	7 2.5			
Adjustable rated motor current I _M								
Minimum/maximum	Α	20/47	25.5/63	32/77	40.5/93			
Minimum/maximum in inside-delta circuits	Α	34.6/81.4	44.2/109	55.4/133	70.1/161			

Туре		3RW5234	3RW5235	3RW5236
Rated operational current I _e	А	113	143	171
Power electronics				
Load rating with rated operational current $I_{\rm e}$				
IEC + UL/CSA, individual mounting at 40/50/60 °C, AC-53a	Α	113/101/89	143/128/118	171/153/141
Permissible rated motor current and start	s/h			
Normal starting (CLASS 10A)				
Rated motor current $I_{\rm M}$, $T_{\rm u}$ = 40/50/60 °C ON period = 70%; motor protection activated	Α	113/101/89	143/128/118	171/153/141
• 300% I _M - Startup time 5 s - Startup time 10 s	1/h 1/h	43 18	43 18	43 18
• 350% I _M - Startup time 5 s - Startup time 10 s	1/h 1/h	28 10	27 8	20 4
Normal starting (CLASS 10E)				
Rated motor current $I_{\rm M}$, $T_{\rm u}$ = 40/50/60 °C ON period = 70%; motor protection activated	Α	113/101/89	139/127/116	158/146/129
• 300% I _M - Startup time 10 s - Startup time 20 s	1/h 1/h	21	21 8	21 8
• 350% I _M - Startup time 10 s - Startup time 20 s	1/h 1/h	13 4	12 1	12 1
Heavy starting (CLASS 20E)				
Rated motor current $I_{\rm M}$, $T_{\rm u}$ = 40/50/60 °C ON period = 70%; motor protection activated	Α	109/97/85	113/103/93	129/117/105
• 300% I _M - Startup time 20 s - Startup time 40 s	1/h 1/h	10 4	10 4	10 4
• 350% I _M - Startup time 20 s - Startup time 40 s	1/h 1/h	7 2.5	7 2.5	7 2.5
Adjustable rated motor current I_{M}				
Minimum/maximum Minimum/maximum in inside-delta circuits	A A	53/113 91.8/196	68/143 118/248	81/171 140/296

Туре		3RW5243	3RW5244	3RW5245	3RW5246	3RW5247	3RW5248
Rated operational current I _e	Α	210	250	315	370	470	570
Power electronics							
Load rating with rated operational current I _e							
IEC + UL/CSA, individual mounting at 40/50/60 °C, AC-53a	Α	210/186/170	250/220/200	315/279/255	370/328/300	470/416/380	570/504/460
Permissible rated motor current and starts	s/h						
Normal starting (CLASS 10A)							
Rated motor current $I_{\rm M}$, $T_{\rm u}$ = 40/50/60 °C ON period = 70%; motor protection activated	Α	210/186/170	250/220/200	315/279/255	370/328/300	470/416/380	570/504/460
• 300% I _M - Startup time 5 s - Startup time 10 s	1/h 1/h	43 18	43 18	43 14	43 18	30 11	20 6
• 350% I _M - Startup time 5 s - Startup time 10 s	1/h 1/h	28 5	28 10	16 4	28 10	17 5	9
Normal starting (CLASS 10E)							
Rated motor current $I_{\rm M}$, $T_{\rm u}$ = 40/50/60 °C ON period = 70%; motor protection activated	Α	197/184/170	250/220/200	279/255/231	370/328/300	398/362/326	460/416/372
• 300% I _M - Startup time 10 s - Startup time 20 s	1/h 1/h	21 8	21 8	21 8	21 8	21 8	18 7
• 350% I _M - Startup time 10 s - Startup time 20 s	1/h 1/h	12 1	13 4	12 3	13 4	13 4	11 2
Heavy starting (CLASS 20E)							
Rated motor current $I_{\rm M}$, $T_{\rm u} = 40/50/60$ °C ON period = 70%; motor protection activated	Α	162/146/130	200/180/160	195/171/147	258/230/202	272/236/218	284/262/240
• 300% I _M - Startup time 20 s - Startup time 40 s	1/h 1/h	10 4	10 4	10 4	10 4	10 4	10 4
• 350% I _M - Startup time 20 s - Startup time 40 s	1/h 1/h	7 2.5	7 2.5	7 2.5	7 2.5	7 2.5	7 2.5
Adjustable rated motor current I _M							
Minimum/maximumMinimum/maximum in inside-delta circuits	A A	90/210 156/364	100/250 173/433	135/315 234/546	160/370 277/641	200/470 346/814	240/570 416/987

SIRIUS 3RW soft starters
General Performance soft starters

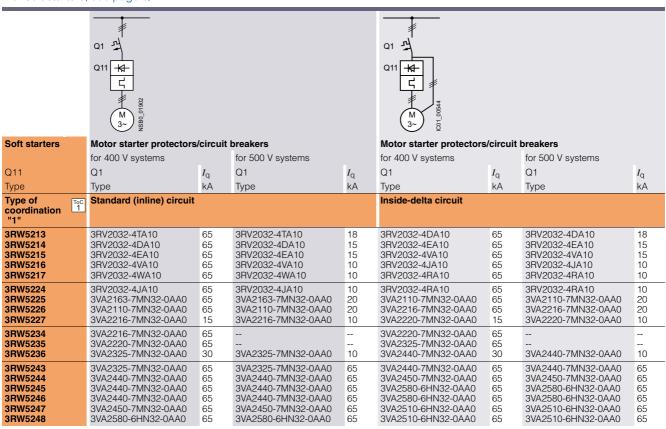
3RW52 soft starters > General data

Motor feeders according to IEC with 3RV2 motor starter protectors/3VA circuit breakers (without semiconductor protection)

Type of coordination "1", CLASS 10, short-circuit breaking capacity I_{Ω} in kA, see table

Note:

For general recommendations for constructing motor feeders with soft starters, see page 6/12.



Note:

The service factor and measurement inaccuracies, for example, have been taken into account for the selection of the specified motor starter protectors/circuit breakers; the specified short-circuit breaking capacities $I_{\rm q}$ in kA are covered by combination tests. Smaller motor starter protectors/circuit breakers from the same series can be used at any time as smaller ones trip more quickly in the event of a short circuit (unchanged short-circuit breaking capacity) and thus protect the soft starter in any case. The dimensioning of the short-circuit components must match the connected three-phase motor, the short-circuit and overload requirements of the application, and the line protection for the cables used.

Switching devices – Soft starters and solid-state switching devices SIRIUS 3RW soft starters General Performance soft starters

3RW52 soft starters > General data

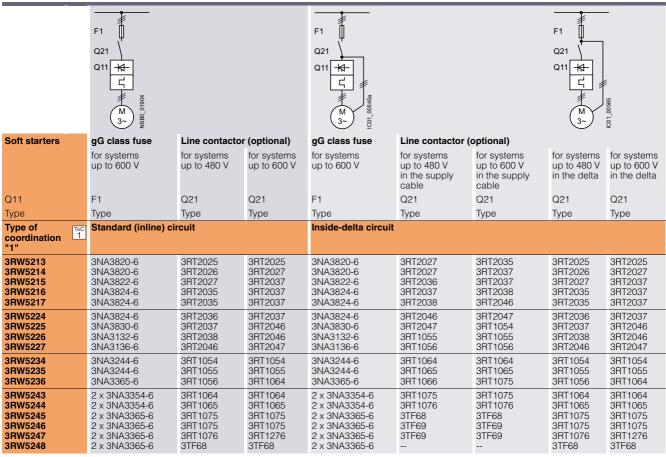
Motor feeders according to IEC with 3NA3 fuses

gG class full-range fuses for cable and line protection according to IEC 60269-2, without semiconductor protection

Type of coordination "1", short-circuit breaking capacity $I_{color} = 65 \text{ kA}$

Note:

For general recommendations for constructing motor feeders with soft starters, see page 6/12.



Note:

The specified short-circuit breaking capacities $I_{\rm q}$ in kA are covered by combination tests. Smaller fuses than those specified can be used at any time as smaller ones trip more quickly in the event of a short circuit (unchanged short-circuit breaking capacity) and thus protect the soft starter in any case. The dimensioning of the short-circuit components must, however, be suitable for the connected three-phase motor and the line protection for the cables used.

Switching devices – Soft starters and solid-state switching devices SIRIUS 3RW soft starters

General Performance soft starters

3RW52 soft starters > General data

Motor feeders according to IEC with 3NE1 SITOR fuses

gR/gS class full-range fuses for semiconductor protection, cable and line protection (gS)

Type of coordination "2", short-circuit breaking capacity $I_{\rm q}$ = 65 kA

Note:

For general recommendations for constructing motor feeders with soft starters, see page 6/12.

	F'1		
Soft starters	gR/gS class fuse	Line contactor (optional)	
	for systems up to 600 V	for systems up to 480 V	for systems up to 600 V
Q11	F'1	Q21	Q21
Туре	Туре	Туре	Туре
Type of coordination 2"	Standard (inline) circuit		
3RW5213 3RW5214 3RW5215 3RW5216 3RW5217	3NE1815-0 3NE1802-0 3NE1817-0 3NE1818-0 3NE1820-0	3RT2025 3RT2026 3RT2027 3RT2035 3RT2035	3RT2025 3RT2027 3RT2037 3RT2037 3RT2037
3RW5224 3RW5225 3RW5226 3RW5227	3NE1021-2 3NE1022-0 3NE1224-0 3NE1224-0	3RT2036 3RT2037 3RT2038 3RT2046	3RT2037 3RT2046 3RT2046 3RT2047
3RW5234 3RW5235 3RW5236	3NE1225-0 3NE1227-0 3NE1230-0	3RT1054 3RT1055 3RT1056	3RT1054 3RT1055 3RT1064
3RW5243 3RW5244 3RW5245 3RW5246 3RW5247 3RW5248	3NE1230-2 ¹⁾ 3NE1331-0 3NE1334-2 3NE1334-2 3NE1436-2 3NE1437-2	3RT1064 3RT1065 3RT1075 3RT1075 3RT1076 3TF68	3RT1064 3RT1065 3RT1075 3RT1075 3RT1276 3TF68

 $^{^{1)}}$ For systems up to 500 V.

Note:

The specified short-circuit breaking capacities $I_{\rm q}$ in kA are covered by combination tests. Smaller fuses than those specified can be used at any time as smaller ones trip more quickly in the event of a short circuit (unchanged short-circuit breaking capacity) and thus protect the soft starter in any case. The dimensioning of the short-circuit components must, however, be suitable for the connected three-phase motor and the line protection for the cables used.

In inside-delta circuits, a gR/gS class full-range fuse could not provide the semiconductor protection of the delta-connected soft starter with a short-circuit breaking capacity that is adequate for practical use. In this case, we recommend using aR class partial-range fuses for semiconductor protection for type of coordination "2" (see page 6/66).

Switching devices – Soft starters and solid-state switching devices SIRIUS 3RW soft starters

General Performance soft starters

3RW52 soft starters > General data

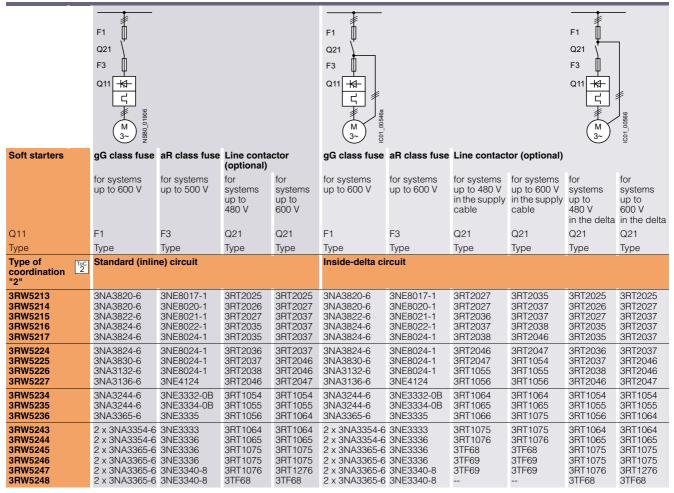
Motor feeders according to IEC with 3NE8/3NE4/3NE3 fuses

aR class partial-range fuses for semiconductor protection

Type of coordination "2", short-circuit breaking capacity $I_{\rm q}$ = 65 kA

Note:

For general recommendations for constructing motor feeders with soft starters, see page 6/12.



Note:

The specified short-circuit breaking capacities $I_{\rm q}$ in kA are covered by combination tests. Smaller fuses than those specified can be used at any time as smaller ones trip more quickly in the event of a short circuit (unchanged short-circuit breaking capacity) and thus protect the soft starter in any case. The dimensioning of the short-circuit components must, however, be suitable for the connected three-phase motor and the line protection for the cables used.

For CLASS 10 applications, as an alternative to the 3NA3 gG class full-range fuses for cable and line protection (F1), 3RV2 motor starter protectors/3VA circuit breakers can also be used, possibly with reduced short-circuit breaking capacity (see page 6/63). In these cases, optional line contactors can be dispensed with.

SIRIUS 3RW soft starters General Performance soft starters

IE3/IE4 ready 3RW52 soft starters > Standard (inline) circuit

Selection and ordering data

For normal starting (CLASS 10A)









At 40 °C Opera- tional		ting pow		At 50 °C Opera- tional	Operating	power [hp]	for three-ph	nase motors	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
current	at 230 V	at 400 V	at 500 V	current	at 200/208 V	at 220/230 V	at 460/480 V	at 575/600 V					
Α	kW	kW	kW	Α	hp	hp	hp	hp					
Operati	ional vo	oltage :	200 4	180 V									
13	3	5.5		11.5	2	3	7.5		3RW5213-□□C□4		1	1 unit	42S
18 25	4 5.5	7.5 11		15.9 22.3	3 5	5 7.5	10 15		3RW5214-□□C□4 3RW5215-□□C□4		1	1 unit 1 unit	42S 42S
32	7.5	15		28.4	7.5	10	20		3RW5216-□□C□4		1	1 unit	42S
38	11	18.5		33.5	10	10	20		3RW5217-□□C□4		1	1 unit	42S
47	11	22		41.6	10	10	30		3RW5224-□□C□4		1	1 unit	42S
63 77	18.5 22	30 37		55.5 68	15 20	20 25	40 50		3RW5225-□□C□4 3RW5226-□□C□4		1	1 unit 1 unit	42S 42S
93	22 22	45		82.5	20 25	30	60		3RW5227-□□C□4		1	1 unit	42S

Type of electrical connection for the control circuit

Screw terminals

Spring-loaded terminals

Product function

Analog output Thermistor motor protection

Control supply voltage 24 V AC/DC

110 ... 250 V AC

Note:

For the constraints for the motor outputs specified here, see page 6/8.

ooo pag	,0 0,0.												
At 40 °C Opera- tional	Opera	ting pow		At 50 °C Opera- tional	Operating	power [hp]	for three-ph	nase motors	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
current	at 230 V	at 400 V	at 500 V	current	at 200/208 V	at 220/230 V	at 460/480 V	at 575/600 V					
Α	kW	kW	kW	Α	hp	hp	hp	hp					
Operati	ional v	oltage :	200 4	480 V									
113 143 171	30 37 45	55 75 90		101 128 153	30 40 50	30 40 50	75 100 100	 	3RW5234-□□C□4 3RW5235-□□C□4 3RW5236-□□C□4		1 1 1	1 unit 1 unit 1 unit	42S 42S 42S
210 250 315	55 75 90	110 132 160	 	186 220 279	60 60 75	60 75 100	150 150 200	 	3RW5243-□□C□4 3RW5244-□□C□4 3RW5245-□□C□4		1 1 1	1 unit 1 unit 1 unit	42S 42S 42S
370 470 570	110 132 160	200 250 315	 	328 416 504	100 150 150	125 150 200	250 350 400	 	3RW5246-□□C□4 3RW5247-□□C□4 3RW5248-□□C□4		1 1 1	1 unit 1 unit 1 unit	42S 42S 42S
Type of a Spring-lo Screw te	aded te		ction fo	r the cont	rol circuit				2 6				
Product Analog o Thermist	utput	-	on						A				
Control : 24 V AC/ 110 25	DC	oltage							 0 1				

Note:

SIRIUS 3RW soft starters

General Performance soft starters

IE3/IE4 ready 3RW52 soft starters > Standard (inline) circuit

For normal starting (CLASS 10A)









At 40 °C Opera- tional		ting pow		At 50 °C Opera- tional	Operating	power [hp]	for three-ph	nase motors	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
current	at 230 V	at 400 V	at 500 V	current	at 200/208 V	at 220/230 V	at 460/480 V	at 575/600 V					
Α	kW	kW	kW	Α	hp	hp	hp	hp					
Operati	onal v	oltage 2	200 (600 V									
13 18 25	3 4 5.5	5.5 7.5 11	7.5 11 15	11.5 15.9 22.3	2 3 5	3 5 7.5	7.5 10 15	10 10 20	3RW5213-□□C□5 3RW5214-□□C□5 3RW5215-□□C□5		1 1 1	1 unit 1 unit 1 unit	42S 42S 42S
32 38	7.5 11	15 18.5	18.5 22	28.4 33.5	7.5 10	10 10	20 20	25 30	3RW5216-□□C□5 3RW5217-□□C□5		1 1	1 unit 1 unit	42S 42S
47 63 77 93	11 18.5 22 22	22 30 37 45	30 37 45 55	41.6 55.5 68 82.5	10 15 20 25	10 20 25 30	30 40 50 60	40 50 60 75	3RW5224-□□C□5 3RW5225-□□C□5 3RW5226-□□C□5 3RW5227-□□C□5		1 1 1 1	1 unit 1 unit 1 unit 1 unit	42S 42S 42S 42S
Type of e		I conne	ction fo	r the cont	rol circuit								

Spring-loaded terminals

Product function

Analog output Thermistor motor protection

Control supply voltage 24 V AC/DC 110 ... 250 V AC

Note:

For the constraints for the motor outputs specified here,

see pay	Je 0/6.												
At 40 °C				At 50 °C					Article No.	Price	PU	PS*	PG
Opera- tional current		ting powohase mat		Opera- tional current	Operating at	power [hp] at	for three-ph at	nase motors		per PU	(UNIT, SET, M)		
	230 V	400 V	500 V		200/208 V			575/600 V					
Α	kW	kW	kW	Α	hp	hp	hp	hp					
Operati	onal v	oltage :	200 6	600 V									
113 143 171	30 37 45	55 75 90	75 90 110	101 128 153	30 40 50	30 40 50	75 100 100	100 125 150	3RW5234-□□C□5 3RW5235-□□C□5 3RW5236-□□C□5		1 1	1 unit 1 unit 1 unit	42S 42S 42S
210 250 315	55 75 90	110 132 160	132 160 200	186 220 279	60 60 75	60 75 100	150 150 200	150 200 250	3RW5243-□□C□5 3RW5244-□□C□5 3RW5245-□□C□5		1 1 1	1 unit 1 unit 1 unit 1 unit	42S 42S 42S
370 470 570	110 132 160	200 250 315	250 315 355	328 416 504	100 150 150	125 150 200	250 350 400	300 450 500	3RW5246-□□C□5 3RW5247-□□C□5 3RW5248-□□C□5		1 1 1	1 unit 1 unit 1 unit	42S 42S 42S
Type of e Spring-lo Screw ter	aded tei		ection fo	r the cont	rol circuit				2 6				
Product function Analog output Thermistor motor protection A T									A				
Control s 24 V AC/I 110 25	DC	oltage/							0 1				

Note:

SIRIUS 3RW soft starters General Performance soft starters

IE3/IE4 ready

3RW52 soft starters > Inside-delta circuit

Selection and ordering data

For normal starting (CLASS 10A)









										_					
At	40 °C 1	for inside	e-delta c	ircuit	At 50 °C	for inside-de	elta circuit				Article No.	Price	PU	PS*	PG
	pera-		ing pow		Opera-	Operating	power [hp]	for three-ph	nase motors			per PU	(UNIT, SET, M)		
	nal .		hase m		tional								- , ,		
CL	urrent	at	at	at	current	at	at	at	at						
		230 V	400 V	500 V		200/208 V	220/230 V	460/480 V	575/600 V						
Α		kW	kW	kW	Α	hp	hp	hp	hp						
0	perati	onal vo	oltage 2	200 4	480 V										
22	2.5	5.5	11		19.9	5	5	10			3RW5213-□□C□4		1	1 unit	42S
31	1.5	7.5	15		28	7.5	7.5	20			3RW5214-□□C□4		1	1 unit	42S
43	3.3	11	18.5		39	10	10	25			3RW5215-□□C□4		1	1 unit	42S
55	5.4	15	22		49	15	15	30			3RW5216-□□C□4		1	1 unit	42S
65	5.8	18.5	30		58	15	20	40			3RW5217-□□C□4		1	1 unit	42S
81	1.4	22	45		72	20	25	50			3RW5224-□□C□4		1	1 unit	42S
10)9	30	55		96	30	30	75			3RW5225-□□C□4		1	1 unit	42S
13	33	37	75		118	30	40	75			3RW5226-□□C□4		1	1 unit	42S
16	61	45	90		143	40	50	100			3RW5227-□□C□4		1	1 unit	42S

Type of electrical connection for the control circuit

Screw terminals Spring-loaded terminals

Product function

Analog output

Thermistor motor protection

Control supply voltage

24 V AC/DC

110 ... 250 V AC

Note:

For the constraints for the motor outputs specified here, see page 6/8.

occ pag	<i>j</i> o 0/0.												
At 40 °C	.40 °C for inside-delta circuit At 50 °C for inside-delta circuit pera- Operating power for Opera- Operating power [hp] for three-phase								Article No.	Price	PU	PS*	PG
Opera- tional		ting pow shase m		Opera- tional	Operating power [hp] for three-phase motor			nase motors		per PU	(UNIT, SET, M)		
current	at 230 V	at 400 V	at 500 V	current	at 200/208 V	at 220/230 V	at 460/480 V	at 575/600 V					
Α	kW	kW	kW	Α	hp	hp	hp	hp					
Operati	ional v	oltage	200 4	480 V									
196 248 296	55 75 90	110 132 160	 	175 222 265	50 75 75	60 75 100	125 150 200		3RW5234-□□C□4 3RW5235-□□C□4 3RW5236-□□C□4		1 1 1	1 unit 1 unit 1 unit	42S 42S 42S
364 433 546	110 132 160	200 250 315	 	322 381 483	100 125 150	125 150 200	250 300 400		3RW5243-□□C□4 3RW5244-□□C□4 3RW5245-□□C□4		1 1 1	1 unit 1 unit 1 unit	42S 42S 42S
641 814 987	200 250 315	355 400 560	 	568 721 873	200 250 300	200 250 350	450 600 750	 	3RW5246-□□C□4 3RW5247-□□C□4 3RW5248-□□C□4		1 1 1	1 unit 1 unit 1 unit	42S 42S 42S
Type of a Spring-lo Screw te	aded te		ection fo	r the cont	rol circuit				2 6				
Product function Analog output Thermistor motor protection									A				
Control : 24 V AC/		oltage							o				

Note:

110 ... 250 V AC

SIRIUS 3RW soft starters

General Performance soft starters

3RW52 soft starters > Inside-delta circuit IE3/IE4 ready

For normal starting (CLASS 10A)









At 40 °C	for inside	e-delta d	circuit	At 50 °C	for inside-de	elta circuit			Article No.	Price	PU	PS*	PG
Opera- tional		ting pow hase m		Opera- tional	Operating	power [hp]	for three-ph	nase motors		per PU	(UNIT, SET, M)		
current	at 230 V	at 400 V	at 500 V	current	at 200/208 V	at 220/230 V	at	at 575/600 V					
	230 V	400 V	300 V	,	200/200 V	220/230 V	400/400 V	373/600 V					
Α	kW	kW	kW	Α	hp	hp	hp	hp					
Operati	onal vo	oltage :	200 6	600 V									
22.5	5.5	11	15	19.9	5	5	10	15	3RW5213-□□C□5		1	1 unit	42S
31.5	7.5	15	18.5	28	7.5	7.5	20	25	3RW5214-□□C□5		1	1 unit	42S
43.3	11	18.5	22	39	10	10	25	30	3RW5215-□□C□5		1	1 unit	42S
55.4	15	22	30	49	15	15	30	40	3RW5216-□□C□5		1	1 unit	42S
65.8	18.5	30	37	58	15	20	40	50	3RW5217-□□C□5		1	1 unit	42S
81.4	22	45	45	72	20	25	50	60	3RW5224-□□C□5		1	1 unit	42S
109	30	55	55	96	30	30	75	75	3RW5225-□□C□5		1	1 unit	42S
133	37	75	90	118	30	40	75	100	3RW5226-□□C□5		1	1 unit	42S
161	45	90	110	143	40	50	100	125	3RW5227-□□C□5		1	1 unit	42S

Type of electrical connection for the control circuit

Screw terminals
Spring-loaded terminals

Product function

Analog output Thermistor motor protection

Control supply voltage 24 V AC/DC 110 ... 250 V AC

Note:

For the constraints for the motor outputs specified here, see page 6/8

occ pag	JC 0/0.												
At 40 °C	for inside	e-delta	circuit	At 50 °C	for inside-de	elta circuit			Article No.	Price	PU	PS*	PG
Opera- tional		ing pow		Opera- tional	Operating	power [hp]	for three-ph	nase motors		per PU	(UNIT, SET, M)		
current	at 230 V	at 400 V	at 500 V	current	at 200/208 V	at 220/230 V	at 460/480 V	at 575/600 V					
Α	kW	kW	kW	А	hp	hp	hp	hp					
Operati	ional vo	oltage	200 (600 V									
196 248 296	55 75 90	110 132 160	132 160 200	175 222 265	50 75 75	60 75 100	125 150 200	150 200 250	3RW5234-□□C□5 3RW5235-□□C□5 3RW5236-□□C□5		1 1 1	1 unit 1 unit 1 unit	42S 42S 42S
364 433 546	110 132 160	200 250 315	250 315 355	322 381 483	100 125 150	125 150 200	250 300 400	300 350 500	3RW5243-□□C□5 3RW5244-□□C□5 3RW5245-□□C□5		1 1 1	1 unit 1 unit 1 unit	42S 42S 42S
641 814 987	200 250 315	355 400 560	450 500 630	568 721 873	200 250 300	200 250 350	450 600 750	600 800 950	3RW5246-□□C□5 3RW5247-□□C□5 3RW5248-□□C□5		1 1 1	1 unit 1 unit 1 unit	42S 42S 42S
	Type of electrical connection for the control circuit Spring-loaded terminals												

Spring-loaded to Screw terminals

Product function

Analog output Thermistor motor protection

Control supply voltage

24 V AC/DC 110 ... 250 V AC

Note:

Switching devices – Soft starters and solid-state switching devices SIRIUS 3RW soft starters General Performance soft starters

3RW52 soft starters > Accessories

Selection and ordering	ng data						, tai toi o		
	Product designation	Manufacturer's article number of the soft starter	Product version	Application	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Fan covers	Fan cover	3RW5216/17 (1x), 3RW5226/27 (2x),			3RW5983-0FC00		1	1 unit	42S
3RW5983-0FC00		3RW523 (2x) 3RW524 (1x)			3RW5984-0FC00		1	1 unit	42S
Terminal covers	Terminal cover	3RW522 (2x), 3RW523 (2x)		-	3RW5983-0TC20		1	1 unit	428
3RW5983-0TC20		3RW524 (2x)		-	3RW5984-0TC20		1	1 unit	42\$
3RW5984-0TC20 Enclosure componen	te								
	Hinged cover	3RW52	With cutout for High- Feature HMI module	-	3RW5950-0GL30		1	1 unit	42S
3RW5950-0GL30			With cutout for Standard HMI module		3RW5950-0GL40		1	1 unit	42S
3RW5950-0GL40 Communications mod	dules								
	Communica-	3RW52	PROFINET Standard		3RW5980-0CS00		1	1 unit	42S
	module ¹⁾		PROFIBUS EtherNet/IP		3RW5980-0CP00 3RW5980-0CE00		1	1 unit 1 unit	42S 42S
3RW5980-0CS00 3RW5980-0CR00			Modbus RTU Modbus TCP		3RW5980-0CR00 3RW5980-0CT00		1	1 unit 1 unit	42S 42S

¹⁾ Use the recommended connection plugs for attaching the bus connection cable (e.g. angled or suitable for industrial use), see Equipment Manual for the relevant communications module.

Switching devices – Soft starters and solid-state switching devices SIRIUS 3RW soft starters

General Performance soft starters

3RW52 soft starters > Accessories

	Product designation	Manufacturer's article number of the soft starter	Product version	Application	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
HMI modules									
SNAS	HMI module	3RW52	High-Feature		3RW5980-0HF00		1	1 unit	42S
3RW5980-0HF00			Standard		3RW5980-0HS00		1	1 unit	42S
3RW5980-0HS00			Standard		3NW3900-UN300		ı	i uiiit	423
	IP65 door mounting kit for HMI modules	3RW52	IP65	For HMI modules	3RW5980-0HD00		1	1 unit	42\$
3RW5980-0HD00 Connecting cables									
Connecting cables	НМІ	3RW52	5 m, round	For door	3RW5980-0HC60		1	1 unit	42S
1	connecting cable		2.5 m, round	mounting	3UF7933-0BA00-0		1	1 unit	42J
3UF7930BA00-0	Cubic		1.0 m, round	<u> </u>	3UF7937-0BA00-0		1	1 unit	42J
			0.5 m, round	Fan an annation a	3UF7932-0BA00-0		1	1 unit	42J
3UF7931-0AA00-0			0.1 m, flat	For mounting in the device	3UF7931-0AA00-0		1	1 unit	42J
Further accessories									
P	Push-in lugs for wall mounting		Two lugs are required per device	For HMI modules and commu- nications modules	3ZY1311-0AA00		1	10 units	41L
3ZY1311-0AA00 Blank labels									
3RT2900-1SB20	Unit labeling plates ¹⁾		20 mm x 7 mm, titanium gray	For SIRIUS devices	3RT2900-1SB20		100 (340 units	41B

¹⁾ PC labeling system for individual inscription of unit labeling plates available from: murrplastik Systemtechnik GmbH (see page 16/18).

Switching devices – Soft starters and solid-state switching devices SIRIUS 3RW soft starters Basic Performance soft starters

3RW50 soft starters > General data

Overview

More information

Homepage, see www.siemens.com/sirius-soft-starter SiePortal, see www.siemens.com/product?3RW50

TIA Selection Tool Cloud (TST Cloud), see www.siemens.com/tstcloud/?node=3rw50

SiePortal topic page, see

https://support.industry.siemens.com/cs/ww/en/view/109747404



SIRIUS 3RW50 soft starters device family

Simulation Tool for Soft Starters (STS), see page 6/9 or https://support.industry.siemens.com/cs/ww/en/view/101494917
SIRIUS Soft Starter ES (TIA Portal) for diagnostics, see page 6/9 or https://support.industry.siemens.com/cs/ww/en/ps/24230/dl
Decision support for motor start - Starting and operating three-phase asynchronous motors efficiently, see www.siemens.com/motorstart-guide

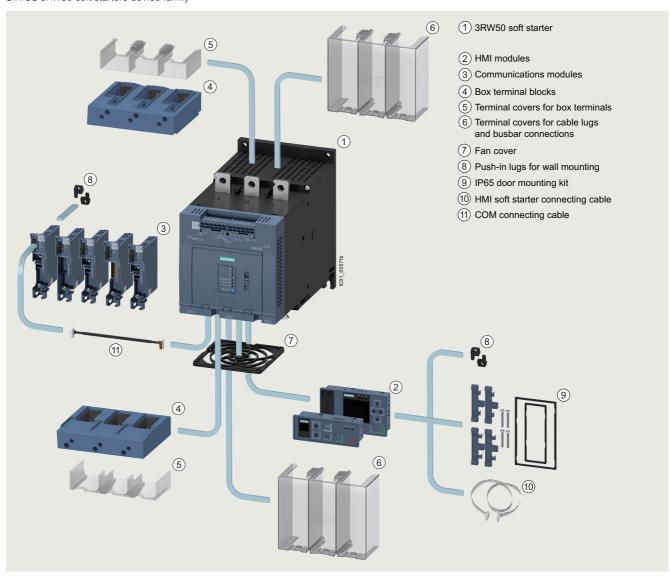
asynchronous motors efficiently, see www.siemens.com/motorstart-guide

Conversion tool, see www.siemens.com/conversion-tool

SIRIUS 3RW50 Basic Performance soft starters are the compact solution for standard applications. They have 2-phase motor control and cover the performance range from 75 to 315 kW (at 400 V).

Optional HMI modules for installation in the control cabinet door, laterally mountable communications modules (PROFINET, PROFIBUS, EtherNet/IP and Modbus) and either an analog output or thermistor motor protection ensure maximum flexibility.

With their modern hybrid switching technology, the SIRIUS 3RW50 soft starters offer efficient switching for long-term, energy-saving use.



SIRIUS 3RW50 Basic Performance soft starter with accessories (see page 6/82), for expansion with HMI module or communications module

SIRIUS 3RW soft starters

Basic Performance soft starters

3RW50 soft starters > General data

Benefits



Product characteristics/function	Performance features/benefits
Hybrid switching technology and 2-phase motor control	Minimum power loss and optimized motor control by avoiding DC components
Small and compact design	Space-saving, clearly arranged control panel layout
TIA integration – communications modules and HMI modules optional	Efficient configuration and maximum flexibility in automation engineering
Motor overload and intrinsic device protection without additional wiring	Adjustable trip classes, integrated diagnostics functions
Soft Torque	Reduced mechanical loading and optimum pump stop
Parameterization using potentiometers	Simple and fast commissioning
Wide range for control supply and main voltage	Low variance, high system availability even with weak supply networks
Certified according to ATEX/IECEx Directive	Suitable for the starting of explosion-proof motors with "increased safety" type of protection

SIRIUS 3RW soft starters Basic Performance soft starters

3RW50 soft starters > General data

Technical specifications						
More information						
Technical specifications, see https://support.industry.siemens.com/cs/ww/en/ps/25252/td Equipment Manual, see https://support.industry.siemens.com/cs/ww/en/view/109753750		FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/25252/faq Simulation Tool for Soft Starters (STS), see page 6/9 or https://support.industry.siemens.com/cs/ww/en/view/101494917				
Туре		3RW5055 3RW5056	3RW5072 3RW5073 3RW5074 3RW5075 3RW5076 3RW5077			
Installation/fixing/dimensions						
Width x height x depth	mm	120 x 198 x 249	160 x 230 x 282			
Type of mounting		Screw fixing				
Mounting position	For vertical mounting surface can be for vertical mounting surface can be	rotated +/- 90°, tilted +/- 22.5° forward or backward				
Distance to be maintained with side-by-side mounting						
• Above	mm	100				
At the side	mm	5				
• Below	mm	75				
Installation altitude at height above sea level, maximum ¹⁾	m	5 000				
Degree of protection IP on the front according to IEC 60529		IP00 (IP20 with cover)				
Touch protection on the front according to IEC 60529		Finger-safe for vertical touching from	the front with cover			
Ambient conditions						
Ambient temperature						
• During operation ²⁾	°C	-25 +60				
During storage and transport	°C	-40 +80				
Environmental category according to IEC 60721 • During operation		3K6 (no ice formation, only occasion 3S2 (sand must not get into the devi				
During storage		1K6 (only occasional condensation), 1S2 (sand must not get into the device	1C2 (no salt mist),			
During transport		2K2, 2C1, 2S1, 2M2 (max. height of	fall 0.3 m)			
1) Derating from 1 000 m, see characteristic curve on page 6/8.		²⁾ Note derating above 40 °C.				
Туре		3RW50B0.	3RW50B1.			
Control circuit/control						
Control supply voltage						
• At AC/DC	V	24/24	/			
• At AC	V		110 250			
Relative negative tolerance/relative positive tolerance with AC	%	-20/20	-15/10			
Relative negative tolerance/relative positive tolerance with DC	%	-20/20	/			
Frequency of the control supply voltage	Hz	50 60				
Relative negative tolerance/relative positive tolerance	%	-10/10				
Type of overvoltage protection		Varistors				
Type of short-circuit protection for control circuit ¹⁾		Fuse 4 A gG ($I_{\rm CU}$ =1 kA), fuse 6 A qu MCB C1 ($I_{\rm CU}$ = 600 A), MCB C6 ($I_{\rm CU}$	iick-response (<i>I</i> _{CU} =1 kA), = 300 A)			
Not included in scope of supply.						

1)	Not	included	in	scope	of	supply.
----	-----	----------	----	-------	----	---------

Туре		3RW50B.4	3RW50B.5
Power electronics			
Operational voltage	V	200 480	200 600
Relative negative tolerance/relative positive tolerance	%	-15/10	
Operating frequency	Hz	50 60	
Relative negative tolerance/relative positive tolerance	%	-10/10	
Minimum load [% of $I_{\rm M}$] ¹⁾	%	15	
Maximum cable length between soft starter and motor	m	800	

¹⁾ Relative to the smallest adjustable $I_{\rm e}$.

Switching devices – Soft starters and solid-state switching devices SIRIUS 3RW soft starters

Basic Performance soft starters

3RW50 soft starters > General data

Туре		3RW5055	3RW5056				
Rated operational current I _e	Α	143	171				
Power electronics							
Load rating with rated operational current $I_{\rm e}$ IEC + UL/CSA, individual mounting at 40/50/60 °C, AC-53a	Α	143/128/118	171/153/141				
Permissible rated motor current and starts	s/h						
Normal starting (CLASS 10A)							
Rated motor current $I_{\rm M}$, $T_{\rm u} = 40/50/60$ °C ON period = 70%; motor protection activated	Α	143/128/118	171/153/141				
• 300% I _M - Startup time 5 s - Startup time 10 s	1/h 1/h	43 18	43 18				
• 350% I _M - Startup time 5 s - Startup time 10 s	1/h 1/h	28 10	28 9				
Normal starting (CLASS 10E)							
Rated motor current $I_{\rm M}$, $T_{\rm u} = 40/50/60$ °C ON period = 70%; motor protection activated	Α	143/128/118	171/153/141				
• 300% I _M - Startup time 10 s - Startup time 20 s	1/h 1/h	21 8	21 8				
• 350% I _M - Startup time 10 s - Startup time 20 s	1/h 1/h	12 4	9				
Heavy starting (CLASS 20E)							
Rated motor current I_M , $T_u = 40/50/60$ °C ON period = 70%; motor protection activated	Α	108/98/88	135/123/111				
• 300% $I_{\rm M}$ - Startup time 20 s - Startup time 40 s	1/h 1/h	10 4	10 4				
• 350% I _M - Startup time 20 s - Startup time 40 s	1/h 1/h	7 2.5	7 2.5				
Adjustable rated motor current I _M Minimum/maximum	А	68/143	81/117				
Туре		3RW5072	3RW5073	3RW5074	3RW5075	3RW5076	3RW5077
Rated operational current I _e	Α	210	250	315	370	470	570
Power electronics							
Load rating with rated operational current $I_{\rm e}$ IEC + UL/CSA, individual mounting at 40/50/60 °C, AC-53a	А	210/186/170	250/220/200	315/279/255	370/328/300	470/416/380	570/504/460
Permissible rated motor current and starts	s/h						
Normal starting (CLASS 10A)	<i>5</i> /11						
Rated motor current $I_{\rm M}$, $T_{\rm u}$ = 40/50/60 °C ON period = 70%; motor protection activated	Α	210/186/170	250/220/200	315/279/255	370/328/300	470/416/380	570/504/460
• 300% I _M - Startup time 5 s - Startup time 10 s	1/h 1/h	43 18	43 18	43 18	43 18	43 18	28 11
• 350% $I_{\rm M}$ - Startup time 5 s - Startup time 10 s	1/h 1/h	28 8	28 10	28 10	28 10	28 10	16 4
Normal starting (CLASS 10E)							
Rated motor current $I_{\rm M}$, $T_{\rm U} = 40/50/60$ °C ON period = 70%; motor protection activated	Α	210/186/170	250/220/200	315/279/255	370/328/300	470/416/380	570/504/460
• 300% I _M - Startup time 10 s - Startup time 20 s	1/h 1/h	21 8	21 8	21 8	21 8	20 7	21 8
• 350% I _M - Startup time 10 s - Startup time 20 s	1/h 1/h	8	13 4	12 4	13 4	12 2	13 4
Heavy starting (CLASS 20E)							
Rated motor current $I_{\rm M}$, $T_{\rm u}$ = 40/50/60 °C ON period = 70%; motor protection activated	Α	162/146/130	200/180/160	219/195/171	258/230/202	272/254/218	284/262/240
■ 1/1010/ I							10
• 300% I _M - Startup time 20 s - Startup time 40 s	1/h 1/h	10 4	10 4	10 4	10 4	10 4	10 4
- Startup time 20 s							

SIRIUS 3RW soft starters
Basic Performance soft starters

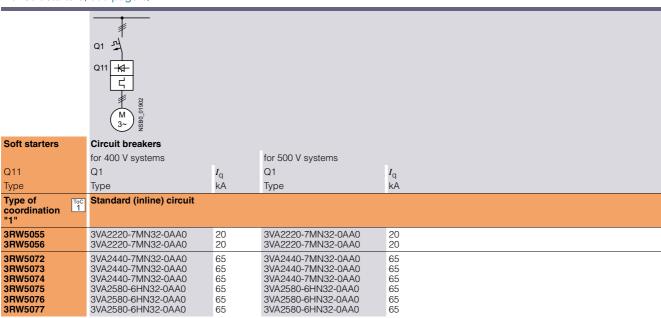
3RW50 soft starters > General data

Motor feeders according to IEC with 3VA circuit breakers (without semiconductor protection)

Type of coordination "1", CLASS 10, short-circuit breaking capacity $I_{\rm q}$ in kA, see table

Note:

For general recommendations for constructing motor feeders with soft starters, see page 6/12.



Note:

The service factor and measurement inaccuracies, for example, have been taken into account for the selection of the specified motor starter protectors/circuit breakers; the specified short-circuit breaking capacities $I_{\rm q}$ in kA are covered by combination tests. Smaller motor starter protectors/circuit breakers from the same series can be used at any time as smaller ones trip more quickly in the event of a short circuit (unchanged short-circuit breaking capacity) and thus protect the soft starter in any case. The dimensioning of the short-circuit components must match the connected three-phase motor, the short-circuit and overload requirements of the application, and the line protection for the cables used.

6/77

SIRIUS 3RW soft starters

Basic Performance soft starters

3RW50 soft starters > General data

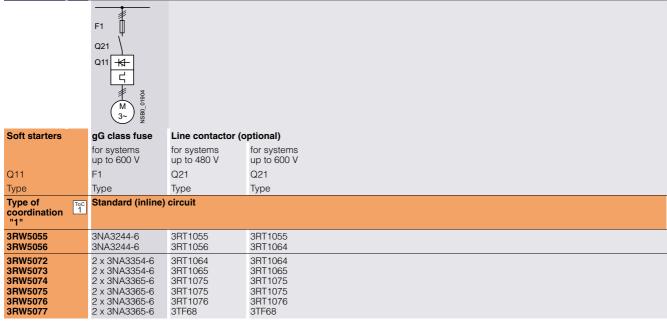
Motor feeders according to IEC with 3NA3 fuses

gG class full-range fuses for cable and line protection according to IEC 60269-2, without semiconductor protection

Type of coordination "1", short-circuit breaking capacity $I_{cont} = 65 \text{ kA}$

Note:

For general recommendations for constructing motor feeders with soft starters, see page 6/12.



Note:

The specified short-circuit breaking capacities $I_{\rm q}$ in kA are covered by combination tests. Smaller fuses than those specified can be used at any time as smaller ones trip more quickly in the event of a short circuit (unchanged short-circuit breaking capacity) and thus protect the soft starter in any case. The dimensioning of the short-circuit components must, however, be suitable for the connected three-phase motor and the line protection for the cables used.

SIRIUS 3RW soft starters
Basic Performance soft starters

3RW50 soft starters > General data

Motor feeders according to IEC with 3NE1 SITOR fuses

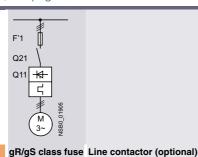
gR/gS class full-range fuses for semiconductor protection, cable and line protection (gS)

Type of coordination "2", short-circuit breaking capacity I_q = 65 kA

Note:

Soft starters

For general recommendations for constructing motor feeders with soft starters, see page 6/12.



	for systems up to 600 V	for systems up to 480 V	for systems up to 600 V
Q11	F'1	Q21	Q21
Туре	Туре	Туре	Туре
Type of coordination "2"	Standard (inline)	circuit	
3RW5055 3RW5056	3NE1227-0 3NE1230-0	3RT1055 3RT1056	3RT1055 3RT1064
3RW5072 3RW5073 3RW5074 3RW5075 3RW5076 3RW5077	3NE1230-2 3NE1331-0 3NE1333-2 3NE1334-2 3NE1436-2 3NE1437-2	3RT1064 3RT1065 3RT1075 3RT1075 3RT1076 3TF68	3RT1064 3RT1065 3RT1075 3RT1075 3RT1076 3TF68

Note:

The specified short-circuit breaking capacities $I_{\rm q}$ in kA are covered by combination tests. Smaller fuses than those specified can be used at any time as smaller ones trip more quickly in the event of a short circuit (unchanged short-circuit breaking capacity) and thus protect the soft starter in any case. The dimensioning of the short-circuit components must, however, be suitable for the connected three-phase motor and the line protection for the cables used.

SIRIUS 3RW soft starters

Basic Performance soft starters

3RW50 soft starters > General data

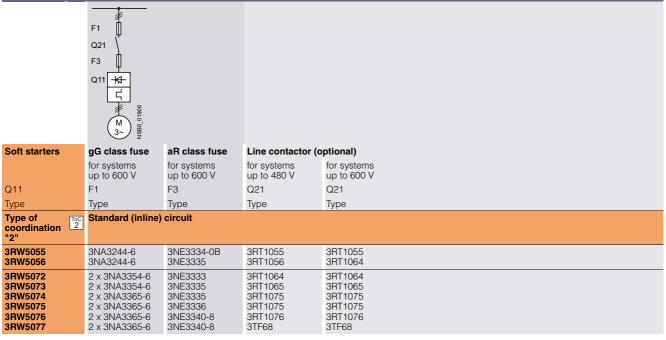
Motor feeders according to IEC with 3NE3 fuses

aR class partial-range fuses for semiconductor protection

Type of coordination "2", short-circuit breaking capacity $I_q = 65 \text{ kA}$

Note

For general recommendations for constructing motor feeders with soft starters, see page 6/12.



Note:

The specified short-circuit breaking capacities $I_{\rm q}$ in kA are covered by combination tests. Smaller fuses than those specified can be used at any time as smaller ones trip more quickly in the event of a short circuit (unchanged short-circuit breaking capacity) and thus protect the soft starter in any case. The dimensioning of the short-circuit components must, however, be suitable for the connected three-phase motor and the line protection for the cables used.

For CLASS 10 applications, as an alternative to the 3NA3 gG class full-range fuses for cable and line protection (F1), 3VA circuit breakers can also be used, possibly with reduced short-circuit breaking capacity (see page 6/77). In these cases, optional line contactors can be dispensed with.

SIRIUS 3RW soft starters Basic Performance soft starters

IE3/IE4 ready

3RW50 soft starters > Standard (inline) circuit

Selection and ordering data

For normal starting (CLASS 10E)





3RW5055

3RW5075

										011110000		011110070		
At 40 °C				At 50 °C					Size	Article No.	Price	PU	PS*	PG
Opera- tional current		ating p ree-phars		Opera- tional current	Operating	power [hp]	for three-ph	ase motors			per PU	(UNIT, SET, M)		
	at 230 V	at 400 V	at 500 V		at 200/208 V	at 220/230 V	at 460/480 V	at 575/600 V						
Α	kW	kW	kW	Α	hp	hp	hp	hp						
Operat	ional	voltaç	ge 200	480 V	/									
143	37	75		128	40	40	100		S6	3RW5055-□□B□4		1	1 unit	42S
171	45	90		153	50	50	100		S6	3RW5056-□□B□4		1	1 unit	42S
210	55	110		186	60	60	150		S12	3RW5072-□□B□4		1	1 unit	42S
250	75	132		220	60	75	150		S12	3RW5073-□□B□4		1	1 unit	42S
315	90	160		279	75	100	200		S12	3RW5074-□□B□4		1	1 unit	42S
370	110	200		328	100	125	250		S12	3RW5075-□□B□4		1	1 unit	42S
470	132	250		416	150	150	350		S12	3RW5076-□□B□4		1	1 unit	42S
570	160	315		504	150	200	400		S12	3RW5077-□□B□4		1	1 unit	42S
				•						A A A				

Type of electrical connection for the control circuit Spring-loaded terminals Screw terminals

Product function

Analog output Thermistor motor protection

Control supply voltage

24 V AC/DC 110 ... 250 V AC

Note:

For the constraints for the motor outputs specified here, see page 6/8.

A 40.00				A1 50 60					0:	A 12 1 A1	D :	DL	DO+	D.C.
At 40 °C				At 50 °C					Size	Article No.	Price per PU	PU (UNIT,	PS*	PG
Opera- tional current		ating p ree-pha rs		Opera- tional current	Operating	power [hp]	for three-ph	nase motors			perro	SET, M)		
	at 230 \	at / 400 V	at 500 V		at 200/208 V	at 220/230 V	at 460/480 V	at 575/600 V						
Α	kW	kW	kW	Α	hp	hp	hp	hp						
Operat	ional	voltaç	ge 200	600 V	1									
143 171	37 45	75 90	90 110	128 153	40 50	40 50	100 100	125 150	S6 S6	3RW5055-□□B□5 3RW5056-□□B□5		1 1	1 unit 1 unit	42S 42S
210 250 315	55 75 90	110 132 160	132 160 200	186 220 279	60 60 75	60 75 100	150 150 200	150 200 250	S12 S12 S12	3RW5072-□□B□5 3RW5073-□□B□5 3RW5074-□□B□5		1 1 1	1 unit 1 unit 1 unit	42S 42S 42S
370 470 570	110 132 160	200 250 315	250 315 355	328 416 504	100 150 150	125 150 200	250 350 400	300 450 500	S12 S12 S12	3RW5075-□□B□5 3RW5076-□□B□5 3RW5077-□□B□5		1 1 1	1 unit 1 unit 1 unit	42S 42S 42S
Type of Spring-lo	baded t	termina		n for the	control circ	cuit				2 6				
Product Analog of Thermist	output		ection							_ A T				
Control 24 V AC/ 110 25	/DČ		ge							 0 1				

Note:

SIRIUS 3RW soft starters

Basic Performance soft starters

3RW50 soft starters > Accessories

Selection and ordering	ng data								
	Product designation	Manufacturer's article number of the soft starter	Product version	Application	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Fan covers									
KO ST	Fan cover	3RW50 (1x)			3RW5985-0FC00		1	1 unit	42S
3RW5985-0FC00									
Box terminal block	<u>.</u>	0F)W505 (0.)							
	Box terminal block for round and ribbon	3RW505 (2x)	Up to 70 mm ² Up to 120 mm ²		3RT1955-4G 3RT1956-4G		1 1	1 unit 1 unit	41B 41B
3RT1956-4G	cables	3RW507 (2x)	Up to 240 mm ² (with auxiliary conductor connection)		3RT1966-4G		1	1 unit	41B
Terminal covers									
	Covers for box terminals	3RW505 (2x)			3RT1956-4EA2		1	1 unit	41B
3RT1956-4EA2	box terminals	3RW507 (2x)			3RT1966-4EA2		1	1 unit	41B
OTT 1000 TEXE	Covers for	3RW505 (2x)		_	3RT1956-4EA1		1	1 unit	41B
	cable lugs and busbar connections	3RW507 (2x)			3RT1966-4EA1		1	1 unit	41B
3RT1966-4EA1									
Communications mod									
	Communica- tions module ¹⁾	3RW50	PROFINET Standard	 - <u></u>	3RW5980-0CS00		1	1 unit	42S
N. S.			PROFIBUS		3RW5980-0CP00		1	1 unit	42S
			EtherNet/IP		3RW5980-0CE00		1	1 unit	42S
			Modbus RTU		3RW5980-0CR00		1	1 unit	42S
3RW5980-0CS00			Modbus TCP		3RW5980-0CT00		1	1 unit	42S
-	COM connecting cable	3RW50	0.3 m, round		3RW5900-0CC00		1	1 unit	42S
3RW5900-0CC00	For mounting laterally on the device								

¹⁾ Use the recommended connection plugs for attaching the bus connection cable (e.g. angled or suitable for industrial use), see Equipment Manual for the relevant communications module.

Switching devices – Soft starters and solid-state switching devices SIRIUS 3RW soft starters Basic Performance soft starters

3RW50 soft starters > Accessories

	Product designation	Manufacturer's article number of the soft starter	Product version	Application	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
HMI modules									
	HMI module	3RW50	High-Feature		3RW5980-0HF00		1	1 unit	42S
3RW5980-0HF00									
			Standard		3RW5980-0HS00		1	1 unit	42S
3RW5980-0HS00	IDCE de ess	ODWEO	IDOE	EI IMI	ODWEGOO OLIDOO			4	42S
	IP65 door mounting kit for HMI modules	3RW50	IP65	For HMI modules	3RW5980-0HD00		1	1 unit	425
3RW5980-0HD00 Connecting cables									
Connecting capies	НМІ	3RW50	5 m, round	For door	3RW5980-0HC60		1	1 unit	42S
	connecting cable		2.5 m, round	mounting	3UF7933-0BA00-0		1	1 unit	42J
3UF7930BA00-0	Cable		1.0 m, round	- -	3UF7937-0BA00-0		1	1 unit	42J
Franklass accessories			0.5 m, round		3UF7932-0BA00-0		1	1 unit	42J
Further accessories	Push-in lugs for wall mounting	-	Two lugs are required per device	For HMI modules and communi- cations modules	3ZY1311-0AA00		1	10 units	41L
3ZY1311-0AA00									
Blank labels	Unit labeling plates ¹⁾		20 mm x 7 mm, titanium gray	For SIRIUS devices	3RT2900-1SB20		100	340 units	41B

PC labeling system for individual inscription of unit labeling plates available from: murrplastik Systemtechnik GmbH (see page 16/18).

SIRIUS 3RW soft starters

Basic Performance soft starters

3RW40 soft starters > General data

Overview

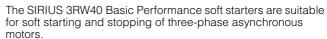
More information

Homepage, see www.siemens.com/sirius-soft-starter SiePortal, see www.siemens.com/product?3RW40

TIA Selection Tool Cloud (TST Cloud), see www.siemens.com/tstcloud/?node=3rw40

Simulation Tool for Soft Starters (STS), see page 6/9 or https://support.industry.siemens.com/cs/ww/en/view/101494917

Conversion tool, see www.siemens.com/conversion-tool

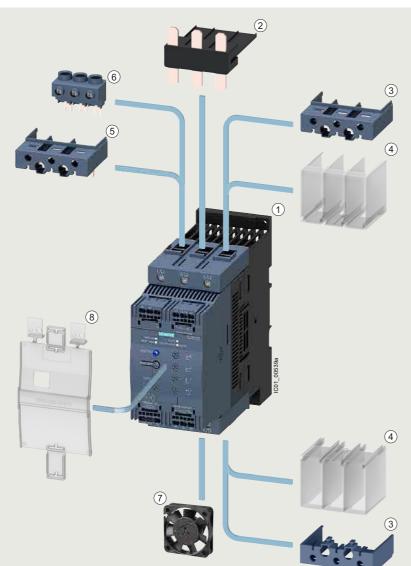


Thanks to 2-phase control, not only is the current kept at minimum values in all three phases throughout the entire startup time, but disturbing direct current components are also eliminated. This not only enables the 2-phase starting of motors up to 55 kW (at 400 V) but also avoids the current and torque peaks which occur e.g. with star-delta (wye-delta) starters.

The SIRIUS 3RW40 soft starters are suitable for the starting of explosion-proof motors with "increased safety" type of protection EEx e according to ATEX Directive 94/9/EC.



SIRIUS 3RW40 soft starter



- 1 3RW40 soft starter
- (2) Link module to motor starter protector
- (3) Terminal cover for box terminals (S2, S3)
- 4 Terminal cover for cable lug and busbar connections (S3)
- (5) Auxiliary terminal (S3)
- (6) Infeed terminal (S0)
- 7 Fan
- 8 Sealing cover

SIRIUS 3RW40 Basic Performance soft starter with accessories (see page 6/94)

Switching devices – Soft starters and solid-state switching devices SIRIUS 3RW soft starters Basic Performance soft starters

3RW40 soft starters > General data

Benefits







3RW402.

3RW403. 3RW404.

Performance features/benefits
Space-saving, clearly arranged control panel layout
Adjustable trip classes, integrated diagnostics functions
Link modules to motor starter protectors
Minimum power loss and optimized motor control by avoiding DC components
Suitable for starting explosion-proof motors with "increased safety" type of protection EEx e
Full motor protection

SIRIUS 3RW soft starters

Basic Performance soft starters

3RW40 soft starters > General data

Technical specifications

More information

Technical specifications, see

https://support.industry.siemens.com/cs/ww/en/ps/25251/td

Equipment Manual, see

https://support.industry.siemens.com/cs/ww/en/view/38752095

FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/25251/faq Simulation Tool for Soft Starters (STS), see page 6/9 or https://support.industry.siemens.com/cs/ww/en/view/101494917

Туре			3RW402.	3RW403.	3RW404.		
Mechanics and environment							
Mounting dimensions (W x H x D) • Screw terminals • Spring-loaded terminals	T	mm mm	45 x 125 x 154 45 x 150 x 154	55 x 144 x 170 55 x 144 x 170	70 x 160 x 188 70 x 160 x 188		
Permissible ambient temperature During operation During storage		°C	-25 +60 (derating from +40) -40 +80				
Weight		kg	0.77	1.35	1.9		
Permissible mounting position ¹⁾							
With auxiliary fan (for 3RW402. to 3RW404.)			90° 22,5° 22,5° 88				
Without auxiliary fan (for 3RW402. to 3RW404.)			10° 10° 10° 10° 10° 10° 10° 10° 10° 10°				
Installation type ¹⁾	Stand-alone installation		$ \begin{array}{c c} & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & \\ & & & \\ & $	8 0 1 2≥	30 mm (≥ 1.18 in) 40 mm (≥ 1.56 in) 60 mm (≥ 2.36 in)		
Permissible installation altitude		m	5 000 (Derating from 1 000, see characteristic	curve on page 6/8)			
Degree of protection IP on the front acco	rding to IEC 60529		IP20				
Touch protection on the front according to	o IEC 60529		Finger-safe for vertical touching from the	front			

¹⁾ In the case of deviations, please observe derating, see Equipment Manual in the chapter "Configuration".

- In the chapter configuration :			
Type Terminal		3RW402., 3RW403., 3RW404.	
Control electronics			
Rated values Rated control supply voltage A1/A2 • Tolerance	V %	24 AC/DC ± 20	110 230 AC/DC -15/+10
Rated frequency • Tolerance	Hz %	50/60 ± 10	
Туре		3RW402B.4, 3RW403B.4, 3RW404B.4	3RW402B.5, 3RW403B.5, 3RW404B.5
Power electronics			
Rated operational voltage Tolerance	V AC %	200 480 -15/+10	400 600
Maximum blocking voltage (thyristor)	VAC	1 600	
Rated frequency Tolerance	Hz %	50/60 ± 10	
Uninterrupted duty at 40 °C (% of I _e)	%	115	
Minimum load (% of smallest adjustable rated motor current $I_{\rm N}$	1) %	20 (at least 2 A)	
Maximum cable length between soft starter and motor	m	300	

Switching devices – Soft starters and solid-state switching devices SIRIUS 3RW soft starters Basic Performance soft starters

3RW40 soft starters > General data

Туре		3RW4024	3RW4026	3RW4027	3RW4028
Power electronics					
Load rating rated operational current I _e • According to IEC and UL/CSA¹¹, individual mounting at 40/50/60 °C, AC-53a	Α	12.5/11/10	25.3/23/21	32.2/29/26	38/34/31
Smallest adjustable rated motor current I _M For the motor overload protection	Α	5	10	17	23
Power loss During operation after completed starting with uninterrupted rated operational current (40 °C) approx.	W	2	8	13	19
• During starting with current limiting set to 300% $I_{\rm M}$ (40 °C)	W	68	188	220	256
Permissible rated motor current and starts per hour • For normal starting (CLASS 10) at 40/50 °C					
- Rated motor current $I_{\rm M}{}^2$), startup time 3 s - Starts per hour 3)	A 1/h	12.5/11 50/50	25/23 23/23	32/29 23/23	38/34 19/19
- Rated motor current $I_{\rm M}{}^2$, startup time 4 s - Starts per hour 3)	A 1/h	12.5/11 36/36	25/23 15/15	32/29 16/16	38/34 12/12
 For heavy starting (CLASS 20) at 40/50 °C 					
- Rated motor current ${I_{\rm M}}^2$, startup time 6 s - Starts per hour 3	A 1/h	10/9 47/47	21/19 21/21	27/24 20/20	31/28 18/18
- Rated motor current $I_{\rm M}{}^2$, startup time 8 s - Starts per hour $^{3)}$	A 1/h	10/9 34/34	21/19 15/15	27/24 14/14	31/28 13/13

¹⁾ Measurement at 60 °C according to UL/CSA not required.

³⁾ For intermittent duty S4 with ON period = 30%, T_u = 40/50 °C, stand-alone installation vertical. The quoted switching frequencies do not apply for automatic mode. Factors for permissible switching frequency in other mounting position, direct mounting, side-by-side mounting, and implementation of optional auxiliary fan, see Equipment Manual in the chapter "Configuration".

Туре		3RW4036	3RW4037	3RW4038	3RW4046	3RW4047
Power electronics						
Load rating rated operational current I _e • According to IEC and UL/CSA ¹⁾ , individual mounting at 40/50/60 °C, AC-53a	А	45/42/39	63/58/53	72/62.1/60	80/73/66	106/98/90
Smallest adjustable rated motor current $I_{ m M}$ For the motor overload protection	А	23	26	35	43	46
Power loss During operation after completed starting with uninterrupted rated operational current (40 °C) approx.	W	6	12	15	12	21
During starting with current limiting set to 300% $I_{\rm M}$ (40 °C) Permissible rated motor current and starts per hour	W	316	444	500	576	768
 For normal starting (CLASS 10) at 40/50 °C 						
- Rated motor current $I_{\rm M}{}^2$, startup time 3 s - Starts per hour $^{3)}$	A 1/h	45/42 38/38	63/58 23/23	72/62 22/22	80/73 22/22	106/98 15/15
- Rated motor current $I_{\rm M}^{\ 2)}$, startup time 4 s - Starts per hour $^{3)}$	A 1/h	45/42 26/26	63/58 15/15	72/62 15/15	80/73 15/15	106/98 10/10
 For heavy starting (CLASS 20) at 40/50 °C 						
- Rated motor current $I_{\rm M}^{2}$, startup time 6 s - Starts per hour $^{3)}$	A 1/h	38/34 30/30	46/42 31/31	50/46 34/34	64/58 23/23	77/70 23/23
- Rated motor current $I_{\rm M}{}^2$, startup time 8 s - Starts per hour 3	A 1/h	38/34 21/21	46/42 22/22	50/46 24/24	64/58 16/16	77/70 16/16

¹⁾ Measurement at 60 °C according to UL/CSA not required.

²⁾ Current limiting on soft starter set to 300% $I_{\rm M}$, $T_{\rm u}$ = 40/50 °C. Maximum adjustable rated motor current $I_{\rm M}$ dependent on CLASS setting.

²⁾ Current limiting on soft starter set to 300% $I_{\rm M}$, $T_{\rm u}$ = 40/50 °C. Maximum adjustable rated motor current $I_{\rm M}$ dependent on CLASS setting.

 $^{^{3)}}$ For intermittent duty S4 with ON period = 30%, $T_{\rm u}$ = 40/50 °C, stand-alone installation vertical. The quoted switching frequencies do not apply for automatic mode. Factors for permissible switching frequency in other mounting position, direct mounting, side-by-side mounting, and implementation of optional auxiliary fan, see Equipment Manual in the chapter "Configuration".

Switching devices – Soft starters and solid-state switching devices SIRIUS 3RW soft starters

Basic Performance soft starters

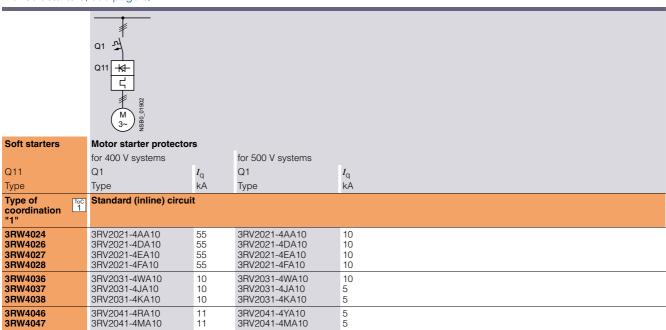
3RW40 soft starters > General data

Motor feeders according to IEC with 3RV2 motor starter protectors (without semiconductor protection)

Type of coordination "1", CLASS 10, short-circuit breaking capacity I_q in kA, see table

Note:

For general recommendations for constructing motor feeders with soft starters, see page 6/12.



Note:

The specified short-circuit breaking capacities $I_{\rm q}$ in kA are covered by combination tests. Smaller motor starter protectors/circuit breakers from the same series can be used at any time as smaller ones trip more quickly in the event of a short circuit (unchanged short-circuit breaking capacity) and thus protect the soft starter in any case. The dimensioning of the short-circuit components must match the connected threephase motor, the short-circuit and overload requirements of the application, and the line protection for the cables used.

SIRIUS 3RW soft starters
Basic Performance soft starters

3RW40 soft starters > General data

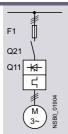
Motor feeders according to IEC with 3NA3 fuses

gG class full-range fuses for cable and line protection according to IEC 60269-2, without semiconductor protection

Type of coordination "1", short-circuit breaking capacity $I_{\rm q}$ = 65 kA

Note:

For general recommendations for constructing motor feeders with soft starters, see page 6/12.



Soft starters	gG class fuse	Line contactor (opt	ional)	
	for systems up to 600 V	for systems up to 400 V	for systems up to 480 V	for systems up to 600 V
Q11	F1	Q21	Q21	Q21
Туре	Туре	Туре	Туре	Туре
Type of coordination "1"	Standard (inline) cir	cuit		
3RW4024 3RW4026 3RW4027 3RW4028	3RT2018 (in size S00) 226 3NA3822-6 3RT2026 3RT2027 3NA3824-6 3RT2027 3RT2028		3RT2018 (in size S00) 3RT2027 3RT2028	3RT2025 3RT2037 3RT2037 3RT2037
3RW4036 3RW4037 3RW4038	3NA3130-6 3NA3132-6 3NA3132-6	3RT2036 3RT2037 3RT2038	3RT2036 3RT2037 3RT2038	3RT2038 3RT2046 3RT2046
3RW4046 3RW4047	3NA3136-6 3NA3136-6	3RT2045 3RT2047	3RT2045 3RT2047	3RT2047 3RT1054

Note:

The specified short-circuit breaking capacities $I_{\rm q}$ in kA are covered by combination tests. Smaller fuses than those specified can be used at any time as smaller ones trip more quickly in the event of a short circuit (unchanged short-circuit breaking capacity) and thus protect the soft starter in any case. The dimensioning of the short-circuit components must, however, be suitable for the connected three-phase motor and the line protection for the cables used.

SIRIUS 3RW soft starters

Basic Performance soft starters

3RW40 soft starters > General data

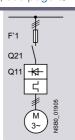
Motor feeders according to IEC with 3NE1 SITOR fuses

gR/gS class full-range fuses for semiconductor protection, cable and line protection (gS)

Type of coordination "2", short-circuit breaking capacity $I_{\rm q}$ = 65 kA

Note:

For general recommendations for constructing motor feeders with soft starters, see page 6/12.



Soft starters	gR/gS class fuse	Line contactor (op	tional)	
	for systems up to 600 V	for systems up to 400 V	for systems up to 480 V	for systems up to 600 V
Q11	F'1	Q21	Q21	Q21
Type	Туре	Type	Type	Туре
Type of coordination "2"	Standard (inline) ci	rcuit		
3RW4024 3RW4026 3RW4027 3RW4028	3NE1814-0 3NE1803-0 3NE1020-2 3NE1020-2	3RT2025 3RT2026 3RT2027 3RT2028	3RT2025/ 3RT2018 (in size S00) 3RT2027 3RT2028 3RT2035	3RT2025 3RT2037 3RT2037 3RT2037
3RW4036 3RW4037 3RW4038	3NE1020-2 3NE1820-0 3NE1820-0	3RT2036 3RT2037 3RT2038	3RT2036 3RT2037 3RT2038	3RT2038 3RT2046 3RT2046
3RW4046 3RW4047	3NE1021-0 3NE1022-0	3RT2045 3RT2047	3RT2045 3RT2047	3RT2047 3RT1054

Note:

The specified short-circuit breaking capacities $I_{\rm q}$ in kA are covered by combination tests. Smaller fuses than those specified can be used at any time as smaller ones trip more quickly in the event of a short circuit (unchanged short-circuit breaking capacity) and thus protect the soft starter in any case. The dimensioning of the short-circuit components must, however, be suitable for the connected three-phase motor and the line protection for the cables used.

SIRIUS 3RW soft starters
Basic Performance soft starters

3RW40 soft starters > General data

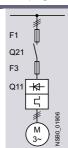
Motor feeders according to IEC with 3NE8/3NE4/3NE3/3NC fuses

aR class partial-range fuses for semiconductor protection

Type of coordination "2", short-circuit breaking capacity $I_{\rm q}$ = 65 kA

Note:

For general recommendations for constructing motor feeders with soft starters, see page 6/12.



Soft starters	gG class fuse	aR class fuse			Cylindrical fuse	Line contactor (optional)			
	for systems up to 600 V	for systems up to 600 V	for systems up to 600 V	for systems up to 600 V	for systems up to 480 V	for systems up to 400 V	for systems up to 480 V	for systems up to 600 V	
Q11	F1	F3	F3	F3	F3	Q21	Q21	Q21	
Туре	Туре	Туре	Туре	Туре	Туре	Туре	Туре	Type	
Type of coordination "2"	Standard (inlin	ne) circuit							
3RW4024 3RW4026 3RW4027 3RW4028	3NA3820-6 3NA3822-6 3NA3824-6 3NA3824-6	 	3NE4101 3NE4102 3NE4118 3NE4118	3NE8015-1 3NE8017-1 3NE8018-1 3NE8020-1	3NC2240 3NC2263 3NC2280 3NC2280	3RT2025 3RT2026 3RT2027 3RT2028	3RT2025/ 3RT2018 (in size \$00) 3RT2027 3RT2028 3RT2035	3RT2025 3RT2037 3RT2037 3RT2037	
3RW4036 3RW4037 3RW4038	3NA3130-6 3NA3132-6 3NA3132-6	 3NE3221	3NE4120 3NE4121	3NE8020-1 3NE8021-1 3NE8022-1	3NC2280 	3RT2036 3RT2037 3RT2038	3RT2036 3RT2037 3RT2038	3RT2038 3RT2046 3RT2046	
3RW4046 3RW4047	3NA3136-6 3NA3136-6	3NE3222 3NE3224		3NE8022-1 3NE8024-1		3RT2045 3RT2047	3RT2045 3RT2047	3RT2047 3RT1054	

Note:

The specified short-circuit breaking capacities $I_{\rm q}$ in kA are covered by combination tests. Smaller fuses than those specified can be used at any time as smaller ones trip more quickly in the event of a short circuit (unchanged short-circuit breaking capacity) and thus protect the soft starter in any case. The dimensioning of the short-circuit components must, however, be suitable for the connected three-phase motor and the line protection for the cables used.

For CLASS 10 applications, as an alternative to the 3NA3 gG class full-range fuses for cable and line protection (F1), 3RV2 motor starter protectors can also be used, possibly with reduced short-circuit breaking capacity (see page 6/88). In these cases, optional line contactors can be dispensed with.

SIRIUS 3RW soft starters

Basic Performance soft starters

3RW40 soft starters > Standard (inline) circuit IE3/IE4 ready

Selection and ordering data

For normal starting (CLASS 10)







3RW403.

3RW404

3RW ambi	ient temp	perature	40 °C	3RW ambi	ent temp	perature	50 °C		Size	A	Article No.	Price	PU	PS*	PG
Rated value three-phase		'S		Rated value three-phase		s						per PU	(UNIT, SET, M)		
Operational current I_e		at onal volta 400 V	age <i>U</i> e	Operational current I_e		at onal volta 230 V	age <i>U</i> e	575 V							
A	kW	kW	kW	А	hp	hp	hp	hp							
Rated or	peratio	nal volt	tage <i>U</i> e	200 48	0 V		·								
12.5 25 32 38	3 5.5 7.5 11	5.5 11 15 18.5	 	11 23 29 34	3 5 7.5 10	3 5 7.5 10	7.5 15 20 25	 	S0 S0 S0 S0	3	BRW4024-□BB□4 BRW4026-□BB□4 BRW4027-□BB□4 BRW4028-□BB□4		1 1 1 1	1 unit 1 unit 1 unit 1 unit	42G 42G 42G 42G
45 63 72	11 18.5 22	22 30 37		42 58 62	10 15 20	15 20 20	30 40 40	 	S2 S2 S2	3	BRW4036-□BB□4 BRW4037-□BB□4 BRW4038-□BB□4		1 1 1	1 unit 1 unit 1 unit	42G 42G 42G
80 106	22 30	45 55		73 98	20 30	25 30	50 75		S3 S3		BRW4046-□BB□4 BRW4047-□BB□4		1 1	1 unit 1 unit	42G 42G
Rated o	peratio	nal volt	tage <i>U</i> e	400 60	0 V										
12.5 25 32 38	 	5.5 11 15 18.5	7.5 15 18.5 22	11 23 29 34	 	 	7.5 15 20 25	10 20 25 30	\$0 \$0 \$0 \$0	3 3 3	BRW4024-□BB□5 BRW4026-□BB□5 BRW4027-□BB□5 BRW4028-□BB□5		1 1 1 1	1 unit 1 unit 1 unit 1 unit	42G 42G 42G 42G
45 63 72	 	22 30 37	30 37 45	42 58 62	 	 	30 40 40	40 50 60	S2 S2 S2	3	BRW4036-□BB□5 BRW4037-□BB□5 BRW4038-□BB□5		1 1 1	1 unit 1 unit 1 unit	42G 42G 42G
80 106		45 55	55 75	73 98			50 75	60 75	S3 S3		BRW4046-□BB□5 BRW4047-□BB□5		1	1 unit 1 unit	42G 42G

Article number supplement for connection types

- Screw terminals
- Spring-loaded terminals¹⁾

Control supply voltage

- 24 V AC/DC
- 110 ... 230 V AC/DC

Note

¹⁾ Main connection from size S2: screw terminals.

SIRIUS 3RW soft starters Basic Performance soft starters

IE3/IE4 ready 3RW40 soft starters > Standard (inline) circuit

For normal starting (CLASS 10)







3RW402 3RW403

3RW404

3RW402.							3HVV40	J3.				3RW404.		
3RW aml	bient tem	perature	40 °C	3RW amb	ient tem	perature	50 °C		Size	Article No.	Price	PU	PS*	PG
Rated va		rs		Rated value three-phase		rs					per PU	(UNIT, SET, M)		
Operational current I	Rating operat	ional volt	age <i>U</i> _e	Operational current $I_{\rm e}$	Rating operation	at onal volt 230 V	tage U _e	575 V						
A	kW	kW	kW	Α	hp	hp	hp	hp						
Rated o	operatio ermisto	onal vol	tage <i>U</i> e	200 48	0 V,	ПР	пр	пр						
12.5 25	3 5.5	5.5 11		11 23	3 5	3 5	7.5 15		S0 S0	3RW4024-□TB04 3RW4026-□TB04		1	1 unit 1 unit	42G 42G
32	7.5	15		29	7.5	7.5	20		S0	3RW4027-□TB04		1	1 unit	42G
38	11	18.5		34	10	10	25		S0	3RW4028-□TB04		1	1 unit	42G
45 63	11 18.5	22 30		42 58	10 15	15 20	30 40		S2 S2	3RW4036-□TB04 3RW4037-□TB04		1	1 unit 1 unit	42G 42G
72	22	37		62	20	20	40		S2	3RW4038-□TB04		1	1 unit	42G
80	22	45		73	20	25	50		S3	3RW4046-□TB04		1	1 unit	42G
106	30	55 	tore II	98	30 0 V	30	75		S3	3RW4047-□TB04		1	1 unit	42G
with the	ermisto	r motor supply v	protec oltage	U _s 24 V A										
12.5 25		5.5 11	7.5 15	11 23			7.5 15	10 20	S0 S0	3RW4024-□TB05 3RW4026-□TB05		1	1 unit 1 unit	42G 42G
32		15	18.5	29			20	25	S0	3RW4027-□TB05		1	1 unit	42G
38		18.5	22	34			25	30	S0	3RW4028-□TB05		1	1 unit	42G
45 63		22 30	30 37	42 58			30 40	40 50	S2 S2	3RW4036-□TB05 3RW4037-□TB05		1	1 unit 1 unit	42G 42G
72		37	45	62			40	60	S2	3RW4037-□TB05		1	1 unit	42G
80		45	55	73			50	60	S3	3RW4046-□TB05		1	1 unit	42G
106		55	75	98			75	75	S3	3RW4047-□TB05		1	1 unit	42G

Article number supplement for connection types

- Screw terminals
- Spring-loaded terminals¹⁾

Note:

For the constraints for the motor outputs specified here, see page 6/8.

¹⁾ Main connection from size S2: screw terminals.

SIRIUS 3RW soft starters

Basic Performance soft starters

3RW40 soft starters > Accessories

Selection and orde	ring data	3										
	For soft st	arters	Solid or	tor cross-sec Finely d stranded with end sleeve	AWG cables, solid or stranded	Tighten- ing torque		Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	Туре	Size	mm²	mm²	AWG	Nm						
3-phase infeed term												
3RV2925-5AB	3RW402.	S0	2.5 2	5 2.5 16	10 4	3 4		3RV2925-5AB		1	1 unit	41E
	For soft st	arters	V	ersion				Article No.	Price	PU	PS*	PG
				0.0.0.				,	per PU	(UNIT, SET, M)	. 0	
	Туре	Siz	ze				_					
Auxiliary conducto												
3RT2946-4F	3RW404.	condu S3	F C	ninal, 3-pole for connection control cables to the main co	(0.5 2.5	nm²)		3RT2946-4F		1	1 unit	41B
Covers for soft star	tore	_										
Oovers for soft star		covers	for hov	terminals								
	3RW403. 3RW404.	S2	: <i>A</i>	additional tou to be fitted at two units requ	the box term	ninals		3RT2936-4EA2 3RT2946-4EA2		1 1	1 unit 1 unit	41B 41B
3RT2936-4EA2												
	Terminal 3RW404.	S3	F C	lugs and bu for complying learances an box terminal two units requ	with the vo d as touch j is removed	ltage protection		3RT1946-4EA1		1	1 unit	41B
3RT1946-4EA1												
	Sealing c 3RW402. 3RW404.		, S2 , -	-				3RW4900-0PB10		1	1 unit	42G
3RW4900-0PB10												

Switching devices - Soft starters and solid-state switching devices SIRIUS 3RW soft starters

Basic Performance soft starters

				JNW	40 SOIL S	tarters :	> Acces	sories
	For motor starter protectors Size	For soft starters	Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
DIN-rail adapters	0.20	O.E.O						
	S2	S2	For mechanical fixing of motor starter protector and soft starter; for snapping onto DIN rail or for screw fixing Single-unit packaging	3RA2932-1CA00		1	1 unit	41B
3RA2932-1CA00								
	For soft starter			Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Fans (to increase swi	Type	Size	device mounting					
in positions different	to the standa	ard position)	acvice mounting					
3RW498VB00	3RW402. 3RW403., 3RW404.	S0 S2, S3		3RW4928-8VB00 3RW4947-8VB00		1	1 unit 1 unit	42G 42G
	For soft starter	rs	Motor starter protectors	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Link medules to met	Туре	Size	Size					
Link modules to moto	 Screw terming 			Screw terminals	(1)			
	3RW402. 3RW4036 3RW404. • Spring-loade	S0 S2 S3 ed terminals	\$00/\$0 \$2 \$3	3RA2921-1BA00 3RA2931-1AA00 3RA1941-1AA00 Spring-loaded termi	Ü	1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
3RA2921-1BA00	3RW402.	S0	S0	3RA2921-2GA00	_	1	1 unit	41B
3RA2921-2GA00 1) Can be used in size S0 Can be used in size S2 3RA2932-1CA00 DIN-ra Can be used in size S3	up to maximum ail adapter (spec	65 A in combin cially for soft sta	rters).					
	Version			Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Tools for opening spi	Screwdriver For all SIRIUS Length approx		oring-loaded terminals	Spring-loaded termi	nals	1	1 unit	41B
3RA2908-1A Blank labels								
3RT2900-1SB20	Unit labeling For SIRIUS de 20 mm x 7 mn	plates¹⁾ evices n, titanium gray		3RT2900-1SB20		100 (340 units	41B

PC labeling system for individual inscription of unit labeling plates available from: murrplastik Systemtechnik GmbH (see page 16/18).

SIRIUS 3RW soft starters

Basic Performance soft starters

3RW30 soft starters > General data

Overview

More information

Homepage, see www.siemens.com/sirius-soft-starter SiePortal, see www.siemens.com/product?3RW30

TIA Selection Tool Cloud (TST Cloud), see www.siemens.com/tstcloud/?node=3rw30
Simulation Tool for Soft Starters (STS), see page

Simulation Tool for Soft Starters (STS), see page 6/9 or https://support.industry.siemens.com/cs/ww/en/view/101494917

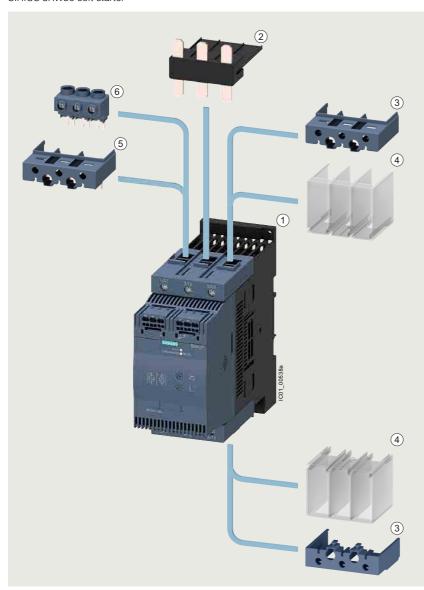
Conversion tool, see www.siemens.com/conversion-tool

The SIRIUS 3RW30 Basic Performance soft starters are suitable for soft starting of three-phase asynchronous motors.

Thanks to 2-phase control, not only is the current kept at minimum values in all three phases throughout the entire startup time, but disturbing direct current components are also eliminated. This not only enables the 2-phase starting of motors up to 55 kW (at 400 V) but also avoids the current and torque peaks which occur e.g. with star-delta (wye-delta) starters.



SIRIUS 3RW30 soft starter



- 1 3RW30 soft starter
- (2) Link module to motor starter protector
- (3) Terminal cover for box terminals (S2, S3)
- 4 Terminal cover for cable lugs and busbar connections (S3)
- 5 Auxiliary conductor terminal (S3)
- (6) Infeed terminal (S00, S0)

SIRIUS 3RW30 Basic Performance soft starter with accessories (see page 6/104)

SIRIUS 3RW soft starters Basic Performance soft starters

3RW30 soft starters > General data

Benefits









Product characteristics/function	Performance features/benefits
Small and compact design	Space-saving, clearly arranged control panel layout
Parameterization using potentiometers	Simple and fast commissioning
Integrated in the SIRIUS modular system	Link modules to motor starter protectors
Hybrid switching technology and 2-phase motor control	Minimum power loss and optimized motor control by avoiding DC components

Technical specifications

More information

Equipment Manual, see https://support.industry.siemens.com/cs/ww/en/view/38752095

FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/16213/faq

Catalog LV 10, see www.siemens.com/lowvoltage/lv10

Туре			3RW301.	3RW302.	3RW303.	3RW304.		
Mechanics and environment								
Mounting dimensions (W x H x D) • Screw terminals • Spring-loaded terminals	T O	mm mm	45 x 95 x 151 45 x 117 x 151	45 x 125 x 151 45 x 150 x 151	55 x 144 x 168 55 x 144 x 168	70 x 160 x 186 70 x 160 x 186		
Permissible ambient temperature During operation During storage		°C	-25 +60 (derating -40 +80	g from +40)				
Weight		kg	0.58	0.69	1.20	1.71		
Permissible mounting position ¹⁾ (auxiliary fan not possible)			10° 10° 1	0° 10°				
Installation type ¹⁾	Stand-alone installation		0 0 0 0 0	≥ 15 mm (≥ 0.59 in) ≥ 40 mm (≥ 1.56 in) ≥ 60 mm (≥ 2.36 in)	0 0 0 0	2 ≥ 30 mm (≥ 1.18 in) 2 ≥ 40 mm (≥ 1.56 in) 3 ≥ 60 mm (≥ 2.36 in)		
Permissible installation altitude		m	5 000 (Derating from 1 000, see characteristic curve on page 6/9)					
Degree of protection IP on the front according to IEC 60529			IP20					
Touch protection on the front accord		Finger-safe for vertical touching from the front						

¹⁾ In the case of deviations, please observe derating, see Equipment Manual in the chapter "Configuration".

Switching devices – Soft starters and solid-state switching devices SIRIUS 3RW soft starters

Basic Performance soft starters

3RW30 soft starters > General data

Туре	Terminal		3RW301., 3RW302.		3RW303., 3RW	/304.
Control electronics						
Rated values Rated control supply voltage • Tolerance	A1/A2	V %	24 ± 20	110 230 -15/+10	24 ± 20	110 230 -15/+10
Rated frequency • Tolerance		Hz %	50/60 ± 10			

Туре		3RW301.	3RW302.	3RW303.	3RW304.
Power electronics					
Rated operational voltage Tolerance	V AC %	200 480 -15/+10			
Rated frequency Tolerance	Hz %	50/60 ± 10			
Uninterrupted duty at 40 °C (% of $I_{\rm e}$)	%	115			
Minimum load (% of I_{Θ})	%	10 (at least 1 A)			
Maximum cable length between soft starter and motor	m	300			

Туре		3RW3013	3RW3014	3RW3016	3RW3017	3RW3018
Power electronics						
Load rating rated operational current I _e ■ According to IEC and UL/CSA ¹⁾ , individual mounting at 40/50/60 °C, AC-53a A		3.6/3.3/3	6.5/6/5.5	9/8/7	12.5/12/11	17.6/17/14
Power loss						
 During operation after completed starting with uninterrupted rated operational current (40 °C) approx. 	W	0.25	0.5	1	2	4
• During starting with 300% I_{M} (40 °C)	W	24	52	80	80	116
Permissible rated motor current and starts per hour • For normal starting (CLASS 10) at 40/50 °C						
- Rated motor current $I_{\rm M}^{(2)}$, startup time 3 s - Starts per hour $^{(3)}$	A 1/h	3.6/3.3 200/150	6.5/6.0 87/60	9/8 50/50	12.5/12.0 85/70	17.6/17.0 62/46
- Rated motor current $I_{\rm M}^{2)}$, startup time 4 s - Starts per hour $^{3)}$	A 1/h	3.6/3.3 150/100	6.5/6.0 64/46	9/8 35/35	12.5/12.0 62/47	17.6/17.0 45/32
1) Magaziroment at 60 °C according to LIL/CSA not required	3) For intermit	ttont duty C1 wit	h ON paried	200/ T 40/E/	°C stand ala	

¹⁾ Measurement at 60 °C according to UL/CSA not required.

 $^{^{3)}}$ For intermittent duty S4 with ON period = 30%, $T_{\rm u}$ = 40/50 °C, stand-alone installation vertical. The quoted switching frequencies do not apply for automatic mode.

Туре		3RW3026	3RW3027	3RW3028
Power electronics				_
Load rating rated operational current I _e • According to IEC and UL/CSA ¹), individual mounting at 40/50/60 °C, AC-53a A		25.3/23/21	32.2/29/26	38/34/31
 Power loss During operation after completed starting with uninterrupted rated operational current (40 °C) approx. During starting with 300% I_M (40 °C) 	W W	8	13 220	19 256
Permissible rated motor current and starts per hour • For normal starting (CLASS 10) at 40/50 °C				
- Rated motor current $I_{\rm M}{}^2$, startup time 3 s - Starts per hour $^{3)}$	A 1/h	25/23 23/23	32/29 23/23	38/34 19/19
- Rated motor current $I_{\rm M}{}^2$, startup time 4 s - Starts per hour 3	A 1/h	25/23 15/15	32/29 16/16	38/34 12/12

¹⁾ Measurement at 60 °C according to UL/CSA not required.

³⁾ For intermittent duty S4 with ON period = 30%, T_u = 40/50 °C, stand-alone installation vertical. The quoted switching frequencies do not apply for automatic mode. Factors for permissible switching frequency with deviating mounting position, direct mounting, side-by-side mounting, see Equipment Manual in the chapter "Configuration".

Туре		3RW3036	3RW3037	3RW3038	3RW3046	3RW3047
Power electronics						
Load rating rated operational current I_e • According to IEC and UL/CSA ¹⁾ , individual mounting at 40/50/60 °C, AC-53a A		45/42/39	65/58/53	72/62.1/60	80/73/66	106/98/90
 Power loss During operation after completed starting with uninterrupted rated operational current (40 °C) approx. During starting with 300% I_M (40 °C) 	W W	6 316	12 444	15 500	12 576	21 768
Permissible rated motor current and starts per hour • For normal starting (CLASS 10) at 40/50 °C						
- Rated motor current $I_{\rm M}^{2)}$, startup time 3 s - Starts per hour $^{3)}$	A 1/h	45/42 38/38	63/58 23/23	72/62 22/22	80/73 22/22	106/108 15/15
- Rated motor current $I_{\rm M}^{2)}$, startup time 4 s - Starts per hour $^{3)}$	A 1/h	45/42 26/26	63/58 15/15	72/62 15/15	80/73 15/15	106/98 10/10

¹⁾ Measurement at 60 °C according to UL/CSA not required.

²⁾ At 300% $I_{\rm M}$, $T_{\rm u} = 40/50~{\rm ^{\circ}C}$.

²⁾ At 300% $I_{\rm M}$, $T_{\rm u} = 40/50~{\rm ^{\circ}C}$.

²⁾ At 300% $I_{\rm M}$, $T_{\rm u} = 40/50~{\rm ^{\circ}C}$.

 $^{^{3)}}$ For intermittent duty S4 with ON period = 30%, $T_{\rm u}$ = 40/50 °C, stand-alone installation vertical. The quoted switching frequencies do not apply for automatic mode.

SIRIUS 3RW soft starters
Basic Performance soft starters

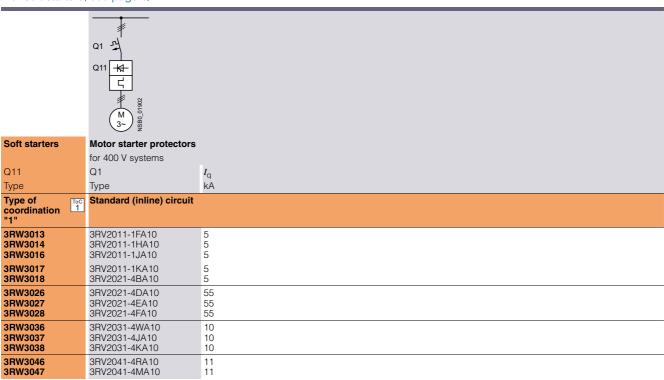
3RW30 soft starters > General data

Motor feeders according to IEC with 3RV2 motor starter protectors (without semiconductor protection)

Type of coordination "1", CLASS 10, short-circuit breaking capacity $I_{\rm Q}$ in kA, see table

Note:

For general recommendations for constructing motor feeders with soft starters, see page 6/12.



Note:

The specified short-circuit breaking capacities $I_{\rm q}$ in kA are covered by combination tests. Smaller motor starter protectors/circuit breakers from the same series can be used at any time as smaller ones trip more quickly in the event of a short circuit (unchanged short-circuit breaking capacity) and thus protect the soft starter in any case. The dimensioning of the short-circuit components must match the connected three-phase motor, the short-circuit and overload requirements of the application, and the line protection for the cables used.

SIRIUS 3RW soft starters

Basic Performance soft starters

3RW30 soft starters > General data

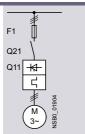
Motor feeders according to IEC with 3NA3 fuses

gG class full-range fuses for cable and line protection according to IEC 60269-2, without semiconductor protection

Type of coordination "1", short-circuit breaking capacity $I_{\rm q}$ = 65 kA

Note:

For general recommendations for constructing motor feeders with soft starters, see page 6/12.



Soft starters	gG class fuse	Line contactor (optiona	ıl)
	for systems up to 480 V	for systems up to 400 V	for systems up to 480 V
Q11	F1	Q21	Q21
Туре	Туре	Type	Туре
Type of coordination "1"	Standard (inline) circuit		
3RW3013	3NA3803-6	3RT2015	3RT2015
3RW3014	3NA3805-6	3RT2015	3RT2016
3RW3016	3NA3807-6	3RT2016	3RT2017
3RW3017	3NA3810-6	3RT2018	3RT2025
3RW3018	3NA3814-6	3RT2026	3RT2026
3RW3026	3NA3822-6	3RT2026	3RT2027
3RW3027	3NA3824-6	3RT2027	3RT2028
3RW3028	3NA3824-6	3RT2028	3RT2035
3RW3036	3NA3130-6	3RT2036	3RT2036
3RW3037	3NA3132-6	3RT2037	3RT2037
3RW3038	3NA3132-6	3RT2038	3RT2038
3RW3046	3NA3136-6	3RT2045	3RT2045
3RW3047	3NA3136-6	3RT2047	3RT2047

Note:

The specified short-circuit breaking capacities $I_{\rm q}$ in kA are covered by combination tests. Smaller fuses than those specified can be used at any time as smaller ones trip more quickly in the event of a short circuit (unchanged short-circuit breaking capacity) and thus protect the soft starter in any case. The dimensioning of the short-circuit components must, however, be suitable for the connected three-phase motor and the line protection for the cables used.

SIRIUS 3RW soft starters
Basic Performance soft starters

3RW30 soft starters > General data

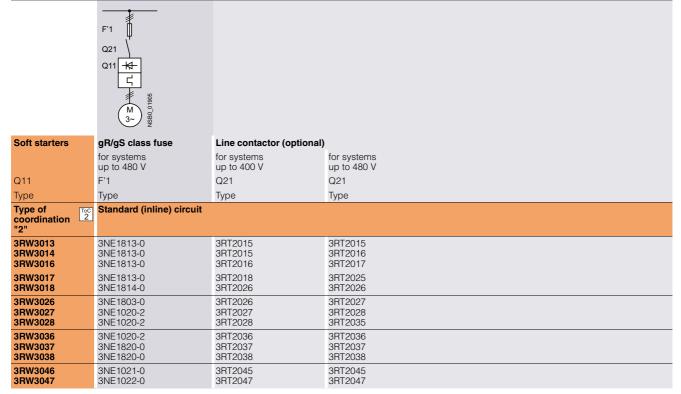
Motor feeders according to IEC with 3NE1 SITOR fuses

gR/gS class full-range fuses for semiconductor protection, cable and line protection (gS)

Type of coordination "2", short-circuit breaking capacity $I_{\rm q}$ = 65 kA

Note:

For general recommendations for constructing motor feeders with soft starters, see page 6/12.



Note:

The specified short-circuit breaking capacities $I_{\rm q}$ in kA are covered by combination tests. Smaller fuses than those specified can be used at any time as smaller ones trip more quickly in the event of a short circuit (unchanged short-circuit breaking capacity) and thus protect the soft starter in any case. The dimensioning of the short-circuit components must, however, be suitable for the connected three-phase motor and the line protection for the cables used.

SIRIUS 3RW soft starters
Basic Performance soft starters

3RW30 soft starters > General data

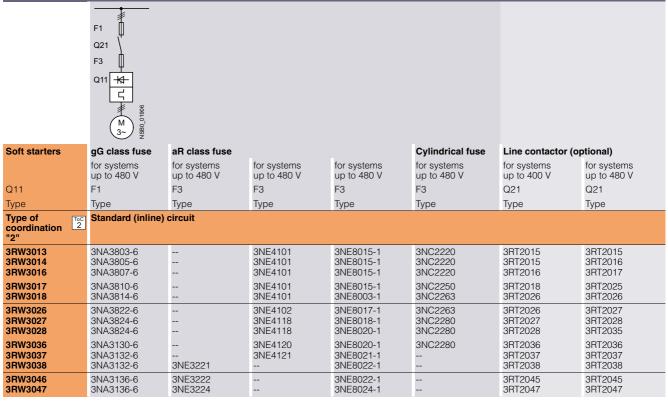
Motor feeders according to IEC with 3NE8/3NE4/3NE3/3NC fuses

aR class partial-range fuses for semiconductor protection

Type of coordination "2", short-circuit breaking capacity $I_{\rm q}$ = 65 kA

Note:

For general recommendations for constructing motor feeders with soft starters, see page 6/12.



Note:

The specified short-circuit breaking capacities $I_{\rm q}$ in kA are covered by combination tests. Smaller fuses than those specified can be used at any time as smaller ones trip more quickly in the event of a short circuit (unchanged short-circuit breaking capacity) and thus protect the soft starter in any case. The dimensioning of the short-circuit components must, however, be suitable for the connected three-phase motor and the line protection for the cables used.

For CLASS 10 applications, as an alternative to the 3NA3 gG class full-range fuses for cable and line protection (F1), 3RV2 motor starter protectors can also be used, possibly with reduced short-circuit breaking capacity (see page 6/99). In these cases, optional line contactors can be dispensed with.

SIRIUS 3RW soft starters Basic Performance soft starters

IE3/IE4 ready

3RW30 soft starters > Standard (inline) circuit

Selection and ordering data

For simple starting conditions









RW302.	3RW303.	3RW304

3RW amb	ient tem	oerature 4	40 °C	3RW amb	ient tem	peratur	e 50 °C		Size	Article No.	Price	PU	PS*	PG
Rated val three-pha		s		Rated val three-pha		ors					per PU	(UNIT, SET, M)		
Opera- tional	Rating a operation	at onal volta	ge U _e	Opera- tional	Rating operat		Itage <i>U</i> e	ı						
current I _e	230 V	400 V	500 V	current $I_{\rm e}$	200 V	230 V	460 V	575 V						
А	kW	kW	kW	Α	hp	hp	hp	hp						
Rated o	peratio	nal volt	age <i>U_e 2</i>	200 480	V									
3.6	0.75	1.5		3	0.5	0.5	1.5		S00	3RW3013-□BB□4		1	1 unit	42G
6.5	1.5	3		6	1	1	3		S00	3RW3014-□BB□4		1	1 unit	42G
9	2.2	4		8	2	2	5		S00	3RW3016-□BB□4		1	1 unit	42G
12.5	3	5.5		12	3	3	7.5		S00	3RW3017-□BB□4		1	1 unit	42G
17.6	4	7.5		17	3	3	10		S00	3RW3018-□BB□4		1	1 unit	42G
25	5.5	11		23	5	5	15		S0	3RW3026-□BB□4		1	1 unit	42G
32	7.5	15		29	7.5	7.5	20		S0	3RW3027-□BB□4		1	1 unit	42G
38	11	18.5		34	10	10	25		S0	3RW3028-□BB□4		1	1 unit	42G
45	11	22		42	10	15	30		S2	3RW3036-□BB□4		1	1 unit	42G
63	18.5	30		58	15	20	40		S2	3RW3037-□BB□4		1	1 unit	42G
72	22	37		62	20	20	40		S2	3RW3038-□BB□4		1	1 unit	42G
80	22	45		73	20	25	50		S3	3RW3046-□BB□4		1	1 unit	42G
106	30	55		98	30	30	75		S3	3RW3047-□BB□4		1	1 unit	42G

Article number supplement for connection types

- Screw terminals
- Spring-loaded terminals¹⁾

Control supply voltage $U_{\rm S}$

- 24 V AC/DC
- 110 ... 230 V AC/DC

Note

For the constraints for the motor outputs specified here, see page 6/8.

¹⁾ Main connection from size S2: screw terminals.

SIRIUS 3RW soft starters

Basic Performance soft starters

3RW30 soft starters > Accessories

Selection	and	ordering	data
-----------	-----	----------	------

Selection and orderi	Selection and ordering data									
More information										
Equipment Manual, see https://support.industry.sig	emens.com/	cs/ww/en/vie	w/38752095							
	Conductor Solid or stranded	Finely stranded with end sleeve	AWG cables, solid or stranded	Tighten- ing torque	For soft starters	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	mm²	mm²	AWG	Nm	Size					
3-phase infeed termin	nals 2.5 25	2.5 16	10 4	3 4	S00 (3RW301.), S0 (3RW302.)	3RV2925-5AB		1	1 unit	41E
	For soft sta					Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Auxiliary conductor t	Type	Size								
3RT2946-4F			erminal, 3-pole			3RT2946-4F		1	1 unit	41B
Covers for soft starte	ers									
3RT2936-4EA2	Additional	touch protect required per S2	ox terminals btion to be fitted device)	I at the box	terminals	3RT2936-4EA2 3RT2946-4EA2		1 1	1 unit 1 unit	41B 41B
3RT1946-4EA1	Terminal cover for cable lugs and busbar connections For complying with the voltage clearances and as touch protection if box terminal is removed (two units required per device) 3RW304. S3			3RT1946-4EA1		1	1 unit	41B		
	For motor starter protectors Size	For soft starters	Version			Article No.	Price per PU		PS*	PG
Mounting rails for mo	ounting co	ntactors f	or the custor	ner asse	mbly of 3RA21					
load feeders with bus	sbar adapi		For the discredirect-on-line mounting rail contactor in a mounting rail for the motor	ete configu starters, a is needed addition to on the bus starter pro	n additional for the the existing sbar adapter tector.				10. (
	-	S0	For pushing of including fixing the control of the		vice adapter,	8US1998-7CB45		1	10 units	140
8US1998-7CB45 DIN-rail adapters										
	S 2	S2	For mechanic protector and onto DIN rail o Single-unit p	soft starter or for screw	; for snapping	3RA2932-1CA00		1	1 unit	41B
3RA2932-1CA00										

Switching devices – Soft starters and solid-state switching devices SIRIUS 3RW soft starters Basic Performance soft starters

3RW30 soft starters > Accessories

				5	Woo Soit S			
	For soft starter	rs	Motor starter protectors	Article No.	Price per PU		PS*	PG
	Туре	Size	Size					
Link modules to moto	or starter pro	tectors ¹⁾						
May de la	Screw terming	nals		Screw terminals				
	3RW301.	S00	S00	3RA2921-1BA00		1	1 unit	41B
1104	3RW302.	S0	S00/S0	3RA2921-1BA00		1	1 unit	41B
	3RW3036	S2	S2	3RA2931-1AA00		1	1 unit	41B
	3RW304.	S3	S3	3RA1941-1AA00		1	1 unit	41B
3RA2921-1BA00								
	Spring-loade	ed terminals		Spring-loaded te	minals O			
	3RW301.	S00	S00	3RA2911-2GA00		1	1 unit	41B
A STATE OF THE STA	3RW302.	S0	S0	3RA2921-2GA00		1	1 unit	41B
MAY								
3RA2921-2GA00								
1) Can be used in size S0 Can be used in size S2 3RA2932-1CA00 DIN-ra Can be used in size S3	up to maximum il adapter (spec	65 A in comb	starters).					
	Version			Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Tools for opening spin sizes S00 and S0	ring-loaded t	erminals						
	Screwdriver For all SIRIUS	devices with	spring-loaded terminals	Spring-loaded ter	minals \bigcirc			
	Length approx. 200 mm, 3.0 mm x 0.5 mm, titanium gray/black, partially insulated			3RA2908-1A		1	1 unit	41B
3RA2908-1A								
Blank labels		1)						
	Unit labeling For SIRIUS de	plates' [,] vices						
3RT2900-1SB20	20 mm x 7 mn	n, titanium gra	ay	3RT2900-1SB20		100 3	340 units	41B

PC labeling system for individual inscription of unit labeling plates available from: murrplastik Systemtechnik GmbH (see page 16/18).

Switching devices – Soft starters and solid-state switching devices SIRIUS 3RW soft starters Spare parts

For 3RW55

Overview

More information	
Homepage, see www.siemens.com/sirius-soft-starter SiePortal, see www.siemens.com/product?3RW	SiePortal topic page, see https://support.industry.siemens.com/cs/ww/en/view/109747404

Selection and ordering data

	Product designation	Manufacturer's article number of the soft starter	Product version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Power semicondu	ctor modules			_				
- Circi connicondu	Power	3RW5524HA.4 (3x)	480 V, 47 A	3RW5952-0SF04		1	1 unit	42S
	semiconductor modules	3RW5525HA.4 (3x), 3RW5526HA.4 (3x)	480 V, 77 A	3RW5952-0SH04		1	1 unit	42S
		3RW5527HA.4 (3x)	480 V, 93 A	3RW5952-0SJ04		1	1 unit	42S
		3RW5534HA.4 (3x), 3RW5535HA.4 (3x)	480 V, 143 A	3RW5953-0SL04		1	1 unit	42S
D		3RW5536HA.4 (3x)	480 V, 171 A	3RW5953-0SM04		1	1 unit	42S
um.		3RW5543HA.4 (3x)	480 V, 210 A	3RW5954-0SN04		1	1 unit	42S
DWEDED OCEDA		3RW5544HA.4 (3x)	480 V, 250 A	3RW5954-0SP04		1	1 unit	42S
RW5952-0SF04		3RW5545HA.4 (3x), 3RW5546HA.4 (3x)	480 V, 370 A	3RW5954-0SR04		1	1 unit	42S
	3RW5547HA.4 (3x), 3RW5548HA.4 (3x)	480 V, 570 A	3RW5954-0ST04		1	1 unit	42S	
		3RW5552HA.4 (3x)	480 V, 630 A	3RW5955-0SU04		1	1 unit	42S
		3RW5553HA.4 (3x)	480 V, 720 A	3RW5955-0SV04		1	1 unit	42S
		3RW5554HA.4 (3x)	480 V, 840 A	3RW5955-0SW04		1	1 unit	42S
		3RW5556HA.4 (3x)	480 V, 1 100 A	3RW5955-0SX04		1	1 unit	42S
1111		3RW5558HA.4 (3x)	480 V, 1 280 A	3RW5955-0SY04		1	1 unit	42S
BRW5953-0SM06		3RW5521HA.6 (3x), 3RW5524HA.6 (3x)	690 V, 47 A	3RW5952-0SF06		1	1 unit	42S
Assassa .		3RW5525HA.6 (3x), 3RW5526HA.6 (3x)	690 V, 77 A	3RW5952-0SH06		1	1 unit	42S
Sillio .		3RW5527HA.6 (3x)	690 V, 93 A	3RW5952-0SJ06		1	1 unit	42S
		3RW5534HA.6 (3x), 3RW5535HA.6 (3x)	690 V, 143 A	3RW5953-0SL06		1	1 unit	42S
all &		3RW5536HA.6 (3x)	690 V, 171 A	3RW5953-0SM06		1	1 unit	42S
		3RW5543HA.6 (3x)	690 V, 210 A	3RW5954-0SN06		1	1 unit	42S
		3RW5544HA.6 (3x)	690 V, 250 A	3RW5954-0SP06		1	1 unit	42S
RW5954-0ST06		3RW5545HA.6 (3x), 3RW5546HA.6 (3x)	690 V, 370 A	3RW5954-0SR06		1	1 unit	42S
		3RW5547HA.6 (3x), 3RW5548HA.6 (3x)	690 V, 570 A	3RW5954-0ST06		1	1 unit	42S
		3RW5552HA.6 (3x)	690 V, 630 A	3RW5955-0SU06		1	1 unit	42S
		3RW5553HA.6 (3x)	690 V, 720 A	3RW5955-0SV06		1	1 unit	42S
		3RW5554HA.6 (3x)	690 V, 840 A	3RW5955-0SW06		1	1 unit	42S
		3RW5556HA.6 (3x)	690 V, 1 100 A	3RW5955-0SX06		1	1 unit	42S
		3RW5558HA.6 (3x)	690 V, 1 280 A	3RW5955-0SY06		1	1 unit	42S
Bypass units								
91 91	Bypass units	3RW552HA, 3RW553HA		3RW5953-0BY00		1	1 unit	42S
7 7	2	3RW5543HA, 3RW5544HA, 3RW5545HA	210 315 A	3RW5954-0BP00		1	1 unit	42S
BRW5953-0BY00		3RW5546HA, 3RW5547HA, 3RW5548HA	370 570 A	3RW5954-0BT00		1	1 unit	42S
		3RW5552, 3RW5553, 3RW5554	630 840 A	3RW5955-0BW00		1	1 unit	42S
		3RW5556, 3RW5558	1 100 A, 1 280 A	3RW5955-0BY00		1	1 unit	42S

Switching devices - Soft starters and solid-state switching devices SIRIUS 3RW soft starters Spare parts

							111100
	Product designation	Manufacturer's article number of the soft starter	Product version	Article No. Pric		PS*	PG
Control weits				_			
Control units	Control units	3RW551HA0., 3RW552HA0., 3RW553HA0., 3RW554HA0.	24 V	3RW5950-1UY00	1	1 unit	42S
1 () == 1 ()		3RW555HA0.		3RW5955-1UY00	1	1 unit	42S
Le Limine		3RW551HA1., 3RW552HA1., 3RW553HA1., 3RW554HA1.	110 250 V	3RW5950-1UY10	1	1 unit	42S
3RW5950-1UY00		3RW555HA1.		3RW5955-1UY10	1	1 unit	42S
Printed circuit board	s						
400	Printed circuit	3RW5513HA.4	480 V, 13 A	3RW5951-0PA04	1	1 unit	42S
	boards	3RW5514HA.4	480 V, 18 A	3RW5951-0PB04	1	1 unit	42S
		3RW5515HA.4	480 V, 25 A	3RW5951-0PC04	1	1 unit	42S
		3RW5516HA.4	480 V, 32 A	3RW5951-0PD04	1	1 unit	42S
		3RW5517HA.4	480 V, 38 A	3RW5951-0PE04	1	1 unit	42S
		3RW552HA.4, 3RW553HA.4	480 V	3RW5953-0PY04	1	1 unit	42S
The state of the same of the		3RW554HA.4	480 V	3RW5954-0PY04	1	1 unit	42S
3RW5951-0PA04		3RW5513HA.5	600 V, 13 A	3RW5951-0PA05	1	1 unit	42S
		3RW5514HA.5	600 V, 18 A	3RW5951-0PB05	1	1 unit	42S
		3RW5515HA.5	600 V, 25 A	3RW5951-0PC05	1	1 unit	42S
		3RW5516HA.5	600 V, 32 A	3RW5951-0PD05	1	1 unit	42S
		3RW5517HA.5	600 V, 38 A	3RW5951-0PE05	1	1 unit	42S
		3RW552HA.6, 3RW553HA.6	690 V	3RW5953-0PY06	1	1 unit	42\$
3RW5954-0PY06		3RW554HA.6	690 V	3RW5954-0PY06	1	1 unit	42S
311113934-01 100	Firing printed circuit boards	3RW555HA.4	480 V	3RW5955-0PY14	1	1 unit	42S
		3RW555HA.6	690 V	3RW5955-0PY16	1	1 unit	42S
	TSE printed circuit boards	3RW555HA.4	480 V	3RW5955-0PY24	1	1 unit	42S
_	Circuit boards	3RW555HA.6	690 V	3RW5955-0PY26	1	1 unit	42S
Fans					_		
	Fans)	3RW551 (1x), 3RW552 (2x), 3RW553 (2x)		3RW5983-0FF00	1	1 unit	42S
A	•	3RW554 (1x)		3RW5984-0FF00	1	1 unit	42S
3RW5983-0FF00		3RW555 (3x)		3RW5985-0FF00	1	1 unit	42S
Terminals and termin	nal covers						
	Box terminal block	3RW552 (2x)		3RW5982-0TB00	1	1 unit	42S
3RW5982-0TB00	Removable	Screw terminals		Screw terminals	<u> </u>		
100	control terminals	2DWEE1 111 (0x)	Contains 2 blooks		1	1	400
0000		3RW5511H (2x), 3RW5521H (2x), 3RW5536H (2x), 3RW5546H (2x), 3RW5556H (2x)	Contains 2 blocks each with 6 terminals	3RW5980-1TR00	<u>'</u>	1 unit	42S
6		 Spring-loaded terming 	nals	Spring-loaded terminals	2		
3RW5980-1TR00		3RW5513H (2x), 3RW5523H (2x), 3RW5532H (2x), 3RW5542H (2x), 3RW5552H (2x)	Contains 2 blocks each with 6 terminals	3RW5980-2TR00	1	1 unit	42\$
3RW5955-0TC20	Terminal cover	3RW555		3RW5955-0TC20	1	1 unit	428

Switching devices – Soft starters and solid-state switching devices SIRIUS 3RW soft starters

Spare parts

	Product designation	Manufacturer's article number of the soft starter	Product version	Article No. Price per Pl	PU (UNIT, SET, M)	PS*	PG
Enclosure componen							
Maria de Caración	Lower part of enclosures	3RW552HA, 3RW553HA		3RW5953-0GB00	1	1 unit	42S
		3RW554HA	-	3RW5954-0GB00	1	1 unit	42S
3RW5953-0GB00	Ventilation	3RW555 (3x)		3RW5955-0GC00	1	1 unit	42S
	cover	311W333 (0x)		511W3933-04000	ľ	i uiiit	420
3RW5955-0GC00	Cover for	3RW55HA	Titanium gray	3RW5950-0GD20	1	1 unit	42S
3RW5950-0GD20	control cable duct		U ,				
3RW5954-0GF00	Front covers	3RW554HA 3RW555	-	3RW5954-0GF00 3RW5955-0GF00	1 1	1 unit 1 unit	42S 42S
	Hinged cover	3RW55	With cutout for High-Feature HMI module	3RW5950-0GL30	1	1 unit	428

Switching devices – Soft starters and solid-state switching devices SIRIUS 3RW soft starters Spare parts

	Product designation	Manufacturer's article number of the soft starter	Product version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
HMI modules								
	HMI module	3RW55	High-Feature	3RW5980-0HF00		1	1 unit	42S
3RW5980-0HF00								
SIRIUS	Interface cover	3RW55		3RW5980-0HL00		1	1 unit	42\$
3RW5980-0HL00								
Connecting cables for	or installing the	HMI module in the	soft starter					
	Connecting cable		Length 0.1 m, flat	3UF7931-0AA00-0		1	1 unit	42J
3UF7931-0AA00-0								
Transport packaging	•							
	Transport packaging	3RW551		3RW5951-0VY00		1	1 unit	42S
	paonaging	3RW552, 3RW553		3RW5953-0VY00		1	1 unit	42S
applyrate and a		3RW554 3RW555		3RW5954-0VY00 3RW5955-0VY00		1	1 unit 1 unit	42S 42S
3RW5953-0VY00								

Switching devices – Soft starters and solid-state switching devices SIRIUS 3RW soft starters Spare parts

For 3RW55 Failsafe

Overview

More information	
	SiePortal topic page, see https://support.industry.siemens.com/cs/ww/en/view/109747404

Selection and ordering data

	Product designation	Manufacturer's article number of the soft starter	Product version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Fans								
	Fans	3RW551 (1x), 3RW552 (2x), 3RW553 (2x)		3RW5983-0FF00		1	1 unit	42S
		3RW554 (1x)		3RW5984-0FF00		1	1 unit	42S
3RW5983-0FF00	-1							
Terminals and termina		2DWEE2 (2v)		2DWEO02 ATROO		4	1 . mit	400
	Box terminal block	3RW552 (2x)		3RW5982-0TB00		1	1 unit	42S
3RW5982-0TB00				0	_			
	Removable control	Screw terminals		Screw terminals	+			
000	terminals	3RW5511H (2x), 3RW5521H (2x), 3RW5536H (2x), 3RW5546H (2x)	Contains 2 blocks each with 6 terminals	3RW5980-1TR00		1	1 unit	42S
e i		 Spring-loaded termi 	nals	Spring-loaded termin	als 💮			
3RW5980-1TR00		3RW5513H (2x), 3RW5523H (2x), 3RW5532H (2x), 3RW5542H (2x)	Contains 2 blocks each with 6 terminals	3RW5980-2TR00		1	1 unit	42S
Enclosure componen	ts							
	Cover for control cable duct	3RW55HF	Yellow	3RW5950-0GD30		1	1 unit	42S
3RW5950-0GD30	Hinard saver	2DWEE	\Mith output for	3RW5950-0GL30		1	1 unit	42S
3RW5950-0GL30	Hinged cover	3RW55	With cutout for High-Feature HMI module	SHW393U-UGE3U		1	i unit	423

Switching devices – Soft starters and solid-state switching devices SIRIUS 3RW soft starters Spare parts

For 3RW55 Failsafe

						1 01 01	1005512	mouro
	Product designation	Manufacturer's article number of the soft starter	Product version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
HMI modules								
	HMI module	3RW55	High-Feature	3RW5980-0HF00		1	1 unit	42S
3RW5980-0HF00								
SIRIUS	Interface cover	3RW55		3RW5980-0HL00		1	1 unit	428
3RW5980-0HL00								
Connecting cables fo	r installing the	HMI module in the	soft starter					
	Connecting cable	-	Length 0.1 m, flat	3UF7931-0AA00-0		1	1 unit	4 <u>2</u> J
3UF7931-0AA00-0								
Transport packaging								
	Transport packaging	3RW551 3RW552, 3RW553 3RW554	 	3RW5951-0VY00 3RW5953-0VY00 3RW5954-0VY00		1 1 1	1 unit 1 unit 1 unit	42S 42S 42S
3RW5953-0VY00								

Switching devices – Soft starters and solid-state switching devices SIRIUS 3RW soft starters Spare parts

For 3RW52

Overview

More information	
Homepage, see www.siemens.com/sirius-soft-starter	SiePortal topic page, see
SiePortal, see www.siemens.com/product?3RW	https://support.industry.siemens.com/cs/ww/en/view/109747404

Selection and ordering data

	Product designation	Manufacturer's article number of the soft starter	Product version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Power semicondu	ctor modules							
	Power semiconductor	3RW5224C.4 (3x)	480 V, 47 A	3RW5952-0SF04		1	1 unit	42S
	modules	3RW5225C.4 (3x), 3RW5226C.4 (3x)	480 V, 77 A	3RW5952-0SH04		1	1 unit	42S
D		3RW5227C.4 (3x)	480 V, 93 A	3RW5952-0SJ04		1	1 unit	42S
D		3RW5234C.4 (3x), 3RW5235C.4 (3x)	480 V, 143 A	3RW5953-0SL04		1	1 unit	42S
D		3RW5236C.4 (3x)	480 V, 171 A	3RW5953-0SM04		1	1 unit	42S
Trans.		3RW5224C.5 (3x)	600 V, 47 A	3RW5952-0SF05		1	1 unit	42S
3RW5952-0SF04		3RW5225C.5 (3x), 3RW5226C.5 (3x)	600 V, 77 A	3RW5952-0SH05		1	1 unit	42S
		3RW5227C.5 (3x)	600 V, 93 A	3RW5952-0SJ05		1	1 unit	42S
		3RW5234C.5 (3x), 3RW5235C.5 (3x)	600 V, 143 A	3RW5953-0SL05		1	1 unit	42S
		3RW5236C.5 (3x)	600 V, 171 A	3RW5953-0SM05		1	1 unit	42S
		3RW5243 (3x)	600 V, 210 A	3RW5924-0SN05		1	1 unit	42S
		3RW5244 (3x), 3RW5245 (3x)	600 V, 315 A	3RW5924-0SQ05		1	1 unit	42S
1111		3RW5246 (3x), 3RW5247 (3x)	600 V, 470 A	3RW5924-0SS05		1	1 unit	42S
3RW5953-0SM05		3RW5248 (3x)	600 V, 570 A	3RW5924-0ST05		1	1 unit	42S
3RW5924-0ST05								
Bypass units	Bypass units	3RW522, 3RW523		3RW5953-0BY00		1	1 unit	42S
	Typass units	3RW5243, 3RW5244, 3RW5245	210 315 A	3RW5954-0BP00		1	1 unit	42S
	7	3RW5246, 3RW5247, 3RW5248	370 570 A	3RW5954-0BT00		1	1 unit	42S
3RW5953-0BY00								
Control units								
	Control units	3RW52AC0.	24 V analog output	3RW5920-1UA00		1	1 unit	42S
		3RW52AC1.	110 250 V analog output	3RW5920-1UA10		1	1 unit	42S
		3RW52TC0.	24 V thermistor input	3RW5920-1UT00		1	1 unit	42S
3RW5920-1UA00		3RW52TC1.	110 250 V thermistor input	3RW5920-1UT10		1	1 unit	42S
311110020 107100								

Switching devices – Soft starters and solid-state switching devices SIRIUS 3RW soft starters Spare parts

							For 3	RW52
	Product designation	Manufacturer's article number of the soft starter	Product version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
						SEI, IVI)		
Printed circuit boards								
A STATE OF THE PARTY OF THE PAR	Printed circuit boards	3RW5213C.4	480 V, 13 A	3RW5921-0PA04		1	1 unit	42S
	Doarus	3RW5214C.4	480 V, 18 A	3RW5921-0PB04		1	1 unit	42S
		3RW5215C.4	480 V, 25 A	3RW5921-0PC04		1	1 unit	42S
		3RW5216C.4 3RW5217C.4	480 V, 32 A	3RW5921-0PD04 3RW5921-0PE04		1 1	1 unit 1 unit	42S 42S
		3RW522C.4,	480 V, 38 A 480 V	3RW5923-0PY04		1	1 unit	42S
		3RW523C.4	100 ¥	011110020 01 101			1 dille	120
3RW5923-0PY04		3RW524C.4	480 V	3RW5924-0PY04		1	1 unit	42S
561		3RW5213C.5	600 V, 13 A	3RW5921-0PA05		1	1 unit	42S
1 1 1 1 1 1 1 1 1 1 1		3RW5214C.5	600 V, 18 A	3RW5921-0PB05		1	1 unit	42S
		3RW5215C.5	600 V, 25 A	3RW5921-0PC05		1	1 unit	42S 42S
		3RW5216C.5 3RW5217C.5	600 V, 32 A 600 V, 38 A	3RW5921-0PD05 3RW5921-0PE05		1 1	1 unit 1 unit	42S 42S
		3RW522C.5,	600 V	3RW5923-0PY05		1	1 unit	42S
		3RW523C.5						
3RW5924-0PY05		3RW524C.5	600 V	3RW5924-0PY05		1	1 unit	42S
Fans								
	Fans	3RW5216/17 (1x), 3RW5226/27 (2x), 3RW523 (2x)		3RW5983-0FF00		1	1 unit	42S
A	•	3RW524 (1x)		3RW5984-0FF00		1	1 unit	42S
3RW5983-0FF00								
Terminals	Dan ta muin al bla als	0DWE00 (0)		ODWIGOO OTDOO			4	400
	Box terminal block	3HW522 (2X)		3RW5982-0TB00		1	1 unit	42S
3RW5982-0TB00								
	Removable control terminals	Screw terminals		Screw terminals	⊕			
		3RW5211.C,	Contains	3RW5980-1TR00		1	1 unit	42S
and the		3RW5221.C, 3RW5236.C,	2 blocks each with					
		3RW5246.C	6 terminals					
		Spring-loaded terminals		Spring-loaded termin	als 💮			
64		3RW5213.C,	Contains	3RW5980-2TR00		1	1 unit	42S
6		3RW5223.C, 3RW5232.C,	2 blocks each with					
C/		3RW5242.C	6 terminals					
3RW5980-1TR00	te							
Enclosure component		3RW522, 3RW523		3RW5953-0GB00		1	1 unit	42S
	enclosures	3RW524		3RW5954-0GB00		1	1 unit	42S
3RW5953-0GB00								
3RW5950-0GD20	Cover for control cable duct	3RW52	Titanium gray	3RW5950-0GD20		1	1 unit	42S

Switching devices – Soft starters and solid-state switching devices SIRIUS 3RW soft starters Spare parts

	Product designation	Manufacturer's article number of the soft starter	Product version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Enclosure componen	nts							
3RW5954-0GF00	Front cover	3RW524		3RW5954-0GF00		1	1 unit	42\$
3RW5950-0GL20	Hinged cover	3RW52	Without cutout	3RW5950-0GL20		1	1 unit	42\$
Transport packaging								
	Transport	3RW521		3RW5951-0VY00		1	1 unit	42S
	packaging	3RW522, 3RW523		3RW5953-0VY00		1	1 unit	42S
3RW5953-0VY00		3RW524	-	3RW5954-0VY00		1	1 unit	42S

Switching devices - Soft starters and solid-state switching devices SIRIUS 3RW soft starters Spare parts

For 3RW50

Overview

More information	
Homepage, see www.siemens.com/sirius-soft-starter SiePortal, see www.siemens.com/product?3RW	SiePortal topic page, see https://support.industry.siemens.com/cs/ww/en/view/109747404

Selection and orderi	ng data							
	Product designation	Manufacturer's article number of the soft starter	Product version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Power semiconducto	or modules			_				
000	Power semiconductor modules	3RW505B.4 (2x) 3RW505B.5 (2x)	480 V, 171 A 600 V, 171 A	3RW5953-0SL04 3RW5953-0SL05		1	1 unit 1 unit	42S 42S
3RW5953-0SL0.								
Min		3RW5072 (2x) 3RW5073 (2x), 3RW5074 (2x)	600 V, 210 A 600 V, 315 A	3RW5924-0SN05 3RW5924-0SQ05		1	1 unit 1 unit	42S 42S
		3RW5074 (2x) 3RW5075 (2x), 3RW5076 (2x)	600 V, 470 A	3RW5924-0SS05		1	1 unit	42S
		3RW5077 (2x)	600 V, 570 A	3RW5924-0ST05		1	1 unit	42S
3RW5924-0S.05 Bypass units	_							
bypass units	Bypass units	3RW505		3RW5905-0BY00		1	1 unit	42S
	_,,,	3RW5072, 3RW5073, 3RW5074	210 315 A	3RW5907-0BQ00		1	1 unit	42S
3RW5905-0BY00		3RW5075, 3RW5076, 3RW5077	370 570 A	3RW5907-0BY00		1	1 unit	42S
Control units				_				
MERCEN	Control units							
Secret Secret	Analog output	3RW505AB0.	24 V	3RW5905-1UA00		1	1 unit	42S
		3RW505AB1.	110 250 V	3RW5905-1UA10		1	1 unit	42S
		3RW507AB0.	24 V	3RW5907-1UA00		1	1 unit	42S
		3RW507AB1.	110 250 V	3RW5907-1UA10		1	1 unit	42S
	Thermistor input	3RW505TB0.	24 V	3RW5905-1UT00		1	1 unit	42S
		3RW505TB1.	110 250 V	3RW5905-1UT10		1	1 unit	42S
3RW5905-1UA00		3RW507TB0.	24 V	3RW5907-1UT00		1	1 unit	42S
3UN13903-10A00		3RW507TB1.	110 250 V	3RW5907-1UT10		1	1 unit	42S

Switching devices – Soft starters and solid-state switching devices SIRIUS 3RW soft starters Spare parts

	Product designation	Manufacturer's article number of the soft starter	Product version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Printed circuit boards	6							
1	Printed circuit	3RW505B.4	480 V	3RW5905-0PY04		1	1 unit	42S
	boards	3RW507B.4	480 V	3RW5907-0PY04		1	1 unit	42S
		3RW505B.5	600 V	3RW5905-0PY05		1	1 unit	42S
0		3RW507B.5	600 V	3RW5907-0PY05		1	1 unit	42S
00								
3RW5905-0PY04								
Fans								
Tuno	Fans	3RW505 (1x)		3RW5905-0FF00		1	1 unit	42S
		3RW507 (1x)		3RW5907-0FF00		1	1 unit	42S
		,						
3RW5905-0FF00								
Terminals								
	Removable control terminals	Screw terminals		Screw terminals	+			
6-1/		3RW506.B	Contains	3RW5980-1TR00		1	1 unit	42S
6 1/			2 blocks each with					
e			6 terminals					
6		Spring-loaded terminals	3	Spring-loaded termin	als 🚃			
		3RW502.B	Contains	3RW5980-2TR00		1	1 unit	42S
C / A		3NVV3U2.B	2 blocks	3NW3900-21N00		1	i uiiit	423
3RW5980-1TR00			each with 6 terminals					
Enclosure componen	nts		O terriiriais					
VIII	Lower part of	3RW505		3RW5905-0GB00		1	1 unit	42S
	enclosures	3RW507		3RW5907-0GB00		1	1 unit	42S
A Sand								
' ,								
3RW5905-0GB00								
	Hinged cover	3RW50		3RW5900-0GL00		1	1 unit	42S
SIEMENS	_							
MINENS								
<u>.</u>								
3RW5900-0GL00								
Transport packaging								
	Transport packaging	3RW505		3RW5905-0VY00		1	1 unit	42S
	puougg	3RW507		3RW5907-0VY00		1	1 unit	42S
3RW5905-0VY00								
J. 1440000 0 V 100								

Solid-state switching devices for resistive/inductive loads SIRIUS 3RF2 solid-state relays and solid-state contactors

General data

Overview

More information

SiePortal, see www.siemens.com/product?3RF

Online configurator, see www.siemens.com/sirius/configurators Conversion tool, see www.siemens.com/conversion-tool

SIRIUS 3RF solid-state switching devices



1-phase solid-state relay and 3-phase solid-state contactor

The SIRIUS 3RF2 solid-state switching devices reliably switch a wide range of different loads with alternating voltages in 50 and 60 Hz systems.

SIRIUS 3RF2 solid-state switching devices for resistive/inductive loads:

- Solid-state relays
- Solid-state contactors
- Function modules

SIRIUS 3RF2 - for almost unending activity

Conventional electromechanical switchgear is often overtaxed by the rise in the number of switching operations. A high switching frequency results in frequent failure and short replacement cycles. However, this does not have to be the case, because with the latest generation of our SIRIUS 3RF2 solid-state switching devices we provide you with solid-state relays and contactors with a particularly long endurance – for almost unending activity even under the toughest conditions and under high mechanical loading, but also in noise-sensitive areas.

Proven time and again in service

SIRIUS 3RF2 solid-state switching devices have firmly established themselves in industrial applications. They are used above all in applications where loads are switched frequently – mainly with resistive load controllers, with the control of electrical heat or the control of valves and motors in conveyor systems. In addition to its use in areas with high switching frequencies, their silent switching means that SIRIUS is also ideally suited for use in noise-sensitive areas, such as offices or hospitals.

The most reliable solution for any application

Compared to mechanical switchgear, our SIRIUS 3RF2 solid-state switching devices stand out due to their considerably longer service life. Thanks to the high product quality, their switching is extremely precise, reliable and, above all, insusceptible to faults. With its variable connection methods and a wide spread of control voltages, the SIRIUS 3RF2 family is universally applicable. Depending on the individual requirements of the application, our modular switchgear can also be quite easily expanded by the addition of standardized function modules.

Always on the sunny side with SIRIUS

Because SIRIUS 3RF2 offers even more:

- The space-saving and compact side-by-side mounting ensures reliable operation up to an ambient temperature of +60 °C.
- Thanks to fast configuration and the ease of mounting and startup, not only time but also expenses are saved.

Also for switching motors (see page 6/159)

In order to achieve higher productivity, the switching frequency is continuously increased in drive technology. It is no problem for our SIRIUS solid-state contactors for switching motors. With three-phase motors up to 7.5 kW, they can reliably withstand even the highest switching frequencies. Even a continuous change in the direction of rotation is possible with the solid-state reversing contactors. Both versions can be perfectly combined with components from the SIRIUS modular system. Connecting with SIRIUS motor starter protectors/circuit breakers or SIRIUS overload relays can be implemented without any further steps.

SIRIUS 3RF3 solid-state switching devices for switching motors:

- Solid-state contactors
- Solid-state reversing contactors

Connection methods

The solid-state switching devices are available with screw terminals (box terminals), spring-loaded terminals or ring cable lug connections.

- Screw terminals
- Spring-loaded terminals
- Ring cable lug connection

The terminals are indicated in the corresponding tables by the symbols shown on orange backgrounds.

Solid-state switching devices for resistive/inductive loads SIRIUS 3RF2 solid-state relays and solid-state contactors

General data

Article number scheme

Product versions		Article	number				
Device type	Solid-state relays	3RF21					1 1-phase, 45 mm width 1 1-phase, 22.5 mm width 1 3-phase, 45 mm width
	Solid-state contactors						I 1-phase I 3-phase
Type current	e.g. 20 = 20 A						
Connection type	Screw terminals Spring-loaded terminals Ring cable lug connection			1 2 3			
Switching function	Zero-point switching Instantaneous switching Zero-point switching Zero-point switching				A B C		Low noise Short-circuit-proof with B MCB
1-phase or number of controlled phases	1-phase 2-phase 3-phase				A B C		
Rated control supply voltage $U_{\rm S}$	24 V DC 24 V AC/DC 110 230 V AC 110 V AC 4 30 V DC 230 V AC					0 1 2 3 4 5	
Rated operational voltage $U_{\rm e}$	24 230 V AC 48 460 V AC 48 600 V AC 48 600 V AC					2 4 5 6	Blocking voltage 1 200 V Blocking voltage 1 600 V
Example		3RF21	2 0 -	1 .	АА	0 6	

Note:

The article number scheme shows an overview of product versions for better understanding of the logic behind the article numbers.

For your orders, please use the article numbers quoted in the selection and ordering data.

Solid-state switching devices for resistive/inductive loads SIRIUS 3RF2 solid-state relays and solid-state contactors

General data

Overview of the SIRIUS 3RF2 solid-state switching devices

Туре	Solid-state	e relays			contactors						
	1-phase 22.5 mm	45 mm	3-phase 45 mm	1-phase	3-phase	Converters	Load monitor Basic	oring Extended	Heating current monitoring	Power controllers	Power regulators
Usage											
Simple replacement of existing solid-state relays		✓									
Complete unit "Ready to use"				✓	✓						
Space-saving	✓		1	✓	✓	✓	✓				
Can be extended with modular function modules	✓		1)	√	1)						
Frequent switching and monitoring of the load and the solid-state relay or contactor							✓	✓	√	√	✓
Monitoring of up to 6 partial loads							✓		✓	✓	
Monitoring of more than 6 partial loads								✓			
Control of the heating power through an analog input						✓				1	1
Power control											✓
Startup											
Easy setting of setpoint values with "Teach" button							✓	✓		/	1
"Remote Teach" input for setting setpoints									✓		
Mounting											
Mounting on mounting rails or mounting plates				✓	✓						
Can be snapped directly onto a solid-state relay or contactor						✓	✓	√	1	✓	✓
For use with "Coolplate" heat sink	1	1	✓								
Cable routing											
Connection of load circuit as for switchgear	✓		✓	✓	✓		✓	√	✓	/	/
Connection of load circuit from above		1									

- ✓ Function available
- $oldsymbol{\square}$ Function possible
- -- Function not possible

 $^{^{1)}\,}$ The converter can also be used with 3-phase devices.

Solid-state switching devices for resistive/inductive loads SIRIUS 3RF2 solid-state relays and solid-state contactors

General data

Benefits

Main features

- LED display
- Variety of connection methods, also with high degree of protection
- Plug-in control connection
- Zero-point switching, 2-phase or 3-phase controlled

Features

- Considerable space savings thanks to a width of only 22.5 mm
- Variety of connection methods: Screw terminal, spring-loaded terminal or ring cable lug, there is no problem – they are all finger-safe
- Flexible for all applications with function modules for retrofitting
- Possibility of fuseless short-circuit-proof design

Benefits

- Saves time and costs with fast mounting and commissioning, short startup times and easy wiring
- Extremely long life, low maintenance, rugged and reliable
- Space-saving and safe thanks to side-by-side mounting up to an ambient temperature of +60 °C
- Modular design: Standardized function modules and heat sinks can be used in conjunction with solid-state relays to satisfy individual requirements.
- Safety due to lifelong, vibration-resistant and shock-resistant spring-loaded terminals even under tough conditions
- Optimum heat transfer allows small, space-saving heat sinks to be used

Application

Applications

Example: Plastics processing industry

Thanks to their high switching endurance SIRIUS 3RF2 solidstate switching devices are ideal for controlling electrical heat. This is because the more precise the temperature regulation process has to be, the higher the switching frequency. The accurate regulation of electrical heat is used for example in many processes in the plastics processing industry:

- Band heaters heat the extrudate to the correct temperature in plastic extruders
- Heat emitters heat plastic blanks to the correct temperature
- Heat drums dry plastic granules
- Heating channels keep molds at the correct temperature in order to manufacture different plastic parts without defects

The powerful SIRIUS 3RF2 solid-state relays and contactors can be used for the simultaneous control of several heating loads. By using a load monitoring module the individual partial loads can easily be monitored, and in the event of a failure a signal is generated to be sent to the controller.

Use in fuseless load feeders

Compared with the fused configuration of load feeders, short-circuit and line protection using miniature circuit breakers is easy to achieve with SIRIUS 3RF2 solid-state relays and contactors.

A special version of the solid-state contactors can be protected against damage in the case of a short circuit with a miniature circuit breaker with type B tripping characteristic. This allows the low-cost and simple design of fuseless load feeders with full protection of the switchgear.

More information

Notes on integration in the load feeders

The SIRIUS solid-state switching devices are very easy to integrate into the load feeders thanks to their industrial connection method and design.

Particular attention must however be paid to the circumstances of the installation and ambient conditions, as the performance capacity of the solid-state switching devices is largely dependent on these. Depending on the version, certain restrictions must be observed. For detailed information, for example in relation to solid-state contactors about the minimum spacing and to solid-state relays about the choice of heat sink, see technical specifications and product data sheets, https://support.industry.siemens.com/cs/ww/en/ps/16222.

Short-circuit and overload protection

Despite the rugged power semiconductors that are used, solid-state switching devices respond more sensitively to short circuits in the load feeder. Consequently, special precautions have to be taken against destruction, depending on the type of design.

Siemens generally recommends using SITOR semiconductor protection fuses. These fuses also provide protection against destruction in the event of a short circuit even when the solid-state contactors and solid-state relays are fully utilized.

Alternatively, if there is lower loading, protection can also be provided by standard fuses or miniature circuit breakers. This protection is achieved by overdimensioning the solid-state switching devices accordingly. The technical specifications and the product data sheets contain details both about the solid-state fuse protection itself and about use of the devices with conventional protection equipment.

Electromagnetic compatibility (EMC)

The solid-state switching devices are suitable for interferencefree operation in industrial networks without further measures. If they are used in public networks, it may be necessary for conducted interference to be reduced by means of filters.

This does not include the solid-state contactors for resistive loads of the special type 3RF23..-.CA.. "Low noise". These comply with the class B limit values up to a rated current of 16 A. If other versions are used, and at currents of over 16 A, standard filters can be used in order to comply with the limit values. The decisive factors when it comes to selecting the filters are essentially the current loading and the other parameters (operational voltage, design type, etc.) in the load feeder.

Suitable filters can be ordered from EPCOS AG, see page 16/18.

Product information and technical specifications

For product data sheets with detailed technical specifications, dimensional drawings and characteristic curves, see https://support.industry.siemens.com/cs/ww/en/ps/16222.

For more information, please enter the article number of the required device under the tab "Product List".

Solid-state switching devices for resistive/inductive loads SIRIUS 3RF2 solid-state relays and solid-state contactors

Solid-state relays > General data

Overview

Solid-state relays (without heat sink)

SIRIUS solid-state relays are suitable for surface mounting on existing cooling surfaces. Mounting is quick and easy, involving just two screws. The special technology of the power semiconductor ensures that there is excellent thermal contact with the heat sink. Depending on the nature of the heat sink, the capacity reaches up to 88 A on resistive loads.

The solid-state relays are available in three different versions:

- 3RF21 1-phase solid-state relay with a width of 22.5 mm
- 3RF20 1-phase solid-state relay with a width of 45 mm
- 3RF22 3-phase solid-state relay with a width of 45 mm

Version for resistive loads "zero-point switching"

This standard version is often used for 3RF20 to 3RF22 solid-state relays for switching heaters on and off.

Version for inductive loads "instantaneous switching"

In this version, the 3RF20 and 3RF21 solid-state relays are specifically matched to inductive loads. Whether it is a matter of frequent actuation of the valves in a filling plant or starting and stopping small operating mechanisms in packet distribution systems, operation is carried out safely and noiselessly.

Special "low noise" version

Thanks to a special control circuit of the 3RF21 solid-state contactors, this special version can be used in public networks up to 16 A without any additional measures such as interference suppressor filters. As a result, in terms of emitted interference, it conforms to limit value curve class B according to IEC 60947-4-3.

Function modules

The 3RF21 and 3RF22 solid-state relays can be expanded with various function modules for individual adaptation to applications, see page 6/150 onwards.

3RF21 1-phase solid-state relays (without heat sink) with a width of 22.5 mm

With its compact design, which stays the same even at currents of up to 88 A, the 3RF21 solid-state relay with a width of just 22.5 m offers an ultra-small footprint. The logical connection method, with the power infeed from above and load connection from below, ensures tidy installation in the control cabinet.

3RF20 1-phase solid-state relays (without heat sink) with a width of 45 mm

The solid-state relays with a width of 45 mm provide for connection of the power supply lead and the load from above. This makes it easy to replace existing solid-state relays in existing arrangements. The connection of the control cable is as space-saving as the 22.5 mm design, as it is simply plugged on.

3RF22 3-phase solid-state relays (without heat sink) with a width of 45 mm

With its compact design, which stays the same even at currents of up to 55 A, the 3RF22 solid-state relay with a width of just 45 m offers an ultra small footprint. The logical connection method, with the power infeed from above and load connection from below, ensures tidy installation in the control cabinet.

The 3-phase solid-state relays are available with

- 2-phase control (suitable in particular for circuits without connection to the neutral conductor) and
- 3-phase control (suitable for star circuits with connection to the neutral conductor or for applications in which the system requires all phases to be switched)

Selection notes

When selecting solid-state relays, in addition to information about the network, the load and the ambient conditions, it is also necessary to know details of the planned design. The solid-state relays can only conform to their specific technical specifications if they are mounted with appropriate care on an adequately dimensioned heat sink.

Mounting solid-state relays directly on a mounting plate made of sheet steel is inadequate in terms of heat dissipation.

The following procedure is recommended:

- Determine the rated current of the load and the mains voltage
- Select the relay design and choose a solid-state relay with higher rated current than the load
- Determine the thermal resistance of the proposed heat sink
- Check the correct relay size with the aid of the diagrams
- In systems that have high voltage peaks or at voltages of 575 V and higher, use of versions with a blocking voltage of 1 600 V is recommended.

Solid-state switching devices for resistive/inductive loads SIRIUS 3RF2 solid-state relays and solid-state contactors

Solid-state relays > SIRIUS 3RF21 solid-state relays, 1-phase, 22.5 mm

Technical specifications

- Conducted interference voltage

More information

System Manual for modular system, see https://support.industry.siemens.com/cs/ww/en/	/view/60311		FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/16223/faq						
Type Dimensions (W x H x D)	mm	3RF211 22.5 x 85 x 48 mm	3RF212 22.5 x 85 x 48 mm	3RF213 22.5 x 85 x 48 mm					
General data									
Ambient temperature									
 During operation, derating from 40 °C 	°C	-25 +60							
During storage	°C	-55 +80							
Installation altitude	m	0 1 000; derating from 1	000						
Shock resistance acc. to IEC 60068-2-27	<i>g</i> /ms	15/11							
Vibration resistance acc. to IEC 60068-2-6	g	2							
Degree of protection IP on the front according to IEC 60529		IP20		IP00 (IP20 when using the 3RF2900-3PA88 terminal cover)					
Touch protection on the front according to IEC 60529		Finger-safe for vertical tou	ching from the front						
Electromagnetic compatibility (EMC)									
Emitted interference									

according to IEC 60947-4-3 - Emitted, high-frequency interference voltage according to IEC 60947-4-3		Class B for residential, business and commercial applications
Interference immunity Electrostatic discharge according to IEC 61000-4-2 (corresponds to degree of severity 3)	kV	Contact-mode discharge 4; air discharge 8; behavior criterion 2
Induced RF fields according to IEC 61000-4-6	MHz	0.15 80; 140 dB _µ V; behavior criterion 1
- Burst according to IEC 61000-4-4	kV	2/5.0 kHz; behavior criterion 2
- Surge according to IEC 61000-4-5	kV	Conductor - ground 2; conductor - conductor 1; behavior criterion 2
Mounting • Screws (not included in the scope of supply) • Trahtening torque	Nm	2 x M4 1.5

Class A for industrial applications

Lightening torque	Nm	1.5		
Connection type		Screw terminals	Spring-loaded terminals	Ring cable lug connection
Connection, main contacts				
Conductor cross-sectionsSolidFinely stranded with end sleeve	mm ² mm ²	2 × (1.5 2.5) ¹⁾ , 2 × (2.5 6) ¹⁾ , 2 × (1 2.5) ¹⁾ , 2 × (2.5 6) ¹⁾ , 1 × 10	2 × (0.5 2.5) 2 × (0.5 1.5)	
Finely stranded without end sleeveSolid or stranded, AWG cables	mm ² AWG	2 x (14 10)	2 x (0.5 2.5) 2 x (18 14)	
Terminal screws		M4		M5
Tightening torque	Nm lb.in	2 2.5 7 10.3	 	2 2.5 7 10.3
 Cable lugs According to DIN 46234 According to JIS C 2805 Width, maximum 	mm	 	- - -	5-2.5, 5-6, 5-10, 5-16, 5-25 R 2-5, R 5.5-5, R 8-5, R 14-5 12
Connection, auxiliary/control contacts				
Conductor cross-sections	mm AWG	1 x (0.5 2.5), 2 x (0.5 1.0) 20 12	0.5 2.5 20 12	1 x (0.5 2.5), 2 x (0.5 1.0) 20 12
Stripped length	mm	7	10	7
Terminal screw		M3		M3
Tightening torque	Nm lb.in	0.5 0.6 4.5 5.3	 	0.5 0.6 4.5 5.3

¹⁾ If two different conductor cross-sections are connected to one clamping point, both cross-sections must lie in one of the ranges specified.

Solid-state switching devices for resistive/inductive loads SIRIUS 3RF2 solid-state relays and solid-state contactors

Solid-state relays > SIRIUS 3RF21 solid-state relays, 1-phase, 22.5 mm

Туре	$I_{\text{max}}^{1)}$		I _e acco	rding to 947-4-3	I _e acco	ording to UL/CSA	Power loss	Minimum load current	Off-state current
	at R _{thha}	/T _u = 40 °C	at R _{thha}	/T _u = 40 °C	at R _{thha}	$_{u}/T_{u} = 50 ^{\circ}\text{C}$	at I _{max}		
	А	K/W	А	K/W	А	K/W	W	A	mA
Main circuit									
3RF2120	20	2.00	20	1.70	20	1.30	28.6	0.1	10
3RF2130-1	30	1.45	30	1.45	30	1.25	44.2	0.5	10
3RF2150-1 3RF2150-2 3RF2150-3	50 50 50	0.85 0.85 0.85	50 20 50	0.85 2.90 0.85	50 20 50	0.70 2.60 0.70	66 66 66	0.5 0.5 0.5	10 10 10
3RF2170-1	70	0.50	50	1.15	50	1.00	94	0.5	10
3RF2190-1 3RF2190-2 3RF2190-3	88 88 88	0.55 0.55 0.55	50 20 80	1.40 3.50 0.55	50 20 80	0.85 2.80 0.45	118 118 118	0.5 0.5 0.5	10 10 10

 $^{^{1)}}$ The current $I_{\rm max}$ provides information about the performance capacity of the solid-state relay. The actual permitted rated operational current $I_{\rm e}$ can be smaller depending on the connection method and cooling conditions.

Note:

The required heat sinks for the corresponding load currents can be determined from the characteristic curves (see page 6/120, "More Information"). The minimum thickness values for the mounting surface must be observed.

Туре	Rated peak withstand current Itsm	<i>I</i> ² <i>t</i> value
	A	A^2 s
Main circuit		
3RF2120	200	200
3RF2130A.2 3RF2130A.4 3RF2130A.5 3RF2130A.6	300 300 300 400	450 450 450 800
3RF2150	600	1 800
3RF2170A.2 3RF2170A.4 3RF2170A.5 3RF2170A.6	1 200 1 200 1 200 1 150	7 200 7 200 7 200 6 600
3RF2190	1 150	6 600

Туре		3RF212	3RF214	3RF215	3RF216
Main circuit					
Rated operational voltage U _e	V AC	24 230	48 460	48 600	
Operating range	V AC	20 253	40 506	40 660	
Rated frequency	Hz	$50/60 \pm 10\%$			
Rated insulation voltage U _i	V	600			
Blocking voltage	V	800	1 200		1 600
Rate of voltage rise	V/µs	1 000			

Туре		3RF210.	3RF21	I.	3RF212.	3RF214.
Control circuit						
Method of operation		DC operation	AC/DC ope	eration	AC operation	DC operation
Rated control supply voltage U _s	V	24	24 AC	24 DC	1105 230	4 30
Rated frequency of the control supply voltage	Hz		50/60 ± 10%		50/60 ± 10%	
Control supply voltage, max.	V	30	26.5 AC	30 DC	253	30
Typical actuating current	mA	15/low power: 9 ¹⁾	20		15	15
Response voltage	V	15	14 AC	15 DC	90	4
Drop-out voltage	V	5	5 AC	5 DC	40	1
Operating times						
ON-delay	ms	1 + max. one half-wave ²⁾	10 + max. (half-wave ²⁾		40 + max. one half-wave ²⁾	1 + max. one half-wave ²⁾
OFF-delay	ms	1 + max. one half-wave	15 + max. (half-wave	one	40 + max. one half-wave	1 + max. one half-wave

¹⁾ Applies to the "low power" version 3RF21..-.AA..-0KN0.

²⁾ Only for zero-point switching devices.

Solid-state switching devices for resistive/inductive loads SIRIUS 3RF2 solid-state relays and solid-state contactors

Solid-state relays > SIRIUS 3RF21 solid-state relays, 1-phase, 22.5 mm

Selection and ordering data

1-phase solid-state relays (without heat sink) with a width of 22.5 mm

	Type current/ performance capacity ¹⁾	Rated control supply voltage $U_{\rm S}$	Screw terminals	PU (UNIT, SET, M)	PS*	PG
	A	V	Article No. Price per PU			
Zero-point switching rated operational vol	, tage <i>U_e 24 230 V AC</i>					
· C.	20 30 50 70 ²) 90 ²)	24 DC	3RF2120-1AA02 3RF2130-1AA02 3RF2150-1AA02 3RF2170-1AA02 3RF2190-1AA02	1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41C 41C 41C 41C 41C
	20 30 50 70 ²) 90 ²)	110 230 AC	3RF2120-1AA22 3RF2130-1AA22 3RF2150-1AA22 3RF2170-1AA22 3RF2190-1AA22	1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41C 41C 41C 41C 41C
3RF2120-1AA02	20 30	4 30 DC	3RF2120-1AA42 3RF2130-1AA42	1 1	1 unit 1 unit	41C 41C
Zero-point switching rated operational vol	, tage <i>U_e 48 460 V AC</i>					
	20 30 50 70 ²) 90 ²)	24 DC	3RF2120-1AA04 3RF2130-1AA04 3RF2150-1AA04 3RF2170-1AA04 3RF2190-1AA04	1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41C 41C 41C 41C 41C
	20	24 AC/DC 110 230 AC	3RF2150-1AA14 3RF2120-1AA24	1	1 unit 1 unit	41C 41C
	30 50 70 ²⁾ 90 ²⁾	110 200 //0	3RF2130-1AA24 3RF2150-1AA24 3RF2170-1AA24 3RF2190-1AA24	1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41C 41C 41C 41C 41C
Zero-point switching rated operational vol	, tage <i>U_e 48 600</i> V AC					
	70	24 DC low power	3RF2170-1AA05-0KN0	1	1 unit	41C
	20 30 50 70 ²⁾ 90 ²⁾	4 30 DC	3RF2120-1AA45 3RF2130-1AA45 3RF2150-1AA45 3RF2170-1AA45 3RF2190-1AA45	1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41C 41C 41C 41C 41C
Zero-point switching rated operational vol	· Blocking voltage 1 600 tage <i>U</i> _e 48 600 V AC	V,				
	30 50 70 ²⁾ 90 ²⁾	24 DC	3RF2130-1AA06 3RF2150-1AA06 3RF2170-1AA06 3RF2190-1AA06	1 1 1 1	1 unit 1 unit 1 unit 1 unit	41C 41C 41C 41C
	30 50 70 ²) 90 ²)	110 230 AC	3RF2130-1AA26 3RF2150-1AA26 3RF2170-1AA26 3RF2190-1AA26	1 1 1 1	1 unit 1 unit 1 unit 1 unit	41C 41C 41C 41C

 $^{^{1)}}$ The type current provides information about the performance capacity of the solid-state relay. The actual permitted rated operational current $I_{\rm e}$ can be smaller depending on the connection method and cooling conditions.

Other rated control supply voltages on request.

²⁾ Please note that this version with an M4 screw connection can only be used for a rated current of up to approx. 50 A and a conductor cross-section of 10 mm².

Please use the 3RF21 solid-state relays with ring cable lug connections for these currents, see page 6/126.

Solid-state switching devices for resistive/inductive loads SIRIUS 3RF2 solid-state relays and solid-state contactors

Solid-state relays > SIRIUS 3RF21 solid-state relays, 1-phase, 22.5 mm

	Type current/ performance capacity ¹⁾	Rated control supply voltage $U_{\rm S}$	Screw terminals		PU (UNIT, SET, M)	PS*	PG
	A	V	Article No.	Price per PU			
Instantaneous switch rated operational vol	ning, tage <i>U</i> _e 24 230 V AC						
	50	110 230 AC	3RF2150-1BA22		1	1 unit	41C
Instantaneous switch rated operational vol	ning, tage <i>U_e 48 460</i> V AC						
	20 30 50 70 ²) 90 ²)	24 DC	3RF2120-1BA04 3RF2130-1BA04 3RF2150-1BA04 3RF2170-1BA04 3RF2190-1BA04		1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41C 41C 41C 41C 41C
Instantaneous switch rated operational vol	ning · Blocking voltage 1 tage <i>U</i> _e 48 600 V AC	600 V,					
	50	24 DC	3RF2150-1BA06		1	1 unit	41C
Low noise ³⁾ · Zero-porated operational vol	oint switching, tage <i>U</i> _e 48 460 V AC						
	70 ²⁾	24 DC	3RF2170-1CA04		1	1 unit	41C

 $^{^{1)}}$ The type current provides information about the performance capacity of the solid-state relay. The actual permitted rated operational current $I_{\rm e}$ can be smaller depending on the connection method and cooling conditions.

²⁾ Please note that this version with an M4 screw connection can only be used for a rated current of up to approx. 50 A and a conductor cross-section of 10 mm2

Please use the 3RF21 solid-state relays with ring cable lug connections for these currents, see page 6/126.

3) See page 6/121.

Other rated control supply voltages on request.

Accessories, see page 6/127.

	Type current/ performance capacity ¹⁾	Rated control supply voltage $U_{\rm S}$	Spring-loaded terminals	PU (UNIT, SET, M)	PS*	PG
	A	V	Article No.	Price per PU		
Zero-point swit rated operation	ching, nal voltage <i>U</i> _e 24 230 V AC			'		
£ 11	20 50 ²⁾ 90 ²⁾	24 DC	3RF2120-2AA02 3RF2150-2AA02 3RF2190-2AA02	1 1 1	1 unit 1 unit 1 unit	41C 41C 41C
516105	20 50 ²⁾ 90 ²⁾	110 230 AC	3RF2120-2AA22 3RF2150-2AA22 3RF2190-2AA22	1 1 1	1 unit 1 unit 1 unit	41C 41C 41C
	20	4 30 DC	3RF2120-2AA42	1	1 unit	41C
3RF2120-2AA02 Zero-point swit rated operation	cching, aal voltage <i>U</i> _e 48 460 V AC					
	20 50 ²⁾ 90 ²⁾	24 DC	3RF2120-2AA04 3RF2150-2AA04 3RF2190-2AA04	1 1 1	1 unit 1 unit 1 unit	41C 41C 41C
	50 ²⁾	24 AC/DC	3RF2150-2AA14	1	1 unit	41C
	20 50 ²⁾ 90 ²⁾	110 230 AC	3RF2120-2AA24 3RF2150-2AA24 3RF2190-2AA24	1 1 1	1 unit 1 unit 1 unit	41C 41C 41C
Zero-point swit rated operation	ching, nal voltage <i>U_e</i> 48 600 V AC					
	20	4 30 DC	3RF2120-2AA45	1	1 unit	41C
	ching · Blocking voltage 1 60 aal voltage <i>U</i> _e 48 600 V AC	0 V,				
	50 ²⁾ 90 ²⁾	24 DC	3RF2150-2AA06 3RF2190-2AA06	1 1	1 unit 1 unit	41C 41C
	50 ²⁾ 90 ²⁾	110 230 AC	3RF2150-2AA26 3RF2190-2AA26	1 1	1 unit 1 unit	41C 41C
1) The type current	provides information about the per	formance capacity of Oth	ner rated control supply vo	Itages on request		

the solid-state relay. The actual permitted rated operational current I_e can be smaller depending on the connection method and cooling conditions.

Other rated control supply voltages on request.

 $^{^{2)}}$ Please note that the version with spring-loaded terminals can only be used for a rated current of up to approx. 20 A and a conductor cross-section of 2.5 mm². Higher currents can be achieved by connecting two conductors per terminal.

Solid-state switching devices for resistive/inductive loads SIRIUS 3RF2 solid-state relays and solid-state contactors

Solid-state relays > SIRIUS 3RF21 solid-state relays, 1-phase, 22.5 mm

							_
	Type current/ performance capacity ¹⁾	Rated control supply voltage $U_{\rm S}$	Ring cable lug connection	+	PU (UNIT, SET, M)	PS*	PG
	А	V	Article No.	Price per PU			
Zero-point switching rated operational vol	, tage <i>U_e</i> 24 230 V AC						
	20 50 90	24 DC	3RF2120-3AA02 3RF2150-3AA02 3RF2190-3AA02		1 1 1	1 unit 1 unit 1 unit	41C 41C 41C
	20 50 90	110 230 AC	3RF2120-3AA22 3RF2150-3AA22 3RF2190-3AA22		1 1 1	1 unit 1 unit 1 unit	41C 41C 41C
3RF2120-3AA02 Zero-point switching rated operational vol	, tage <i>U_e 48 460</i> V AC						
	20 50 90	24 DC	3RF2120-3AA04 3RF2150-3AA04 3RF2190-3AA04		1 1 1	1 unit 1 unit 1 unit	41C 41C 41C
	20 50 90	110 230 AC	3RF2120-3AA24 3RF2150-3AA24 3RF2190-3AA24		1 1 1	1 unit 1 unit 1 unit	41C 41C 41C
	90	4 30 DC	3RF2190-3AA44		1	1 unit	41C
Zero-point switching rated operational vol	· Blocking voltage 1 600 tage <i>U</i> _e 48 600 V AC) V,					
	50 90	24 DC	3RF2150-3AA06 3RF2190-3AA06		1 1	1 unit 1 unit	41C 41C
	50 90	110 230 AC	3RF2150-3AA26 3RF2190-3AA26		1 1	1 unit 1 unit	41C 41C

 $^{^{1)}}$ The type current provides information about the performance capacity of the solid-state relay. The actual permitted rated operational current $I_{\rm e}$ can be smaller depending on the connection method and cooling conditions.

Other rated control supply voltages on request.

Solid-state switching devices for resistive/inductive loads SIRIUS 3RF2 solid-state relays and solid-state contactors

Solid-state relays > SIRIUS 3RF21 solid-state relays, 1-phase, 22.5 mm

Accessories						
	Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Terminal covers						
		Ring cable lug				
3RF2900-3PA88	Terminal covers For 3RF21 solid-state relays with ring cable lug connection With this terminal cover, degree of protection IP20 can be achieved on the front with a ring cable lug connection. It can also be used for screw terminals after simple adaptation.	connection 3RF2900-3PA88		1	10 units	41C
Control connectors						
		Screw terminals	+			
€ € 3RE2900-1TA88	Replacement control connectors For 3RF20 to 3RF22 solid-state relays With screw terminals	3RF2900-1TA88		1	50 units	41C
0111 2000 117100		Spring-loaded	<u></u>			
ODECCOOL OTAGO	Replacement control connectors For 3RF20 to 3RF22 solid-state relays With spring-loaded terminals	terminals 3RF2900-2TA88		1	50 units	41C
3RF2900-2TA88	Control connectors For 3RF20 to 3RF22 solid-state relays With spring-loaded terminals With two clamping points per contact	3RF2900-2TB88		1	10 units	41C
3RF2900-2TB88	ring-loaded terminals					
No.	Screwdriver For all SIRIUS devices With spring-loaded terminals Length approx. 200 mm, size 3.0 mm x 0.5 mm,	3RA2908-1A		1	1 unit	41B
3RA2908-1A	titanium gray/black, partially insulated					
Blank labels						
	Unit labeling plates For SIRIUS devices ¹⁾ 10 mm × 7 mm, titanium gray 20 mm × 7 mm, titanium gray Adhesive labels	3RT2900-1SB10 3RT2900-1SB20		100 100	816 units 340 units	41B 41B
3RT2900-1SB20	For SIRIUS devices 19 mm × 6 mm, titanium gray	3RT2900-1SB60		100	3060 units	41B

¹⁾ PC labeling system for individual inscription of unit labeling plates available from: murrplastik Systemtechnik GmbH (see page 16/18).

Solid-state switching devices for resistive/inductive loads SIRIUS 3RF2 solid-state relays and solid-state contactors

Solid-state relays > SIRIUS 3RF20 solid-state relays, 1-phase, 45 mm

Technical specifications

More information				
System Manual for modular system, see https://support.industry.siemens.com/cs/ww/en/view/6031	1318	FAQs, see https://support.industry.sieme	ens.com/cs/ww/en/ps/16223/faq	
Type Dimensions (W x H x D)	mm	3RF201 45 × 58 × 48	3RF204 45 × 58 × 48	
General data				
Ambient temperature				
 During operation, derating from 40 °C 	°C	-25 +60		
During storage	°C	-55 +80		
Installation altitude	m	0 1 000; derating from 1 000		
Shock resistance acc. to IEC 60068-2-27	g/ms	15/11		
Vibration resistance acc. to IEC 60068-2-6	g	2		
Degree of protection IP on the front according to IEC 60529		IP20		
Touch protection on the front according to IEC 60529		Finger-safe for vertical touching from the front		
Electromagnetic compatibility (EMC)				
Emitted interference Conducted interference voltage according to IEC 60947-4-3 Emitted, high-frequency interference voltage according to IEC 60947-4-3		Class A for industrial applications Class B for residential, business and commercial applications		
Interference immunity Electrostatic discharge according to IEC 61000-4-2 (corresponds to degree of severity 3) Induced RF fields	kV MHz	Contact-mode discharge 4; air discharge 8; beha 0.15 80; 140 dBµV; behavior criterion 1	avior criterion 2	
according to IEC 61000-4-6 - Burst according to IEC 61000-4-4 - Surge according to IEC 61000-4-5	kV kV	2/5.0 kHz; behavior criterion 2 Conductor - ground 2; conductor - conductor 1; k	pehavior criterion 2	
Mounting				
Screws (not included in the scope of supply)		2 x M4		
Tightening torque	Nm	1.5		
Connection type		Screw terminals	Spring-loaded terminals	
Connection, main contacts				
 Conductor cross-sections Solid Finely stranded with end sleeve Solid or stranded, AWG cables 	mm ² mm ² AWG	2 × (1.5 2.5) ¹⁾ , 2 × (2.5 6) ¹⁾ 2 × (1 2.5) ¹⁾ , 2 × (2.5 6) ¹⁾ , 1 × 10 2 × (14 10)	 	
Terminal screw		M4		
Tightening torque	Nm Ib.in	2 2.5 7 10.3	 	
Connection, auxiliary/control contacts				
Conductor cross-sections	mm ² AWG	1 x (0.5 2.5), 2 x (0.5 1.0) 20 12	0.5 2.5 20 12	
Stripped length	mm	7	10	
Terminal screw		M3		
Tightening torque	Nm lb.in	0.5 0.6 4.5 5.3	 	

¹⁾ If two different conductor cross-sections are connected to one clamping point, both cross-sections must lie in one of the ranges specified.

Solid-state switching devices for resistive/inductive loads SIRIUS 3RF2 solid-state relays and solid-state contactors

Solid-state relays > SIRIUS 3RF20 solid-state relays, 1-phase, 45 mm

Туре	$I_{max}^{1)}$			ording to 947-4-3	I _e acco	ording to A	Power loss	Minimum load current	Off-state current
	at Rthha	$_{\text{u}}/T_{\text{u}} = 40 ^{\circ}\text{C}$	at R _{thha}	$_{\rm a}/T_{\rm u}=40~{\rm ^{\circ}C}$	at R _{thha}	$_{a}/T_{u} = 50 ^{\circ}\text{C}$	at I _{max}		
	Α	K/W	Α	K/W	Α	K/W	W	Α	mA
Main circuit									
3RF2020-1.A	20	2.00	20	1.70	20	1.30	28.6	0.1	10
3RF2030-1.A	30	1.45	30	1.45	30	1.25	44.2	0.5	10
3RF2050-1.A	50	0.85	50	0.85	50	0.70	66	0.5	10
3RF2070-1.A	70	0.50	50	1.15	50	1.00	94	0.5	10
3RF2090-1.A	88	0.55	50	1.40	50	1.00	118	0.5	10

 $^{^{1)}}$ The current $I_{\rm max}$ provides information about the performance capacity of the solid-state relay. The actual permitted rated operational current $I_{\rm e}$ can be smaller depending on the connection method and cooling conditions.

Note:

The required heat sinks for the corresponding load currents can be determined from the characteristic curves (see page 6/120, "More Information"). The minimum thickness values for the mounting surface must be observed.

Туре	Rated peak withstand current I_{tsm}	I ² t value
	A	A ² s
Main circuit		
3RF2020-1.A	200	200
3RF2030-1.A.2 3RF2030-1.A.4 3RF2030-1.A.6	300 300 400	450 450 800
3RF2050-1.A	600	1 800
3RF2070-1.A.2 3RF2070-1.A.4 3RF2070-1.A.5 3RF2070-1.A.6	1 200 1 200 1 200 1 150	7 200 7 200 7 200 6 600
3RF2090-1.A	1 150	6 600

Туре		3RF20.0-1.A.2	3RF20.0-1.A.4	3RF20.0-1.A.5	3RF20.0-1.A.6
Main circuit					
Rated operational voltage U _e	V AC	24 230	48 460	48 600	
 Operating range 	V AC	20 253	40 506	40 660	
Rated frequency	Hz	50/60 ± 10%			
Rated insulation voltage U _i	V	600			
Blocking voltage	V	800	1 200		1 600
Rate of voltage rise	V/µs	1 000			

Туре		3RF20.0-1.A0.	3RF20.0-1.A2.	3RF20.0-1.A4.
Control circuit				
Method of operation		DC operation	AC operation	DC operation
Rated control supply voltage U _s	V	24	110 230	4 30
Rated frequency of the control supply voltage	Hz		50/60 ± 10%	
Control supply voltage, max.	V	30	253	30
Typical actuating current	mA	15	15	15
Response voltage	V	15	90	4
Drop-out voltage	V	5	40	1
Operating times				
ON-delay	ms	1 + max. one half-wave ¹⁾	40 + max. one half-wave ¹⁾	1 + max. one half-wave ¹⁾
OFF-delay	ms	1 + max. one half-wave	40 + max. one half-wave	1 + max. one half-wave

¹⁾ Only for zero-point switching devices.

Solid-state switching devices for resistive/inductive loads SIRIUS 3RF2 solid-state relays and solid-state contactors

Solid-state relays > SIRIUS 3RF20 solid-state relays, 1-phase, 45 mm

Selection and ordering data

1-phase solid-state relays (without heat sink) with a width of 45 mm

			·				
	Type current/ performance capacity ¹⁾	Rated control supply voltage $U_{\rm S}$	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
	A	V	Article No.	Price per PU			
Zero-point switching, rated operational vol	, tage <i>U_e</i> 24 230 V AC						
1 0 SBUS 2 0 T	20 30 50 70 ²) 90 ²)	24 DC	3RF2020-1AA02 3RF2030-1AA02 3RF2050-1AA02 3RF2070-1AA02 3RF2090-1AA02		1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41C 41C 41C 41C 41C
At A 2 S	20 30 50 70 ²⁾ 90 ²⁾	110 230 AC	3RF2020-1AA22 3RF2030-1AA22 3RF2050-1AA22 3RF2070-1AA22 3RF2090-1AA22		1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41C 41C 41C 41C 41C
3RF2020-1AA02	20 30	4 30 DC	3RF2020-1AA42 3RF2030-1AA42		1	1 unit 1 unit	41C 41C
Zero-point switching rated operational vol	, tage <i>U_e 48 460 V AC</i>						
	20 30 50 70 ²⁾ 90 ²⁾	24 DC	3RF2020-1AA04 3RF2030-1AA04 3RF2050-1AA04 3RF2070-1AA04 3RF2090-1AA04		1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41C 41C 41C 41C 41C
	20 30 50 70 ²⁾ 90 ²⁾	110 230 AC	3RF2020-1AA24 3RF2030-1AA24 3RF2050-1AA24 3RF2070-1AA24 3RF2090-1AA24		1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41C 41C 41C 41C 41C
	50	4 30 DC	3RF2050-1AA44		1	1 unit	41C
Zero-point switching rated operational vol	, tage <i>U_e 48 600</i> V AC						
	20 50 70 ²⁾ 90 ²⁾	4 30 DC	3RF2020-1AA45 3RF2050-1AA45 3RF2070-1AA45 3RF2090-1AA45		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41C 41C 41C 41C
Zero-point switching rated operational vol	· Blocking voltage 1 600 tage <i>U</i> _e 48 600 V AC) V,					
	30 50 70 ²⁾ 90 ²⁾	24 DC	3RF2030-1AA06 3RF2050-1AA06 3RF2070-1AA06 3RF2090-1AA06		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41C 41C 41C 41C
	30 50 70 ²⁾ 90 ²⁾	110 230 AC	3RF2030-1AA26 3RF2050-1AA26 3RF2070-1AA26 3RF2090-1AA26		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41C 41C 41C 41C
Instantaneous switch rated operational vol	ning, tage <i>U_e 48 460 V AC</i>						,
	30	24 DC	3RF2030-1BA04		1	1 unit	41C

¹⁾ The type current provides information about the performance capacity of the solid-state relay. The actual permitted rated operational current $I_{\rm e}$ can be smaller depending on the connection method and cooling conditions.

Please note that this version with an M4 screw connection can only be used for a rated current of up to approx. 50 A and a conductor cross-section of 10 mm².

Solid-state switching devices for resistive/inductive loads SIRIUS 3RF2 solid-state relays and solid-state contactors

Solid-state relays > SIRIUS 3RF20 solid-state relays, 1-phase, 45 mm

		•			• •		
	Type current/ performance capacity ¹⁾	Rated control supply voltage $U_{\rm S}$	Screw terminals + spring-loaded terminals (control current side)	#	PU (UNIT, SET, M)	PS*	PG
	A	V	Article No.	Price per PU			
Zero-point switching rated operational vol	, tage <i>U_e 24 230 V AC</i>						
	50	24 DC	3RF2050-4AA02		1	1 unit	41C
3RF2050-4AA02							

 $^{^{1)}}$ The type current provides information about the performance capacity of the solid-state relay. The actual permitted rated operational current $I_{\rm e}$ can be smaller depending on the connection method and cooling conditions.

Solid-state switching devices for resistive/inductive loads SIRIUS 3RF2 solid-state relays and solid-state contactors

Solid-state relays > SIRIUS 3RF22 solid-state relays, 3-phase, 45 mm

Technical specifications

More information				
System Manual for modular system, see			://support.industry.siemens.cor	n/cs/ww/en/ps/16223/faq
https://support.industry.siemens.com/cs/ww/en/view	v/603113	318		
Type Dimensions (W x H x D)	mm	3RF221 45 x 95 x 47	3RF222 45 x 95 x 47	3RF223 45 x 95 x 47
General data				
Ambient temperature				
During operation, derating from 40 °CDuring storage	°C ℃	-25 +60 -55 +80		
Installation altitude	m	0 1 000; > 1 000 ask Technical	l Support	
Shock resistance acc. to IEC 60068-2-27	<i>g</i> /ms	15/11		
Vibration resistance acc. to IEC 60068-2-6	g	2		
Degree of protection IP on the front according to IEC 60529		IP20		IP00
Touch protection on the front according to IEC 60529		Finger-safe for vertical touching f	from the front	-
Insulation strength at 50/60 Hz (main/control circuit to floor)	V rms	4000		
Electromagnetic compatibility (EMC)				
Emitted interference Conducted interference voltage according to IEC 60947-4-3 Interference immunity		Class A for industrial applications	s ¹⁾	
- Electrostatic discharge according to IEC 61000-4-2 (corresponds to degree of severity 3)	kV	Contact-mode discharge 4; air d	ischarge 8; behavior criterion 2	2
 Induced RF fields according to IEC 61000-4-6 Burst according to IEC 61000-4-4 Surge according to IEC 61000-4-5 	MHz kV kV	0.15 80; 140 dBμV; behavior c 2/5.0 kHz; behavior criterion 2 Conductor - ground 2; conductor		on 2
Mounting	Nm	2 x M4 1.5		
Connection type		Screw terminals	○ Spring-loaded terminals	Ring cable lug connection
Connection, main contacts				
Conductor cross-sections				
SolidFinely stranded with end sleeve	mm ² mm ²	$2 \times (1.5 \dots 2.5)^{2}, 2 \times (2.5 \dots 6)^{2},$ $2 \times (1 \dots 2.5)^{2}, 2 \times (2.5 \dots 6)^{2},$ 1×10	2 x (0.5 2.5) 2 x (0.5 1.5)	I
- Finely stranded without end sleeve	mm^2		2 x (0.5 2.5)	
Solid or stranded, AWG cablesStripped length	AWG mm	2 x (14 10) 10	2 x (18 14)	
Terminal screws		M4		M5
 Tightening torque, Ø 5 6 mm, PZ 2 	Nm lb.in	2 2.5 18 22		2 2.5 18 22
Cable lugs	10.111	10 22		10 22
 According to DIN 46234 According to JIS C 2805 Width, maximum 	mm	 	 	5-2.5 5-25 R 2-5 R 14-5 12
Connection, auxiliary/control contacts	mm			14
Conductor cross-sections, with or without end sleeve Stripped length Terminal screw - Tightening torque,	mm AWG mm	1 x (0.5 2.5), 2 x (0.5 1.0) 20 12 7 M3 0.5 0.6	0.5 2.5 20 12 10 	1 x (0.5 2.5), 2 x (0.5 1.0) 20 12 7 M3 0.5 0.6
Ø 3.5 mm, PZ 1	lb.in	4.5 5.3		4.5 5.3

¹⁾ These products were built as Class A devices. The use of these devices in residential areas could result in radio interference. In this case it may be required to introduce additional interference suppression measures.

²⁾ If two different conductor cross-sections are connected to one clamping point, both cross-sections must lie in one of the ranges specified.

Solid-state switching devices for resistive/inductive loads SIRIUS 3RF2 solid-state relays and solid-state contactors

Solid-state relays > SIRIUS 3RF22 solid-state relays, 3-phase, 45 mm

Туре	$I_{\text{max}}^{1)}$		I _e acco	rding to 147-4-3	I _e acco	rding to UL/CSA	Power loss	Minimum load current	Max. off-state current
	at R _{thha}	/T _u = 40 °C	at R _{thha}	/T _u = 40 °C	at R _{thha}	/T _u = 50 °C	at I _{max}		
	Α	K/W	Α	K/W	Α	K/W	W	A	mA
Main circuit									
3RF2230-1AB 3RF2230-2AB 3RF2230-3AB	30	0.80	30 20 30	0.80 1.36 0.80	30 20 30	0.65 1.15 0.65	81	0.5	10
3RF2255-1AB 3RF2255-2AB 3RF2255-3AB	55	0.25	50 20 55	0.35 1.83 0.25	50 20 55	0.15 1.58 0.15	151	0.5	10
3RF2230-1AC 3RF2230-2AC 3RF2230-3AC	30	0.45	30 20 30	0.45 0.86 0.45	30 20 30	0.35 0.72 0.35	122	0.5	10
3RF2255-1AC 3RF2255-2AC 3RF2255-3AC	55	0.14	50 20 55	0.20 1.19 0.14	50 20 55	0.12 1.02 0.12	226	0.5	10

 $^{^{1)}}$ The current $I_{\rm max}$ provides information about the performance capacity of the solid-state relay. The actual permitted rated operational current $I_{\rm e}$ can be smaller depending on the connection method and cooling conditions.

Note:

The required heat sinks for the corresponding load currents can be determined from the characteristic curves (see page 6/120, "More Information"). The minimum thickness values for the mounting surface must be observed.

Туре	Rated peak withstand current I _{tsm}	<i>I</i> ² t value
	A	A^2s
Main circuit		
3RF22305	300	450
3RF22555	600	1 800

Туре		3RF22AB.5	3RF22AC.5
Main circuit			
Controlled phases		2-phase	3-phase
Rated operational voltage U _e	V AC	48 600	
Operating range	V AC	40 660	
Rated frequency	Hz	50/60 ± 10%	
Rated insulation voltage <i>U</i> _i	V	600	
Rated impulse withstand voltage U _{imp}	kV	6	
Blocking voltage	V	1 200	
Rate of voltage rise	V/µs	1 000	

Туре		3RF22A.3.	3RF22A.4.
Control circuit			
Method of operation		AC operation	DC operation
Rated control supply voltage U _s	V	110	4 30
Rated frequency of the control supply voltage	Hz	50/60 ± 10%	-
Control supply voltage, max.	V	121	30
Typical actuating current	mA	15	30
Response voltage	V	90	4
Drop-out voltage	V	< 40	1
Operating times			
ON-delay	ms	40 + max. one half-wave	1 + max. one half-wave
OFF-delay	ms	40 + max. one half-wave	1 + max. one half-wave

Solid-state switching devices for resistive/inductive loads SIRIUS 3RF2 solid-state relays and solid-state contactors

Solid-state relays > SIRIUS 3RF22 solid-state relays, 3-phase, 45 mm

Selection and ord	lering data						
	Type current/ performance capacity ¹⁾	Rated control supply voltage $U_{\rm S}$	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
	А	V	Article No.	Price per PU			
Zero-point switch rated operational	ing, voltage <i>U_e</i> 48 600 V AC						
4-4-4-1	2-phase controlled						
0.0	30	110 AC	3RF2230-1AB35		1	1 unit	41C
ālā G	55 ²⁾		3RF2255-1AB35		1	1 unit	41C
Alá	30	4 30 DC	3RF2230-1AB45		1	1 unit	41C
SIEMENS SHIS	55 ²⁾		3RF2255-1AB45		1	1 unit	41C
66	3-phase controlled						
	30	110 AC	3RF2230-1AC35		1	1 unit	41C
S 6 6	55 ²⁾		3RF2255-1AC35		1	1 unit	41C
3RF2230-1AB35	30	4 30 DC	3RF2230-1AC45		1	1 unit	41C
	55 ²⁾		3RF2255-1AC45		1	1 unit	41C

The type current provides information about the performance capacity of the solid-state relay. The actual permitted rated operational current I_e can be smaller depending on the connection method and cooling conditions.

2) Please note that the version with an M4 screw connection can only be used for a rated current of up to approx. 50 A and a conductor cross-section of

Please use the 3RF22 solid-state relays with ring cable lug connections for these currents

Accessories, see page 6/127.

Type current/ performance capacity ¹⁾	Rated control supply voltage $U_{\rm S}$	Spring-loaded terminals	<u></u>	PU (UNIT, SET, M)	PS*	PG
A	V	Article No.	Price per PU			

Zero-point switching, rated operational voltage $U_{\rm e}$ 48 ... 600 V AC



2-phase controlled					
30 ²⁾	4 30 DC	3RF2230-2AB45	1	1 unit	41C
55 ²⁾		3RF2255-2AB45	1	1 unit	41C
3-phase controlled					
30 ²⁾	4 30 DC	3RF2230-2AC45	1	1 unit	41C
55 ²⁾		3RF2255-2AC45	1	1 unit	41C

3RF2230-2AB45

- 1) The type current provides information about the performance capacity of the solid-state relay. The actual permitted rated operational current $I_{\rm e}$ can be smaller depending on the connection method and cooling conditions.
- Please note that the version with spring-loaded terminals can only be used for a rated current of up to approx. 20 A and a conductor cross-section of 2.5 mm². Higher currents can be achieved by connecting two conductors per terminal

Accessories, see page 6/127.

	Type current/ performance capacity ¹⁾	Rated control supply voltage $U_{\rm S}$	Ring cable lug	l 🕀	PU (UNIT, SET, M)	PS*	PG
	A	٧	Article No.	Price per PU			
Zero-point switchin rated operational ve	g, oltage <i>U</i> _e 48 600 V AC						
444	2-phase controlled						
	30	4 30 DC	3RF2230-3AB	45	1	1 unit	41C
Alla C	55		3RF2255-3AB	45	1	1 unit	41C
SHEMENS	3-phase controlled						
	30	4 30 DC	3RF2230-3AC4	15	1	1 unit	41C
66	55		3RF2255-3AC4	15	1	1 unit	41C

¹⁾ The type current provides information about the performance capacity of the solid-state relay. The actual permitted rated operational current $l_{\rm e}$ can be smaller depending on the connection method and cooling conditions.

Solid-state switching devices for resistive/inductive loads SIRIUS 3RF2 solid-state relays and solid-state contactors

Solid-state contactors > General data

Overview

Solid-state contactors (with integrated heat sink)

The solid-state contactors are available in two different versions:

- 3RF23 1-phase solid-state contactors: Their compact design with optimized heat sink enables small complete units with currents up to 70 A.
- 3RF24 3-phase solid-state contactors: Their compact design with optimized heat sink enables the provision of small complete units with currents up to 50 A.

The complete units consist of a solid-state relay plus optimized heat sink, and are therefore ready to use. They offer defined rated currents to make selection as easy as possible. Like all of our solid-state switching devices, one of their particular advantages is their compact and space-saving design.

Thanks to optimized power electronics, versions of 3RF2310 to 3RF2330 solid-state contactors can be mounted side-by-side without derating, see product information or product data sheets for the individual products.

Note:

Due to a special mounting foot for versions 3RF2310 to 3RF2330 and 3RF2410, snapping onto grounded DIN rails or mounting on a grounded mounting plate simultaneously provides safe grounding of the heat sink. Additional grounding is no longer necessary in this case.

With other types of mounting, an additional ground connection to the heat sink can be established by means of a screw terminal connection.

3RF23 1-phase solid-state contactors with heat sink

Version for resistive loads "zero-point switching"

This standard version is often used for switching heaters on and off.

Version for inductive loads "instantaneous switching"

In this version, the solid-state contactor is specifically matched to inductive loads. Whether it is a matter of frequent actuation of the valves in a filling plant or starting and stopping small operating mechanisms in packet distribution systems, operation is carried out safely and noiselessly.

Special "low noise" version

Thanks to a special control circuit, this special version can be used in public networks up to 16 A without any additional measures such as interference suppressor filters. As a result, in terms of emitted interference, it conforms to limit value curve class B according to IEC 60947-4-3.

Special "short-circuit-proof" version

Skillful matching of the power semiconductor with the performance capacity of the solid-state contactor means that "short-circuit strength" can be achieved with a standard miniature circuit breaker. In combination with a B MCB or a conventional line protection fuse, the result is a short-circuit-proof feeder.

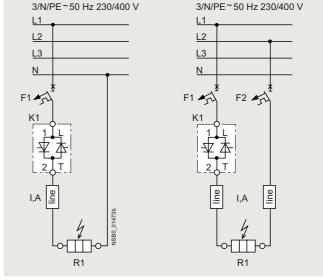
In order to achieve problem-free short-circuit protection by means of miniature circuit breakers, however, certain constraints must be observed. As the magnitude and duration of the short-circuit current are determined not only by the short-circuit breaking response of the miniature circuit breaker but also the properties of the wiring system, such as the internal resistance of the input to the network and damping by switching devices and cables, particular attention must also be paid to these parameters. The necessary cable lengths are therefore shown for the main factor, the line resistance, in the following table.

In systems that have high voltage peaks or at voltages of $575\,\mathrm{V}$ and higher, use of versions with a blocking voltage of 1 600 V is recommended.

The following miniature circuit breakers with a B characteristic and 10 kA or 6 kA breaking capacity protect the 3RF23..-.DA.. solid-state contactors in the event of short circuits on the load and the specified cable cross-sections and lengths:

Rated current of the miniature circuit breaker	Example of type ¹⁾	Max. conductor cross- section	Minimum cable length from contactor to load
6 A	5SY4106-6	1 mm ²	5 m
10 A	5SY4110-6	1.5 mm ²	8 m
16 A	5SY4116-6	1.5 mm ²	12 m
		2.5 mm ²	20 m
20 A	5SY4120-6	2.5 mm ²	20 m
25 A	5SY4125-6	2.5 mm ²	26 m

1) The miniature circuit breakers can be used up to a maximum rated voltage of 480 V!



Solid-state contactor protection

The setup and installation above can also be used for the solid-state relays with an I^2t value of at least 6 600 A^2s .

Function modules

The 3RF23 solid-state contactors can be expanded with various function modules for individual adaptation to applications, see page 6/150 onwards.

3RF24 3-phase solid-state contactors with heat sink

The 3-phase solid-state contactors for resistive loads up to 50 A are available with

- 2-phase control (suitable in particular for circuits without connection to the neutral conductor) and
- 3-phase control (suitable for star circuits with connection to the neutral conductor or for applications in which the system requires all phases to be switched)

The converter function module can be snapped onto both versions for the simple power control of loads in a three-phase network by means of analog signals.

Note:

Checking the correct solid-state contactor size with the aid of the rated current diagram, taking account of the installation conditions, is recommended.

Solid-state switching devices for resistive/inductive loads SIRIUS 3RF2 solid-state relays and solid-state contactors

Solid-state contactors > SIRIUS 3RF23 solid-state contactors, 1-phase

Technical specifications

More information	
System Manual for modular system, see https://support.industry.siemens.com/cs/ww/en/view/60311318	FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/16223/faq

Type		3RF23A	3RF23B	3RF23C	3RF23D		
Dimensions (W x H x D)		See page 6/137					
General data							
Ambient temperature							
 During operation, derating from 40 °C 	°C	-25 +60					
During storage	°C	-55 +80					
Installation altitude	m	0 1 000; derating	from 1 000				
Shock resistance acc. to IEC 60068-2-27	<i>g</i> /ms	15/11					
Vibration resistance acc. to IEC 60068-2-6	g	2					
Degree of protection IP on the front according to IEC 60529							
Screw terminals and spring-loaded terminals		IP20					
Ring cable lug connection		IP00 (IP20 when us	ing the 3RF2900-3PA88	3 terminal cover)			
Touch protection on the front according to IEC 60529							
Screw terminals and spring-loaded terminals		Finger-safe for verti	cal touching from the fr	ront			
Ring cable lug connection		Finger-safe for verti	Finger-safe for vertical touching from the front when using the 3RF2900-3PA88 terminal cover				
Electromagnetic compatibility (EMC)							
Emitted interference according to IEC 60947-4-3 Conducted interference voltage		Class A for industria	al applications	Class A for industrial applications; Class B for residential, business and commercial applications up to 16 A, AC-51 low noise	Class A for industrial applications		
- Emitted, high-frequency interference voltage		Class B for resident	tial, business and comm	mercial applications			
Interference immunity Electrostatic discharge according to IEC 61000-4-2 (corresponds to degree of severity 3) Induced RF fields according to IEC 61000-4-6	kV MHz		harge 4; air discharge 8	8; behavior criterion 2			
- Burst according to IEC 61000-4-4 - Surge according to IEC 61000-4-5	kV kV	2/5.0 kHz; behavior	criterion 2	ctor 1; behavior criterion 2			

Туре		3RF231	3RF232	3RF233
General data				
Connection type		Screw terminals	Spring-loaded terminals	Ring cable lug connection
Connection, main contacts				
Conductor cross-section Solid Finely stranded with end sleeve	mm ² mm ²	2 x (1.5 2.5) ¹⁾ , 2 x (2.5 6) ¹⁾ , 2 x (1 2.5) ¹⁾ , 2 x (2.5 6) ¹⁾ , 1 x 10	2 x (0.5 2.5) 2 x (0.5 1.5)	
Finely stranded without end sleeveSolid or stranded, AWG cables	mm ² AWG	 2 x (14 10)	2 x (0.5 2.5) 2 x (18 14)	
Terminal screws		M4		M5
Tightening torque	Nm lb.in	2 2.5 7 10.3	 	2 2.5 7 10.3
 Cable lugs According to DIN 46234 According to JIS C 2805 Width, maximum 	mm	- - -	 	5-2.5, 5-6, 5-10, 5-16, 5-25 R 2-5, R 5.5-5, R 8-5, R 14-5 12
Connection, auxiliary/control contacts				
Conductor cross-section	mm AWG	1 x (0.5 2.5), 2 x (0.5 1.0) 20 12	0.5 2.5 20 12	1 x (0.5 2.5), 2 x (0.5 1.0) 20 12
Stripped length	mm	7	10	7
Terminal screw		M3		M3
Tightening torque	Nm lb.in	0.5 0.6 4.5 5.3	 	0.5 0.6 4.5 5.3

¹⁾ If two different conductor cross-sections are connected to one clamping point, both cross-sections must lie in one of the ranges specified.

Solid-state switching devices for resistive/inductive loads SIRIUS 3RF2 solid-state relays and solid-state contactors

Solid-state contactors > SIRIUS 3RF23 solid-state contactors, 1-phase

Туре	3RF231	3RF232	3RF233
General data			
Connection type	Screw terminals	Spring-loaded terminals	Ring cable lug connection
Grounding studs	Optional, see also note on page 6/135 a 3RF2310 to 3RF2330	bout the special mounting foot for safe	grounding on DIN rails for versions
Size (standard screw)	M5		
Permissible mounting position	±10° ±10° NSB0_01701		

Туре		3RF232	3RF234	3RF235	3RF236
Main circuit					
Rated operational voltage U _e	V AC	24 230	48 460	48 600	
Operating range	V AC	20 253	40 506	40 660	
 Rated frequency 	Hz	50/60 ± 10%			
Rated insulation voltage U _i	V	600			
Blocking voltage	V	800	1 200		1 600
Rate of voltage rise	V/µs	1 000			

Type :		3RF230.	3RF23	1.	3RF232.	3RF234.
Control circuit						
Method of operation		DC operation	AC/DC ope	eration	AC operation	DC operation
Rated control supply voltage U _s	V	24 DC	24 AC	24 DC	110 230 AC	4 30 DC
Rated frequency of the control supply voltage	Hz		50/60 ± 10%		50/60 ± 10%	
Actuating voltage, max.	V	30	26.5 AC	30 DC	253	30
Typical actuating current	mA	15/low power: 9 ¹⁾	20	20	15	20
Response voltage	V	15	14 AC	15 DC	90	4
Drop-out voltage	V	5	5 AC	5 DC	40	1
Operating times						
ON-delay	ms	1 + max. one half-wave ²⁾	10 + max. half-wave ²		40 + max. one half-wave ²⁾	1 + max. one half-wave ²⁾
OFF-delay	ms	1 + max. one half-wave	15 + max. half-wave	one	40 + max. one half-wave	1 + max. one half-wave

 $^{^{1)}\,}$ Applies to the "low power" version 3RF23..-.AA..-0KN0.

²⁾ Only for zero-point switching devices.

Туре	Type current/performance capacity $^{1)}$ $I_{\text{AC-51}}$	Dimensions (W x H x D) incl. heat sink

	A	mm
Main circuit		
3RF2310AA	10.5	22.5 x 95 x 84
3RF2320AA 3RF2320CA 3RF2320DA	20	22.5 x 95 x 116
3RF2330AA 3RF2330CA	30	45 x 95 x 131.5
3RF2330DA		22.5 x 95 x 116
3RF2340AA 3RF2340DA	40	67 x 100 x 136
3RF2350AA	50	67 x 100 x 136
3RF2370AA	70	80 x 100 x 157

 $^{^{1)}}$ The type current provides information about the performance capacity of the solid-state contactor. The actual permitted rated operational current $I_{\rm e}$ can be smaller depending on the installation conditions.

Solid-state switching devices for resistive/inductive loads SIRIUS 3RF2 solid-state relays and solid-state contactors

Solid-state contactors > SIRIUS 3RF23 solid-state contactors, 1-phase

Туре	Type current AC-51/performance capacity ¹⁾			Power loss			Rated peak	<i>I</i> ² <i>t</i> value
	at I _{max}	according to IEC 60947-4-3	according to UL/CSA	at I _{max}	current	current	withstand current I_{tsm}	
	at 40 °C	at 40 °C	at 50 °C					
	А	Α	Α	W	Α	mA	Α	A ² s
Main circuit								
3RF2310AA.2 3RF2310AA.4 3RF2310AA.5	10.5	7.5	9.6	11	0.1	10	200	200
3RF2310AA.6							400	800
3RF2320AA.2 3RF2320AA.4 3RF2320AA.5 3RF2320AA.6	20	13.2	17.6	20	0.5	10	600	1 800
3RF2320CA.2 3RF2320CA.4						25	600	1 800
3RF2320DA.2 3RF2320DA.4						10	1 150	6 600
3RF2330AA.2 3RF2330AA.4 3RF2330AA.5 3RF2330AA.6	30	22	27	33	0.5	10	600	1 800
3RF2330CA.2						25	600	1 800
3RF2330DA.4		18.5	26	33	0.5	10	1 150	6 600
3RF2340AA.2 3RF2340AA.4 3RF2340AA.5	40	33	36	44	0.5	10	1 200	7 200
3RF2340AA.6							1 150	6 600
3RF2340DA.4		33	30	44	0.5	10	1 150	6 600
3RF2350AA.2 3RF2350AA.4 3RF2350AA.5 3RF2350AA.6	50	36	45	54	0.5	10	1 150	6 600
3RF2370AA.2 3RF2370AA.4 3RF2370AA.5 3RF2370AA.6	70	70	62	83	0.5	10	1 150	6 600

 $^{^{1)}}$ The type current provides information about the performance capacity of the solid-state contactor. The actual permitted rated operational current $I_{\rm e}$ can be smaller depending on the installation conditions.

Туре	performance capacity ¹⁾		perform	Type current AC-15/ performance capacity ¹⁾		Minimum load current	Off-state current	Rated peak withstand current	<i>I</i> ² <i>t</i> value	
	at I_{max} at 40 °C	according to IEC 60947-4-3 at 40 °C	according to UL/CSA at 50 °C	10 x I _e for 60 ms	Parameters				I_{tsm}	
	Α	A	Α	Α		W	A	mA	A	A ² s
Main circuit										
3RF2310BA.2 3RF2310BA.4	10.5	7.5	9.6	6	1 200 1/h 50% ON	11	0.1	10	200	200
3RF2310BA.6					period				400	800
3RF2320BA.2 3RF2320BA.4 3RF2320BA.6	20	13.2	17.6	12	1 200 1/h 50% ON period	20	0.5	10	600	1 800
3RF2330BA.2 3RF2330BA.4 3RF2330BA.6	30	22	27	15	1 200 1/h 50% ON period	33	0.5	10	600	1 800
3RF2340BA.2 3RF2340BA.4	40	33	36	20	1 200 1/h 50% ON	44	0.5	10	1 200	7 200
3RF2340BA.6					period				1 150	6 600
3RF2350BA.2 3RF2350BA.4 3RF2350BA.6	50	36	45	25	1 200 1/h 50% ON period	54	0.5	10	1 150	6 600
3RF2370BA.2 3RF2370BA.4 3RF2370BA.6	70	70	62	27.5	1 200 1/h 50% ON period	83	0.5	10	1 150	6 600

 $^{^{1)}}$ The type current provides information about the performance capacity of the solid-state contactor. The actual permitted rated operational current $I_{\rm e}$ can be smaller depending on the installation conditions.

Solid-state switching devices for resistive/inductive loads SIRIUS 3RF2 solid-state relays and solid-state contactors

Solid-state contactors > SIRIUS 3RF23 solid-state contactors, 1-phase

Selection and ordering data

Selection notes

The solid-state contactors are selected on the basis of details of the network, the load and the ambient conditions. As the solid-state contactors are already equipped with an optimally matched heat sink, the selection process is considerably simpler than that for solid-state relays.

The following procedure is recommended:

- Determine the rated current of the load and the mains voltage
- Select a solid-state contactor with the same or higher rated current than the load

Simpler than that for		·						
	Type current/ performance capacity ¹⁾ I_{max}	Rated control supply voltage $U_{\rm S}$	Grounding	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
	Α	V		Article No.	Price per PU			
Zero-point switching rated operational vo	g ⋅ Integrated hea oltage <i>U_e</i> 24 230	t sink,) V AC						
	10.5 20 30 40 50	24 DC	✓ ✓ ✓ 	3RF2310-1AA02 3RF2320-1AA02 3RF2330-1AA02 3RF2340-1AA02 3RF2350-1AA02		1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41C 41C 41C 41C 41C
	20	24 DC low power	✓	3RF2320-1AA02-0KN0		1	1 unit	41C
3RF2310-1	10.5 10.5 20 30 40 50	24 AC/DC 110 230 AC	✓ ✓ ✓ ✓	3RF2310-1AA12 3RF2310-1AA22 3RF2320-1AA22 3RF2330-1AA22 3RF2340-1AA22 3RF2350-1AA22		1 1 1 1 1	1 unit	41C 41C 41C 41C 41C 41C
Zero-point switching rated operational vo	g · Integrated hea			JHF2330-TAA22		·	T UTIL	410
	10.5 20 30 40 50	24 DC	✓ ✓ ✓ 	3RF2310-1AA04 3RF2320-1AA04 3RF2330-1AA04 3RF2340-1AA04 3RF2350-1AA04		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41C 41C 41C 41C 41C
<u>. © .</u>	10.5	24 DC low power	✓	3RF2310-1AA04-0KN0		1	1 unit	41C
3RF2320-1	10.5 20 30 40 50	24 AC/DC	✓ ✓ ✓ 	3RF2310-1AA14 3RF2320-1AA14 3RF2330-1AA14 3RF2340-1AA14 3RF2350-1AA14		1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41C 41C 41C 41C 41C
	10.5 20 30 40 50	110 230 AC	✓ ✓ ✓	3RF2310-1AA24 3RF2320-1AA24 3RF2330-1AA24 3RF2340-1AA24 3RF2350-1AA24		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41C 41C 41C 41C 41C
	10.5 20 30	4 30 DC	✓ ✓ ✓	3RF2310-1AA44 3RF2320-1AA44 3RF2330-1AA44		1 1 1	1 unit 1 unit 1 unit	41C 41C 41C

- ✓ These versions are equipped with a special mounting foot. Snapping them onto grounded DIN rails or mounting them on a grounded mounting plate simultaneously provides safe grounding of the heat sink. Additional grounding is no longer necessary in this case.
- -- With these versions, the ground connection to the heat sink can be established by means of a screw terminal connection.
- 1) The type current provides information about the performance capacity of the solid-state contactor. The actual permitted rated operational current I_e can be smaller depending on the installation conditions. For derating characteristic curves, see page 6/120, "More information".

Other rated control supply voltages on request.

Solid-state switching devices for resistive/inductive loads SIRIUS 3RF2 solid-state relays and solid-state contactors

Solid-state contactors > SIRIUS 3RF23 solid-state contactors, 1-phase

	Type current/ performance	Rated control supply voltage U_s	Grounding	Screw terminals	+	PU (UNIT,	PS*	PG
	capacity ¹⁾	. Shago og				SET, M)		
	I_{max}			Article No.	Price			
	Α	V		Article No.	per PU			
Zero-point switching	· Integrated heat	sink,						
rated operational vo						ı .		
	20	110 DC	✓ ✓	3RF2320-1AA65		1	1 unit	41C
	30 10.5	110 230 AC 4 30 DC	<u>√</u>	3RF2330-1AA25 3RF2310-1AA45		1	1 unit 1 unit	41C 41C
	20	4 50 DO	✓	3RF2320-1AA45		1	1 unit	41C
	30 40		√ 	3RF2330-1AA45 3RF2340-1AA45		1 1	1 unit 1 unit	41C 41C
	50			3RF2350-1AA45		i	1 unit	41C
Zero-point switching	· Integrated heat	sink,						
blocking voltage 1 6 rated operational vo	uu v, Itage <i>U</i> ₂ 48 600 ՝	V AC						
L. Control of	10.5	24 DC	✓	3RF2310-1AA06		1	1 unit	41C
	20 30		✓	3RF2320-1AA06 3RF2330-1AA06		1 1	1 unit 1 unit	41C 41C
/	40			3RF2340-1AA06		1	1 unit	41C
· o.	50			3RF2350-1AA06		1	1 unit	41C
	10.5 20	110 230 AC	✓	3RF2310-1AA26 3RF2320-1AA26		1 1	1 unit 1 unit	41C 41C
	30		✓	3RF2330-1AA26		1	1 unit	41C
0DE0000 4	40 50			3RF2340-1AA26 3RF2350-1AA26		1 1	1 unit 1 unit	41C 41C
3RF2330-1 Low noise ²⁾ ,								
zero-point switching	· Integrated heat	sink,						
rated operational vo	ltage <i>Ū</i> _e 24 230 ՝					ı		
	20 30	24 DC	✓	3RF2320-1CA02 3RF2330-1CA02		1 1	1 unit 1 unit	41C 41C
	20	110 230 AC	√ ·	3RF2320-1CA22		1	1 unit	41C
.8.								
3RF2320-1								
Low noise ²⁾ , zero-point switching	Integrated heat	sink						
rated operational vo	Itage <i>U_e</i> 48 460 '	V AC						
	20	24 DC	✓	3RF2320-1CA04		1	1 unit	41C
	20	110 230 AC	✓	3RF2320-1CA24		1	1 unit	41C
	20	4 30 DC	✓	3RF2320-1CA44		1	1 unit	41C
Short-circuit-proof w Zero-point switching	vith B MCB ·	sink						
rated operational vo	tage <i>U_e 24 2<u>30</u> '</i>	V AC						
	20	24 DC	✓	3RF2320-1DA02		1	1 unit	41C
	20	110 230 AC	✓	3RF2320-1DA22		1	1 unit	41C
Short-circuit-proof w	vith B MCB ·	oink						
Zero-point switching rated operational vol	tage <i>U</i> _e 48 460 '	V AC						
j. a	20	24 DC	✓	3RF2320-1DA04		1	1 unit	41C
	40	24 DC low power		3RF2340-1DA04-0KN0)	1	1 unit	41C
	20	110 230 AC	✓	3RF2320-1DA24		1	1 unit	41C
· o .	20 30	4 30 DC	✓	3RF2320-1DA44 3RF2330-1DA44		1 1	1 unit 1 unit	41C 41C
	30 ³⁾	24 DC	<u>√</u>	3RF2330-1DA44 3RF2330-1DA06		1	1 unit	41C
0	55	2.00	•	3111 2000 1DA00		· '	. ann	110
2DE2220 1								
3RF2330-1								

- $\checkmark\,$ These versions are equipped with a special mounting foot. Snapping them onto grounded DIN rails or mounting them on a grounded mounting plate simultaneously provides safe grounding of the heat sink. Additional grounding is no longer necessary in this case.
- -- With these versions, the ground connection to the heat sink can be established by means of a screw terminal connection.
- 1) The type current provides information about the performance capacity of the solid-state contactor. The actual permitted rated operational current $I_{\rm e}$ can be smaller depending on the installation conditions. For derating characteristic curves, see page 6/120, "More information".
- 2) See page 6/135.
- 3) Blocking voltage 1 600 V, rated operational voltage $U_{\rm e}$ 48 ... 600 V AC.

Other rated control supply voltages on request.

Solid-state switching devices for resistive/inductive loads SIRIUS 3RF2 solid-state relays and solid-state contactors

Solid-state contactors > SIRIUS 3RF23 solid-state contactors, 1-phase

	Type current/ performance capacity ¹⁾ I_{max}		Rated control supply voltage $U_{\rm S}$	Ground- ing	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
	Α	Α	V		Article No.	Price per PU			
Instantaneous switch rated operational vol	ning · Integra tage <i>U_e</i> 24	ted heat sinl 230 V AC	ζ,						
ILI	10.5	6	24 DC	✓	3RF2310-1BA02		1	1 unit	41C
	20 30	12 15		√	3RF2320-1BA02 3RF2330-1BA02		1	1 unit 1 unit	41C 41C
	30 40	20			3RF2330-1BA02 3RF2340-1BA02		1	1 unit 1 unit	41C 41C
.6.	50	25			3RF2350-1BA02		1	1 unit	41C
	50	27.5			3RF2370-1BA02		1	1 unit	41C
	10.5	6	110 230 AC	✓,	3RF2310-1BA22		1	1 unit	41C
ee	20 30	12 15		√	3RF2320-1BA22 3RF2330-1BA22		1 1	1 unit 1 unit	41C 41C
	40	20			3RF2340-1BA22		i	1 unit	41C
3RF2310-1	50	25			3RF2350-1BA22		1	1 unit	41C
	50	27.5			3RF2370-1BA22		1	1 unit	41C
Instantaneous switch rated operational vol	tage <i>U_e 48</i>	460 V AC	ζ,						
	10.5	6	24 DC	✓,	3RF2310-1BA04		1	1 unit	41C
<i>-</i>	20 30	12 15		√	3RF2320-1BA04 3RF2330-1BA04		1	1 unit 1 unit	41C 41C
	40	20			3RF2340-1BA04		i	1 unit	41C
	50	25			3RF2350-1BA04		1	1 unit	41C
.0.	50	27.5			3RF2370-1BA04		1	1 unit	41C
	10.5 20	6 12	110 230 AC	√	3RF2310-1BA24 3RF2320-1BA24		1 1	1 unit 1 unit	41C 41C
9.9	30	15		v	3RF2320-1BA24 3RF2330-1BA24		1	1 unit	41C
2	40	20			3RF2340-1BA24		1	1 unit	41C
3RF2320-1	50	25			3RF2350-1BA24		1	1 unit	41C
	50	27.5			3RF2370-1BA24		1	1 unit	41C
	20 30	12 15	4 30 DC	√	3RF2320-1BA44 3RF2330-1BA44		1 1	1 unit 1 unit	41C 41C
	50	25			3RF2350-1BA44		i	1 unit	41C
Instantaneous switch blocking voltage 1 60	00 V,		ζ,						
rated operational vol									
	10.5	6	24 DC	√	3RF2310-1BA06		1	1 unit	41C
	20 30	12 15		*	3RF2320-1BA06 3RF2330-1BA06		1	1 unit 1 unit	41C 41C
	40	20			3RF2340-1BA06		1	1 unit	41C
	50	25			3RF2350-1BA06		1	1 unit	41C
.0.	50	27.5	110 000 10		3RF2370-1BA06		11	1 unit	41C
	10.5 20	6 12	110 230 AC	√	3RF2310-1BA26 3RF2320-1BA26		1 1	1 unit 1 unit	41C 41C
40	30	15		~	3RF2330-1BA26		i	1 unit	41C
3 6	40	20			3RF2340-1BA26		1	1 unit	41C
3RF2330-1	50 50	25 27.5			3RF2350-1BA26 3RF2370-1BA26		1	1 unit 1 unit	41C 41C
	50	21.0		-	0111 2010-1BA20		1	i uiiit	410

- ✓ These versions are equipped with a special mounting foot. Snapping them onto grounded DIN rails or mounting them on a grounded mounting plate simultaneously provides safe grounding of the heat sink. Additional grounding is no longer necessary in this case.
- -- With these versions, the ground connection to the heat sink can be established by means of a screw terminal connection.

- 1) The type current provides information about the performance capacity of the solid-state contactor. The actual permitted rated operational current $I_{\rm e}$ can be smaller depending on the installation conditions. For derating characteristic curves, see page 6/120, "More information".
- 2) Utilization category AC-15: Electromagnetic loads, e.g. valves according to IEC 60947-5-1. Parameters: max. 1 200 1/h, 50% ON period, 10-times inrush current

Other rated control supply voltages on request.

Accessories, see page 6/145.

Solid-state switching devices for resistive/inductive loads SIRIUS 3RF2 solid-state relays and solid-state contactors

Solid-state contactors > SIRIUS 3RF23 solid-state contactors, 1-phase

	Type current/ performance capacity ¹⁾ I_{max}	Rated control supply voltage $U_{\rm S}$	Grounding	Spring-loaded terminals		PU (UNIT, SET, M)	PS*	PG
	A	V		Article No.	Price per PU			
Zero-point switchin rated operational ve	ıg ⋅ Integrated hea oltage <i>U</i> _o 24 23	nt sink, 0 V AC						,
	10.5 20	24 DC	√	3RF2310-2AA02 3RF2320-2AA02		1 1	1 unit 1 unit	41C 41C
iso.	10.5	110 230 AC	*	3RF2310-2AA22 3RF2320-2AA22		1 1	1 unit 1 unit	41C 41C
3RF2320-2 Zero-point switchin								
rated operational ve	oltage <i>U_e 48 46</i> 10.5 20	0 V AC 24 DC	✓	3RF2310-2AA04 3RF2320-2AA04		1 1	1 unit 1 unit	41C 41C
	10.5 20	110 230 AC	√ ✓	3RF2310-2AA24 3RF2320-2AA24		1	1 unit 1 unit	41C 41C
Zero-point switchin blocking voltage 1 rated operational vo	600 V,							
rated operational W	10.5 20	24 DC	✓ ✓	3RF2310-2AA06 3RF2320-2AA06		1 1	1 unit 1 unit	41C 41C
	10.5 20	110 230 AC	√ √	3RF2310-2AA26 3RF2320-2AA26		1 1	1 unit 1 unit	41C 41C 41C
Low noise ²⁾ , zero-point switchin rated operational ve	g · Integrated hea	t sink, 0 V AC				-		
	20	24 DC	✓	3RF2320-2CA02		1	1 unit	41C
Low noise ²⁾ .	20	110 230 AC	✓	3RF2320-2CA22		1	1 unit	41C
zero-point switchin rated operational ve	g · Integrated hea oltage <i>U</i> _e 48 46	t sink, 0 V AC						
	20	24 DC	✓	3RF2320-2CA04		1	1 unit	41C
Short-circuit-proof	with B MCB.	110 230 AC	√	3RF2320-2CA24		1	1 unit	41C
zero-point switchin rated operational ve	q · Integrated hea	t sink, 0 V AC						
	20	110 230 AC	✓	3RF2320-2DA22		1	1 unit	41C
Short-circuit-proof zero-point switchin rated operational ve	g · Integrated hea	t sink, 0 V AC						
	20 30	24 DC	√ √	3RF2320-2DA04 3RF2330-2DA64		1	1 unit	41C 41C
	20	110 230 AC	√	3RF2330-2DA64 3RF2320-2DA24		1	1 unit 1 unit	41C 41C
(T)						·		

[✓] These versions are equipped with a special mounting foot. Snapping them onto grounded DIN rails or mounting them on a grounded mounting plate simultaneously provides safe grounding of the heat sink. Additional grounding is no longer necessary in this case.

Other rated control supply voltages on request.

¹⁾ The type current provides information about the performance capacity of the solid-state contactor. The actual permitted rated operational current I_e can be smaller depending on the installation conditions. For derating characteristic curves, see page 6/120, "More information".

²⁾ See page 6/135.

Solid-state switching devices for resistive/inductive loads SIRIUS 3RF2 solid-state relays and solid-state contactors

Solid-state contactors > SIRIUS 3RF23 solid-state contactors, 1-phase

	Type current/ performance capacity ¹⁾ I _{max}	Rated control supply voltage $U_{\rm S}$	Grounding	Ring cable lug connection	(1)	PU (UNIT, SET, M)	PS*	PG
	A	٧		Article No.	Price per PU			
Zero-point switching rated operational vol	· Integrated heat tage <i>U</i> _e 24 230	sink, V AC						
o.	10.5 20 30 40 50 70	24 DC	✓ ✓ ✓ 	3RF2310-3AA02 3RF2320-3AA02 3RF2330-3AA02 3RF2340-3AA02 3RF2350-3AA02 3RF2370-3AA02		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41C 41C 41C 41C 41C 41C
3RF2310-3	10.5 20 30 40 50 70	110 230 AC	✓ ✓ ✓ 	3RF2310-3AA22 3RF2320-3AA22 3RF2330-3AA22 3RF2340-3AA22 3RF2350-3AA22 3RF2370-3AA22		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41C 41C 41C 41C 41C 41C 41C
Zero-point switching rated operational vol	· Integrated heat tage $U_{\rm e}$ 48 460	sink, V AC						
	10.5 20 30 40 50 70	24 DC	✓ ✓ ✓ 	3RF2310-3AA04 3RF2320-3AA04 3RF2330-3AA04 3RF2340-3AA04 3RF2350-3AA04 3RF2370-3AA04		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41C 41C 41C 41C 41C 41C
3RF2330-3	10.5 20 30 40 50 70	110 230 AC	✓ ✓ ✓ 	3RF2310-3AA24 3RF2320-3AA24 3RF2330-3AA24 3RF2340-3AA24 3RF2350-3AA24 3RF2370-3AA24		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41C 41C 41C 41C 41C 41C 41C
	20 30 50	4 30 DC	✓ ✓ 	3RF2320-3AA44 3RF2330-3AA44 3RF2350-3AA44		1 1 1	1 unit 1 unit 1 unit	41C 41C 41C
Zero-point switching rated operational vol	· Integrated heat tage $U_{\rm e}$ 48 600	sink, V AC						
	40 70	4 30 DC		3RF2340-3AA45 3RF2370-3AA45		1 1	1 unit 1 unit	41C 41C
Zero-point switching blocking voltage 1 6 rated operational vol	00 V,							
	10.5 20 30 40 50 70	24 DC	✓ ✓ ✓ 	3RF2310-3AA06 3RF2320-3AA06 3RF2330-3AA06 3RF2340-3AA06 3RF2350-3AA06 3RF2370-3AA06		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41C 41C 41C 41C 41C 41C
	10.5 20 30 40 50 70	110 230 AC	✓ ✓ ✓ 	3RF2310-3AA26 3RF2320-3AA26 3RF2330-3AA26 3RF2340-3AA26 3RF2350-3AA26 3RF2370-3AA26		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41C 41C 41C 41C 41C 41C 41C

[✓] These versions are equipped with a special mounting foot. Snapping them
onto grounded DIN rails or mounting them on a grounded mounting plate
simultaneously provides safe grounding of the heat sink. Additional
grounding is no longer necessary in this case.

Other rated control supply voltages on request.

⁻⁻ With these versions, the ground connection to the heat sink can be established by means of a screw terminal connection.

¹⁾ The type current provides information about the performance capacity of the solid-state contactor. The actual permitted rated operational current $I_{\rm e}$ can be smaller depending on the installation conditions. For derating characteristic curves, see page 6/120, "More information".

Solid-state switching devices for resistive/inductive loads SIRIUS 3RF2 solid-state relays and solid-state contactors

Solid-state contactors > SIRIUS 3RF23 solid-state contactors, 1-phase

	Type current/ performance capacity 1) I _{max}	Operational current $I_{\rm e}/{\rm AC}$ -15 ²⁾	Rated control supply voltage $U_{\rm S}$	Ground- ing	Ring cable lug connection	(1)	PU (UNIT, SET, M)	PS*	PG
	Α	А	V		Article No.	Price per PU			
Instantaneous switch rated operational volt	ing · Integra age <i>U_e</i> 24	ated heat sin 230 V AC	k,						
	70	27.5	24 DC		3RF2370-3BA02		1	1 unit	41C
	70	27.5	110 230 AC		3RF2370-3BA22		1	1 unit	41C
Instantaneous switch rated operational volt			k,						
	70	27.5	24 DC		3RF2370-3BA04		1	1 unit	41C
	70	27.5	110 230 AC		3RF2370-3BA24		1	1 unit	41C
Instantaneous switch blocking voltage 1 60 rated operational volt	0 V, age <i>U_e</i> 48	600 V AC							
	70	27.5	24 DC		3RF2370-3BA06		1	1 unit	41C
01	70	27.5	110 230 AC		3RF2370-3BA26		1	1 unit	41C
Short-circuit-proof wi zero-point switching rated operational volt	· Integrated								
	20		24 DC	✓	3RF2320-3DA02		1	1 unit	41C
	20		110 230 AC	√	3RF2320-3DA22		1	1 unit	41C
3RF2320-3DA02									
Short-circuit-proof wi zero-point switching rated operational volt	· Integrated								
	20		24 DC	✓	3RF2320-3DA04		1	1 unit	41C
	20		110 230 AC	✓	3RF2320-3DA24		1	1 unit	41C

- ✓ These versions are equipped with a special mounting foot. Snapping them onto grounded DIN rails or mounting them on a grounded mounting plate simultaneously provides safe grounding of the heat sink. Additional grounding is no longer necessary in this case.
- -- With these versions, the ground connection to the heat sink can be established by means of a screw terminal connection.
- 1) The type current provides information about the performance capacity of the solid-state contactor. The actual permitted rated operational current I_e can be smaller depending on the installation conditions. For derating characteristic curves, see page 6/120, "More information".
- ²⁾ Utilization category AC-15: Electromagnetic loads, e.g. valves according to IEC 60947-5-1. Parameters: max. 1 200 1/h, 50% ON period, 10-times inrush current for 60 ms.

Other rated control supply voltages on request.

Solid-state switching devices for resistive/inductive loads SIRIUS 3RF2 solid-state relays and solid-state contactors

Solid-state contactors > SIRIUS 3RF23 solid-state contactors, 1-phase

Accessories						
	Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Terminal covers						
		Ring cable lug connection				
3RF2900-3PA88	Terminal covers For 3RF23 solid-state contactors with ring cable lug connection With this terminal cover, degree of protection IP20 can be achieved on the front with a ring cable lug connection. It can also be used for screw terminals after simple adaptation.	3RF2900-3PA88		1	10 units	41C
Control connectors		Screw terminals	+			
& &	Replacement control connectors For 3RF23 and 3RF24 solid-state contactors With screw terminals	3RF2900-1TA88		1	50 units	41C
3RF2900-1TA88						
		Spring-loaded terminals	8			
3RF2900-2TA88	Replacement control connectors For 3RF23 and 3RF24 solid-state contactors With spring-loaded terminals	3RF2900-2TA88		1	50 units	41C
	Control connectors For 3RF23 and 3RF24 solid-state contactors With spring-loaded terminals With two clamping points per contact	3RF2900-2TB88		1	10 units	41C
3RF2900-2TB88	pring-loaded terminals					
	Screwdriver For all SIRIUS devices With spring-loaded terminals	3RA2908-1A		1	1 unit	41B
3RA2908-1A	Length approx. 200 mm, size 3.0 mm x 0.5 mm, titanium gray/black, partially insulated					
Blank labels						
	Unit labeling plates For SIRIUS devices ¹⁾					
	10 mm × 7 mm, titanium gray	3RT2900-1SB10		100	816 units	41B
	20 mm × 7 mm, titanium gray	3RT2900-1SB20		100	340 units	41B
5 5 6 6 6 7 7 8 8 9 9 9 9 9 9 9 9 9 9	Adhesive labels For SIRIUS devices				-	
3RT2900-1SB20	19 mm × 6 mm, titanium gray	3RT2900-1SB60		100	3060 units	41B

PC labeling system for individual inscription of unit labeling plates available from: murrplastik Systemtechnik GmbH (see page 16/18).

Solid-state switching devices for resistive/inductive loads SIRIUS 3RF2 solid-state relays and solid-state contactors

Solid-state contactors > SIRIUS 3RF24 solid-state contactors, 3-phase

Technical specifications

More information	
System Manual for modular system, see https://support.industry.siemens.com/cs/ww/en/view/60311318	FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/16223/faq

https://support.industry.siemens.com/cs/ww/en/view	/603113	18		
Type		3RF241	3RF242	3RF243
Dimensions (W x H x D)		See page 6/147	VIII 24 2	OIII 24 O
General data		bug page c,		
Ambient temperature				
 During operation, derating from 40 °C During storage 	°C	-25 +60 -55 +80		
Installation altitude	m	0 1 000; derating from 1 000		
Shock resistance acc. to IEC 60068-2-27	g/ms	15/11		
Vibration resistance acc. to IEC 60068-2-6	g	2		
Degree of protection IP on the front according to IEC 60529		IP20		IP00
Touch protection on the front according to IEC 60529		Finger-safe for vertical touching fi	rom the front	
Insulation strength at 50/60 Hz (main/control circuit to floor)	V rms	4000		
Electromagnetic compatibility (EMC)				
Emitted interference according to IEC 60947-4-3 Conducted interference voltage Interference immunity		Class A for industrial applications		
 Electrostatic discharge according to IEC 61000-4-2 (corresponds to degree of severity 3) 	kV	Contact-mode discharge 4; air di	2	
- Induced RF fields according to IEC 61000-4-6 - Burst according to IEC 61000-4-4 - Surge according to IEC 61000-4-5	MHz kV kV	0.15 80; 140 dBµV; behavior criterion 1 2/5.0 kHz; behavior criterion 2 Conductor - ground 2; conductor - conductor 1; behavior criterion 2		
Connection type		Screw terminals	Spring-loadedterminals	Ring cable lug connection
Connection, main contacts				
Conductor cross-section Solid Finely stranded with end sleeve	mm ² mm ²	2 x (1.5 2.5) ²⁾ , 2 x (2.5 6) ²⁾ 2 x (1 2.5) ²⁾ , 2 x (2.5 6) ²⁾ , 1 x 10	2 x (0.5 2.5) 2 x (0.5 1.5)	
Finely stranded without end sleeveSolid or stranded, AWG cables	mm ² AWG	2 x (14 10)	2 x (0.5 2.5) 2 x (18 14)	
Stripped length	mm	10	10	
Terminal screwsTightening torque	Nm lb.in	M4 2 2.5 18 22		M5 2 2.5 18 22
 Cable lugs According to DIN 46234 According to JIS C 2805 Width, maximum 	mm	 	 	5-2.5 5-25 R 2-5 R 14-5 12
Connection, auxiliary/control contacts				
Conductor cross-section	mm AWG	1 x (0.5 2.5), 2 x (0.5 1.0) 20 12	0.5 2.5 20 12	1 x (0.5 2.5), 2 x (0.5 1.0) 20 12
Stripped length	mm	7	10	7
 Terminal screw Tightening torque, Ø 3.5 mm, PZ 1 	Nm lb.in	M3 0.5 0.6 4.5 5.3	 	M3 0.5 0.6 4.5 5.3
Grounding studs		Optional, see also note on page 6/135 abortor version 3RF2410	ut the special mounting foot f	or safe grounding on DIN rails
Size (standard screw)		M5		
Permissible mounting position		±10°		

These products were built as Class A devices. The use of these devices in residential areas could result in radio interference. In this case it may be required to introduce additional interference suppression measures. The versions 3RF24..-1AC55 comply with Class B for residential, business and commercial applications.

²⁾ If two different conductor cross-sections are connected to one clamping point, both cross-sections must lie in one of the ranges specified.

Solid-state switching devices for resistive/inductive loads SIRIUS 3RF2 solid-state relays and solid-state contactors

Solid-state contactors > SIRIUS 3RF24 solid-state contactors, 3-phase

Туре	Type current/ performance capacity ¹⁾			Power loss at I _{AC-51}	Minimum load current	Max. off-state current	Rated peak withstand current Itsm	<i>I</i> ² <i>t</i> value
	I _{AC-51} at 40 °C	according to IEC 60947-4-3 at 40 °C	according to UL/CSA at 50 °C					
	A	Α	A	W	A	mA	A	A ² s
Main circuit								
3RF2410AB.5 3RF2420AB.5 3RF2430AB.5 3RF2440AB.5 3RF2450AB.5	10.5 22 30 40 50	7 15 22 30 38	7 15 22 30 38	23 44 61 80 107	0.1 0.5 0.5 0.5 0.5	10 10 10 10 10	200 600 1 200 1 150 1 150	200 1 800 7 200 6 600 6 600
3RF2410AC.5 3RF2420AC.5 3RF2430AC.5 3RF2440AC.5 3RF2450AC.5	10.5 22 30 40 50	7 15 22 30 38	7 15 22 30 38	31 66 91 121 160	0.5 0.5 0.5 0.5	10 10 10 10 10	300 600 1 200 1 150 1 150	450 1 800 7 200 6 600 6 600

 $^{^{1)}}$ The type current provides information about the performance capacity of the solid-state contactor. The actual permitted rated operational current $I_{\rm e}$ can be smaller depending on the connection method and installation conditions

Туре	Type current I _{AC-51}	Dimensions (W x H x D) (including heat sink)	Туре	Type current I _{AC-51}	Dimensions (W x H x D) (including heat sink)
		T W			T W O
	А	mm		А	mm

Main circuit	Main circuit							
3RF2410AB	10.5	45 x 95 x 92.5						
3RF2410AC								
3RF2420AB	22	45 x 100 x 112						
3RF2420AC	22	74.5 x 100 x 114.5						
3RF2430AB	30							

	, · ·	111111
Main circuit		
3RF2430AC	30	89.5 x 100 x 123
3RF2440AB	40	
3RF2440AC	40	120 x 95 x 130
3RF2450AB	50	
3RF2450AC	50	120 x 150 x 130

Туре		3RF24AB.5	3RF24AC.5	
Main circuit				
Controlled phases		2-phase	3-phase	
Rated operational voltage U _e	V AC	48 600		
Operating range	V AC	40 660		
Rated frequency	Hz	50/60 ± 10%		
Rated insulation voltage U _i	V	600		
Rated impulse withstand voltage U _{imp}	kV	6		
Blocking voltage	V	1 200		
Rate of voltage rise	V/µs	1 000		

	3RF243.	00504 4	
	···· - ··· ······	3RF244.	3RF245.
	AC operation	DC operation	AC operation
V	110	4 30	190 230
Hz	50/60 ± 10%		50/60 ± 10%
V	121	30	253
mA	15	30	15
V	90	4	180
V	< 40	< 1	< 40
ms	40 + max. one half-wave	1 + max. one half-wave	40 + max. one half-wave
ms	40 + max. one half-wave	1 + max. one half-wave	40 + max. one half-wave
	V mA V V ms	V 110 Hz 50/60 ± 10% V 121 mA 15 V 90 V < 40 ms 40 + max. one half-wave	V 110 4 30 Hz 50/60 ± 10% V 121 30 mA 15 30 V 90 4 V < 40

Solid-state switching devices for resistive/inductive loads SIRIUS 3RF2 solid-state relays and solid-state contactors

Solid-state contactors > SIRIUS 3RF24 solid-state contactors, 3-phase

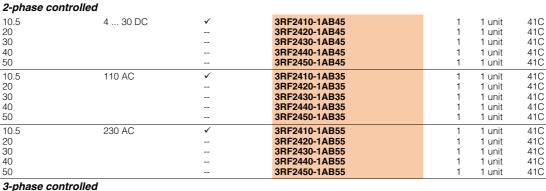
Selection and ordering data

Type current/ performance capacity ¹⁾ I _{max}	Rated control supply voltage $U_{\rm S}$	Grounding	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
A	V		Article No.	Price per PU			

Zero-point switching \cdot Integrated heat sink, rated operational voltage \textit{U}_{e} 48 ... 600 V AC



3RF2410-1AB45





3RF2410-1AC45

10.0	200710	•	OIII 2410 TABOO		i dilit	710
20			3RF2420-1AB55	1	1 unit	41C
30			3RF2430-1AB55	1	1 unit	41C
40			3RF2440-1AB55	1	1 unit	41C
50			3RF2450-1AB55	1	1 unit	41C
3-phase conti	rolled					
10.5	4 30 DC	✓	3RF2410-1AC45	1	1 unit	41C
20			3RF2420-1AC45	1	1 unit	41C
30			3RF2430-1AC45	1	1 unit	41C
40			3RF2440-1AC45	1	1 unit	41C
50			3RF2450-1AC45	i	1 unit	41C
10.5	110 AC	✓	3RF2410-1AC35	1	1 unit	41C
20			3RF2420-1AC35	1	1 unit	41C
30			3RF2430-1AC35	1	1 unit	41C
40			3RF2440-1AC35	1	1 unit	41C
50			3RF2450-1AC35	1	1 unit	41C
10.5	230 AC	✓	3RF2410-1AC55	1	1 unit	41C
20			3RF2420-1AC55	1	1 unit	41C
30			3RF2430-1AC55	1	1 unit	41C
40			3RF2440-1AC55	1	1 unit	41C
50			3RF2450-1AC55	1	1 unit	41C

- ✓ These versions are equipped with a special mounting foot. Snapping them onto grounded DIN rails or mounting them on a grounded mounting plate simultaneously provides safe grounding of the heat sink. Additional grounding is no longer necessary in this case.
- -- With these versions, the ground connection to the heat sink can be established by means of a screw terminal connection.
- ¹⁾ The type current provides information about the performance capacity of the solid-state contactor. The actual permitted rated operational current $I_{\rm e}$ can be smaller depending on the connection method and installation conditions

For derating characteristic curves, see page 6/120, "More information".

Solid-state switching devices for resistive/inductive loads SIRIUS 3RF2 solid-state relays and solid-state contactors

Solid-state contactors > SIRIUS 3RF24 solid-state contactors, 3-phase

	Type current/ performance capacity ¹⁾ I_{max}	Rated control supply voltage $U_{\rm S}$	Grounding	Spring-loaded terminals		PU (UNIT, SET, M)	PS*	PG
	А	V		Article No.	Price per PU			
Zero-point switchin rated operational ve								
	2-phase controll	ed						
	10 20	4 30 DC	√ 	3RF2410-2AB45 3RF2420-2AB45		1 1	1 unit 1 unit	41C 41C
919	10 20	230 AC	√ 	3RF2410-2AB55 3RF2420-2AB55		1 1	1 unit 1 unit	41C 41C
SOLMENS	3-phase controll	ed						
	10 20	4 30 DC	✓ 	3RF2410-2AC45 3RF2420-2AC45		1 1	1 unit 1 unit	41C 41C
3RF2410-2AB45	10 20	230 AC	√ 	3RF2410-2AC55 3RF2420-2AC55		1 1	1 unit 1 unit	41C 41C

- ✓ These versions are equipped with a special mounting foot. Snapping them onto grounded DIN rails or mounting them on a grounded mounting plate simultaneously provides safe grounding of the heat sink. Additional grounding is no longer necessary in this case.
- -- With these versions, the ground connection to the heat sink can be established by means of a screw terminal connection.
- 1) The type current provides information about the performance capacity of the solid-state contactor. The actual permitted rated operational current I_e can be smaller depending on the connection method and installation conditions.

For derating characteristic curves, see page 6/120, "More information".

Accessories, see page 6/145.

Integrated best sink							
Α	V		Article No.	Price per PU			
Type current/ performance capacity ¹⁾ I_{max}	Rated control supply voltage $U_{\rm S}$	Grounding	Ring cable lug connection	(1)	PU (UNIT, SET, M)	PS*	PG

Zero-point switching \cdot Integrated heat sink, rated operational voltage $\textit{U}_{\rm e}$ 48 ... 600 V AC



z-pnase co	illionea				
50	4 30 DC	 3RF2450-3AB45	1	1 unit	41C
50	230 AC	 3RF2450-3AB55	1	1 unit	41C
3-phase co	ntrolled				
50	4 30 DC	 3RF2450-3AC45	1	1 unit	41C
50	230 AC	 3RF2450-3AC55	1	1 unit	41C

-- With these versions, the ground connection to the heat sink can be established by means of a screw terminal connection.

 $^{1)}$ The type current provides information about the performance capacity of the solid-state contactor. The actual permitted rated operational current $I_{\rm e}$ can be smaller depending on the connection method and installation conditions.

For derating characteristic curves, see page 6/120, "More information".

Solid-state switching devices for resistive/inductive loads SIRIUS 3RF29 function modules

General data

Overview

Function modules for SIRIUS 3RF2 solid-state switching devices

A great variety of applications demand an expanded range of functionality. With our function modules, these requirements can be met really easily. The modules are mounted simply by clicking them into place; straight away the necessary connections are made with the solid-state relay or contactor.

The plug-in connection to control the solid-state switching devices can simply remain in use. The external connections have screw terminals.

For function modules with current measurement, the load cable must be inserted through the straight-through transformer and reconnected to the solid-state switching device.

The following function modules are available:

- Converters (without current measurement)
- Load monitoring
- Heating current monitoring
- Power controllers
- Power regulators

Note:

With the exception of the converter, the function modules can be used only with 1-phase solid-state switching devices.

For recommended assignment of the function modules to 3RF2 solid-state switching devices, see SiePortal.

Technical specifications

More information							
Online configurator, see www.siemens.com/sirius/c System Manual for modular system, see https://support.industry.siemens.com/cs/ww/en/view	Ü	Conversion tool, see www.siemens.com/conversion-tool					
Туре		3RF290EA	3RF290FA	3RF290GA	3RF290HA	3RF290JA	3RF290KA
Dimensions (W x H x D)	mm	22.5 x 84 x 38	22.5 x 102 x 39	45 x 112 x 44	45 x 112 x 44	45 x 112 x 44	45 x 112 x 44
General data							
Ambient temperature							
During operation, derating from 40 °CDuring storage	°C °C	-25 +60 -55 +80					
Installation altitude	m	0 +1 000 (de	erating from +10	00)			
Shock resistance according to IEC 60068-2-27	g/ms	15/11					
Vibration resistance according to IEC 60068-2-6	g	2					
Degree of protection IP on the front according to IEC 60529		IP20					
Touch protection on the front according to IEC 60529		Finger-safe for	vertical touching	from the front			
Electromagnetic compatibility (EMC)							
Emitted interference Conducted interference voltage according to IEC 60947-4-3 Emitted, high-frequency interference voltage according to IEC 60947-4-3			ustrial application		al applications		
Interference immunity Electrostatic discharge according to IEC 61000-4-2 (corresponds to degree of severity 3) Induced RF fields according to IEC 61000-4-6	kV MHz	Contact-mode discharge 4; air discharge 8; behavior criterion 2 0.15 80; 140 dB _µ V; behavior criterion 1					
 Burst according to IEC 61000-4-4 Surge according to IEC 61000-4-5 	kV		ehavior criterion ound 2; conducto		behavior criterio	on 2	
Connection type Auxiliary/control contacts		Screw ter			Somework of the same	311 <u>L</u>	
 Conductor cross-section Stripped length Terminal screw Tightening torque 	mm ² mm Nm lb.in	1 x (0.5 2.5), 7 M3 0.5 0.6 4.5 5.3	, 2 x (0.5 1.0),	1 x (AWG 20 [.]	12)		
Connection type Converters		Straight-t	hrough transfor	mers			
Diameter	mm		7	17			

Note limitations for power controller and power regulator function modules. These modules were built as Class A devices. The use of these devices in residential areas could result in radio interference. In this case it may be required to introduce additional interference suppression measures.

Solid-state switching devices for resistive/inductive loads SIRIUS 3RF29 function modules

General data

Type		3RF290EA18 ¹⁾	3RF290FA08 ¹⁾	3RF290GA.3	3RF290GA.6
Main circuit					
Rated operational voltage <i>U</i> _e • Operating range • Rated frequency	V AC V AC Hz			110 230 93.5 253 50/60	400 600 340 660
Rated insulation voltage U _i	V			600	
Voltage measuring • Measuring range	V			93.5 253	340 660
Mains voltage, fluctuation compensation	%			20	

¹⁾ Versions are independent of the main circuit.

Туре		3RF290HA.3 3RF290KA.3	3RF290HA.6 3RF290KA.6	3RF290JA.3	3RF290JA.6
Main circuit					
Rated operational voltage U _e • Operating range • Rated frequency		110 230 93.5 253 50/60	400 600 340 660	110 230 93.5 253	400 600 340 660
Rated insulation voltage U _i	V	600			
Voltage measuring • Measuring range	V	93.5 253	340 660	93.5 253	340 660
Mains voltage, fluctuation compensation	%	20			

Туре		3RF290.	3RF291.
Control circuit			
Method of operation		DC operation	AC/DC operation
Rated control supply voltage U _s Rated actuating current	V mA	24 25	40
Rated frequency of the control supply voltage	Hz		50/60
Actuating voltage, max.	V	30	
Rated actuating current At maximum voltage	mA	30	50
Response voltage • For operating current	V mA	15 2	
Drop-out voltage	V	5	

Type		3RF2906-0FA08	3RF2920-0FA08	3RF2920-0GA	3RF2950-0GA	3RF2990-0GA
Current measurement					_	•
Rated operational current I _e	А	6	20		50	90
Current measurement						
Teach range	Α	0.25 6	0.65 20	0.56 20	1.62 50	2.93 90
Measuring range	Α	0 6.6	0 22		0 55	0 99
Minimum partial load current	Α	0.25	0.65		1.6	2.9
Number of partial loads		1 6		1 12		

Туре		3RF2920-0HA	3RF2950-0HA	3RF2990-0HA	3RF2916-0JA	3RF2932-0JA
Current measurement						
Rated operational current I _e	Α	20	50	90	16	32
Current measurement Teach range Measuring range Minimum partial load current	A A A	4 20 0 22	10 50 0 55	18 90 4 99	0.42 16 0 16 0.42	0.8 32 0 32 0.8
Number of partial loads					1 6	

Туре		3RF2904-0KA	3RF2920-0KA	3RF2950-0KA	3RF2990-0KA
Current measurement					
Rated operational current I _e	А	4	20	50	90
Current measurement					
Teach range	Α	0.15 4	0.65 20	1.6 50	2.9 90
Measuring range	Α	0 4	0 22	0 55	0 99
 Minimum partial load current 	Α		0.65	1.6	2.9
Number of partial loads			1 6		

Solid-state switching devices for resistive/inductive loads SIRIUS 3RF29 function modules

SIRIUS converters for 3RF2

Overview

Converters for 3RF2 solid-state switching devices

These modules are used to convert analog control signals, such as those output from many temperature controllers for example, into a pulse-width-modulated digital signal. The connected solid-state contactors and relays can therefore regulate the output of a load as a percentage.

Application

The function module is used for converting an analog input signal to an input/output ratio with the time base 1 s. The module can only be used in conjunction with 3RF21 and 3RF23 1-phase solid-state switching devices or 3RF22 and 3RF24 3-phase devices. It can be used on versions with 24 V DC and 24 V AC/DC control supply voltage.

Note:

The use of 1-pole solid-state switching devices with converters, power controllers or power regulators of loads in a three-phase network in full-wave control mode is not recommended. As mutual synchronization of the function modules is not possible, fluctuations in the heating power are possible; there is no optimum settling in particular with setpoint values < 50%.

Selection and ordering data

	Rated operational current $I_{\rm e}$	Rated operational voltage $U_{\rm e}$	Screw terminals		PU (UNIT, SET, M)	PS*	PG
	A	V	Article No.	Price per PU			
Converters							
4-1	Rated control supply voltage 24	V AC/DC 	3RF2900-0EA18		1	1 unit	41C
Sind X							
SIEMENS							
3RF2900-0EA18							

	Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Blank labels						
	Unit labeling plates For SIRIUS devices ¹⁾					
붸붸붸붸	10 mm × 7 mm, titanium gray	3RT2900-1SB10		100	816 units	41B
붜붜붜	20 mm × 7 mm, titanium gray	3RT2900-1SB20		100	340 units	41B
1,00181	Adhesive labels For SIRIUS devices					
<u>■ ■ </u> <u>8</u> 3RT2900-1SB20	19 mm \times 6 mm, titanium gray	3RT2900-1SB60		100	3060 units	41B

¹⁾ PC labeling system for individual inscription of unit labeling plates available from: murrplastik Systemtechnik GmbH (see page 16/18).

Solid-state switching devices for resistive/inductive loads SIRIUS 3RF29 function modules

SIRIUS load monitoring for 3RF2

Overview

Load monitoring for 3RF2 1-phase solid-state switching devices

Many faults can be quickly detected by monitoring a load circuit connected to the solid-state switching device, as made possible with this module. Examples include the failure of load elements (up to 6 in the basic version or up to 12 in the extended version), alloyed power semiconductors, a lack of voltage or a break in a load circuit. A fault is indicated by one or more LEDs and reported to the controller by way of a PLC-compatible output.

The principle of operation is based on permanent monitoring of the current intensity. This figure is continuously compared with the reference value stored once during startup by the simple press of a button. In order to detect the failure of one of several loads, the current difference must be 1/6 (in the basic version) or 1/12 (in the extended version) of the reference value. In the event of a fault, an output is actuated and one or more LEDs indicate the fault.

Application

The device is used for monitoring one or more loads (partial loads).

Notes:

The function module can only be used in conjunction with a 3RF21 solid-state relay or a 3RF23 solid-state contactor.

The solid-state switching devices with spring-loaded terminals in the load circuit are not suitable for load monitoring!

Selection and ordering data

	Rated operational current $I_{\rm e}$	Rated operational voltage $U_{\rm e}$	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
	A	V	Article No.	Price per PU			
Basic load monito	oring						
4 4	Rated control supply voltage 24	V DC					
	6		3RF2906-0FA08		1	1 unit	41C
70'	20		3RF2920-0FA08		1	1 unit	41C
O TOTAL OF THE PARTY OF THE PAR	With mounted 3RF2900-0RA88	cover					
SIEMENS !	6		3RF2906-0FA08-0KH0		1	1 unit	41C
	20		3RF2920-0FA08-0KH0		1	1 unit	41C
3RF2920-0FA08							
Extended load mo	onitoring						
G A	Rated control supply voltage 24	V AC/DC					
9-1.	20	110 230	3RF2920-0GA13		1	1 unit	41C
Ó	20	400 600	3RF2920-0GA16		1	1 unit	41C
0.10	50 50	110 230 400 600	3RF2950-0GA13 3RF2950-0GA16		1	1 unit 1 unit	41C 41C
	90	110 230	3RF2990-0GA13		1	1 unit	41C
	90	400 600	3RF2990-0GA16		i	1 unit	41C
22226							
3RF2920-0GA13							

	Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Covers				_		
3RF2900-0RA88	Sealable covers for function modules (not for converters) For securing against unauthorized adjustment of setting knobs	3RF2900-0RA88		1	10 units	41C
Blank labels				_		
100,0181	Unit labeling plates For SIRIUS devices ¹⁾ 10 mm × 7 mm, titanium gray 20 mm × 7 mm, titanium gray Adhesive labels	3RT2900-1SB10 3RT2900-1SB20		100	816 units 340 units	41B 41B
3RT2900-1SB20	For SIRIUS devices 19 mm × 6 mm, titanium gray	3RT2900-1SB60		100	3060 units	41B

PC labeling system for individual inscription of unit labeling plates available from: murrplastik Systemtechnik GmbH (see page 16/18).

Solid-state switching devices for resistive/inductive loads SIRIUS 3RF29 function modules

SIRIUS heating current monitoring for 3RF2

Overview

Heating current monitoring for 3RF2 1-phase solid-state switching devices

Many faults can be quickly detected by monitoring a load circuit connected to the solid-state switching device, as made possible with this module. Examples include the failure of up to six load elements, alloyed power semiconductors, a lack of voltage, or a break in the load circuit. A fault is indicated by LEDs and reported to the controller via relay output (NC).

The principle of operation is based on permanent monitoring of the current intensity. This figure is continuously compared with the reference value stored once during startup. In order to detect the failure of one of several loads, the current difference must be 1/6 of the reference value. In the event of a fault, an output is actuated and the LEDs indicate the fault.

The heating current monitoring has a teach input and therefore differs from the load monitoring. This remote teaching function enables simple adjustment to changing loads without manual intervention.

Special version with "Standby" mode: Deviations from the standard version

3RF29..-0JA1.-1KK0

If the current is below 50% of the lower teach current during the teach routine, the device will go into "Standby" mode; the LOAD LED will flicker. The device thus detects a non-connected load, e.g. channels not required for tool heaters, and does not signal a fault. This mode can be reset by re-teaching.

Application

The device is used for monitoring one or more loads (partial loads).

Notes:

The function module can only be used in conjunction with a 3RF21 solid-state relay or a 3RF23 solid-state contactor.

The solid-state switching devices with spring-loaded terminals in the load circuit are not suitable!

Selection and ordering data

	Rated operational current I _e	Rated operational voltage $U_{\rm e}$	Screw terminals		PU (UNIT, SET, M)	PS*	PG
	A	V	Article No.	Price per PU			
Heating current n	nonitoring ¹⁾						
G A	Rated control supply voltage 24	V AC/DC					
	16 16 (with "Standby" mode) 16 (with "Standby" mode)	110 230 110 230 400 600	3RF2916-0JA13 3RF2916-0JA13-1KK0 3RF2916-0JA16-1KK0		1 1 1	1 unit 1 unit 1 unit	41C 41C 41C
© 000 000 000 000 000 000 000 000 000 0	32 (with "Standby" mode) 32 32 (with "Standby" mode)	110 230 400 600 400 600	3RF2932-0JA13-1KK0 3RF2932-0JA16 3RF2932-0JA16-1KK0		1 1 1	1 unit 1 unit 1 unit	41C 41C 41C
3RF2916-0JA13							

Supplied without control connector. The control connector can be purchased from Wieland by quoting article number 8213 B/6VR (PCB connector), see page 16/18.

	Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Covers						
	Sealable cover for function modules (not for converters) For securing against unauthorized adjustment of setting knobs	3RF2900-0RA88		1	10 units	41C
3RF2900-0RA88 Blank labels						
	Unit labeling plates For SIRIUS devices ¹⁾					
뭐뭐뭐뭐	10 mm \times 7 mm, titanium gray	3RT2900-1SB10		100	816 units	41B
붜붜붜붜	20 mm × 7 mm, titanium gray	3RT2900-1SB20		100	340 units	41B
3RT2900-1SB20	Adhesive labels For SIRIUS devices 19 mm × 6 mm, titanium gray	3RT2900-1SB60		100	3060 units	41B

PC labeling system for individual inscription of unit labeling plates available from: murrplastik Systemtechnik GmbH (see page 16/18).

Solid-state switching devices for resistive/inductive loads SIRIUS 3RF29 function modules

SIRIUS power controllers for 3RF2

Overview

Power controllers for 3RF2 1-phase solid-state switching devices

The power controller is a function module for the autonomous power control of complex heating systems and inductive loads.

The following functions have been integrated:

• Power controller

For adjusting the power of the connected load. The setpoint value is selected via a rotary knob on the module as a percentage of the 100% power value stored.

• Inrush current limiting

With the aid of an adjustable voltage ramp, the inrush current is limited by means of phase control. This is useful above all with loads such as lamps or infrared sources which have an inrush transient current.

· Load circuit monitoring

For detecting load failure, partial load faults, alloyed power semiconductors, lack of voltage or a break in the load circuit

Note:

With the phase control operating mode, a partial load fault is detected by cyclic "scanning" of the load; the exact mode of operation is described in the data sheets!

Special versions: Deviations from the standard version

3RF2904-0KA13-0KC0 (no teach current)

During the teach routine, the connected solid-state relay or contactor is not activated; i.e. no current will flow. No current reference value is stored. No partial load monitoring!

3RF29..-0KA1.-0KT0 (without partial load faults)

No partial load monitoring!

Application

The power controller can be used for:

- Complex heating systems
- Inductive loads
- · Loads with temperature-dependent resistor
- Loads with ageing after long-time service
- Simple indirect control of temperature

Notes:

This function module can only be used in conjunction with a 3RF21 solid-state relay or a 3RF23 solid-state contactor.

The solid-state switching devices with spring-loaded terminals in the load circuit are not suitable!

Power control

The power controller adjusts the power in the connected load by means of a solid-state switching device depending on the setpoint selection. It does not compensate for changes in the mains voltage or load resistance. The setpoint value can be predefined externally as a 0 to 10 V signal or internally by means of a potentiometer. Depending on the setting of the potentiometer ($t_{\rm R}$), the control is carried out according to the principle of full-wave control or generalized phase control.

Note:

In the case of ohmic loads, the power is set linear to the setpoint value. During operation of inductive loads, the power control is no longer proportional and linear due to the phase offset between current and voltage.

Full-wave control

In this operating mode the output is adjusted to the required setpoint value by changing the on-to-off period. The period duration is predefined at 1 s.

Notes:

The use of 1-pole solid-state switching devices with converters, power controllers or power regulators of loads in a three-phase network in full-wave control mode is not recommended. As mutual synchronization of the function modules is not possible, fluctuations in the heating power are possible; there is no optimum settling in particular with setpoint values < 50%.

Generalized phase control

In this operating mode the output is adjusted to the required setpoint value by changing the current flow angle. In order to observe the limit values of the conducted interference voltage for industrial networks, at loads up to 20 kVA, the load circuit must include an additional filter, and for loads above 20 kVA, a reactor with a rating of at least 200 μH must be used. You will find details about the filters in the FAQ "Filters for 3RF29 power regulators and power controllers to comply with the limits for electromagnetic emitted interference", see

https://support.industry.siemens.com/cs/ww/en/view/109751887.

Solid-state switching devices for resistive/inductive loads SIRIUS 3RF29 function modules

SIRIUS power controllers for 3RF2

Selection and ordering data Rated operational current Ie Rated operational voltage U_e Screw terminals PS* PG 1 (UNIT, SÈT, M) Article No. Price ٧ per PU Power controllers Rated control supply voltage 24 V AC/DC 4 (no teach current) 3RF2904-0KA13-0KC0 1 unit 41C 4 (without partial load faults) 3RF2904-0KA13-0KT0 1 unit 41C 20 3RF2920-0KA13 1 unit 41C 3RF2950-0KA13 50 1 unit 41C 90 3RF2990-0KA13 41C 1 unit 20 50 41C 41C 3RF2920-0KA16 400 ... 600 1 unit 3RF2950-0KA16 1 unit 50 (without partial load faults) 3RF2950-0KA16-0KT0 41C 1 unit

3RF2990-0KA16

Accessories

3RF2904-0KA13

Accessories						
	Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Covers						
3RF2900-0RA88	Sealable covers for function modules (not for converters) For securing against unauthorized adjustment of setting knobs	3RF2900-0RA88		1	10 units	41C
Blank labels						
00181	Unit labeling plates For SIRIUS devices 1) 10 mm × 7 mm, titanium gray 20 mm × 7 mm, titanium gray Adhesive labels For SIRIUS devices	3RT2900-1SB10 3RT2900-1SB20		100 100	816 units 340 units	41B 41B
3BT2900-1SB20	19 mm × 6 mm, titanium gray	3RT2900-1SB60		100	3060 units	41B

PC labeling system for individual inscription of unit labeling plates available from: murrplastik Systemtechnik GmbH (see page 16/18).

1 unit

41C

Solid-state switching devices for resistive/inductive loads SIRIUS 3RF29 function modules

SIRIUS power regulators for 3RF2

Overview

Power regulators for 3RF2 1-phase solid-state switching devices

The power regulator is a function module for the autonomous power control of complex heating systems.

The following functions have been integrated:

 Power controller with proportional-action control
 For adjusting the power of the connected load. The setpoint
 value is selected via a rotary knob on the module as
 a percentage of the 100% power value stored. Changes in the
 mains voltage or in the load resistance are compensated in
 this case.

Inrush current limiting

With the aid of an adjustable voltage ramp, the inrush current is limited by means of phase control. This is useful above all with loads such as lamps which have an inrush transient current.

· Load circuit monitoring

For detecting load failure, alloyed power semiconductors, lack of voltage or a break in the load circuit. Partial load monitoring is not possible. Load fluctuations are compensated.

Application

The power regulator can be used for:

- Complex heating systems
- Heating elements with temperature-dependent resistor
- Heating elements with ageing after long-time service
- Simple indirect control of temperature

Notes:

This function module can only be used in conjunction with a 3RF21 solid-state relay or a 3RF23 solid-state contactor.

The solid-state switching devices with spring-loaded terminals in the load circuit are not suitable!

Power control

The power regulator adjusts the power in the connected load by means of a solid-state switching device depending on the taught power and the selected setpoint. Changes in the mains voltage or in the load resistance are thus compensated by the power regulator. The setpoint value can be predefined externally as a 0 to 10 V signal or internally by means of a potentiometer. Depending on the setting of the potentiometer ($t_{\rm R}$), the adjustment is carried out according to the principle of full-wave control or generalized phase control.

Note:

In the case of ohmic loads, the power is set linear to the setpoint value. During operation of inductive loads, the power control is no longer proportional and linear due to the phase offset between current and voltage.

Full-wave control

In this operating mode the output is adjusted to the required setpoint value by changing the on-to-off period. The period duration is predefined at 1 s.

Notes:

The use of 1-pole solid-state switching devices with converters, power controllers or power regulators of loads in a three-phase network in full-wave control mode is not recommended. As mutual synchronization of the function modules is not possible, fluctuations in the heating power are possible; there is no optimum settling in particular with setpoint values < 50%.

Generalized phase control

In this operating mode the output is adjusted to the required setpoint value by changing the current flow angle. In order to observe the limit values of the conducted interference voltage for industrial networks, at loads up to 20 kVA, the load circuit must include an additional filter, and for loads above 20 kVA, a reactor with a rating of at least 200 μH must be used. You will find details about the filters in the FAQ "Filters for 3RF29 power regulators and power controllers to comply with the limits for electromagnetic emitted interference", see

https://support.industry.siemens.com/cs/ww/en/view/109751887.

Solid-state switching devices for resistive/inductive loads SIRIUS 3RF29 function modules

SIRIUS power regulators for 3RF2

Selection and ordering data Rated operational current Ie Rated operational voltage Ue Screw terminals PS* PG 1 (UNIT, SÈT, M) Price per PU Article No. Power regulators Rated control supply voltage 24 V AC/DC 3RF2920-0HA13 1 unit 41C 400 ... 600 3RF2920-0HA16 1 unit 41C 50 50 3RF2950-0HA13 3RF2950-0HA16 41C 41C 110 ... 230 1 unit 400 ... 600 1 unit 3RF2990-0HA13 3RF2990-0HA16 90 110 ... 230 1 unit 41C 90 400 ... 600 1 unit 41C 3RF2920-0HA13

	Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Covers						
	Sealable covers for function modules (not for converters)	3RF2900-0RA88		1	10 units	41C
	For securing against unauthorized adjustment of setting knobs					
3RF2900-0RA88						
Blank labels						
	Unit labeling plates For SIRIUS devices ¹⁾					
뭐뭐뭐뭐	10 mm \times 7 mm, titanium gray	3RT2900-1SB10		100	816 units	41B
ᅰ붸붸붸	20 mm × 7 mm, titanium gray	3RT2900-1SB20		100	340 units	41B
1_00181	Adhesive labels For SIRIUS devices					
3RT2900-1SB20	19 mm × 6 mm, titanium gray	3RT2900-1SB60		100	3060 units	41B

PC labeling system for individual inscription of unit labeling plates available from: murrplastik Systemtechnik GmbH (see page 16/18).

SIRIUS 3RF34 solid-state switching devices for switching motors Solid-state contactors

General data

Overview

More information

SiePortal, see www.siemens.com/product?3RF

Online configurator, see www.siemens.com/sirius/configurators Conversion tool, see www.siemens.com/conversion-tool

Solid-state contactors for switching motors



Solid-state contactor for direct-on-line starting

The solid-state contactors for switching motors are intended for frequently switching on and off three-phase current operating mechanisms up to 7.5 kW and reversing up to 3.0 kW. The devices are constructed with complete insulation and can be mounted directly on SIRIUS motor starter protectors, overload relays and current monitoring relays, resulting in a very simple integration into motor feeders.

These 3-phase solid-state contactors are equipped with a 2-phase control which is particularly suitable for typical motor current circuits without connecting to the neutral conductor.

Solid-state contactors for switching motors are available in two versions:

- SIRIUS 3RF34 solid-state contactors, 3-phase:
 These 2-phase controlled, instantaneous switching solid-state contactors in the insulating enclosure are offered with a width of 45 mm up to 5.2 A and with a width of 90 mm up to 16 A. They allow the operation of motors up to 7.5 kW.
- SIRIUS 3RF34 solid-state reversing contactors, 3-phase: The integration of four conducting paths to a reverse switch, combined in one enclosure, makes this device a particularly compact solution. Compared to conventional systems, for which two contactors are required, it is possible to save up to 50% in width with the 3-phase reversing contactors. Devices with a width of 45 mm cover motors up to 2.2 kW and those with a width of 90 mm cover motors up to 3 kW.

Note

According to the product standard IEC 60947-4-2, the motor contactors are designed for motors with maximum starting current conditions of $||I_e| \le 8$. For configuring motors with higher starting current conditions (typically $||I_e| > 8$), the data in the Equipment Manual for 3RF34 solid-state switching devices must be taken into account, see

https://support.industry.siemens.com/cs/ww/en/view/60298187.

Switching functions

The solid-state contactors for switching motors are "Instantaneous switching", because this method is particularly suited for inductive loads. By distributing the ON point over the entire sine curve of the mains voltage, disturbances are reduced to a minimum.

Connection methods

You can choose between the following connection methods for the solid-state contactors for switching motors:

Screw terminals

The screw connection system is the standard for industrial controls. Open terminals and a plus-minus screw are just two features of this technology. Two conductors of up to 6 mm² can be connected in just one terminal.

Spring-loaded terminals

This innovative technology manages without any screw connection. This means that very high vibration resistance is achieved. Two conductors of up to 2.5 mm² can be connected to each terminal.

Motor feeders

The devices can use a link module to directly connect to a motor starter protector. Also possible is the mounting of a 3RB30/3RB31 electronic overload relay (see page 7/90 onwards) or a 3RR2 current monitoring relay (see pages 10/47 and 10/55) using a link adapter. The simultaneous mounting of a motor starter protector and an overload or current monitoring relay is not recommended for space and heat development reasons.

Rapid-switching fuseless and fused motor feeders can thereby be implemented in a time-saving manner.

Selecting solid-state contactors

The solid-state contactors are selected on the basis of details of the network, the load and the ambient conditions.

The following procedure is recommended:

- Determine the rated current of the load and the mains voltage
- Select a solid-state contactor with the same or higher rated current than the load
- Testing of the maximum permissible switching frequency based on the characteristic curves (see More information → Product information, page 6/161). To do this, the starting current, the starting time and the motor load in the operating phase must be known.
- If the permissible switching frequency is under the desired frequency, it is possible to achieve an increase only by overdimensioning the motor and the solid-state contactor!

The correct device size can be determined by entering the network and motor data along with the application and ambient conditions.

SIRIUS 3RF34 solid-state switching devices for switching motors Solid-state contactors

General data

Short-circuit protection

Despite the rugged power semiconductors that are used, solid-state switching devices respond more sensitively to short circuits in the load feeder. Consequently, special precautions have to be taken against destruction, depending on the type of design.

Siemens generally recommends using SITOR semiconductor fuses. These fuses also provide protection against destruction in the event of a short circuit even when the solid-state contactors and solid-state relays are fully utilized.

Alternatively, if there is lower loading, protection can also be provided by standard fuses or miniature circuit breakers. This protection is achieved by overdimensioning the solid-state switching devices accordingly.

Article number scheme

Product versions		Article	numbe	r			
Solid-state contactors		3RF34	-	- 🗆			3-phase
Rated operational current	3.8 A		0 3				Only for reversing contactor
	5.2 A (5.4 A for reversing contactor)		0 5				
	9.2 A (7.4 A for reversing contactor)		1 0				
	12.5 A		1 2				Only for solid-state contactor
	16 A		1 6				Only for solid-state contactor
Connection type	Screw terminals Spring-loaded terminals			1 2			
Switching function	Instantaneous switching				В		
Number of controlled phases	2-phase Reversing contactor				B D		
Rated control supply voltage Us	24 V DC 110 230 V AC					0 2	
Rated operational voltage $U_{\rm e}$	48 460 V AC 48 600 V AC					4	Blocking voltage 1 600 V, solid-state contactor only
Example		3RF34	1 0 -	- 1	ВВ	0 4	

Note:

The article number scheme shows an overview of product versions for better understanding of the logic behind the article numbers.

For your orders, please use the article numbers quoted in the selection and ordering data.

Benefits

- Insulated enclosure with integrated heat sink, "ready to use"
- Compact and space-saving design
- Reversing contactors with integrated interlocking
- High degree of protection
- Integrated mounting foot for snapping onto a DIN rail or for mounting on a support plate
- Variety of connection methods
- Plug-in control connection
- Display via LEDs
- Wide voltage range for AC control supply voltage

Application

Use in load feeders

There is no typical design of a load feeder with solid-state relays or solid-state contactors; instead, the great variety of connection methods and control voltages offers universal application opportunities.

SIRIUS solid-state relays and solid-state contactors can be installed in fuseless or fused feeders, as required.

See

- Digital Configuration Manual for load feeders
- Configuration Manual for load feeders

Standards and approvals

- IEC 60947-4-2
- UL 508, CSA for North America1)
- CE marking for Europe
- C-Tick approval for Australia
- CCC approval for China
- Please note: Use overvoltage protection device; max. cut-off-voltage 6 000 V; min. energy handling capability 100 J.

3RF3405-1BB..

Switching devices – Soft starters and solid-state switching devices

3RF3410-1BB..

SIRIUS 3RF34 solid-state switching devices for switching motors Solid-state contactors

3RF3405-2BB.

General data

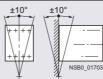
3RF3410-2BB..,

Technical specifications

Туре

Dimensions (W x H x D)	<u> </u>	3RF3403-1BD 3RF3405-1BD	3RF3412-1BB, 3RF3416-1BB 3RF3410-1BD	0111 0400 255	3RF3412-2BB, 3RF3416-2BB
• 3RF341BB	✓ mm	45 x 95 x 96.5	90 x 95 x 96.5	45 x 95 x 96.5	90 x 95 x 96.5
• 3RF341BD	mm	45 x 95 x 108.5	90 x 95 x 108.5		
General technical specifications					
Ambient temperature					
 During operation, derating from 40 °C 	°C	-25 +60			
During storage	°C	-55 +80			
Installation altitude	m	0 1 000; deratin	ng over 1 000 m on req	uest	
Shock resistance according to IEC 60068-2-27	<i>g</i> /ms	15/11			
Vibration resistance according to IEC 60068-2-6	g	2			
Degree of protection IP on the front according to IEC 60529		IP20			
Touch protection on the front according to IEC 60529		Finger-safe for ver	tical touching from the	front	
Insulation strength at 50/60 Hz (main/control circuit to floor)	V rms	4 000			
Electromagnetic compatibility (EMC) Emitted interference according to IEC 60947-4-2 Conducted interference voltage Emitted, high-frequency interference voltage Interference immunity		Class A for industri			
 Electrostatic discharge according to IEC 61000-4-2 (corresponds to degree of severity 3) 	kV	Contact-mode dis- Behavior criterion	charge: 4; air discharg 2	e: 8;	
- Induced RF fields according to IEC 61000-4-6	MHz	0.15 80; 140 dBµV; behavio	or criterion 1		
- Burst according to IEC 61000-4-4	kV	2; at 5 kHz; behav	ior criterion 2		
- Surge according to IEC 61000-4-5 ²⁾	kV	Conductor - groun	nd 2; conductor - condu	uctor 1; behavior criterior	12
Connection type		Screw termin	nals		terminals
<u> </u>		0		0 00 05 105 0	-

7,0		₩	
Operating devices		Standard screwdriver size 2 and Pozidriv 2	3.0 x 0.5 and 3.5 x 0.5
Conductor cross-sections, main contacts			
• Solid	mm^2	2 x (1.5 2.5) ³⁾ , 2 x (2.5 6) ³⁾	2 x (0.5 2.5)
 Finely stranded with end sleeve 	mm^2	2 x (1 2.5) ³⁾ , 2 x (2.5 6) ³⁾ , 1 x 10	2 x (0.5 1.5)
 Finely stranded without end sleeve 	mm ²		2 x (0.5 2.5)
 AWG cables, solid or stranded 	AWG	2 x (14 10)	2 x (18 14)
Conductor cross-sections, auxiliary/control contacts			
With/without end sleeve	mm ²	1 x (0.5 2.5), 2 x (0.5 1.0)	0.5 2.5
 AWG cables, solid or stranded 	AWG	20 12	20 12
Permissible mounting position		±1,0° ±1,0°	



¹⁾ These products were built as Class A devices. The use of these devices in residential areas could result in radio interference. In this case it may be required to introduce additional interference suppression measures.

More information

For more information, see

- System Manual for modular system, https://support.industry.siemens.com/cs/ww/en/view/60311318
- Equipment Manual for 3RF34 solid-state switching devices, https://support.industry.siemens.com/cs/ww/en/view/60298187

Product information and technical specifications

For product data sheets with detailed technical specifications and dimensional drawings, see

https://support.industry.siemens.com/cs/ww/en/ps/16237/td.

For more information, please enter the article number of the required device under the tab "Product List".

²⁾ The following applies for reversing contactors: To maintain the values, a 3TX7462-3L surge suppressor should be used between phases L1 and L3 as close as possible to the reversing contactor.

³⁾ If two different conductor cross-sections are connected to one clamping point, both cross-sections must lie in one of the ranges specified.

SIRIUS 3RF34 solid-state switching devices for switching motors

Solid-state contactors

SIRIUS 3RF34 solid-state contactors, 3-phase

Technical specifications

More information

System Manual for modular system, see https://support.industry.siemens.com/cs/ww/en/view/60311318

Equipment Manual for 3RF34 solid-state switching devices, see https://support.industry.siemens.com/cs/ww/en/view/60298187

FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/16237/faq

Туре		3RF3405BB	3RF3410BB	3RF3412BB	3RF3416BB
Fuseless design with 3RV2 motor starter protector,	CLASS 10				
Rated operational current I _{AC-53a} 1) according to IEC 60947-4-2					
• At 40 °C	Α	5.2 (4.5)	9.2	12.5	16
 UL/CSA, at 50 °C 	Α	4.6 (4.0)	8.4	11.5	14
• At 60 °C	Α	4.2 (3.5)	7.6	10.5	12.5
Power loss at I _{AC-53a}					
• At 40 °C	W	10 (8)	16	22	28
Short-circuit protection with type of coordination "1" At operational voltage <i>U</i> _e up to 440 V					
Motor starter protectors	Type	3RV2011-1GA10	3RV2011-1JA10	3RV2011-1KA10	3RV2011-4AA10
 Current I_Q 	kA	50	5		3

The reduced values in brackets apply to a directly mounted motor starter protector and simultaneous side-by-side mounting.

Туре	3RF3405BB.4	3RF3405BB.6	3RF3410BB	3RF3412BB.4	3RF3412BB.6	3RF3416BB
Fused design with directly connected 3RB3 overload rela	у					
Rated operational current I _{AC-53a} according to IEC 60947-4-2						
• At 40 °C A	4		7.8	9.5		11
 UL/CSA, at 50 °C A	3.6		7	8.5		10
• At 60 °C A	3.2		6.2	7.6		9
Power loss at I _{AC-53a}						
• At 40 °C W	7		13	16		18
Minimum load current A	0.1	0.5				
Max. off-state current mA	10					
Rated peak withstand current I _{tsm}	200	600		1 200	1 150	
I^2t value A^2s	200	1 800		7 200	6 600	

Туре		3RF34BB.4	3RF34BB.6
Main circuit			
Controlled phases		2-phase	
Rated operational voltage U _e	VAC	48 480	48 600
Operating range	VAC	40 506	40 660
Rated frequency	Hz	50/60 ± 10%	
Rated insulation voltage U _i	V	600	
Rated impulse withstand voltage U _{imp}	kV	6	
Blocking voltage	V	1 200	1 600
Rate of voltage rise	V/µs	1 000	

Type		3RF34BB0.	3RF34BB2.
Control circuit			
Method of operation		DC operation	AC operation
Rated control supply voltage U _s	V	24	110 230
Rated frequency of the control supply voltage	Hz		50/60 ± 10%
Control supply voltage, max.	V	30	253
Typical actuating current	mΑ	20	15
Response voltage	V	15	90
Drop-out voltage	V	5	< 40
Operating times			
ON-delay	ms	1	5
OFF-delay	ms	1 + max. one half-wave	30 + max. one half-wave

Switching devices – Soft starters and solid-state switching devices SIRIUS 3RF34 solid-state switching devices for switching motors

IRIUS 3RF34 solid-state switching devices for switching motors Solid-state contactors

IE3/IE4 ready SIRIUS 3RF34 solid-state contactors, 3-phase

Selection and ordering data

Motor contactors · Instantaneous switching · 2-phase controlled

Motor contactors	· Instantaneo	us switching · 2-pl	hase controlled			rs · Instantaneous switching · 2-phase controlled								
	Rated operational current <i>I</i> _e	Rated power at $I_{\rm e}$ and $U_{\rm e}$	Rated control supply voltage $U_{\rm S}$	Screw terminals	1	PU (UNIT, SET, M)	PS*	PG						
	Α	400 V kW	٧	Article No.	Price per PU									
Rated operational 48 480 V AC	voltage <i>U</i> _e				'									
0 20 17	5.2 9.2 12.5 16	2.2 4.0 5.5 7.5	24 DC	3RF3405-1BB04 3RF3410-1BB04 3RF3412-1BB04 3RF3416-1BB04		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41C 41C 41C 41C						
	5.2 9.2 12.5 16	2.2 4.0 5.5 7.5	110 230 AC	3RF3405-1BB24 3RF3410-1BB24 3RF3412-1BB24 3RF3416-1BB24		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41C 41C 41C 41C						
3RF3405-1BB Rated operational 48 600 V AC, blo	voltage <i>U</i> e	1 600 V												
A	5.2 9.2 12.5 16	2.2 4.0 5.5 7.5	24 DC	3RF3405-1BB06 3RF3410-1BB06 3RF3412-1BB06 3RF3416-1BB06		1 1 1	1 unit 1 unit 1 unit 1 unit	41C 41C 41C 41C						
	5.2 9.2 12.5 16	2.2 4.0 5.5 7.5	110 230 AC	3RF3405-1BB26 3RF3410-1BB26 3RF3412-1BB26 3RF3416-1BB26		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41C 41C 41C 41C						
3RF3410-1BB														
	Rated operational current <i>I</i> _e	Rated power at $I_{\rm e}$ and $U_{\rm e}$	Rated control supply voltage $U_{\rm S}$	Spring-loaded terminals	<u></u>	PU (UNIT, SET, M)	PS*	PG						
	А	400 V kW	٧	Article No.	Price per PU									
Rated operational 48 480 V AC	voltage <i>U</i> _e													
	5.2 9.2 12.5 16	2.2 4.0 5.5 7.5	24 DC	3RF3405-2BB04 3RF3410-2BB04 3RF3412-2BB04 3RF3416-2BB04		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41C 41C 41C 41C						
	5.2 9.2 12.5 16	2.2 4.0 5.5 7.5	110 230 AC	3RF3405-2BB24 3RF3410-2BB24 3RF3412-2BB24 3RF3416-2BB24		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41C 41C 41C 41C						
3RF3405-2BB Rated operational 48 600 V AC, blo	voltage <i>U</i> e ocking voltage	1 600 V												
	5.2 9.2 12.5 16	2.2 4.0 5.5 7.5	24 DC	3RF3405-2BB06 3RF3410-2BB06 3RF3412-2BB06 3RF3416-2BB06		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41C 41C 41C 41C						
	5.2 9.2 12.5 16	2.2 4.0 5.5 7.5	110 230 AC	3RF3405-2BB26 3RF3410-2BB26 3RF3412-2BB26 3RF3416-2BB26		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41C 41C 41C 41C						
3RF3410-2BB														

SIRIUS 3RF34 solid-state switching devices for switching motors Solid-state contactors

SIRIUS 3RF34 solid-state contactors, 3-phase

Accessories						
	Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Link modules between	n solid-state contactor and motor starter protector					
	Link module Between solid-state contactor and motor starter protector with screw terminals	Screw terminals	+			
HILL	For 3RV2 motor starter protectors size S00/S0	3RA2921-1BA00		1	1 unit	41B
3RA2921-1BA00	n solid-state contactor and overload relay					
3RF3900-0QA88	Link adapter For direct mounting of 3RB3 overload relays or 3RR2 current monitoring relays to the solid-state contactor with screw terminals					
	The adapter is snapped onto the enclosure of the 3RF34 contactor and accommodates the fastening hooks of the 3RB3 overload relays or the 3RR2 current monitoring relays for direct mounting.	3RF3900-0QA88		1	1 unit	41C
Insulation stops for s on conductors up to	ecurely holding back the conductor insulation, I mm ²					
	Insulation stop strips For all SIRIUS devices with spring-loaded terminals	Spring-loaded terminals	8			
3RT2916-4JA02	Can be inserted in the cable entry of the spring-loaded terminal (no more than two strips per contactor required; removable in pairs) For terminals with a conductor cross-section up to 2.5 mm ²	3RT2916-4JA02		1	20 units	41B
Tools for opening spr	ing-loaded terminals					
	Screwdriver For all SIRIUS devices with spring-loaded terminals Length approx. 200 mm, size 3.0 mm x 0.5 mm, titanium gray/black, partially insulated	3RA2908-1A		1	1 unit	41B
3RA2908-1A						
Control connectors						
	Control connectors For solid-state contactors with spring-loaded terminals With two clamping points per contact	3RF2900-2TB88		1	10 units	41C
3RF2900-2TB88						
Blank labels	Unit labeling plates			l		
	For SIRIUS devices 1)					
	10 mm x 7 mm, titanium gray	3RT2900-1SB10		100	816 units	41B
	20 mm x 7 mm, titanium gray Adhesive labels	3RT2900-1SB20		100	340 units	41B
C01_001	For SIRIUS devices 19 mm x 6 mm, titanium gray	3RT2900-1SB60		100	3060 units	41B
3RT2900-1SB20	· , · · · · · · · · · · · · · · · · · ·					

PC labeling system for individual inscription of unit labeling plates available from: murrplastik Systemtechnik GmbH (see page 16/18).

SIRIUS 3RF34 solid-state switching devices for switching motors Solid-state contactors

SIRIUS 3RF34 solid-state reversing contactors, 3-phase

Technical specifications

More information

System Manual for modular system, see https://support.industry.siemens.com/cs/ww/en/view/60311318

Equipment Manual for 3RF34 solid-state switching devices, see https://support.industry.siemens.com/cs/ww/en/view/60298187

FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/16237/faq

Туре		3RF3403BD.4	3RF3405BD.4	3RF3410BD.4
Fuseless design with 3RV2 motor starter protector, C	CLASS 10			
Rated operational current $I_{AC-53a}^{1)}$ according to IEC 60947-4-2				
 At 40 °C UL/CSA, at 50 °C At 60 °C 	A A A	3.8 (3.4) 3.5 (3.1) 3.2 (2.8)	5.4 (4.8) 5 (4.3) 4.6 (3.8)	7.4 6.8 6.2
Power loss at I _{AC-53a} • At 40 °C	W	7 (6)	9 (8)	13
Short-circuit protection with type of coordination "1" At operational voltage $U_{\rm e}$ up to 440 V				
 Motor starter protectors Current I_q 	Type kA	3RV2011-1FA10 50	3RV2011-1GA10	3RV2011-1JA10 10

1) The reduced values in brackets apply to a directly mounted motor starter protector and simultaneous side-by-side mounting.

Туре		3RF3403BD.4	3RF3405BD.4	3RF3410BD.4
Fused design with directly connected 3RB3 overload	l relay			
Rated operational current I _{AC-53a} according to IEC 60947-4-2				
 At 40 °C UL/CSA, at 50 °C At 60 °C 	A A A	3.8 3.5 3.2	5.4 5 4.6	7.4 6.8 6.2
Power loss at I _{AC-53a}				
• At 40 °C	W	6	8	16
Minimum load current	Α	0.5		
Max. off-state current	mA	10		
Rated peak withstand current I _{tsm}	Α	200	600	
<i>I</i> ² <i>t</i> value	A ² s	200	1 800	

Туре		3RF34BD.4
Main circuit		
Controlled phases		2-phase
Rated operational voltage $U_e^{1)}$	V AC	48 480
Operating rangeRated frequency	V AC Hz	40 506 50/60 ± 10%
Rated insulation voltage U _i	V	600
Rated impulse withstand voltage U _{imp}	kV	6
Blocking voltage	V	1 200
Rate of voltage rise	V/µs	1 000

¹⁾ To reduce the risk of a phase short circuit due to overvoltage, we recommend using a varistor type 3TX7462-3L between the phases L1 and L3 as close as possible to the switchgear.

We recommend a design with semiconductor protection as short-circuit protection.

Туре		3RF34BD0.	3RF34BD2.
Control circuit			
Method of operation		DC operation	AC operation
Rated control supply voltage U _s	V	24	110 230
Rated frequency of the control supply voltage	Hz		50/60 ± 10%
Control supply voltage, maximum	V	30	253
Typical actuating current	mA	15	10
Response voltage	V	15	90
Drop-out voltage	V	5	< 40
Operating times ¹⁾			
ON-delayOFF-delayInterlock time	ms ms ms	5 5 + max. one half-wave 60 100	20 10 + max. one half-wave 50 100

¹⁾ Notice! Risk of phase short circuit in automatic mode. The control inputs must not be actuated until a delay of 40 ms has expired after the main voltage is applied.

SIRIUS 3RF34 solid-state switching devices for switching motors Solid-state contactors

SIRIUS 3RF34 solid-state reversing contactors, 3-phase IE3/IE4 ready

Selection and ordering data

Reversing contactors \cdot Instantaneous switching \cdot 2-phase controlled

noronomy commen		g	_ p					
	Rated operational current I_e	Rated power at $I_{\rm e}$ and $U_{\rm e}$	Rated control supply voltage $U_{\rm S}$	Screw terminals	(1)	PU (UNIT, SET, M)	PS*	PG
·	A	400 V kW	V	Article No.	Price per PU			
Rated operational v	voltage <i>U_e 48</i> .	480 V AC						
	3.8 5.4 7.4	1.5 2.2 3.0	24 DC	3RF3403-1BD04 3RF3405-1BD04 3RF3410-1BD04		1 1 1	1 unit 1 unit 1 unit	41C 41C 41C
3RF3410-1BD	3.8 5.4 7.4	1.5 2.2 3.0	110 230 AC	3RF3403-1BD24 3RF3405-1BD24 3RF3410-1BD24		1 1 1	1 unit 1 unit 1 unit	41C 41C 41C

	Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Link modules het	ween solid-state contactor and	_				
motor starter pro						
4-4	Link module Between solid-state reversing contactor and motor starter protector with screw terminals	Screw terminals	+			
THE	For 3RV2 motor starter protectors, size S00/S0	3RA2921-1BA00		1	1 unit	41B
3RA2921-1BA00						
Link adapters bet	ween solid-state contactor and overload relay					
3RE3900-0QA88	Link adapter For direct mounting of 3RB3 overload relays or 3RR2 current monitoring relays to the solid-state contactor with screw terminals					
3HF39UU-UQA66	The adapter is snapped onto the enclosure of the 3RF34 contactor and accommodates the fastening hooks of the 3RB3 overload relays or the 3RB2 current monitoring relays for direct mounting.	3RF3900-0QA88		1	1 unit	41C
Blank labels						
	Unit labeling plates For SIRIUS devices ¹⁾					
	10 mm x 7 mm, titanium gray	3RT2900-1SB10		100	816 units	41B
붜붜붜붜	20 mm x 7 mm, titanium gray	3RT2900-1SB20		100	340 units	41B
	Adhesive labels For SIRIUS devices					
<u> </u>	19 mm x 6 mm, titanium gray	3RT2900-1SB60		100	3060 units	41B

PC labeling system for individual inscription of unit labeling plates available from: murrplastik Systemtechnik GmbH (see page 16/18).



	Price groups
	PG 12P, 14O, 41B, 41E, 41F, 41G, 41J
7/2	Introduction
	Motor starter protectors/
	circuit breakers
	SIRIUS 3RV2 motor starter protectors/circuit breakers
7/5	General data
7/26	For motor protection
7/34	For motor protection with
,,0,,	overload relay function
7/36	For starter combinations
7/39	For transformer protection
7/43	For system protection
7/44	For system protection according to UL 489/CSA C22.2 No. 5
7/45	For transformer protection according to UL 489/CSA C22.2 No. 5
	Accessories
7/46	- Mountable accessories
7/49	- Busbar accessories
7/54	- Rotary operating mechanisms
7/57	- Mounting accessories
7/64	- Enclosures and front plates
7/67	3RV29 infeed system
	SIRIUS 3RV1 motor starter
	protectors/circuit breakers
7/73	For fuse monitoring
7/74	For distance protection
7/75	For motor protection
	Overload relays
7/76	General data
7/80	SIRIUS 3RU2

SIRIUS 3RU2 thermal overload relays

7/90 SIRIUS 3RB

electronic overload relays

7/104 Accessories

Introduction

Overview













			- 6 6		W 12		2 6 6 1					8 6		3RV27			a. Hadisalia				
Туре		3RV20			3RV21				3R\	/23			3RV2				4	3RV28			
SIRIUS 3RV2 motor starte	r pro	tecto	ors/ci	rcuit	brea	kers											_			_	
Applications							_				_	_	_								
System protection		✓ 1)/ 3RV2	20	0D <i>A</i>	40 ²⁾	✓ 1)											✓			✓	
Motor protection		1																			
 Motor protection with overload relay function 						1															
Starter combinations										1											
Transformer protection														√ / 3RV2	4	0DA0 ²⁾				/	
Size		S00,	S0, S	2, S3		S00,	S0,	S2, S	3	SOC	, S0,	S2,	S3	S00, 3	S0, S2		S00,	S0, S	3	S00,	S0
Rated current In																					
Size S00Size S0Size S2Size S3	A A A	Up to Up to Up to	o 40			Up t Up t Up t Up t	o 32 o 80			Up Up	to 16 to 40 to 80 to 10))		Up to Up to Up to	25		Up to Up to Up to	22		Up to Up to 	
Rated operational voltage $\textit{U}_{\rm e}$ according to IEC	V	690 /	AC ³⁾			690 AC ³⁾				690	AC ³	3)		690 A	(C ³⁾	690 AC			690 AC		
Rated frequency	Hz	50/60	0			50/60			50/6	60			50/60)		50/6	0		50/60		
Trip class		CLASS 10 (S00 S3), CLASS 20 (S2, S3)			, CLASS 10							CLAS	SS 10								
Thermal overload release	A A	0.11 0.16 to 80 100		0.11 0.16 to 80 100			None ⁴⁾				0.11 0.16 to 54 65			0.16 70 Non-adjustable		0.16 22 Non-adjustable					
Electronic release A multiple of the rated current		13 times		13 times			13 times				20 tin	nes	13 times		20 ti	mes					
Short-circuit breaking capacity I _{cu} at 400 V AC	kA	20/55/65/100		55/65/100			20/55/65/100)	55/65/100			5)			5)				
Pages		7/26	7/3	3		7/34, 7/35			7/36 7/38			7/39, 7/40			7/44			7/45			
Accessories																					
For sizes		S00	S0	S2	S3	S00	S0	S2	S3	SOC	SO	S2	S3	S00	S0	S2	S00	S0	S3	S00	S0
Auxiliary switches		1	1	1	1	1	1	1	1	1	1	1	1	/	1	/	1	1	√ 6)	1	/
Signaling switches		1	1	1	1	1	1	1	1	1	1	/	/	/	1	/					
Undervoltage releases		1	1	/	/					/	1	1	1	/	/	1	/	1	1	1	1
Shunt releases		1	1	1	1					1	1	/	/	/	✓	1	1	1	1	1	1
Isolator modules		/	/	/		/	1	/		/	1	1		/	/	1					
Insulated 3-phase busbar system		/	1	1				✓		✓	1	1		/	✓	✓	/	1		1	✓
Busbar adapters		/	1	1	1	1	1	1	1	1	1	1	1	✓	✓	1	1	1	1		
Door-coupling rotary operating mechanisms		1	1	1	1	1	1	1	✓	1	1	1	1	1	✓	✓	1	✓	1	✓	1
Link modules		/	1	1	1	1	1	1	1	1	1	1	1	✓	✓	1					
Enclosures for surface mounting		1	1	1		1	1	1		1	1	1		1	1	/					
Enclosures for flush mounting		1	1			/	1			/	1			✓	✓						
Front plates		1	1	/	1	/	1	/	/	/	1	1	/	/	/	✓					
Infeed system		1	1							/	1			1	✓		1	1		1	✓
Sealable scale covers for setting knobs	1	1	√	✓	1	✓	1	✓	✓					✓	✓	✓					
Pages		7/46	7/6	66																	

[✓] Has this function or can use this accessory

⁻⁻ Does not have this function or cannot use this accessory

¹⁾ For symmetrical loading of the three phases.

²⁾ For 1-phase, 2-phase and 3-phase asymmetrical loading of the three phases.

³⁾ With molded-plastic enclosure 500 V AC.

⁴⁾ For overload protection of the motors, appropriate overload relays must be used.

 $^{^{5)}\,}$ According to UL 489 at 480 Y/277 V AC: 65 kA or 50 kA. $^{6)}\,$ Only lateral auxiliary switches can be used.

Introduction







7/46 ... 7/72

Туре		3RV1611-0BD10	3RV1611-1.G14	3RV1011
SIRIUS 3RV1 motor starter protectors/circuit b	reaker	'S		
Applications				
Motor protection				✓
Fuse monitoring		✓		
Voltage transformer circuit breakers for distance protection	on		✓	
Size		S00	S00	S00
Rated current I _n	Α	0.2	Up to 3	Up to 12
Rated operational voltage $U_{\rm e}$ according to IEC	V	690 AC ¹⁾	400 AC	690 AC
Rated frequency	Hz	50/60	16 ² / ₃ 60	50/60
Trip class				CLASS 10
Thermal overload release	Α	0.2	1.4 3	0.11 0.16 to 9 12
Electronic release A multiple of the rated current		6 times	4 7 times	13 times
Short-circuit breaking capacity I _{cu} at 400 V AC	kA	100	50	100/50
Pages		7/73	7/74	7/75
Accessories				
For sizes		S00	S00	S00
Auxiliary switches		✓	✓	✓

7/73

Other accessories

Pages

[✓] Has this function or can use this accessory

⁻⁻ Does not have this function or cannot use this accessory

<sup>7/74

1)</sup> With molded-plastic enclosure 500 V AC.

Introduction











		Thermal overload relays				Electronic overload relays												
Type			3RU2				3RB30			3RB31				3RB20		3RB21		
SIRIUS overload relays																		
Applications																		
System protection		√ 1)				√ 1)				√ 1)				√ 1)		√ 1)		
Motor protection		✓			/				/				1		1			
Alternating current, 3-phase		✓				1				1				1		✓		
Alternating current, 1-phase		✓																
Direct current		✓																
Size contactor		S00,	S0, S2	2, S3		S00, S0, S2, S3				S00,	S0, S2	2, S3		S6 S12	2	S6 S12		
Rated operational current Ie																		
• Size S00 A		Up to	16		Up to	16			Up to	16								
• Size S0	Α	Up to 40			Up to 40													
• Size S2	Α	Up to 80				Up to	08 0			Up to	80							
• Size S3	Α	Up to 100				Up to	115			Up to	115							
Rated operational voltage U_e \vee		690 AC				690 A	AC			690 AC				690/1 000 AC		690/1 000 AC		
Rated frequency	Hz	50/60				50/60)			50/60				50/60		50/60		
Trip class		CLASS 10, 10A				CLAS	SS 10I	E, 20E			SS 5E, adjust	10E, i table)	20E,	CLASS 10E, 20E		CLASS 5E, 10E, 20E, 30E (adjustable)		
Thermal overload release	A A	0.11 80	0.16 100	6 to														
Electronic overload releases	A A				0.1 0.4 to 32 115				0.1 32	. 0.4 to	0		50 200 160 63		50 200 to 160 630			
Pages		7/86	7/86 7/89			7/98,	7/100)		7/102	2			7/99, 7/101		7/103		
Accessories																		
For sizes		S00	S0	S2	S3	S00	S0	S2	S3	S00	S0	S2	S3	S6	S10/S12	S6	S10/S12	
Terminal supports for stand-alone installation		1	1	1	✓	1	1	1	1	1	1	1	1	2)	2)	2)	2)	
Mechanical RESET		✓	/	/	✓	/	1	/	/	/	/	/	1	✓	✓	✓	✓	
Cable releases with holder for RESET		1	1	✓	1	/	1	1	1	1	/	1	1	1	✓	✓	1	
Electrical Remote RESET		/	1	1	1					Integ	rated	in the	unit			Integrate	d in the unit	
Sealable covers for setting knobs		1	1	1	1	1	1	1	1	/	/	1	1	1	✓	✓	1	
Terminal covers				1	1			1	1			1	1	1	✓	✓	1	

-- -- -- -- -- -- -- -- --

7/104 ... 7/106

Box terminal blocks

Pages

[✓] Has this function or can use this accessory

⁻⁻ Does not have this function or cannot use this accessory

¹⁾ The units are responsible in the main circuit for overload protection of the assigned electrical loads (e.g. motors), feeder cable, and other switching and protection devices in the respective load feeder.

²⁾ Stand-alone installation without accessories is possible.

Motor starter protectors/circuit breakers SIRIUS 3RV2 motor starter protectors/circuit breakers

General data

Overview

More information

Homepage, see www.siemens.com/sirius-circuit-breakers

SiePortal, see www.siemens.com/product?3RV2

TIA Selection Tool Cloud (TST Cloud), see

www.siemens.com/tstcloud/?node=MotorStarterProtector

Conversion tool, see www.siemens.com/conversion-tool

Application Manual for switching devices with IE3 and IE4 motors, see https://support.industry.siemens.com/cs/ww/en/view/94770820

System Manual for modular system, see

https://support.industry.siemens.com/cs/ww/en/view/60311318

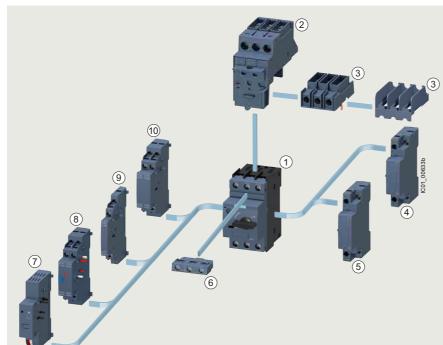
Equipment Manual, see

https://support.industry.siemens.com/cs/ww/en/view/60279172

Certificates, see https://support.industry.siemens.com/cs/ww/en/ps/16245/cert

The following illustration shows 3RV2 motor starter protectors/ circuit breakers with the accessories which can be mounted for the sizes S00 to S3, see also "Introduction" → "Overview", page 7/2.

Accessories, see page 7/46 onwards.



1) 3RV2 motor starter protectors/circuit breakers

Mountable accessories

- (2) Isolator module (cannot be used with 3RV2.4, 3RV27 and 3RV28 motor starter protectors/circuit breakers)
- (3) Terminal block type E (cannot be used with 3RV2.4 motor starter protector/circuit breaker in conjunction with transverse auxiliary switch) or phase barrier
- (4) Shunt trip (cannot be used with 3RV21 motor starter protector/circuit breaker)
- Undervoltage release without/with leading contacts (cannot be used with 3RV21 motor starter protector/circuit breaker)
- (6) Transverse auxiliary switch
- 7 3RV2 COM wireless auxiliary and signaling switch (cannot be used with 3RV27 and 3RV28 motor starter protectors/circuit breakers)
- Signaling switch (cannot be used with 3RV27 and 3RV28 motor starter protectors/circuit breakers)
- Description
 Substituting the state of the state
- (10) Lateral auxiliary switch with 4 contacts

Mountable accessories for SIRIUS 3RV2 motor starter protectors/circuit breakers



Motor starter protector with spring-loaded terminals, size S0 (left) and motor starter protector with screw terminals, size S00 (right)



Video: SIRIUS 3RV2 circuit breakers - Motor protection for machinery and plants (0.11 to 100 A) $\,$

The SIRIUS 3RV2 motor starter protectors/circuit breakers are compact, current limiting motor starter protectors/circuit breakers which are optimized for load feeders. The motor starter protectors/circuit breakers are used for switching and protecting three-phase motors of up to 55/45 kW at 400 V AC and for other loads with rated currents of up to 100 A.

3RV2 motor starter protectors are usually approved according to IEC and UL/CSA. According to UL 508/UL 60947-4-1, the 3RV2 motor starter protectors/circuit breakers in sizes S00 to S3 are approved as:

- "Manual Motor Controllers"
- "Manual Motor Controllers" for "Group Installations"
- "Manual Motor Controllers Suitable for Tab Conductor Protection in Group Installations"
- "Self-Protected Combination Motor Controllers (Type E)"
 Please note that for this approval the 3RV20 motor starter
 protectors must be equipped with additional infeed terminals
 or phase barriers. For more information, see page 7/57.

Corresponding short-circuit values, see pages 7/9 to 7/16.

Motor starter protectors/circuit breakers
SIRIUS 3RV2 motor starter protectors/circuit breakers

General data

The 3RV2...-....-0BA0 motor starter protectors/circuit breakers can be used at low ambient temperatures down to -50 °C.

3RV20..-....-0DA0 motor starter protectors/circuit breakers for system protection according to IEC, 3RV24..-....-0DA0 for transformer protection according to IEC and 3RV27 and 3RV28 circuit breakers according to UL 489 can be used for 1-phase, 2-phase and 3-phase loads, as these motor starter protector/circuit breakers do not have asymmetry detection.

The 3RV27 and 3RV28 circuit breakers are approved as circuit breakers according to UL 489; they are a special version of the 3RV2 motor starter protectors.

Thanks to their dimensions, the 3RV1011 motor starter protectors are suitable for installation in enclosures or under cramped installation conditions.

Type of construction

The 3RV2 motor starter protectors are available in four sizes:

- Size S00 width 45 mm, max. rated current 16 A, at 400 V AC suitable for three-phase motors up to 7.5 kW
- Size S0 width 45 mm, max. rated current 40 A, at 400 V AC suitable for three-phase motors up to 18.5 kW
- Size S2 width 55 mm, max. rated current 80 A, at 400 V AC suitable for three-phase motors up to 37 kW
- Size S3 width 70 mm, max. rated current 100 A, at 400 V AC suitable for three-phase motors up to 45/55 kW

Circuit breakers according to UL 489

The 3RV27 and 3RV28 circuit breakers are available in two or three sizes:

- Size S00 width 45 mm, max. rated current 15 A, for 480 Y/277 V AC
- Size S0 width 45 mm, max. rated current 22 A, for 480 Y/277 V AC
- Size S3 width 70 mm, max. rated current 70 A, for 480 Y/277 V AC

Connection methods

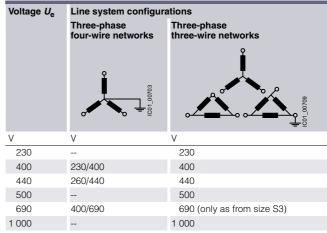
The 3RV2 motor starter protectors/circuit breakers can be supplied with screw terminals and spring-loaded terminals.



tables by the symbols shown on orange backgrounds.

Voltage data

The data for 3-phase power systems according to IEC 60947-4-1 are valid for the following line system configurations:



-- Not specified

Use in hazardous areas

The 3RV20 motor starter protectors for motor protection (without 3RV20..-....-0BA0 and -0DA0) have certification according to both the European Explosion Protection Directive (ATEX) and the International Explosion Protection Standard (IECEx).

According to the European Directive (ATEX), the 3RV20 (without 3RV20..-....-0BA0 and -0DA0) are able to switch and protect explosion-proof motors of type of protection "Increased Safety EEx e".

According to the international guideline (IECEx), the 3RV20 (without 3RV20..-....-0BA0 and -0DA0) are able to switch and protect motors of the types "Increased Safety Ex e" or "Flameproof enclosure Ex d".

Motor starter protectors/circuit breakers SIRIUS 3RV2 motor starter protectors/circuit breakers

General data

Circuit protection devices with measuring and communication capabilities

The SIRIUS wireless auxiliary and signaling switch 3RV2921-5M (3RV2 COM) is available as an accessory for 3RV2 motor starter protectors (sizes S00 to S3). This switch acquires the switching states of the motor starter protector in addition to the number of disconnections. The motor starter protector states are transmitted wirelessly by means of the integrated communication function. The 3RV2 COM wireless auxiliary and signaling switch is a component of SENTRON digitalization solutions.

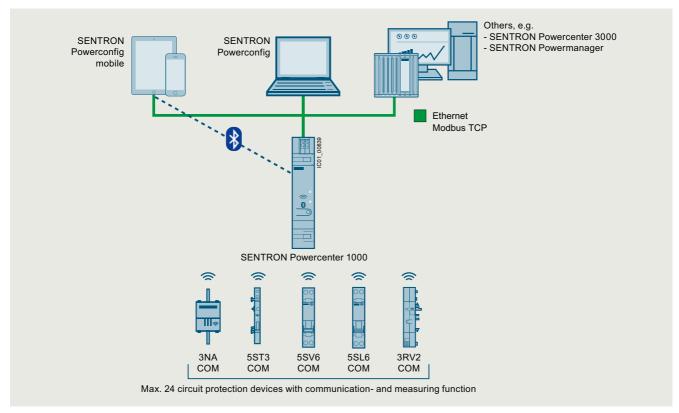
The SENTRON Powercenter 1000 data transceiver is the core element of this system of communication-capable circuit protection devices. It acquires measured values and status messages from the paired devices and transmits them to higher-level systems.

The data from up to 24 communication-capable devices are transmitted wirelessly to a SENTRON Powercenter 1000, which stores selected data for up to 30 days.

Higher-level systems can access the data via the data transceiver interfaces. Either locally via Bluetooth or via Ethernet in the local network. The Modbus TCP protocol used can easily be integrated by other systems.

Commissioning of the system is easy using the SENTRON powerconfig PC software or the SENTRON powerconfig app for mobile devices.

For more information, see the Installation Manual – SENTRON Circuit protection devices with communication and measuring function.



The system of circuit protection devices with communication and measuring function increases system availability as it offers greater transparency through to the branch circuit as well as wireless transmission and storage of measured values.

Motor starter protectors/circuit breakers SIRIUS 3RV2 motor starter protectors/circuit breakers

General data

Article number scheme

Product versions		Article number	
Motor starter protector/circuit	breaker	3RV2	
Type of motor starter protector/circuit breaker	e.g. 0 = for motor protection/system protection		
Size	e.g. 1 = 16 A (7.5 kW) for size S00		
Breaking capacity	e.g. 1 = standard switching capacity		
Setting range for overload releas	e e.g. 1A = 1.1 1.6 A		
Trip class (CLASS)	e.g. A = a (adjustable CLASS 10)/n (13 or 20 x $I_{\rm n}$)		
Connection methods	e.g. 1 = screw terminals		
With or without auxiliary switch	e.g. 0 = without		
Special versions			
Example		3RV2 0 1 1 - 1 A A 1 0	

Note:

The article number scheme shows an overview of product versions for better understanding of the logic behind the article numbers.

For your orders, please use the article numbers quoted in the selection and ordering data.

Application

Operating conditions

3RV2 motor starter protectors/circuit breakers are suitable for use in any climate. They are intended for use in enclosed rooms in which no severe operating conditions (such as dust, caustic vapors, hazardous gases) prevail. When installed in dusty and damp areas, suitable enclosures must be provided.

3RV2 motor starter protectors/circuit breakers can optionally be fed from the top or from below.

The permissible ambient temperatures, the maximum switching capacities, the tripping currents and other boundary conditions can be found in the technical specifications and tripping characteristics.

3RV2 motor starter protectors/circuit breakers are suitable for operation in IT systems (IT networks). In this case, the different short-circuit breaking capacity in the IT system must be taken into account, see page 7/11.

Since operational currents, starting currents and current peaks are different even for motors with identical power ratings due to the inrush current, the motor ratings in the selection tables are only guide values. The specific rated and startup data of the motor to be protected are always paramount to the choice of the most suitable motor starter protector/circuit breaker. This also applies to motor starter protectors for transformer protection.

Possible uses

The 3RV motor starter protectors/circuit breakers can be used:

- For short-circuit protection
- For motor protection (also with overload relay function)
- For system protection
- For short-circuit protection for starter combinations
- For transformer protection
- As main and EMERGENCY OFF switches
- For operation in IT systems (IT networks)
- In hazardous areas (ATEX, IECEx)
- As circuit breakers according to UL 489 (3RV27 and 3RV28)
- For fuse monitoring
- For distance protection

Use of SIRIUS protection devices in conjunction with IE3 and IE4 motors

Note:

For the use of 3RV2 motor starter protectors/circuit breakers in conjunction with high-efficiency IE3 and IE4 motors, please observe the information on dimensioning and configuring, see Application Manual.

For more information, see page 1/8.

Motor starter protectors/circuit breakers SIRIUS 3RV2 motor starter protectors/circuit breakers

General data

Technical specifications

More information

System Manual for modular system, see

https://support.industry.siemens.com/cs/ww/en/view/60311318

Digital Configuration Manual for load feeders, see

https://imp.siemens.com/digital-engineering-manual/dem

Configuration Manual for load feeders, see

https://support.industry.siemens.com/cs/ww/en/view/39714188

Equipment Manual, see

https://support.industry.siemens.com/cs/ww/en/view/60279172

Technical specifications, see

https://support.industry.siemens.com/cs/ww/en/ps/16245/td

For UL reports for the individual devices, see

https://support.industry.siemens.com/cs/ww/en/ps/16245/cert

Short-circuit breaking capacity I_{cu} , I_{cs} according to IEC 60947-2

The table shows the rated ultimate short-circuit breaking capacity $I_{\rm CU}$ and the rated service short-circuit breaking capacity $I_{\rm CS}$ of the 3RV motor starter protectors/circuit breakers with different operating voltages dependent on the rated current $I_{\rm n}$ of the motor starter protectors/circuit breakers.

Power can be supplied to the motor starter protectors/ circuit breakers via the terminals at the top or at the bottom without restricting the rated data. If the short-circuit current at the installation location exceeds the motor starter protector/ circuit breaker's specified rated short-circuit breaking capacity, you will need to use a back-up fuse. It is also possible to install an upstream motor starter protector/circuit breaker with a limiter function.

The maximum rated current of this back-up fuse is indicated in the tables. The rated ultimate short-circuit breaking capacity then applies as specified on the fuse.

Fuseless design

Motor starter protector/contactor assemblies for short-circuit currents up to 150 kA can be ordered as 3RA2 fuseless load feeders, see page 8/5 onwards.

Motor starter protectors/	Rated current I_n	Up to	240 \	/ AC ¹⁾	Up to	/ AC ¹⁾ /	415 V AC ²⁾	Up to	AC ¹⁾ /	460 V AC ²⁾	Up to 500 \	/ AC ¹⁾ /	525 V AC ²⁾	Up to	690 \	/ AC ¹⁾
circuit breakers		$I_{ m CU}$	$I_{ t CS}$	Max. fuse (gG)	$I_{ m CU}$	$I_{ t CS}$	Max. fuse (gG) ³⁾	$I_{ m CU}$	I_{CS}	Max. fuse (gG) ³⁾	$I_{ m CU}$	$I_{ t CS}$	Max. fuse (gG) ³⁾	I_{CU}	I_{CS}	Max. fuse (gG) ³⁾⁴⁾
Type	Α	kA	kA	А	kA	kA	Α	kA	kA	А	kA	kA	А	kA	kA	Α
Size S00																
3RV1011	0.16 1 1.25, 1.6 2; 2.5	100 100 100	100 100 100	 	100 100 100	100 100 100	 	100 100 100	100 100 100	 	100 100 10	100 100 10	 35	100 2 2	100 2 2	 20 35
	3.2; 4 5; 6.3 8	100 100 100	100 100 100	 	100 100 50	100 100 12.5	 80	50 50 50	12.5 12.5 12.5	40 50 63	3 3 3	3 3 3	40 50 63	2 2 2	2 2 2	40 40 50
	10 12	100 100	100 100	 	50 50	12.5 12.5	80 80	10 10	10 10	63 80	3 3	3	63 80	2	2	50 50
3RV2.11	0.16 1.6 2; 2.5 3.2	100 100 100	100 100 100	 	100 100 100	100 100 100	 	100 100 100	100 100 100	 	100 100 100	100 100 100	 	100 10 10	100 10 10	 25 32
	4; 5 6.3 8	100 100 100	100 100 100	 	100 100 100	100 100 100	 	100 100 50	100 100 50	 63	100 100 42	100 100 42	 63	6 6 6	4 4 4	32 50 50
	10 12.5 16	100 100 100	100 100 100	 	100 100 55	100 100 30	 100	50 50 50	50 50 12.5	80 80 80	42 42 10	42 42 5	63 80 80	6 6 4	4 4 4	50 63 63
3RV1611-0BD10	0.2	100	100		100	100		100	100		100	100		100	100	
Size S0																
3RV2.21	0.16 1.6 2; 2.5 3.2	100 100 100	100 100 100	 	100 100 100	100 100 100	 	100 100 100	100 100 100	 	100 100 100	100 100 100	 	100 10 10	100 10 10	 25 32
	4; 5 6.3 8	100 100 100	100 100 100	 	100 100 100	100 100 100	 	100 100 50	100 100 50	 63	100 100 42	100 100 42	 63	6 6 6	4 4 4	32 50 50
	10 12.5 16	100 100 100	100 100 100	 	100 100 55	100 100 25	 100	50 50 50	50 50 12.5	80 80 80	42 42 10	42 42 5	63 80 80	6 6 4	4 4 2	50 63 63
	20 22; 25 28; 32 36; 40	100 100 100 100	100 100 100 100	 	55 55 55 20	25 25 25 10	125 125 125 125	50 50 30 12	10 10 10 8	80 100 125 125	10 10 10 6	5 5 5 3	80 80 100 100	4 4 4 3	2 2 2 2	63 63 100 100

⁻⁻ No back-up fuse required, since short-circuit-proof up to 100 kA

^{1) 10%} overvoltage.

^{2) 5%} overvoltage.

 $^{^{3)}}$ Back-up fuse only required if short-circuit current at the installation location is $> I_{\rm CU}.$

⁴⁾ Alternatively, fuseless limiter combinations for 690 V AC can also be used.

Motor starter protectors/circuit breakers SIRIUS 3RV2 motor starter protectors/circuit breakers

Motor starter protectors/	Rated current I_n	Up to	240 \			/ AC ¹⁾ /	415 V AC ²⁾	Up to	/ AC ¹⁾ /-	460 V AC ²⁾	Up to	/ AC ¹⁾ /	/525 V AC ²⁾	Up to	690 '	V AC ¹⁾
circuit breakers		I_{CU}	I_{CS}	Max. fuse (gG)	$I_{ m CU}$	$I_{ t CS}$	Max. fuse (gG) ³⁾	I_{CU}	I_{CS}	Max. fuse (gG) ³⁾	$I_{ m CU}$	$I_{ t CS}$	Max. fuse (gG) ³⁾	I_{CU}	I_{CS}	Max. fuse (gG) ³⁾⁴⁾
Type	Α	kA	kA	Α	kA	kA	Α	kA	kA	Α	kA	kA	Α	kA	kA	Α
Size S2																
3RV2.31	14; 17 20 25	100 100 100	100 100 100	 	65 65 65	30 30 30	100 100 100	50 50 50	25 25 15	100 100 100	12 12 12	6 6 6	63 80 80	5 5 5	3 3 3	63 80 80
	32; 36 40; 45 52	100 100 100	100 100 100	 	65 65 65	30 30 30	125 160 160	50 50 50	15 15 15	125 125 125	10 10 10	5 5 5	100 100 125	4 4 4	2 2 2	100 100 125
	59; 65 73: 80	100	100		65 65	30 30	160 200	50 50	15 15	160 200	8	4	125 160	4	2	125 125
Size S2, with in switching capa	creased										-					
3RV2.32	14; 17 20; 25 32 45	100 100 100	100 100 100	 	100 100 100	50 50 50	 	65 65 65	30 30 30	100 100 125	18 18 15	10 10 8	63 80 100	8 8 6	5 5 4	63 80 100
	52 59; 65 73; 80	100 100 100	100 100 100	 	100 100 100	50 50 50	 	65 50 50	30 15 15	125 160 200	15 10 10	8 5 5	125 125 160	6 6 6	4 4 4	125 125 125
Size S3																
3RV2.41	40 50 63	100 100 100	100 100 100	 	65 65 65	30 30 30	125 125 160	65 65 65	30 30 30	125 125 160	12 12 12	6 6 6	100 100 100	6 6 6	3 3 3	63 80 80
	75 84 100	100 100	100 100		65 65	30 30	160 160	65 65	30 30	160 160	8	4	125 125	5 5	3	100 125
Size S3, with in switching capa																
3RV2.42	40 50 63	100 100 100	100 100 100	 	100 100 100	50 50 50	 	100 100 70	50 50 50	 200	18 15 15	9 7.5 7.5	160 160 160	12 10 7.5	6 5 4	80 100 100
	75 84 100	100 100	100 100		100 100	50 50		70 70	50 50	200 200	10 10	5 5	160 160	6 6	3	125 160
3RV2742	10 70	100	100		100	50										

⁻⁻ No back-up fuse required, since short-circuit-proof up to 100 kA

^{1) 10%} overvoltage.

²⁾ 5% overvoltage.

Back-up fuse only required if short-circuit current at the installation location is > I_{cu}.
 Alternatively, fuseless limiter combinations for 690 V AC can also be used.

Motor starter protectors/circuit breakers SIRIUS 3RV2 motor starter protectors/circuit breakers

General data

Short-circuit breaking capacity I_{culT} in the IT system (IT network) according to IEC 60947-2

3RV motor starter protectors/circuit breakers are suitable for use in IT systems. The values of $I_{\rm Cu}$ and $I_{\rm Cs}$ apply for the 3-pole short circuit. In the case of a double ground fault in different phases at the input and output side of a motor starter protector/circuit breaker, the special short-circuit breaking capacity $I_{\rm culT}$ applies. The specifications in the table below apply to 3RV motor starter protectors/circuit breakers.

If the short-circuit current at the installation location exceeds the motor starter protector/circuit breaker's specified rated short-circuit breaking capacity, you will need to use a back-up fuse. The maximum rated current of this back-up fuse is indicated in the tables. The rated short-circuit breaking capacity then applies as specified on the fuse.

Motor starter protectors/	Rated current In	Up to 2	40 V AC ¹⁾	Up to 400 V AC ¹	⁾ /415 V AC ²⁾	Up to 440 V AC ¹)/460 V AC ²⁾	Up to 500 V AC ¹)/525 V AC ²⁾	Up to 6	690 V AC ¹⁾³⁾ Max. fuse
circuit breakers		I_{CuIT}	Max. fuse (gG) ⁴⁾	I_{culT}	Max. fuse (gG) ⁴⁾⁵⁾	I_{culT}	Max. fuse (gG) ⁴⁾	I _{culT}	Max. fuse (gG) ⁴⁾	¹ culT	(gG) ⁴⁾
Туре	Α	kA	A	kA	A	kA	A	kA	A	kA	А
Size S00											
3RV1011	0.16 0.4 0.5 0.63	100 100 100	 	100 100 100 100	 	100 100 6 5	 6 6	100 100 6 5	 6 6	100 0.5 0.5	 4 6 6
	1 1.25	100 100	 	4 2	10 20	2	10 16	2	10 16	0.5 0.5	10 16
	1.6 2 2.5	100 100 100	 	2 2 2	20 35 35	2 2 2	20 25 25	2 2 2	20 25 25	1 1 1	16 20 25
	3.2 4 5	100 100 100	 	2 2 2	40 40 50	2 2 2	35 35 35	2 2 2	35 35 35	1 1 1	25 35 35
	6.3 8 10 12	100 50 50 50	 80 80 80	2 2 2 2	50 63 63 80	2 2 2 2	40 40 50 50	2 2 2 2	40 40 50 50	1 1 1	40 40 50 50
3RV2.11	0.16 0.4 0.5 0.63; 0.8	100 100 100	 	100 100 100	 	100 100 100		100 100 100	 	100 0.5 0.5	 4 6
	1 1.25 1.6	100 100 100	 	100 100 100	 	2 2 2	10 16 20	2 2 2	10 16 20	1.5 1.5 1.5	10 16 16
	2; 2.5 3.2 4; 5	100 100 100	 	8 8 4	25 32 32	2 2 1.5	25 32 32	2 2 1.5	25 32 32	1.5 1.5 1.5	20 25 25
	6.3; 8 10 12.5 16	100 100 100 55	 80	4 4 4 4	50 50 63 63	1 1 1	40 40 50 50	1 1 1	40 40 50 50	1 1 1	35 40 40 40
Size S0	10	33	00	4	03	ı	30	I	50	1	40
3RV2.21	0.16 0.4 0.5 0.63; 0.8	100 100 100	 	100 100 100	 	100 100 100	 	100 100 100	 	100 0.5 0.5	 4 6
	1 1.25 1.6	100 100 100	 	100 100 100	 	2 2 2	10 16 20	2 2 2	10 16 20	1.5 1.5 1.5	10 16 16
	2; 2.5 3.2 4; 5	100 100 100	 	8 8 4	25 32 32	2 2 1.5	25 32 32	2 2 1.5	25 32 32	1.5 1.5 1.5	20 25 25
	6.3; 8 10 12.5	100 100 100	 	4 4 4	50 50 63	1 1 1	40 40 50	1 1 1	40 40 50	1 1 1	35 40 40
	16 20 25 28; 32 36; 40	55 55 55 20	80 80 80 80	4 4 2 2	63 63 63 63	1 1 1 1	50 50 63 63	1 1 1 1	50 50 63 63	1 1 1 1	40 50 63 63
Size S2 3RV2031, 3RV2131, 3RV2331	14 25 32 45 52 80	100 100 100	 	8 6 4	100 125 160	6 4 3	80 100 125	6 4 3	80 100 125	4 3 2	63 80 100
Size S2, with increasure switching capacity		100		7	100			J	120		100
3RV2032, 3RV2332	14 25 32 45 52 59 80	100 100 100 100	 	8 6 6	100 125 160 160	6 6 6 4	80 100 125 125	6 6 6 4	80 100 125 125	4 4 4 4	63 80 100 100

⁻⁻ No back-up fuse required, since short-circuit-proof up to 100 kA

^{1) 5%} overvoltage.

²⁾ Without overvoltage.

 $^{^{3)}\,}$ Overvoltage category II applies for applications in IT systems > 600 V.

 $^{^{4)}}$ Back-up fuse only required if short-circuit current at the installation location is $>I_{\rm culT}$

⁵⁾ Alternatively, fuseless limiter combinations for 690 V AC can also be used.

Motor starter protectors/circuit breakers SIRIUS 3RV2 motor starter protectors/circuit breakers

General data

Motor starter protectors/	Rated current I _n	Up to 2	40 V AC ¹⁾	Up to 400 V AC ¹)/415 V AC ²⁾	Up to 440 V AC ¹⁾	/460 V AC ²⁾	Up to 500 V AC ¹⁾	/525 V AC ²⁾	Up to 690 V	AC ¹⁾³⁾
circuit breakers		I_{culT}	Max. fuse (gG) ⁴⁾	I _{culT}	Max. fuse (gG) ⁴⁾⁵⁾	I_{culT}	Max. fuse (gG) ⁴⁾	I_{culT}	Max. fuse (gG) ⁴⁾	I_{culT}	Max. fuse (gG) ⁴⁾
Type	Α	kA	Α	kA	Α	kA	Α	kA	Α	kA	Α
Size S3											
3RV2.41	40 50 63	65 65 65	125 125 160	10 8 6	63 80 80	5 3 3	50 63 63	5 3 3	50 63 63	5 3 3	50 63 63
	75 84 100	65 65	160 160	5 5	100 125	2	80 100	2	80 100	2	80 100
Size S3, with incre switching capacity											
3RV2.42	40 50 63 75	100 100 100	 	12 10 7.5	80 100 100	6 4 4	63 80 80	6 4 4	63 80 80	6 4 4	63 80 80
	84 100	100 100		6	125 160	3 3	100 125	3	100 125	3	100 125
3RV2742	10 25 30 35; 40	100 100 100	 	12 12 10	63 80 100	 	 	 	 		
	45; 50 60 70	100 100 100	 	7.5 6 6	100 125 160	 	 	 	 	 	

⁻⁻ No back-up fuse required, since short-circuit-proof up to 100 kA

Limiter function with standard devices for 500 V AC and 690 V AC according to IEC 60947-2

The table shows the rated ultimate short-circuit breaking capacity $I_{\rm cu}$ and the rated service short-circuit breaking capacity $I_{\rm cs}$ with an upstream standard motor starter protector/circuit breaker that fulfills the limiter function at voltages 500 V AC and 690 V AC.

The short-circuit breaking capacity can be increased significantly with an upstream standard motor starter protector/circuit breaker with limiter function. The motor starter protector/circuit breaker which is connected downstream must be set to the rated current of the load.

With motor starter protector/circuit breaker assemblies, note the clearance to grounded parts and between the motor starter protectors/circuit breakers. Short-circuit-proof wiring between the motor starter protectors/circuit breakers must be ensured. The motor starter protectors/circuit breakers can be mounted side by side in a modular arrangement.

Standard motor starter	protectors/circuit breakers	Rated current In	Up to 500 V AC1)/52	25 V AC ²⁾	Up to 690 V AC1)3)	
With limiter Rated current I_n			$I_{ t CU}$	$I_{ t CS}$	$I_{ t CU}$	$I_{ t CS}$
Type	Туре	Α	kA	kA	kA	kA
Size S00						
Size S0: 3RV2321-4EC10	3RV2011	2 6.3 8	100	 50	50 50	25 25
$I_{\cap} = 32 \text{ A}$		10 16	100	50	20 ⁴⁾	10 ⁴⁾
Size S2: 3RV2331-4WC10	3RV2011	10 16			50	25
$I_{\rm n}$ = 52 A						
Size S0						
Size S0: 3RV2321-4EC10	3RV2021	12 32	100	50	20 ⁴⁾	10 ⁴⁾
$I_{\cap} = 32 \text{ A}$						
Size S2: 3RV2331-4WC10	3RV2021	16 32			50	20
$I_{\rm n} = 52 {\rm A}$						
Size S2, with increase	sed switching capacity	_				
Size S2: 3RV2332-4RC10	3RV2032	14 80	100	50	70	35
$I_{\cap} = 80 \text{ A}$						
Size S3, with increase	sed switching capacity					
Size S3 ⁵⁾ : 3RV2342-4MC10	3RV2042	40 100	100	50	50	25
$I_{\rm n} = 100 \text{ A}$						
No limitar required			3) 11 00/00	0 1K phaga barriara	+ ! - - -	

⁻⁻ No limiter required

^{1) 10%} overvoltage.

²⁾ 5% overvoltage.

³⁾ Overvoltage category II applies for applications in IT systems > 600 V.

 $^{^{\}rm 4)}$ Back-up fuse only required if short-circuit current at the installation location is $>I_{\rm culT}$

⁵⁾ Alternatively, fuseless limiter combinations for 690 V AC can also be used.

^{1) 10%} overvoltage.

²⁾ 5% overvoltage.

³⁾ Use 3RV29.8-1K phase barriers on the infeed side.

⁴⁾ Infeed to the limiter is always on the side 1L1/3L2/5L3.

⁵⁾ Infeed to the limiter only on the side 2T1/4T2/6T3. Use 3RV2948-1K phase barriers on the infeed side.

Motor starter protectors/circuit breakers SIRIUS 3RV2 motor starter protectors/circuit breakers

General data

Permissible rated data of devices approved for North America (UL/CSA)

Motor starter protectors of the 3RV2 series are approved for UL/CSA, and according to UL 508/UL 60947-4-1 and CSA C22.2 No. 14/CSA C22.2 No. 60947-4-1 they can be used on their own or as load feeders in combination with a contactor.

These motor starter protectors/circuit breakers can be used as "Manual Motor Controllers" for "Group Installations", as "Manual Motor Controllers Suitable for Tap Conductor Protection in Group Installations" and as "Self-Protected Combination Motor Controllers (Type E)".

3RV motor starter protectors as "Manual Motor Controllers"

If used as a "Manual Motor Controller", the motor starter protector is always operated in combination with an upstream short-circuit protection. Approved fuses or circuit breakers according to UL 489/CSA C22.2 No. 5 may be used for this purpose. These devices must be dimensioned according to the National Electrical Code (UL) or Canadian Electrical Code (CSA).

The file numbers for the approval of the 3RV as a manual motor controller are as follows:

- UL File No. 47705, CCN: NLRV
- CSA Master Contract 165071, Product Class: 3211

Motor starter		hp rating ¹) for FLA ²⁾	Rated current	240 V AC		480 V AC		600 V AC	
orotectors/ circuit breakers		max.		I_{n}	UL	CSA	UL	CSA	UL	CSA
					$I_{bc}^{3)}$	$I_{\rm bc}^{(3)}$	$I_{bc}^{3)}$	$I_{\rm bc}^{(3)}$	$I_{\rm bc}^{(3)}$	$I_{bc}^{3)}$
ype	V	1-phase	3-phase	Α	kA	kA	kA	kA	kA	kA
Size S00										
RV1011				0.16 2	65	65	65	65	10	10
=LA ²⁾ max. 12 A,	115	1/2	-	2.5 3.2	65 65	65 65	65 65	65 65	10 10	10 10
600 V	200	1 1/2	 3 3	4	65	65	65	65	10	10
	230 460	2	3 7 1/2	5	65	65	65	65	10	10
	575/600		10	6.3	65	65	65	65	10	10
				8	65 65	65 65	65 65	65 65	10 10	10 10
				12	65	65	65	65	10	10
3RV2011, 3RV2111,	3RV2311, 3R\	/2411		0.16 12.5	65	65	65	65	30	30
FLA ²⁾ max.	•		0	16	65	65	65	65		
гца- [,] max. 16 A. 480 V	115/120 200/208	1 2	2							
12.5 A, 600 V	230/240	2	3 5							
	460/480 575/600		10 10							
3RV1611-0BD10	010,000		. 3	0.2	65	65	65	65	10	10
Size S0										
3RV2021, 3RV2121,	3RV2321, 3R\	/2421		0.16 12.5	65	65	65	65	30	30
FLA ²⁾ max.	•		-	16 25	65	65	65	65	/(30) ⁴⁾	/(30) ⁴
-LA- ^{-,} max. 40 A, 480 V	115/120 200/208	3 5	5 10	28, 32 36, 40	65 65	65 65	50 12	50 12		
12.5 A, 600 V	230/240	7 1/2	10							
	460/480 575/600		30							
Size S2	0.0,000									
3RV2031, 3RV2131,	3RV2331, 3R\	/2431		14 36	65	65	65	65	25	25
FLA ²⁾ max.	115/120	7 1/2	10	40 52 59 65	65 65	65 65	65 65 ⁵⁾	65 65 ⁵⁾	22 20 ⁵⁾	22 20 ⁵⁾
80 A, 600 V	200/208	15	25	73 80	65	65	65 ⁵⁾	65 ⁵⁾	20 ⁵)	20 ⁵)
	230/240	15	30							
	460/480 575/600		60 75							
Size S2, with inc		ching capa								
				14 36	100	100	100	100	25	25
3RV2032, 3RV2332					100	100	100_	100 100 ⁵⁾	22 25 ⁵⁾	22 25 ⁵⁾
3RV2032, 3RV2332	115/120	7 1/9	10	40 52 59 65		100	1005)			
3RV2032, 3RV2332 FLA ²⁾ max. 80 A, 600 V	115/120 200/208	7 1/2 15	10 25	40 52 59 65 73 80	100	100 100	100 ⁵⁾ 100 ⁵⁾	100 ⁵)	25 ⁵⁾	25 ⁵⁾
FLA ²⁾ max.	200/208 230/240	15 15	25 30	59 65	100				25 ⁵⁾	25 ⁵⁾
FLA ²⁾ max.	200/208 230/240 460/480	15	25 30 60	59 65	100				25 ⁵⁾	25 ⁵⁾
FLA ²⁾ max. 80 A, 600 V	200/208 230/240	15 15	25 30	59 65	100				25 ⁵⁾	25 ⁵⁾
FLA ²⁾ max. 80 A, 600 V Size S3	200/208 230/240 460/480 575/600	15 15 	25 30 60 75	59 65 73 80 40 75	100 100	100	100 ⁵⁾	100 ⁵⁾	25 ⁵⁾	25 ⁵⁾ 30
FLA ²⁾ max. 80 A, 600 V Size S3 3RV2041, 3RV2142,	200/208 230/240 460/480 575/600 3RV2341, 3RV	15 15 /2042, 3RV2	25 30 60 75	59 65 73 80	100	100	100 ⁵⁾	100 ⁵⁾	25 ⁵⁾	25 ⁵⁾
FLA ²⁾ max. 30 A, 600 V Size S3 3RV2041, 3RV2142,	200/208 230/240 460/480 575/600 3RV2341, 3RV	15 15 /2042, 3RV2 7 1/2 15	25 30 60 75 342 15 30	59 65 73 80 40 75	100 100	100	100 ⁵⁾	100 ⁵⁾	25 ⁵⁾	25 ⁵⁾ 30
FLA ²⁾ max. 80 A, 600 V Size S3	200/208 230/240 460/480 575/600 3RV2341, 3R\	15 15 /2042, 3RV2	25 30 60 75 342	59 65 73 80 40 75	100 100	100	100 ⁵⁾	100 ⁵⁾	25 ⁵⁾	25 ⁵⁾ 30

⁻⁻ No approval

¹⁾ hp rating = Power rating in horse power (maximum motor rating).

²⁾ FLA = Full Load Amps (motor full load current).

³⁾ Corresponds to "short-circuit breaking capacity" according to UL/CSA.

⁴⁾ Values in brackets only apply to 3RV2.23 motor starter protectors.

⁵⁾ With Class J fuse.

⁶⁾ With Class J fuse 300 A.

Motor starter protectors/circuit breakers SIRIUS 3RV2 motor starter protectors/circuit breakers

General data

3RV20 motor starter protectors (up to 100 A) as "Manual Motor Controllers Suitable for Tap Conductor Protection in Group Installations"

The application as "Manual Motor Controllers Suitable for Tap Conductor Protection in Group Installations" is only available for UL. CSA does not recognize this approval! When the motor starter protector is used as a "Manual Motor Controller Suitable for Tap Conductor Protection in Group Installations", it must always be combined with upstream short-circuit protection. Approved fuses or circuit breakers according to UL 489 may be used for this purpose.

These devices must be dimensioned according to the National Electrical Code.

The 3RV20 motor starter protectors are approved as "Manual Motor Controllers Suitable for Tap Conductor Protection in Group Installations" under the following file number:

• UL File No. 47705, CCN: NLRV

Motor starter protectors/		hp rating ¹ max.	for FLA ²⁾	Rated current I _n		480 Y/277 V AC	600 Y/347 V AC
circuit breakers				-n	UL	UL	UL
					$I_{bc}^{3)}$	$I_{bc}^{3)}$	$I_{bc}^{3)}$
Туре	V	1-phase	3-phase	А	kA	kA	kA
Size S00							
3RV1011				0.16 0.8	65	65	10
FLA ²⁾ max.	115	1/3		1 1.25	65 65	65 65	10 10
B A, 480 V	200	3/4	2				
	230 460	1	5	2	65	65	10
	575/600			2.5	65 CF	65 65	10
				3.2	65 65	65 65	10
				5	65	65	10
				6.3	65	65	10
3RV2011				8	65	65 65	10 30
				0.16 12.5 16	65 65	65	30
FLA ²⁾ max.	115/120	1	2				
16 A, 480 V 12.5 A, 600 V	200/208 230/240	2	3 5				
,	460/480		10				
Ci=o C0	575/600		10				
Size S0 3RV2021				0.10 10.5	CE	CE	30
				0.16 12.5 16 25	65 65	65 65	
FLA ²⁾ max.	115/120	2	5_	28; 32	50	50	
32 A, 480 V 12.5 A, 600 V	200/208 230/240	3 5	10 10				
12.071, 000 1	460/480		20				
01 00	575/600						
Size S2				44 00	05	05	05
3RV2031				14 36 40 52	65 65	65 65	25 22
FLA ²⁾ max.	115/120	7 1/2	10	59 65	65	30	
80 A, 480 V 52 A, 600 V	200/208 230/240	15 15	25 30	73 80	65 65	20 10	
02 A, 000 V	460/480		60	00	00	10	
	575/600		75				
Size S2, with incr	eased swit	ching capa	acity				
3RV2032				14 36 40 52	100 100	100 100	25 22
FLA ²⁾ max.	115/120	7 1/2	10	59 65	100	42	
80 A, 480 V	200/208	15	25	73	100	30	
52 A, 600 V	230/240 460/480	15	30 60	80	100	10	-
	575/600		75				
Size S3							
3RV2041, 3RV2042				40 75	65 CF	65	30
FLA ²⁾ max.	115/120	7 1/2	15	84 100	65	65	
100 A, 480 V	200/208	15	30				
75 A, 600 V	230/240 460/480	20	40 75				
	575/600		75 75				

⁻⁻ No approval

¹⁾ hp rating = Power rating in horse power (maximum motor rating).

²⁾ FLA = Full Load Amps (motor full load current).

³⁾ Corresponds to "short-circuit breaking capacity" according to UL.

Motor starter protectors/circuit breakers SIRIUS 3RV2 motor starter protectors/circuit breakers

General data

3RV20 motor starter protectors (up to 100 A) as "Self-Protected Combination Motor Controllers (Type E)"

UL 508/UL 60947-4-1 approval demands 1-inch clearance and 2-inch creepage distances at line side for "Self-Protected Combination Motor Controllers".

Therefore, 3RV20 motor starter protectors of sizes S00 to S3 are approved according to UL 508/UL 60947-4-1 in combination with the terminal blocks listed below.

CSA does not require these extended clearance and creepage distances. According to CSA, these terminal blocks can be

omitted when the device is used as a "Self-Protected Combination Motor Controller".

The 3RV20 motor starter protectors are approved as "Self-Protected Combination Motor Controllers" under the following file numbers:

- UL File No. E156943, CCN: NKJH
- CSA Master Contract 165071, Product Class: 3211 08

Motor starter) for FLA ²⁾	Rated current	Up to 240 \	/ AC	Up to 480 \	//277 V AC	Up to 600 Y	//347 V AC
protectors/ circuit breakers		max.		I _n	UL	CSA	UL	CSA	UL	CSA
					I _{bc} ³⁾	$I_{\rm bc}^{(3)}$				
Type Size S00	V	1-phase	3-phase	A	kA	kA	kA	kA	kA	kA
3RV2011 + 3RV292	28-1H ⁴⁾⁵⁾			0.16 12.5 16	65 65	65 65	65 65	65 65	30	30
FLA ²⁾ max. 16 A, 480 V; 12.5 A, 600 V	115/120 200/208 230/240 460/480 575/600	1 2 2 	2 3 5 10 10					00		
Size S0										
3RV2021 + 3RV292	28-1H ⁴⁾⁵⁾			0.16 12.5 16 25	65 65	65 65	65 65	65 65	30	30
FLA ²⁾ max. 32 A, 480 V 12.5 A, 600 V	115/120 200/208 230/240 460/480 575/600	2 3 5 	5 10 10 20	28; 32	50	50	50	50		
Size S2										
3RV2031 + 3RV29	38-1K ⁴⁾			14 36 40 52	65 65	65 65	65 65	65 65	25 22	25 22
FLA ²⁾ max. 73 A, 480 V 52 A, 600 V	115/120 200/208 230/240 460/480 575/600	7 1/2 15 15 	10 25 30 60 75	59 73	65	65	20	20		
Size S2, with in		itching cap	pacity							
3RV2032 + 3RV293	38-1K ⁴⁾			14 36 40 52	100 100	100 100	100 100	100 100	25 22	25 22
FLA ²⁾ max. 73 A, 480 V 52 A, 600 V	115/120 200/208 230/240 460/480 575/600	7 1/2 15 15 	10 25 30 60 75	59 73	100	100	30	30		
Size S3										
3RV2041/3RV2042	+ 3RT2946-4	GA07 ⁴⁾		40 75 84 100	65 65	65 65	65 65	65 65	30	30
FLA ²⁾ max. 100 A, 480 V 75 A, 600 V	115/120 200/208 230/240 460/480 575/600	7 1/2 15 20 	15 30 40 75 75	04 100	03	00	00	00		

⁻⁻ No approval

¹⁾ hp rating = Power rating in horse power (maximum motor rating).

²⁾ FLA = Full Load Amps (motor full load current).

³⁾ Corresponds to "short-circuit breaking capacity" according to UL/CSA.

⁴⁾ Not required for CSA.

⁵⁾ Alternatively 3RV2928-1K phase barrier can be used.

Motor starter protectors/circuit breakers SIRIUS 3RV2 motor starter protectors/circuit breakers

General data

3RV27 and 3RV28 motor starter protectors as "circuit breakers"

These motor starter protectors are approved as circuit breakers according to UL 489 and CSA C22.2 No. 5. They can be used therefore as upstream short-circuit protective devices for "Manual Motor Controllers" and "Manual Motor Controllers Suitable for Tap Conductor Protection in Group Installations".

3RV27 and 3RV28 motor starter protectors are approved as "circuit breakers" under the following file numbers:

- UL File No. E235044, CCN: DIVQ
- CSA Master Contract 165071, Product Class: 1432 01

Motor starter	Rated current I _n	240 V AC	;	480 Y/27	7 V AC	480 V AC	;	600 Y/34	7 V AC	600 V A	;
protectors/ circuit breakers		UL	CSA	UL	CSA	UL	CSA	UL	CSA	UL	CSA
		$I_{bc}^{1)}$	$I_{bc}^{1)}$	$I_{bc}^{1)}$	$I_{bc}^{1)}$	<i>I</i> _{bc} ¹⁾	$I_{bc}^{1)}$	$I_{\rm bc}^{-1)}$	$I_{\rm bc}^{-1)}$	$I_{bc}^{1)}$	$I_{bc}^{1)}$
Туре	A	kA	kA	kA	kA	kA	kA	kA	kA	kA	kA
Size S00											
3RV2711	0.16 12.5 15	65 65	65 65	65 65	65 65			10 	10		
3RV2811	0.16 12.5 15	65 65	65 65	65 65	65 65			10	10		
Size S0											
3RV2721	20; 22	50	50	50	50						
3RV2821	20; 22	50	50	50	50						
Size S3											
3RV2742	10; 15 20 30 35 60 70	65 65 65 65	65 65 65	65 65 65	65 65 65	65 65 	65 65 	20 20 20 10	20 20 20 10	20 	20

⁻⁻ No approval

¹⁾ Corresponds to "short-circuit breaking capacity" according to UL.

Protection equipmentMotor starter protectors/circuit breakers SIRIUS 3RV2 motor starter protectors/circuit breakers

General data							
Туре			3RV2.1.	3RV2.2.	3RV2.3.	3RV2.4.	3RV27, 3RV28
Size			S00	S0	S2	S3	S00, S0
Dimensions (W x H x D)							
Screw terminals	• W. O	mm	45 x 97 x 92	45 x 97 x 92	55 x 140 x 149	70 x 165 x 169	45 x 144 x 92
Spring-loaded terminals	< `` → <i>§</i> '	mm	45 x 106 x 92	45 x 119 x 92			
Standards • IEC 60947-1 (VDE 0660 Part 100	١١		Yes				
• IEC 60947-1 (VDE 0660 Part 100			Yes				
 IEC 60947-4-1 (VDE 0660 Part 1 			Yes				
 UL 508/UL 60947-4-1, CSA C22.2 No. 14/CSA C22.2 N 	0 60947-4-1		Yes (not for 3F	RV20BA0 and	-0DA0 motor starter	protectors)	
• UL 489, CSA C22.2 No. 5	0. 00347-4-1						Yes
Number of poles			3				
Max. rated current $I_{\text{n max}}$		Α	16	40	80	100	22
(= max. rated operational curren	it I _e)						
Permissible ambient temperatur	e		50 00				
Storage/transportOperation	<i>I</i> _n : 0.16 32 A	°C	-50 +80 -20 (-50) ¹⁾	±70			
- Operation	In. 0.10 02 A	O		ction above +60 °C)			
	<i>I</i> _n : 36 40 A	°C		-20 +40			
				(the devices must not be mounted			
				side-by-side and			
				they must not be			
				assembled with link modules with			
				contactors.			
				A lateral clearance			
				of 9 mm is required.)			
	<i>I</i> _n : 14 80 A	°C		required.)	-20 (-50) ¹⁾ +70		
					(current reduction		
	<i>I</i> _n : 40 100 A	°C			above +60 °C)	-20 +70	
	τη. το του τ	Ü				(current reduction	
						above +60 °C)	
Permissible rated current at insi	de temperature of						
control cabinet • +60 °C		%	100				
• +70 °C		%	87				
Permissible rated current at aml							
enclosure (applies to motor star							
breaker inside enclosure: S00/S • +35 °C	U ≤ 32 A, 32 ≤ 52 A)	%	100				
• +60 °C		%					
Rated operational voltage U _e							
According to IEC				nolded-plastic enclo	osure is used only 50	0 V)	
According to UL/CSA		V AC					
Rated frequency		Hz	50/60			4.000	000
Rated insulation voltage U _i		V	690			1 000	690
Rated impulse withstand voltage	e U _{imp}	kV	6			8	6
 Utilization category IEC 60947-2 (motor starter prote 	ector/circuit brooker)		Α				
 IEC 60947-2 (motor starter prote IEC 60947-4-1 (motor starter) 	cior/circuit breaker)		AC-3 and AC-	-3e			
Trip class CLASS	According to		10		10/20		
	IEC 60947-4-1				-,		
Power loss P _v per motor starter	<i>I</i> _n : 0.16 0.63 A	W	5.5				5.5
protector	In: 0.8 6.3 A	W	7.3				7.3
dependent upon rated current <i>I</i> _n	In: 8 16 A	W	9.3	0.0			9.3
(upper setting range)	<i>I</i> _n : 14 16 A <i>I</i> _n : 17 25 A	W		9.3 10.5	12.5 14.5		9.3 10.5
D	In: 28 32 A	W	 	13.3	18		10.0
$R_{\text{per conducting path}} = \frac{P}{I^2 \times 3}$	<i>I</i> _n : 36 40 A	W		16.3	20		
1 × 3	<i>I</i> _n : 45 52 A	W			24.5		
	I _n : 59 65 A	W			26 29.5		
	I _n : 73 80 A				23.0		
	<i>I</i> _n : 40 50 A <i>I</i> _n : 63 75 A	W				27 38	
	I _n : 84 93 A	W				39	
	<i>I</i> n: 100 A	W				44	
Shock resistance	According to	g/ms	25/11 (square	and sine pulse)			
	IEC 60068-2-27						

 $^{^{1)}\,}$ Value in brackets applies to the 3RV2...-.0BA0 motor starter protectors.

Motor starter protectors/circuit breakers SIRIUS 3RV2 motor starter protectors/circuit breakers

General data (continued)							
Туре			3RV2.1.	3RV2.2.	3RV2.3.	3RV2.4.	3RV27, 3RV28
Size			S00	S0	S2	S3	S00, S0
Dimensions (W x H x D)							,
Screw terminals	₩ V	mm	45 x 97 x 92	45 x 97 x 92	55 x 140 x 149	70 x 165 x 169	
Spring-loaded terminals		mm	45 x 106 x 92	45 x 119 x 92			
Degree of protection IP on the front			,	<u>'</u>	g-loaded termina		
Touch protection on the front	According to IEC 60529			vertical touching	from the front (sci	rew and spring-lo	aded terminals)
Temperature compensation	According to IEC 60947-4		-20 +60				
Phase failure sensitivity	According to IEC 60947-4	4-1	Yes (not for 3R)	V23, 3RV2	0DA0 motor start	er protectors)	No
Protection of motors in hazardous	environments			V20 motor starter			No
EC type-examination certificate nun European Directive 2014/34/EU (AT				0BA0 and -0 = 001 😥 II (2) G			No
 According to international standard 			IECEx BVS14.0	102 [Ex]			No
Isolating function Main and EMERGENCY OFF switch characteristics (with corresponding accessories)	According to IEC 60947- According to IEC 60204- (VDE 0113)		Yes Yes				
Protective separation between main and auxiliary circuits required for PELV applications • Up to 400 V + 10% • Up to 415 V + 5% (higher voltages of the up to 690 V (depends on mounted)		1	Yes Yes Yes, see certifi	cate			
Permissible mounting position			Any, according	to IEC 60447 sta	art command "I" r	ight-hand side or	top
Mechanical endurance (operating of 3RV2	ycles)		100 000		Up to 52 A: 50 000, up to	25 000	100 000
• 3RV20BA0			500		80 A: 20 000 250		
Electrical endurance (operating cyc • 3RV2	cles)		100 000		Up to 52 A: 50 000, up to 80 A: 20 000	25 000	100 000
• 3RV20BA0			500		250		
Max. switching frequency per hour	(motor starts)	1/h	15				

General data				
Type Size Dimensions (W x H x D)	mm	3RV2742 S3 70 x 168 x 169	3RV1611-0BD10¹⁾ S00 45 x 90 x 70	3RV1011 S00 45 x 90 x 70
Standards • IEC 60947-1 (VDE 0660 Part 100) • IEC 60947-2 (VDE 0660 Part 101) • IEC 60947-4-1 • UL 508/UL 60947-4-1, CSA C22.2 No.14/CSA 60947-4-1 • UL 489, CSA C22.2 No.5		Yes Yes Yes No Yes	Yes Yes No	
Number of poles		3		
Max. rated current $I_{n \text{ max}}$ (= max. rated operational current I_{e})	А	70	0.2	12
Permissible ambient temperature • Storage/transport • Operation	°C °C	-50 +80 -20 +70 (current re	eduction above +60 °C)	
Permissible rated current at inside temperature of control • +60 °C • +70 °C	cabinet % %	100 87		
Permissible rated current at ambient temperature of enclosure (applies to motor starter protector/ circuit breaker inside enclosure) $\bullet +35~^{\circ}{\rm C} \\ \bullet +60~^{\circ}{\rm C}$	% %	 		100
Rated operational voltage <i>U</i> _e • According to IEC • According to UL/CSA	V AC V AC	400 600	690 (with molded-pla	stic enclosure 500 V)
Rated frequency	Hz	50/60		
Rated insulation voltage <i>U</i> _i	V	1 000	690	
Rated impulse withstand voltage U _{imp}	kV	8	6	
Utilization category • IEC 60947-2 (motor starter protector/circuit breaker) • IEC 60947-4-1 (motor starter)		A AC-3	AC-3 and AC-3e	

 [&]quot;Technical specifications" for 3RV1611 voltage transformer circuit breakers, see page 7/23.

Motor starter protectors/circuit breakers SIRIUS 3RV2 motor starter protectors/circuit breakers

General data

General data (continued)					
Type Size Dimensions (W x H x D)		mm	3RV2742 S3 70 x 168 x 169	3RV1611-0BD10¹⁾ S00 45 x 90 x 70	3RV1011 S00 45 x 90 x 70
Power loss P _v per motor starter	I _n : 0.2 A	W		5	
protector dependent upon rated current I _n (upper setting range)	<i>I</i> _n : 10 A <i>I</i> _n : 15 35 A <i>I</i> _n : 40 70 A	W W W	10 14 23.5	 	
$R_{\text{per conducting path}} = \frac{P}{I^2 \times 3}$	<i>I</i> _n : 1.25 A <i>I</i> _n : 1.65 6.3 A <i>I</i> _n : 8 12 A	W W W	 		5.5 7.3 9.3
Shock resistance	According to IEC 60068-2-27	<i>g</i> /ms	25/11 (square and sine p	oulse)	
Degree of protection IP on the front	According to IEC 60529		IP20		
Touch protection on the front	According to IEC 60529		Finger-safe for vertical to	uching from the front	
Temperature compensation	According to IEC 60947-4-1	°C	-20 +60		
Phase failure sensitivity	According to IEC 60947-4-1		No	Yes	
Explosion protection – Safe ope "increased safety" type of prote EC type-examination certificate nu according to Directive 2014/34/EU	ction Imber		No		Yes
Isolating function Main and EMERGENCY OFF switch characteristics (with corresponding accessories)	According to IEC 60947-2 According to IEC 60204-1 (VDE 0113)		Yes Yes		
Protective separation between main and auxiliary circuits, required for PELV applications • Up to 400 V + 10% • Up to 415 V + 5% (higher voltag	According to IEC 60947-1 es on request)		Yes Yes		
Permissible mounting position			Any, according to IEC 60	447 start command "I"	right-hand side or top
Mechanical endurance		Operat- ing cycles	25 000	100 000	
Electrical endurance		Operat- ing cycles	25 000	100 000	
Max. switching frequency per ho	our (motor starts)	1/h	15		

 $^{^{\}rm 1)}$ "Technical specifications" for 3RV1611 voltage transformer circuit breakers, see page 7/23.

Rated data of the 3RV2 COM wireless auxiliary and

With end sleeveFor AWG cables

Rated data of the auxiliary and signaling switches					
		Lateral auxiliary switch with 1 NO + 1 NC, 2 NO, 2 NC, 2 NO + 2 NC	Signaling switch	Transverse auxiliary switch wit 1 CO	th 1 NO + 1 NC, 2 NO
Max. rated voltage • According to NEMA (UL) • According to NEMA (CSA)	V AC V AC	600 600		250 250	
Uninterrupted current	Α	10		5	2.5
Switching capacity		1 NO + 1 NC, 2 NO, 2 NC: A600, Q300; 2 NO + 2 NC: A300, Q300	A600, Q300	B600, R300	C300, R300

signaling switch		
		ODVOCAL FM wineless and invaling make
Radio Equipment Directive		3RV2921-5M wireless auxiliary and signaling switch 2014/53/EU
Rated control supply voltage	V DC	24
Power loss	W	0.5
Type of connectable conductor cross-sections		
• Solid		2 x (0.2 1.5 mm ²)
Finely strandedWithout end sleeveWith end sleeve		2 x (0.2 1.5 mm²) 2 x (0.2 1.5 mm²)

AWG 2 x (24 ... 16)

Motor starter protectors/circuit breakers SIRIUS 3RV2 motor starter protectors/circuit breakers

Front transverse auxiliary switches			
		Switching capacity fo	r different voltages
		1 CO	1 NO + 1 NC, 2 NO
Rated operational current I _e			
 At AC-15, alternating voltage 24 V 230 V 	A A	4 3	2 0.5
 At AC-12 = I_{th}, alternating voltage 24 V 230 V 	A A	10 10	2.5 2.5
 At DC-13, direct voltage L/R 200 ms 24 V 48 V 60 V 110 V 220 V 	A A A A	1 0.22 0.1	1 0.3 0.15
Minimum load capacity	V mA	17 1	

Front transverse solid-state-com	patible auxiliary switches	<u>:</u>	
			Switching capacity for different voltages
			1 CO
Rated operational voltage U _e	Alternating voltage	V	125
Rated operational current I _e /AC-14	At $U_e = 125 \text{ V}$	Α	0.1
Rated operational voltage U _e	Direct voltage L/R 200 ms	V	60
Rated operational current I _e /DC-13	At U_e = 60 V	Α	0.3
Minimum load capacity		٧.	5
		mΑ	1

Lateral auxiliary switches with signaling switch		
		Switching capacity for different voltages: Lateral auxiliary switch with 1 NO + 1 NC, 2 NO, 2 NC, 2 NO + 2 NC, Signaling switch
Rated operational current I _e		
 At AC-15, alternating voltage 24 V 230 V 400 V 690 V 	A A A	6 4 3 1
 At AC-12 = I_{th}, alternating voltage 24 V 230 V 400 V 690 V 	A A A	10 10 10 10
 At DC-13, direct voltage L/R 200 ms 24 V 110 V 220 V 440 V 	A A A	2 0.5 0.25 0.1
Minimum load capacity	V mA	17 1

Auxiliary releases			
		Undervoltage releases	Shunt releases
Power consumption			
During closingAC voltagesDC voltages	VA/W W	20.2/13 20	13 80
During uninterrupted dutyAC voltagesDC voltages	VA/W W	7.2/2.4 2.1	
Response voltage			
• Tripping	V	0.35 0.7 x U _s	0.7 1.1 x <i>U</i> _s
• Closing	V	0.85 1.1 x U _s	
Opening time maximum	ms	20	

Short-circuit protection for auxiliary and control circuits		
Melting fuses operational class gG	Α	10
Miniature circuit breakers C characteristic	Α	6 (prospective short-circuit current < 0.4 kA)

Motor starter protectors/circuit breakers SIRIUS 3RV2 motor starter protectors/circuit breakers

Octobration and a state of major simulity						
Conductor cross-sections of main circuit Type		3RV2.11	3RV2.21	3RV2.31-4B.1., 3RV2.31-4D.1., 3RV2.31-4E.1., 3RV2.31-4P.1., 3RV2.31-4S.1., 3RV2.31-4T.1., 3RV2.31-4U.1.,	3RV2.31-4J.1., 3RV2.31-4K.1., 3RV2.31-4R.1., 3RV2.31-4W.1., 3RV2.31-4X.1., 3RV2.31-4VA1., 3RV2.32	3RV27.1, 3RV28.1
Size		S00	S0	3RV2.31-4V.1. S2		S00. S0
Connection type		Screw termi				,
Terminal screw		M3, Pozidriv size 2	M4, Pozidriv size 2	M6, Pozidriv size 2		M4, Pozidriv size 2
Operating devices	mm	Ø 5 6	Ø 5 6	Ø 5 6		Ø 5 6
Prescribed tightening torque	Nm	0.8 1.2	2 2.5	3.0 4.5		2.5 3
Conductor cross-sections (min./max.), one or two conductors can be connected						
Solid or stranded	mm^2	2 x (0.75 2.5) ¹⁾ , 2 x 4	2 x (1 2.5) ¹⁾ 2 x (2.5 10) ¹⁾	2 x (1 25) ¹⁾ , 1 x (1 35) ¹⁾	2 x (1 35) ¹⁾ , 1 x (1 50) ¹⁾	2 x (1 10) ¹⁾ , max. 1 x 25
• Finely stranded with end sleeve (DIN 46228)	mm ²	2 x (0.5 1.5) ¹⁾ 2 x (0.75 2.5) ¹⁾	2 x (1 2.5) ¹⁾ , 2 x (2.5 6) ¹⁾ , 1 x 10	2 x (1 16) ¹⁾ , 1 x (1 25) ¹⁾	2 x (1 25) ¹⁾ , 1 x (1 35) ¹⁾	1 x (1 16), max. 6 + 16
AWG cables, solid or stranded	AWG	2 x (20 16) ¹⁾ , 2 x (18 12) ¹⁾	2 x (16 12) ¹⁾ , 2 x (14 8) ¹⁾	2 x (18 3) ¹⁾ , 1 x (18 2) ¹⁾	2 x (18 2) ¹⁾ , 1 x (18 1) ¹⁾	2 x (14 10)
Connection type		Spring-load	ed terminals			
Operating devices	mm	3.0 x 0.5				
Conductor cross-sections (min./max.), one or two conductors can be connected						
Solid or stranded	$\rm mm^2$	2 x (0.5 4)	2 x (1 10)			
 Finely stranded without end sleeve 	$\rm mm^2$	2 x (0.5 2.5)	2 x (1 6)			
• Finely stranded with end sleeve (DIN 46228)	mm^2	2 x (0.5 2.5)	2 x (1 6)			
 AWG cables, solid or stranded 	AWG	2 x (20 12)	2 x (18 8)			
Max. outer diameter of the conductor insulation	mm	3.6	6.4			

¹⁾ If two different conductor cross-sections are connected to one clamping point, both cross-sections must be in the range specified.

Motor starter protectors/circuit breakers SIRIUS 3RV2 motor starter protectors/circuit breakers

Туре		3RV2.4.	3RV2742	3RV1611-0BD10 ¹⁾ / 3RV1011
Size		S3		S00
Connection type		Screw term with box te		Screw terminals
Terminal screw		Hexagon socket,	size 4	Pozidriv size 2
Prescribed tightening torque	Nm	4.5 6	5	0.8 1.2
Conductor cross-sections (min./max.), one or two conductors can be connected				
Solid or stranded	mm ²	2 x (2.5 16) ²⁾ , 2 x (10 50) ²⁾ , 1 x (10 70) ²⁾		2 x (0.5 1.5) ²⁾ , 2 x (0.75 2.5) ²⁾
• Finely stranded with end sleeve (DIN 46228)	mm ²	2 x (2.5 35) ²⁾ , 1 x (2.5 50) ²⁾		2 x (0.5 1.5) ²⁾ , 2 x (0.75 2.5) ²⁾
AWG cables, solid or stranded	AWG	2 x (10 1/0) ²), 1 x (10 2/0) ²)	I _n = 10 A, 15 A: AWG 14 I _n = 20 A: AWG 12 I _n = 25 A, 30 A: AWG 10 I _n = 35 50 A: AWG 8 I _n = 60 A: AWG 6 I _n = 70 A: AWG 4	2 x (18 14)
Ribbon cable conductors (number x width x thickness)	mm	2 x (6 x 9 x 0.8)		
Removable box terminals ³⁾				
With copper bars ⁴⁾	mm	2 x 12 x 4		
With cable lugs ⁵⁾				
- Terminal screw		M6		
- Prescribed tightening torque	Nm	4.5 6		
- Usable ring cable lugs	mm mm	$d_2 = min. 6.3$ $d_3 = max. 19$		

 [&]quot;Technical specifications" for 3RV16 voltage transformer circuit breakers, see page 7/23.

⁵⁾ If conductors larger than 25 mm² are connected, the 3RT2946-4EA2 cover is needed to maintain the required phase clearance, see page 7/59.

Conductor cross-sections for auxiliary and control circuits

Conductor cross-sections for auxiliary and control circuits	• /						
Туре		3RV2.11	3RV1011/ 3RV1611- 0BD10 ²⁾	3RV2.21	3RV2.3	3RV2.4	3RV27, 3RV28
Size		S00		S0	S2	S3	S00, S0, S3
Connection type		Screw	terminals				
Terminal screw		M3, Pozidri	v size 2				
Operating devices	mm	Ø 5 6					
Prescribed tightening torque	Nm	0.8 1.2					
Conductor cross-sections (min./max.), one or two conductors can be connected							
Solid or stranded	mm^2	2 x (0.5 1	.5) ³⁾ , 2 x (0.75	5 2.5) ³⁾			
 Finely stranded with end sleeve (DIN 46228) 	mm ²	2 x (0.5 1	$.5)^{3)}$, 2 x (0.75)	5 2.5) ³⁾			
AWG cables, solid or stranded	AWG	2 x (18 1	4) ³⁾ , 2 x (20	16) ³⁾			
Connection type		Spring	-loaded termi	nals			
Operating devices	mm	3.0 x 0.5					
Conductor cross-sections (min./max.), one or two conductors can be connected							
Solid or stranded	mm^2	2 x (0.5 2	2.5)				
Finely stranded without end sleeve	mm^2	2 x (0.5 2	2.5)				
 Finely stranded with end sleeve (DIN 46228) 	mm ²	2 x (0.5 1	.5)				
AWG cables, solid or stranded	AWG	2 x (20 1	4)				
Max. outer diameter of the conductor insulation	mm	3.6					

¹⁾ The conductor cross-sections also apply to the 3RV2901 auxiliary switch, 3RV2921 signaling switch and 3RV29.2 auxiliary release. They do not apply to the 3RV2921-5M wireless auxiliary and signaling switch.

If two different conductor cross-sections are connected to one clamping point, both cross-sections must be in the range specified.

³⁾ Cable lug and busbar connection possible after removing the box terminals. This does not apply for 3RV2742.

⁴⁾ If bars larger than 12 mm x 10 mm are connected, a 3RT2946-4EA2 cover is needed to maintain the required phase clearance, see page 7/59.

^{2) &}quot;Technical specifications" for 3RV16 voltage transformer circuit breakers, see page 7/23.

³⁾ If two different conductor cross-sections are connected to one clamping point, both cross-sections must be in the range specified.

Motor starter protectors/circuit breakers SIRIUS 3RV2 motor starter protectors/circuit breakers

General data

Voltage transformer circuit breakers

General data				
Туре		3RV1611-1AG14	3RV1611-1CG14	3RV1611-1DG14
Size	3	S00	S00	S00
Dimensions (W x H x D)	mm	45 x 90 x 70	45 x 90 x 70	45 x 90 x 70
Rated current I _n	Α	1.4	2.5	3
Ambient temperature				
During storage/transport	°C	-50 +80		
During operation	°C	-20 +60 (up to +70	°C possible with curren	t reduction)
Rated operational voltage <i>U</i> _e	V	400		
Rated frequency	Hz	16.66 60		
Rated insulation voltage <i>U</i> _i	V	690		
Short-circuit breaking capacity I _{cu} at 400 V AC	kA	50		
Set value of the thermal overload release	Α	1.4	2.5	3
Response value of the instantaneous electronic release	Α	6 ± 20%	10.5 ± 20 %	20 ± 20 %
Tripping time of the instantaneous electronic release	ms	Approx. 6 at 12 A	Approx. 6 at 20 A	Approx. 6 at 40 A
Internal resistance				
• In cold state	Ω	> 0.25 ± 6.5%		
In heated state	Ω	$> 0.30 \pm 6.5\%$		
Shock resistance according to IEC 60068-2-27	<i>g</i> /ms	15		
Degree of protection IP on the front according to IEC 60529		IP20		
Touch protection on the front according to IEC 60529		Finger-safe for vertical	al touching from the front	t
Endurance				
Mechanical	Oper- ating cycles	10 000		
Electrical	Oper- ating cycles	10 000		
Permissible mounting position		Any		

Conductor cross-sections of ma	in circuit						
Туре			3RV1611-1AG14	3RV1611-1CG14	3RV1611-1DG14		
Connection type			Screw terminals				
Terminal screw			Pozidriv size 2				
Conductor cross-sections (min./max.) connected	, one or two conductors can be						
Solid or stranded	mm^2	2 x (0.5 1.5) ¹⁾ , 2 x (0.75 2.5) ¹⁾ , 2 x (1 4)					
• Finely stranded with end sleeve (DIN 4	16228)	mm^2	2 x (0.5 1.5) ¹⁾ , 2 x (0.75 2.5) ¹⁾				
Auxiliary switches for blocking the	he distance protection						
With defined lateral assignment for bl	ocking distance protection		1 CO (for use as 1 N	O or 1 NC)			
Rated operational voltage U _e	Alternating voltage	V	125				
Rated operational current I _e /AC-14	at $U_{e} = 125 \text{ V}$	Α	0.1				
Rated operational voltage U _e	Direct voltage L/R 200 ms	V	60				
Rated operational current I _e /DC-13	at $U_{\rm e}$ = 60 V	Α	0.3				
Minimum load capacity		V	5				
		mA	1				
Short-circuit protection for auxili	ary circuit						
Melting fuse		Α	250 V type FF 2A (pr	rospective short-circuit o	current < 1.1 kA)		

¹⁾ If two different conductor cross-sections are connected to one clamping point, both cross-sections must be in the range specified.

Motor starter protectors/circuit breakers SIRIUS 3RV2 motor starter protectors/circuit breakers

General data

Terminals for "Self-Protected Combination Motor Controllers (Type E) according to UL 508/UL 60947-4-1"

according	10 OL 500/OL 60947-4-1		
Туре			3RV2928-1H
Prescribed ti	ightening torque	Nm	2.5 3
Conductor c	ross-sections		
• Front clamp	oing point connected - Solid - Folid - Finely stranded with end sleeve - Stranded - AWG cables, solid or stranded - Terminal screw	mm ² mm ² mm ² AWG	1 10 1 16 2.5 25 14 3 M4
• Rear clamp	oing point connected - Solid - Finely stranded with end sleeve - Stranded - AWG cables, solid or stranded - Terminal screw	mm ² mm ² mm ² AWG	1 10 1 16 1.5 25 14 6 M4
Both clamp	ing points connected		
NSB0_00481	 Front clamping point: Solid Finely stranded with end sleeve Stranded AWG cables, solid or stranded Terminal screw 	mm ² mm ² mm ² AWG	1 10 1 10 ¹), 1 6 ¹⁾ 2.5 10 14 6 M4
	Rear clamping point: Solid Finely stranded with end sleeve Stranded AWG cables, solid or stranded Terminal screw	mm ² mm ² mm ² AWG	1 10 1 10 ¹⁾ , 1 16 ¹⁾ 2.5 10 16 3 M4

The following connections are possible when both clamping points are connected:
 front 1 to 10 mm² and rear 1 to 10 mm²,
 front 1 to 6 mm² and rear 1 to 16 mm².

Motor starter protectors/circuit breakers SIRIUS 3RV2 motor starter protectors/circuit breakers

General data

Connection module (plug and adapter) for motor starter	r		
protectors/circuit breakers with screw terminals			
Туре		3RT1900-4RE01	3RT1926-4RD01
		Motor feeder connector S0	Adapter S0
General data			
Rated insulation voltage <i>U</i> _i (pollution degree 3)	V	690	
Rated impulse withstand voltage <i>U</i> _{imp} (pollution degree 3)	kV	6	
Rated operational voltage $U_{\rm e}$	V	440	
Rated frequency f For AC operation	Hz	50/60	
Rated operational current I_e AC-3 and AC-3e at 400 V	Α	25	
Mechanical endurance	Operat- ing cycles	10 million	
Electrical endurance at $I_{ m e}$	Operat- ing cycles	1 million	
Protective separation according to IEC 60947-1 (pollution degree 3)	V	400	
Permissible ambient temperature			
During operation	°C	-25 +60	
During storage	°C	-50 +80	
Conductor cross-sections			
Connection type		Screw terminals	
• Solid	mm^2	1 x (0.5 6)	
Finely stranded without/with end sleeve	mm^2	1 x (0.5 6)	
Stranded	mm^2	1 x (0.5 6)	
 AWG cables, solid or stranded 	AWG	1 x (20 10)	
Tightening torque	Nm	0.6 0.8	
Corresponding opening tool		Cross-tip screwdriver PZ2	
® and ® rated data			
Rated operational voltage $U_{\rm e}$	V	480	
Rated insulation voltage $U_{\rm i}$	V	600	
Uninterrupted current, at 40 °C	А	25	
Short-circuit protection ¹⁾			
• At 600 V	kA	5	
CLASS RK5 fuse	Α	100	
Circuit breakers with overload protection according to UL 489	Α	100	
Combination motor controllers type E according to UL 508			
at 4	180 V Type	3RV202	
	Α	22	
	kA	65	
at 6	600 V Type	3RV202	
	Α	22	
		40	

10

¹⁾ For more information about short-circuit values, e.g. for protection against high short-circuit currents, see the UL reports.

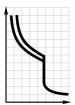
Motor starter protectors/circuit breakers SIRIUS 3RV2 motor starter protectors/circuit breakers

For motor protection IE3/IE4 ready AC-3e

Selection and ordering data

CLASS 10, without auxiliary switches

PU (UNIT, SET, M) = 1 PS* = 1 unit =41E







3RV2011-..A10, 3RV2011-..A10-0BA0

3RV2011-..A20. 3RV2011-.AA20-0BA0

			3NV2U11	7110 OB/10	0	2011-:AA20-0BA0			
Rated current	Suitable for three-phase motors 1) with P	Setting range for thermal overload release	Instanta- neous electronic release	Short-circuit breaking capacity at 400 V AC		Screw terminals	+	Spring-loaded terminals	
I_{n}		4	<i>I</i> >	$I_{ m CU}$		Article No.	Price per PU	Article No.	Price per PU
Α	kW	Α	Α	kA					
Size S0	00								
0.16 0.2 0.25 0.32	0.04 0.06 0.06 0.09	0.11 0.16 0.14 0.2 0.18 0.25 0.22 0.32	2.1 2.6 3.3 4.2	100 100 100 100		3RV2011-0AA10 3RV2011-0BA10 3RV2011-0CA10 3RV2011-0DA10		3RV2011-0AA20 3RV2011-0BA20 3RV2011-0CA20 3RV2011-0DA20	
0.4 0.5 0.63 0.8	0.09 0.12 0.18 0.18	0.28 0.4 0.35 0.5 0.45 0.63 0.55 0.8	5.2 6.5 8.2 10	100 100 100 100		3RV2011-0EA10 3RV2011-0FA10 3RV2011-0GA10 3RV2011-0HA10		3RV2011-0EA20 3RV2011-0FA20 3RV2011-0GA20 3RV2011-0HA20	
1 1.25 1.6 2	0.25 0.37 0.55 0.75	0.7 1 0.9 1.25 1.1 1.6 1.4 2	13 16 21 26	100 100 100 100		3RV2011-0JA10 3RV2011-0KA10 3RV2011-1AA10 3RV2011-1BA10		3RV2011-0JA20 3RV2011-0KA20 3RV2011-1AA20 3RV2011-1BA20	
2.5 3.2 4 5	0.75 1.1 1.5 1.5	1.8 2.5 2.2 3.2 2.8 4 3.5 5	33 42 52 65	100 100 100 100		3RV2011-1CA10 3RV2011-1DA10 3RV2011-1EA10 3RV2011-1FA10		3RV2011-1CA20 3RV2011-1DA20 3RV2011-1EA20 3RV2011-1FA20	
6.3 8 10 12.5 16	2.2 3 4 5.5 7.5	4.5 6.3 5.5 8 7 10 9 12.5 10 16	82 104 130 163 208	100 100 100 100 55		3RV2011-1GA10 3RV2011-1HA10 3RV2011-1JA10 3RV2011-1KA10 3RV2011-4AA10		3RV2011-1GA20 3RV2011-1HA20 3RV2011-1JA20 3RV2011-1KA20 3RV2011-4AA20	
For spe	ecial operatii	ng conditions	down to -5	50 °C ²⁾³⁾					
1.25 1.6 2.5 3.2	0.37 0.55 0.75 1.1	0.9 1.25 1.1 1.6 1.8 2.5 2.2 3.2	16 21 33 42	100 100 100 100		3RV2011-0KA10-0BA0 3RV2011-1AA10-0BA0 3RV2011-1CA10-0BA0 3RV2011-1DA10-0BA0		 3RV2011-1AA20-0BA0 	
4 5 6.3 8	1.5 1.5 2.2 3	2.8 4 3.5 5 4.5 6.3 5.5 8	52 65 82 104	100 100 100 100		3RV2011-1EA10-0BA0 3RV2011-1FA10-0BA0 3RV2011-1GA10-0BA0 3RV2011-1HA10-0BA0		 	
10 12.5 16	4 5.5 7.5	7 10 9 12.5 10 16	130 163 208	100 100 55		3RV2011-1JA10-0BA0 3RV2011-1KA10-0BA0 3RV2011-4AA10-0BA0		 3RV2011-4AA20-0BA0	

¹⁾ Guide value for 4-pole standard motors at 50 Hz 400 V AC. The actual starting and rated data of the motor to be protected must be considered when selecting the units.

Auxiliary switches and other accessories can be ordered separately (see page 7/47 onwards).

 $^{^{2)}\,}$ The 3RV2011-.....-0BA0 motor starter protectors have a mechanical endurance of 500 operating cycles.

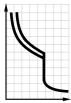
 $^{^{\}rm 3)}$ The motor starter protectors do not have UL/CSA approval and are not certified either according to the European Explosion Protection Directive ATEX or according to the International Explosion Protection Standard (IECEx).

Motor starter protectors/circuit breakers SIRIUS 3RV2 motor starter protectors/circuit breakers

AC-3e IE3/IE4 ready For motor protection

CLASS 10, without auxiliary switches

PU (UNIT, SET, M) = 1 PS* = 1 unit PG = 41E





3RV2021-..A10, 3RV2021-4.A10-0BA0



3RV2021-..A20, 3RV2021-..A20-0BA0

		311V2021A10, 311V2021-4.A10-0BA0		3RV2021A20, 3RV2021A20-0BA0				
Rated current	Suitable for three-phase motors 1) with P	Setting range for thermal overload release	Instanta- neous electronic release	Short-circuit breaking capacity at 400 V AC	Screw terminals	+	Spring-loaded terminals	
I_{n}		4	<i>I</i> >	$I_{ extsf{CU}}$	Article No.	Price per PU	Article No.	Price per PU
Α	kW	А	А	kA		porto		porro
Size S0)							
0.16	0.04	0.11 0.16	2.1	100	3RV2021-0AA10		-	
0.2 0.25	0.06 0.06	0.14 0.2 0.18 0.25	2.6 3.3	100 100	3RV2021-0BA10 3RV2021-0CA10		-	
0.32	0.08	0.22 0.32	4.2	100	3RV2021-0CA10		 	
0.4	0.09	0.28 0.4	5.2	100	3RV2021-0EA10		-	
0.5 0.63	0.12 0.18	0.35 0.5 0.45 0.63	6.5 8.2	100 100	3RV2021-0FA10 3RV2021-0GA10		 3RV2021-0GA20	
0.8	0.18	0.55 0.8	10	100	3RV2021-0HA10		3RV2021-0HA20	
1	0.25	0.7 1	13	100	3RV2021-0JA10		3RV2021-0JA20	
1.25 1.6	0.37 0.55	0.9 1.25 1.1 1.6	16 21	100 100	3RV2021-0KA10 3RV2021-1AA10		3RV2021-0KA20 3RV2021-1AA20	
2	0.75	1.4 2	26	100	3RV2021-1BA10		3RV2021-1AA20	
2.5	0.75	1.8 2.5	33	100	3RV2021-1CA10		3RV2021-1CA20	
3.2	1.1	2.2 3.2	42	100	3RV2021-1DA10		3RV2021-1DA20	
4 5	1.5 1.5	2.8 4 3.5 5	52 65	100 100	3RV2021-1EA10 3RV2021-1FA10		3RV2021-1EA20 3RV2021-1FA20	
6.3	2.2	4.5 6.3	82	100	3RV2021-1GA10		3RV2021-1GA20	
8	3	5.5 8	104	100	3RV2021-1HA10		3RV2021-1HA20	
10 12.5	4 5.5	7 10 9 12.5	130 163	100 100	3RV2021-1JA10 3RV2021-1KA10		3RV2021-1JA20 3RV2021-1KA20	
16	7.5	10 16	208	55	3RV2021-4AA10		3RV2021-4AA20	
20	7.5	13 20	260	55	3RV2021-4BA10		3RV2021-4BA20	
22 25	11 11	16 22 18 25	286 325	55 55	3RV2021-4CA10 3RV2021-4DA10		3RV2021-4CA20 3RV2021-4DA20	
28	15	23 28	364	55	3RV2021-4NA10		3RV2021-4NA20	
32^{2}	15	27 32	400	55	3RV2021-4EA10		3RV2021-4EA20	
36 ³⁾ 40 ³⁾	18.5 18.5	30 36 34 40	432 480	20 20	3RV2021-4PA10 3RV2021-4FA10		-	
		ng conditions		4\5\	3NV2U21-4FA1U		-	
1 1	0.25	0.7 1	13	100	_		3RV2021-0JA20-0BA0	
1.6	0.55	1.1 1.6	21	100	- -		3RV2021-0JA20-0BA0	
2	0.75	1.4 2	26	100	-		3RV2021-1BA20-0BA0	
2.5	0.75	1.8 2.5	33	100	-		3RV2021-1CA20-0BA0	
4 6.3	1.5 2.2	2.8 4 4.5 6.3	52 82	100 100			3RV2021-1EA20-0BA0 3RV2021-1GA20-0BA0	
8	3	5.5 8	104	100	-		3RV2021-1HA20-0BA0	
10	4	7 10	130	100	-		3RV2021-1JA20-0BA0	
12.5	5.5	9 12.5	163	100	-		3RV2021-1KA20-0BA0	
16 20	7.5 7.5	10 16 13 20	208 260	55 55	 3RV2021-4BA10-0BA0		3RV2021-4AA20-0BA0	
22	11	16 22	286	55	3RV2021-4CA10-0BA0		-	
25	11	18 25	325	55	3RV2021-4DA10-0BA0		3RV2021-4DA20-0BA0	
28 32 ²⁾	15 15	23 28 27 32	364 400	55 55	 3RV2021-4EA10-0BA0		3RV2021-4NA20-0BA0 3RV2021-4EA20-0BA0	
40 ³⁾	18.5	34 40	480	20	3RV2021-4EA10-0BA0			

¹⁾ Guide value for 4-pole standard motors at 50 Hz 400 V AC. The actual starting and rated data of the motor to be protected must be considered when selecting the units.

Auxiliary switches and other accessories can be ordered separately (see page 7/47 onwards).

²⁾ Suitable for use with IE3 and IE4 motors up to a starting current of 256 A. For higher starting currents we recommend using 3RV2 motor starter protectors size S2.

The devices must not be mounted side-by-side and they must not be assembled with link modules with contactors. A lateral clearance of 9 mm is required. For use with IE3 and IE4 motors we recommend using 3RV2 motor starter protectors size S2.

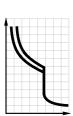
⁴⁾ The 3RV2021-....-0BA0 motor starter protectors have a mechanical endurance of 500 operating cycles.

⁵⁾ The motor starter protectors do not have UL/CSA approval and are not certified either according to the European Explosion Protection Directive ATEX or according to the International Explosion Protection Standard (IECEx).

Motor starter protectors/circuit breakers SIRIUS 3RV2 motor starter protectors/circuit breakers

For motor protection IE3/IE4 ready AC-3e

CLASS 10, without auxiliary switches





3RV2031-4.A10 3RV2031-4.A10-0BA0



3RV2032-4.A10

Rated current	Suitable for three-phase motors ¹⁾ with <i>P</i>	Setting range for thermal overload release	Instantaneous electronic release	Short-circuit breaking capacity at 400 V AC	Screw terminals		PU (UNIT, SET, M)	PS*	PG
I_{n}		[4]	<i>I</i> >	$I_{ m CU}$		Price er PU			
Α	kW	Α	Α	kA					
Size S2	2								
14	5.5	9.5 14	208	65	3RV2031-4SA10		1	1 unit	41E
17 20	7.5 7.5	12 17 14 20	260 260	65 65	3RV2031-4TA10 3RV2031-4BA10		1 1	1 unit 1 unit	41E 41E
25	11	18 25	325	65	3RV2031-4DA10		i	1 unit	41E
32	15	22 32	416	65	3RV2031-4EA10		1	1 unit	41E
36	18.5	28 36	520	65	3RV2031-4PA10		1	1 unit	41E
40 45	18.5 22	32 40 35 45	585 650	65 65	3RV2031-4UA10 3RV2031-4VA10		1 1	1 unit 1 unit	41E 41E
52	22	42 52	741	65	3RV2031-4WA10		1	1 unit	41E
59	30	49 59	845	65	3RV2031-4XA10		1	1 unit	41E
65 73	30 37	54 65 62 73	845 949	65 65	3RV2031-4JA10 3RV2031-4KA10		1	1 unit 1 unit	41E 41E
73 80 ²⁾	37	70 80	1 040	65	3RV2031-4RA10		i	1 unit	41E
For spe	ecial operating	conditions down to	o -50 °C³)4)						
25	11	18 25	325	50	3RV2031-4DA10-0BA0		1	1 unit	41E
32	15	22 32	416	50	3RV2031-4EA10-0BA0		1	1 unit	41E
45 65	22 30	34 45 54 65	650 845	50 65	3RV2031-4VA10-0BA0 3RV2031-4JA10-0BA0		1	1 unit	41E
		ed switching capac			ON ZOOT HOATO ODAO		•	1 driit	
14	5.5	9.5 14	208	100	3RV2032-4SA10		1	1 unit	41E
17	7.5	12 17	260	100	3RV2032-4TA10		1	1 unit	41E
20 25	7.5	14 20 18 25	260 325	100	3RV2032-4BA10		1	1 unit	41E 41E
32	11	22 32	416	100	3RV2032-4DA10		1	1 unit	41E 41E
32 36	18.5	28 36	520	100	3RV2032-4EA10 3RV2032-4PA10		1	1 unit 1 unit	41E 41E
40	18.5	32 40	585	100	3RV2032-4UA10		1	1 unit	41E
45	22	35 45	650	100	3RV2032-4VA10		1	1 unit	41E
52	22	42 52	741	100	3RV2032-4WA10		1	1 unit	41E
59 65	30 30	49 59 54 65	845 845	100 100	3RV2032-4XA10 3RV2032-4JA10		1	1 unit 1 unit	41E 41E
73	37	62 73	949	100	3RV2032-4KA10		i	1 unit	41E
80 ²⁾	37	70 80	1 040	100	3RV2032-4RA10		1	1 unit	41E

¹⁾ Guide value for 4-pole standard motors at 50 Hz 400 V AC. The actual starting and rated data of the motor to be protected must be considered when selecting the units.

Auxiliary switches and other accessories can be ordered separately (see page 7/47 onwards).

²⁾ Suitable for use with IE3 and IE4 motors up to a starting current of 720 A. For higher starting currents we recommend using 3RV2 motor starter protectors size S3.

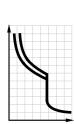
³⁾ The 3RV2031-.....0BA0 motor starter protectors have a mechanical endurance of 250 operating cycles.

⁴⁾ The motor starter protectors do not have UL/CSA approval and are not certified either according to the European Explosion Protection Directive ATEX or according to the International Explosion Protection Standard (IECEX).

Motor starter protectors/circuit breakers SIRIUS 3RV2 motor starter protectors/circuit breakers

AC-3e IE3/IE4 ready For motor protection

CLASS 10, without auxiliary switches





3RV204.-4.A10

Rated current	Suitable for three-phase motors ¹⁾ with <i>P</i>	Setting range for thermal overload release	Instantaneous electronic release	Short-circuit breaking capacity at 400 V AC	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
I_{n}		Image: control of the	<i>I</i> >	I_{CU}	Article No.	Price per PU			
Α	kW	Α	Α	kA		μ			
Size S	3								
40 50 63	18.5 22 30	28 40 36 50 45 63	520 650 819	65 65 65	3RV2041-4FA10 3RV2041-4HA10 3RV2041-4JA10		1 1 1	1 unit 1 unit 1 unit	41E 41E 41E
75 84 93 100 ²⁾	37 45 45 45, 55	57 75 65 84 75 93 80 100	975 1 170 1 300 1 300	65 65 65 65	3RV2041-4KA10 3RV2041-4RA10 3RV2041-4YA10 3RV2041-4MA10		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41E 41E 41E 41E
Size S	3, with increase	ed switching capa	city						
40 50 63	18.5 22 30	28 40 36 50 45 63	520 650 819	100 100 100	3RV2042-4FA10 3RV2042-4HA10 3RV2042-4JA10		1 1 1	1 unit 1 unit 1 unit	41E 41E 41E
75 84 93 100 ²⁾	37 45 45 45, 55	57 75 65 84 75 93 80 100	975 1 170 1 300 1 300	100 100 100 100	3RV2042-4KA10 3RV2042-4RA10 3RV2042-4YA10 3RV2042-4MA10		1 1 1	1 unit 1 unit 1 unit 1 unit	41E 41E 41E 41E

¹⁾ Guide value for 4-pole standard motors at 50 Hz 400 V AC. The actual starting and rated data of the motor to be protected must be considered when selecting the units.

Auxiliary switches and other accessories can be ordered separately (see page 7/47 onwards).

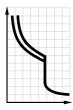
Suitable for use with IE3 and IE4 motors up to a starting current of 780 A. For higher starting currents we recommend using 3VA circuit breakers (see Catalog LV 10).

Motor starter protectors/circuit breakers SIRIUS 3RV2 motor starter protectors/circuit breakers

For motor protection IE3/IE4 ready AC-3e

CLASS 10, with transverse auxiliary switch (1 NO + 1 NC)

PU (UNIT, SET, M) = 1 PS* = 1 unit PG = 41E











3RV2011-..A15

3RV2011-..A25, 3RV2011-1EA25-0BA0

3RV2.21-4.A15, 3RV2021-4.A15-0BA0

3RV2021-4.A25

Rated current	Suitable for three-phase motors ¹⁾ with <i>P</i>	Setting range for thermal overload release	Instantaneous electronic release	Short-circuit breaking capacity at 400 V AC	Screw terminals	+	Spring-loaded terminals	
I_{n}		G	<i>I</i> >	$I_{ m CU}$	Article No.	Price per PU	Article No.	Price per PU
Α	kW	Α	Α	kA		регто		perro
Size S0	00							
0.16 0.2 0.25 0.32	0.04 0.06 0.06 0.09	0.11 0.16 0.14 0.2 0.18 0.25 0.22 0.32	2.1 2.6 3.3 4.2	100 100 100 100	3RV2011-0AA15 3RV2011-0BA15 3RV2011-0CA15 3RV2011-0DA15		3RV2011-0AA25 3RV2011-0BA25 3RV2011-0CA25 3RV2011-0DA25	
0.4 0.5 0.63 0.8	0.09 0.12 0.18 0.18	0.28 0.4 0.35 0.5 0.45 0.63 0.55 0.8	5.2 6.5 8.2 10	100 100 100 100	3RV2011-0EA15 3RV2011-0FA15 3RV2011-0GA15 3RV2011-0HA15		3RV2011-0EA25 3RV2011-0FA25 3RV2011-0GA25 3RV2011-0HA25	
1 1.25 1.6 2	0.25 0.37 0.55 0.75	0.7 1 0.9 1.25 1.1 1.6 1.4 2	13 16 21 26	100 100 100 100	3RV2011-0JA15 3RV2011-0KA15 3RV2011-1AA15 3RV2011-1BA15		3RV2011-0JA25 3RV2011-0KA25 3RV2011-1AA25 3RV2011-1BA25	
2.5 3.2 4 5	0.75 1.1 1.5 1.5	1.8 2.5 2.2 3.2 2.8 4 3.5 5	33 42 52 65	100 100 100 100	3RV2011-1CA15 3RV2011-1DA15 3RV2011-1EA15 3RV2011-1FA15		3RV2011-1CA25 3RV2011-1DA25 3RV2011-1EA25 3RV2011-1FA25	
6.3 8 10 12.5 16	2.2 3 4 5.5 7.5	4.5 6.3 5.5 8 7 10 9 12.5 10 16	82 104 130 163 208	100 100 100 100 55	3RV2011-1GA15 3RV2011-1HA15 3RV2011-1JA15 3RV2011-1KA15 3RV2011-4AA15		3RV2011-1GA25 3RV2011-1HA25 3RV2011-1JA25 3RV2011-1KA25 3RV2011-4AA25	
For spe	ecial operatin	g conditions do	wn to -50 °C ²⁾	(3)		<u>. </u>		
2 2.5 4 5	0.06 0.75 1.5 1.5	1.4 2 1.8 2.5 2.8 4 3.5 5	2.6 33 52 65	100 100 100 100	3RV2011-1BA15-0BA0 3RV2011-1CA15-0BA0 3RV2011-1EA15-0BA0 3RV2011-1FA15-0BA0		 3RV2011-1EA25-0BA0 	
6.3 8 12.5 16	2.2 3 5.5 7.5	4.5 6.3 5.5 8 9 12.5 10 16	82 104 163 208	100 100 100 55	3RV2011-1GA15-0BA0 3RV2011-1HA15-0BA0 3RV2011-1KA15-0BA0 3RV2011-4AA15-0BA0		-	
Size S0								
16 20 22 25	7.5 7.5 11 11	10 16 13 20 16 22 18 25	208 260 286 325	55 55 55 55	3RV2021-4AA15 3RV2021-4BA15 3RV2021-4CA15 3RV2021-4DA15		3RV2021-4AA25 3RV2021-4BA25 3RV2021-4CA25 3RV2021-4DA25	
28 32 ⁴⁾ 36 ⁵⁾ 40 ⁵⁾	15 15 18.5 18.5	23 28 27 32 30 36 34 40	364 400 432 480	55 55 20 20	3RV2021-4NA15 3RV2021-4EA15 3RV2021-4PA15 3RV2021-4FA15		3RV2021-4NA25 3RV2021-4EA25 	

¹⁾ Guide value for 4-pole standard motors at 50 Hz 400 V AC. The actual starting and rated data of the motor to be protected must be considered when selecting the units.

27 ... 32

260

400

55

Auxiliary switches and other accessories can be ordered separately (see page 7/47 onwards).

3RV2021-4BA15-0BA0

3RV2021-4EA15-0BA0

20 32⁴⁾ 7.5

15

²⁾ The 3RV20.1-....-0BA0 motor starter protectors in sizes S00 and S0 have a mechanical endurance of 500 operating cycles.

³⁾ The motor starter protectors do not have UL/CSA approval and are not certified either according to the European Explosion Protection Directive ATEX or according to the International Explosion Protection Standard (IECEx).

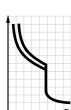
⁴⁾ Suitable for use with IE3 and IE4 motors up to a starting current of 256 A. For higher starting currents we recommend using 3RV2 motor starter protectors size S2.

⁵⁾ The devices must not be mounted side-by-side and they must not be assembled with link modules with contactors. A lateral clearance of 9 mm is required. For use with IE3 and IE4 motors we recommend using 3RV2 motor starter protectors size S2.

Motor starter protectors/circuit breakers SIRIUS 3RV2 motor starter protectors/circuit breakers

AC-3e IE3/IE4 ready For motor protection

CLASS 10, with transverse auxiliary switch (1 NO + 1 NC)





3RV2031-4..15, 3RV2031-4.A15-0BA0



3RV2032-4.A15



3RV2041-4.A15

Rated current	Suitable for three-phase motors 1) with P	Setting range for thermal overload release	Instantaneous electronic release	Short-circuit breaking capacity at 400 V AC	Screw terminals	4	PU (UNIT, SET, M)	PS*	PG
I_{n}		[4]	<i>I</i> >	I_{CU}	Article No.	Price per PU			
Α	kW	Α	Α	kA					
Size S2	2								
14	5.5	9.5 14	208	65	3RV2031-4SA15		1	1 unit	41E
17 20	7.5	12 17 14 20	260	65 65	3RV2031-4TA15		1	1 unit	41E
20 25	7.5 11	14 20 18 25	260 325	65	3RV2031-4BA15 3RV2031-4DA15		1 1	1 unit 1 unit	41E 41E
32	15	22 32	416	65	3RV2031-4EA15		1	1 unit	41E
36	18.5	28 36	520	65	3RV2031-4PA15		1	1 unit	41E
40 45	18.5 22	32 40 35 45	585 650	65 65	3RV2031-4UA15 3RV2031-4VA15		1 1	1 unit 1 unit	41E 41E
52	22	42 52	741	65	3RV2031-4WA15		1	1 unit	41E
59	30	49 59	845	65	3RV2031-4XA15		1	1 unit	41E
65 73	30 37	54 65 62 73	845 949	65 65	3RV2031-4JA15		1 1	1 unit	41E
80 ²⁾	37	62 73 70 80	1 040	65	3RV2031-4KA15 3RV2031-4RA15		1	1 unit 1 unit	41E 41E
	ecial operatino	g conditions down	to -50 °C ³⁾⁴⁾						-
14	5.5	9.5 14	208	65	3RV2031-4SA15-0BA0		1	1 unit	41E
20	7.5	14 20	260	65	3RV2031-4BA15-0BA0		1	1 unit	41E
32 45	15 22	22 32 35 45	416 650	65 65	3RV2031-4EA15-0BA0 3RV2031-4VA15-0BA0		1	1 unit 1 unit	41E 41E
		sed switching capa		00	01172001 47A 10 0DA0		'	1 driit	712
14	5.5	9.5 14	208	10	3RV2032-4SA15		1	1 unit	41E
17	7.5	12 17	260	100	3RV2032-4TA15		1	1 unit	41E
20 25	7.5 11	14 20	260 325	100 100	3RV2032-4BA15		1 1	1 unit 1 unit	41E 41E
32	15	18 25 22 32	416	100	3RV2032-4DA15 3RV2032-4EA15		1	1 unit	41E 41E
32 36	18.5	28 36	520	100	3RV2032-4EA15		1	1 unit	41E
40	18.5	32 40	585	100	3RV2032-4UA15		1	1 unit	41E
45	22	35 45	650	100	3RV2032-4VA15		1	1 unit	41E
52 59	22 30	42 52 49 59	741 845	100 100	3RV2032-4WA15 3RV2032-4XA15		1 1	1 unit 1 unit	41E 41E
65	30	54 65	845	100	3RV2032-4JA15		i	1 unit	41E
73 80 ²⁾	37	62 73	949	100	3RV2032-4KA15		1	1 unit	41E
Size S3	37	70 80	1 040	100	3RV2032-4RA15		1	1 unit	41E
40	18.5	28 40	520	65	3RV2041-4FA15		1	1 unit	41E
40 50	22	26 40 36 50	650	65	3RV2041-4HA15		1	1 unit	41E 41E
63	30	45 63	819	65	3RV2041-4JA15		i	1 unit	41E
75	37	57 75	975	65	3RV2041-4KA15		1	1 unit	41E
84 93	45 45	65 84 75 93	1 170 1 300	65 65	3RV2041-4RA15 3RV2041-4YA15		1	1 unit 1 unit	41E 41E
100 ⁵⁾	45, 55	80 100	1 300	65	3RV2041-41A15		1	1 unit	41E

¹⁾ Guide value for 4-pole standard motors at 50 Hz 400 V AC. The actual starting and rated data of the motor to be protected must be considered when selecting the units.

Auxiliary switches and other accessories can be ordered separately (see page 7/47 onwards).

²⁾ Suitable for use with IE3 and IE4 motors up to a starting current of 720 A. For higher starting currents we recommend using 3RV2 motor starter protectors size S3.

³⁾ The 3RV2031-....-0BA0 motor starter protectors have a mechanical endurance of 250 operating cycles.

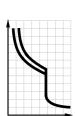
⁴⁾ The motor starter protectors do not have UL/CSA approval and are not certified either according to the European Explosion Protection Directive ATEX or according to the International Explosion Protection Standard (IECEx).

⁵⁾ Suitable for use with IE3 and IE4 motors up to a starting current of 780 A. For higher starting currents we recommend using 3VA circuit breakers (see Catalog LV 10).

Motor starter protectors/circuit breakers SIRIUS 3RV2 motor starter protectors/circuit breakers

For motor protection IE3/IE4 ready AC-3e

CLASS 20, without auxiliary switches





3RV2031-4.B10, 14 to 45 A; 3RV2031-4.B10-0BA0: 32 to 40 A



3RV2031-4.B10 52 to 65 A



3RV2042-4.B10, 40 to 100 A

Rated current	Suitable for three-phase motors ¹⁾ with <i>P</i>	Setting range for thermal overload release	Instantaneous electronic release	Short-circuit breaking capacity at 400 V AC	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
I_{n}		4	<i>I</i> >	$I_{ m CU}$	Article No.	Price per PU			
Α	kW	Α	Α	kA		·			
Size S2	2								
14	5.5	9.5 14	208	65	3RV2031-4SB10		1	1 unit	41E
17	7.5	12 17	260	65	3RV2031-4TB10		1	1 unit	41E
20	7.5	14 20	260	65	3RV2031-4BB10		1	1 unit	41E
25	11	18 25	325	65	3RV2031-4DB10		1	1 unit	41E
32	15	22 32	416	65	3RV2031-4EB10		1	1 unit	41E
36	18.5	28 36	520	65	3RV2031-4PB10		1	1 unit	41E
40	18.5	32 40	585	65	3RV2031-4UB10		1	1 unit	41E
45	22	35 45	650	65	3RV2031-4VB10		1	1 unit	41E
52	22	42 52	741	65	3RV2031-4WB10		1	1 unit	41E
59	30	49 59	845	65	3RV2031-4XB10		1	1 unit	41E
65	30	54 65	845	65	3RV2031-4JB10		1	1 unit	41E
For spe	ecial operating	g conditions down t	o -50 °C ²⁾³⁾						
32	15	22 32	416	65	3RV2031-4EB10-0BA0		1	1 unit	41E
36	18.5	28 36	520	65	3RV2031-4PB10-0BA0		1	1 unit	41E
40	18.5	32 40	585	65	3RV2031-4UB10-0BA0		1	1 unit	41E
Size S3	s, with increas	sed switching capac	ity						
40	18.5	28 40	520	100	3RV2042-4FB10		1	1 unit	41E
50	22	36 50	650	100	3RV2042-4HB10		1	1 unit	41E
63	30	45 63	819	100	3RV2042-4JB10		1	1 unit	41E
75	37	57 75	975	100	3RV2042-4KB10		1	1 unit	41E
84	45	65 84	1 170	100	3RV2042-4RB10		1	1 unit	41E
93	45	75 93	1 300	100	3RV2042-4YB10		1	1 unit	41E
100 ⁴⁾	45, 55	80 100	1 300	100	3RV2042-4MB10		1	1 unit	41E

¹⁾ Guide value for 4-pole standard motors at 50 Hz 400 V AC. The actual starting and rated data of the motor to be protected must be considered when selecting the units.

Auxiliary switches and other accessories can be ordered separately (see page 7/47 onwards).

The 3RV2031-....-0BA0 motor starter protectors have a mechanical endurance of 250 operating cycles.

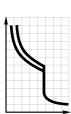
³⁾ The motor starter protectors do not have UL/CSA approval and are not certified either according to the European Explosion Protection Directive ATEX or according to the International Explosion Protection Standard (IECEx).

⁴⁾ Suitable for use with IE3 and IE4 motors up to a starting current of 780 A. For higher starting currents we recommend using 3VA circuit breakers (see Catalog LV 10).

Motor starter protectors/circuit breakers SIRIUS 3RV2 motor starter protectors/circuit breakers

AC-3e IE3/IE4 ready For motor protection

CLASS 20, with transverse auxiliary switch (1 NO + 1 NC)





3RV2031-4.B15, 14 bis 45 A



3RV2031-4.B15, 52 bis 65 A

Rated current	Suitable for three-phase motors ¹⁾ with <i>P</i>	Setting range for thermal overload release	Instantaneous electronic release	Short-circuit breaking capacity at 400 V AC	Screw terminals	①	PU (UNIT, SET, M)	PS*	PG
I_{N}		5	[>	$I_{ extsf{CU}}$	Article No.	Price per PU			
Α	kW	Α	Α	kA					
Size S2	2								
14	5.5	9.5 14	208	65	3RV2031-4SB15		1	1 unit	41E
17	7.5	12 17	260	65	3RV2031-4TB15		1	1 unit	41E
20	7.5	14 20	260	65	3RV2031-4BB15		1	1 unit	41E
25	11	18 25	325	65	3RV2031-4DB15		1	1 unit	41E
32	15	22 32	416	65	3RV2031-4EB15		1	1 unit	41E
36	18.5	28 36	520	65	3RV2031-4PB15		1	1 unit	41E
40	18.5	32 40	585	65	3RV2031-4UB15		1	1 unit	41E
45	22	35 45	650	65	3RV2031-4VB15		1	1 unit	41E
52	22	42 52	741	65	3RV2031-4WB15		1	1 unit	41E
59	30	49 59	845	65	3RV2031-4XB15		1	1 unit	41E
65	30	54 65	845	65	3RV2031-4JB15		1	1 unit	41E

¹⁾ Guide value for 4-pole standard motors at 50 Hz 400 V AC. The actual starting and rated data of the motor to be protected must be considered when selecting the units.

Auxiliary switches and other accessories can be ordered separately (see page 7/47 onwards).

Motor starter protectors/circuit breakers SIRIUS 3RV2 motor starter protectors/circuit breakers

For motor protection with overload relay function IE3/IE4 ready

Selection and ordering data

CLASS 10, with overload relay function (automatic RESET), without auxiliary switches







Rated current	Suitable for three-phase motors ¹⁾ with <i>P</i>	Setting range for thermal overload release	Instantaneous electronic release	Short-circuit breaking capacity at 400 V AC	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
I_{n}		G	<i>I</i> >	$I_{ m CU}$	Article No.	Price per PU			
Α	kW	Α	Α	kA		·			
Size S)0 ²⁾								
0.16 0.2 0.25 0.32	0.04 0.06 0.06 0.09	0.11 0.16 0.14 0.2 0.18 0.25 0.22 0.32	2.1 2.6 3.3 4.2	100 100 100 100	3RV2111-0AA10 3RV2111-0BA10 3RV2111-0CA10 3RV2111-0DA10		1 1 1	1 unit 1 unit 1 unit 1 unit	41E 41E 41E 41E
0.4 0.5 0.63 0.8	0.09 0.12 0.18 0.18	0.28 0.4 0.35 0.5 0.45 0.63 0.55 0.8	5.2 6.5 8.2 10	100 100 100 100	3RV2111-0EA10 3RV2111-0FA10 3RV2111-0GA10 3RV2111-0HA10		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41E 41E 41E 41E
1 1.25 1.6 2	0.25 0.37 0.55 0.75	0.7 1 0.9 1.25 1.1 1.6 1.4 2	13 16 21 26	100 100 100 100	3RV2111-0JA10 3RV2111-0KA10 3RV2111-1AA10 3RV2111-1BA10		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41E 41E 41E 41E
2.5 3.2 4 5	0.75 1.1 1.5 1.5	1.8 2.5 2.2 3.2 2.8 4 3.5 5	33 42 52 65	100 100 100 100	3RV2111-1CA10 3RV2111-1DA10 3RV2111-1EA10 3RV2111-1FA10		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41E 41E 41E 41E
6.3 8 10 12.5 16	2.2 3 4 5.5 7.5	4.5 6.3 5.5 8 7 10 9 12.5 10 16	82 104 130 163 208	100 100 100 100 100 55	3RV2111-1GA10 3RV2111-1HA10 3RV2111-1JA10 3RV2111-1KA10 3RV2111-4AA10		1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41E 41E 41E 41E 41E
16 20 22 25	7.5 7.5 11 11	10 16 13 20 16 22 18 25	208 260 286 325	55 55 55 55	3RV2121-4AA10 3RV2121-4BA10 3RV2121-4CA10 3RV2121-4DA10		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41E 41E 41E 41E
28 32 ³⁾	15 15	23 28 27 32	364 400	55 55	3RV2121-4NA10 3RV2121-4EA10		1 1	1 unit 1 unit	41E 41E

¹⁾ Guide value for 4-pole standard motors at 50 Hz 400 V AC. The actual starting and rated data of the motor to be protected must be considered when selecting the units.

Auxiliary switches and other accessories can be ordered separately (see page 7/47 onwards).

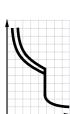
 $^{^{2)}\,}$ Accessories for mounting on the right and 3RV1915 3-phase busbars cannot be used.

Suitable for use with IE3 and IE4 motors up to a starting current of 256 A. For higher starting currents we recommend using 3RV2 motor starter protectors size S2.

Motor starter protectors/circuit breakers SIRIUS 3RV2 motor starter protectors/circuit breakers

AC-3e IE3/IE4 ready For motor protection with overload relay function

CLASS 10, with overload relay function (Automatic RESET), without auxiliary switches







3RV2131-4.A10

3RV2142-4.A10

Rated current	Suitable for three-phase motors ¹⁾ with <i>P</i>	Setting range for thermal overload release	Instantaneous electronic release	Short-circuit breaking capacity at 400 V AC	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
I_{n}		G	<i>I</i> >	$I_{ m CU}$	Article No.	Price per PU			
Α	kW	А	Α	kA		porro			
Size S2	2 ²⁾								
14 17 20 25	5.5 7.5 7.5 11	9.5 14 12 17 14 20 18 25	208 260 260 325	65 65 65 65	3RV2131-4SA10 3RV2131-4TA10 3RV2131-4BA10 3RV2131-4DA10		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41E 41E 41E 41E
32 36 40 45	15 18.5 18.5 22	22 32 28 36 32 40 35 45	416 520 585 650	65 65 65 65	3RV2131-4EA10 3RV2131-4PA10 3RV2131-4UA10 3RV2131-4VA10		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41E 41E 41E 41E
52 59 65 73 80 ³⁾	32 30 30 37 37	42 52 49 59 54 65 62 73 70 80	741 845 845 949 1 040	65 65 65 65	3RV2131-4WA10 3RV2131-4XA10 3RV2131-4JA10 3RV2131-4KA10 3RV2131-4RA10		1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41E 41E 41E 41E 41E
Size S	3, with increase	d switching capac	ity ²⁾						
40 50 63	18.5 22 30	28 40 36 50 45 63	520 650 819	100 100 100	3RV2142-4FA10 3RV2142-4HA10 3RV2142-4JA10		1 1 1	1 unit 1 unit 1 unit	41E 41E 41E
75 84 93 100 ⁴⁾	37 45 45 45, 55	57 75 65 84 75 93 80 100	975 1 170 1 300 1 300	100 100 100 100	3RV2142-4KA10 3RV2142-4RA10 3RV2142-4YA10 3RV2142-4MA10		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41E 41E 41E 41E

¹⁾ Guide value for 4-pole standard motors at 50 Hz 400 V AC. The actual starting and rated data of the motor to be protected must be considered when selecting the units.

Auxiliary switches and other accessories can be ordered separately (see page 7/47 onwards).

²⁾ Accessories for mounting on the right cannot be used.

³⁾ Suitable for use with IE3 and IE4 motors up to a starting current of 720 A. For higher starting currents we recommend using 3RV2 motor starter protectors size S3.

Suitable for use with IE3 and IE4 motors up to a starting current of 780 A. For higher starting currents we recommend using 3VA circuit breakers (see Catalog LV 10).

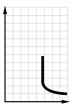
Motor starter protectors/circuit breakers SIRIUS 3RV2 motor starter protectors/circuit breakers

For starter combinations IE3/IE4 ready AC-3e

Selection and ordering data

Without auxiliary switches

PU (UNIT, SET, M) = 1 PS* = 1 unit =41E









3RV2311-..C20, 3RV2311-4AC20-0BA0

Rated current	Suitable for three-phase motors 1) with P	Thermal overload release ²⁾	Instantaneous electronic release	Short-circuit breaking capacity at 400 V AC	Screw to	erminals	+	Spring-loaded terminals	<u></u>
I_{n}		4	<i>I</i> >	I_{CU}	Article N	0.	Price per PU	Article No.	Price per PU
Α	kW	А	Α	kA					
Size S0	0								
0.16 0.2 0.25 0.32	0.04 0.06 0.06 0.09	Without Without Without Without	2.1 2.6 3.3 4.2	100 100 100 100	3RV2311 3RV2311 3RV2311 3RV2311	I-0BC10 I-0CC10		3RV2311-0AC20 3RV2311-0BC20 3RV2311-0CC20 3RV2311-0DC20	
0.4 0.5 0.63 0.8	0.09 0.12 0.18 0.18	Without Without Without Without	5.2 6.5 8.2 10	100 100 100 100	3RV2311 3RV2311 3RV2311 3RV2311	I-0FC10 I-0GC10		3RV2311-0EC20 3RV2311-0FC20 3RV2311-0GC20 3RV2311-0HC20	
1 1.25 1.6 2	0.25 0.37 0.55 0.75	Without Without Without Without	13 16 21 26	100 100 100 100	3RV2311 3RV2311 3RV2311	I-0KC10 I-1AC10		3RV2311-0JC20 3RV2311-0KC20 3RV2311-1AC20 3RV2311-1BC20	
2.5 3.2 4 5	0.75 1.1 1.5 1.5	Without Without Without Without	33 42 52 65	100 100 100 100	3RV2311 3RV2311 3RV2311 3RV2311	I-1DC10 I-1EC10		3RV2311-1CC20 3RV2311-1DC20 3RV2311-1EC20 3RV2311-1FC20	
6.3 8 10 12.5 16	2.2 3 4 5.5 7.5	Without Without Without Without Without	82 104 130 163 208	100 100 100 100 55	3RV2311 3RV2311 3RV2311 3RV2311	I-1HC10 I-1JC10 I-1KC10		3RV2311-1GC20 3RV2311-1HC20 3RV2311-1JC20 3RV2311-1KC20 3RV2311-4AC20	

For special operating conditions down to -50 °C³⁾⁴⁾

Auxiliary switches and other accessories can be ordered separately (see page 7/47 onwards).

3RV2311-4AC20-0BA0

 $^{^{\}rm 1)}$ Guide value for 4-pole standard motors at 50 Hz 400 V AC. The actual starting and rated data of the motor to be protected must be considered when selecting the units.

²⁾ For overload protection of the motors, appropriate overload relays must be used.

³⁾ The 3RV2311-....-0BA0 motor starter protectors have a mechanical endurance of 500 operating cycles.

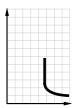
The motor starter protectors do not have UL/CSA approval and are not certified either according to the European Explosion Protection Directive ATEX or according to the International Explosion Protection Standard (IECEx).

Motor starter protectors/circuit breakers SIRIUS 3RV2 motor starter protectors/circuit breakers

AC-3e IE3/IE4 ready For starter combinations

Without auxiliary switches

PU (UNIT, SET, M) = 1 PS* = 1 unit =41E







3RV2321-..C10

3RV2321-..C20, 3RV2321-4AC20-0BA0

Rated current	Suitable for three-phase motors ¹⁾ with <i>P</i>	Thermal overload release ²⁾	Instantaneous electronic release	Short-circuit breaking capacity at 400 V AC	Screw terminals	4	Spring-loaded terminals	••
I_{N}		4	<i>I</i> >	I_{CU}	Article No.	Price per PU	Article No.	Price per PU
Α	kW	Α	А	kA		ρο σ		po o
Size S0								
1.6 2	0.55 0.75	Without Without	21 26	100 100	3RV2321-1AC10 3RV2321-1BC10		3RV2321-1AC20 3RV2321-1BC20	
2.5 3.2 4 5	0.75 1.1 1.5 1.5	Without Without Without Without	33 42 52 65	100 100 100 100	3RV2321-1CC10 3RV2321-1DC10 3RV2321-1EC10 3RV2321-1FC10		3RV2321-1CC20 3RV2321-1DC20 3RV2321-1EC20 3RV2321-1FC20	
6.3 8 10 12.5	2.2 3 4 5.5	Without Without Without Without	82 104 130 163	100 100 100 100	3RV2321-1GC10 3RV2321-1HC10 3RV2321-1JC10 3RV2321-1KC10		3RV2321-1GC20 3RV2321-1HC20 3RV2321-1JC20 3RV2321-1KC20	
16 20 22 25	7.5 7.5 11 11	Without Without Without Without	208 260 286 325	55 55 55 55	3RV2321-4AC10 3RV2321-4BC10 3RV2321-4CC10 3RV2321-4DC10		3RV2321-4AC20 3RV2321-4BC20 3RV2321-4CC20 3RV2321-4DC20	
28 32 ³⁾	15 15	Without Without	364 400	55 55	3RV2321-4NC10 3RV2321-4EC10		3RV2321-4NC20 3RV2321-4EC20	
36 ⁴⁾ 40 ⁴⁾	18.5 18.5	Without Without	432 480	20 20	3RV2321-4PC10 3RV2321-4FC10		=	

16 7.5 Without 208 $^{\rm 1)}$ Guide value for 4-pole standard motors at 50 Hz 400 V AC. The actual

For special operating conditions down to -50 °C⁵⁾⁶⁾

- starting and rated data of the motor to be protected must be considered when selecting the units.
- $^{\mbox{\scriptsize 2)}}$ For overload protection of the motors, appropriate overload relays must be used.
- 3) Suitable for use with IE3 and IE4 motors up to a starting current of 256 A. For higher starting currents we recommend using 3RV2 motor starter protectors size S2
- 4) The devices must not be mounted side-by-side and they must not be assembled with link modules with contactors. A lateral clearance of 9 mm is required. For use with IE3 and IE4 motors we recommend using 3RV2 motor starter protectors size S2.
- $^{5)}\,$ The 3RV2321-....-0BA0 motor starter protectors have a mechanical endurance of 500 operating cycles.
- The motor starter protectors do not have UL/CSA approval and are not certified either according to the European Explosion Protection Directive ATEX or according to the International Explosion Protection Standard (IECEx).

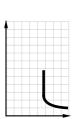
Auxiliary switches and other accessories can be ordered separately (see page 7/47 onwards).

3RV2321-4AC20-0BA0

Motor starter protectors/circuit breakers SIRIUS 3RV2 motor starter protectors/circuit breakers

For starter combinations IE3/IE4 ready AC-3e

Without auxiliary switches















3RV2331-4.C10,

52 to 80 A

3RV2332-4.C10, 14 to 45 A

3RV2332-4.C10, 52 to 80 A

40 to 100 A

Rated	Suitable for three-	Thermal overload		Short-circuit	Screw terminals	(1)	PU	PS*	PG
current	phase motors ¹⁾ with <i>P</i>	release ²⁾	electronic release	breaking capacity at 400 V AC			(UNIT, SET, M)		
I_{D}		<u></u>	<i>I</i> >	$I_{ m CU}$	Article No.	Price per PU			
Α	kW	Α	Α	kA		·			
Size S2									
14	5.5	Without	208	65	3RV2331-4SC10		1	1 unit	41E
17 20	7.5 7.5	Without Without	260 260	65 65	3RV2331-4TC10 3RV2331-4BC10		1 1	1 unit 1 unit	41E 41E
25	11	Without	325	65	3RV2331-4DC10		1	1 unit	41E
32	15	Without	416	65	3RV2331-4EC10		1	1 unit	41E
36 40	18.5 18.5	Without Without	520 585	65 65	3RV2331-4PC10 3RV2331-4UC10		1 1	1 unit 1 unit	41E 41E
45	22	Without	650	65	3RV2331-4VC10		1	1 unit	41E
52	22 30	Without	741	65	3RV2331-4WC10		1	1 unit	41E
59 65	30	Without Without	845 845	65 65	3RV2331-4XC10 3RV2331-4JC10		1 1	1 unit 1 unit	41E 41E
73 80 ³⁾	37	Without	949	65	3RV2331-4KC10		1	1 unit	41E
	37	Without	1 040	65	3RV2331-4RC10		1	1 unit	41E
,	with increased s	<u> </u>	•	100					
14 17	5.5 7.5	Without Without	208 260	100 100	3RV2332-4SC10 3RV2332-4TC10		1 1	1 unit 1 unit	41E 41E
20	7.5	Without	260	100	3RV2332-4BC10		i	1 unit	41E
25	11	Without	325	100	3RV2332-4DC10		1	1 unit	41E
32 36	15 18.5	Without Without	416 520	100 100	3RV2332-4EC10 3RV2332-4PC10		1 1	1 unit 1 unit	41E 41E
40	18.5	Without	585	100	3RV2332-4PC10		1	1 unit	41E
45	22	Without	650	100	3RV2332-4VC10		1	1 unit	41E
52	22	Without	741	100	3RV2332-4WC10		1	1 unit	41E
59 65	30 30	Without Without	845 845	100 100	3RV2332-4XC10 3RV2332-4JC10		1 1	1 unit 1 unit	41E 41E
73_	37	Without	949	100	3RV2332-4KC10		1	1 unit	41E
80 ³⁾	37	Without	1 040	100	3RV2332-4RC10		1	1 unit	41E
Size S3	10.5	AACH .	500	0.5					
40 50	18.5 22	Without Without	520 650	65 65	3RV2341-4FC10 3RV2341-4HC10		1 1	1 unit 1 unit	41E 41E
63	30	Without	819	65	3RV2341-4JC10		1	1 unit	41E
75	37	Without	975	65	3RV2341-4KC10		1	1 unit	41E
84 93	45 45	Without Without	1 170 1 300	65 65	3RV2341-4RC10 3RV2341-4YC10		1 1	1 unit 1 unit	41E 41E
100 ⁴⁾	45, 55	Without	1 300	65	3RV2341-4MC10		1	1 unit	41E
Size S3,	with increased s	witching capacit	у						
40	18.5	Without	520	100	3RV2342-4FC10		1	1 unit	41E
50 63	22 30	Without Without	650 819	100 100	3RV2342-4HC10 3RV2342-4JC10		1 1	1 unit 1 unit	41E 41E
75	37	Without	975	100	3RV2342-4KC10		1	1 unit	41E
84	45	Without	1 170	100	3RV2342-4RC10		1	1 unit	41E
93 100 ⁴⁾	45 45 55	Without	1 300	100	3RV2342-4YC10		1	1 unit	41E
100 "	45, 55	Without	1 300	100	3RV2342-4MC10		1	1 unit	41E

 $^{^{\}rm 1)}$ Guide value for 4-pole standard motors at 50 Hz 400 V AC. The actual starting and rated data of the motor to be protected must be considered when selecting the units.

Auxiliary switches and other accessories can be ordered separately (see page 7/47 onwards).

 $^{^{\}mbox{\scriptsize 2)}}$ For overload protection of the motors, appropriate overload relays must be used.

³⁾ Suitable for use with IE3 and IE4 motors up to a starting current of 720 A. For higher starting currents we recommend using 3RV2 motor starter protectors size S3

⁴⁾ Suitable for use with IE3 and IE4 motors up to a starting current of 780 A. For higher starting currents we recommend using 3VA circuit breakers (see Catalog LV 10).

Motor starter protectors/circuit breakers SIRIUS 3RV2 motor starter protectors/circuit breakers

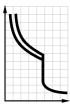
For transformer protection

Selection and ordering data

CLASS 10, without auxiliary switches

Motor starter protectors for the protection of transformers with high inrush current

 $\begin{array}{ll} PU \; (UNIT, \; SET, \; M) \; = 1 \\ PS^* & = 1 \; unit \\ PG & = 41E \end{array}$







3RV2411-..A10, 3RV2411-..A10-0BA0

3RV2411-..A20

Rated current	Setting range for thermal overload release	Instantaneous electronic release	Short-circuit breaking capacity at 400 V AC	Screw terminals		Spring-loaded terminals	8
I_{n}	G	<i>I</i> >	$I_{ extsf{CU}}$	Article No.	Price per PU	Article No.	Price per PU
Α	А	Α	kA				,
Size S00							
0.16 0.2 0.25 0.32	0.11 0.16 0.14 0.2 0.18 0.25 0.22 0.32	3.3 4.2 5.2 6.5	100 100 100 100	3RV2411-0AA10 3RV2411-0BA10 3RV2411-0CA10 3RV2411-0DA10		3RV2411-0AA20 3RV2411-0BA20 3RV2411-0CA20 3RV2411-0DA20	
0.4 0.5 0.63 0.8	0.28 0.4 0.35 0.5 0.45 0.63 0.55 0.8	8.2 10 13 16	100 100 100 100	3RV2411-0EA10 3RV2411-0FA10 3RV2411-0GA10 3RV2411-0HA10		3RV2411-0EA20 3RV2411-0FA20 3RV2411-0GA20 3RV2411-0HA20	
1 1.25 1.6 2	0.7 1 0.9 1.25 1.1 1.6 1.4 2	21 26 33 42	100 100 100 100	3RV2411-0JA10 3RV2411-0KA10 3RV2411-1AA10 3RV2411-1BA10		3RV2411-0JA20 3RV2411-0KA20 3RV2411-1AA20 3RV2411-1BA20	
2.5 3.2 4 5	1.8 2.5 2.2 3.2 2.8 4 3.5 5	52 65 82 104	100 100 100 100	3RV2411-1CA10 3RV2411-1DA10 3RV2411-1EA10 3RV2411-1FA10		3RV2411-1CA20 3RV2411-1DA20 3RV2411-1EA20 3RV2411-1FA20	
6.3 8 10 12.5 16	4.5 6.3 5.5 8 7 10 9 12.5 10 16	130 163 208 260 286	100 100 100 100 55	3RV2411-1GA10 3RV2411-1HA10 3RV2411-1JA10 3RV2411-1KA10 3RV2411-4AA10		3RV2411-1GA20 3RV2411-1HA20 3RV2411-1JA20 3RV2411-1KA20 3RV2411-4AA20	
Without pl 3-phase lo	nase asymmetry/fail ads ¹⁾	ure detection fo	r 1-, 2- and				
0.4 1.6 2 2.5	0.28 0.4 1.1 1.6 1.4 2 1.8 2.5	8.2 33 42 52	100 100 100 100	 		3RV2411-0EA20-0DA0 3RV2411-1AA20-0DA0 3RV2411-1BA20-0DA0 3RV2411-1CA20-0DA0)
3.2 4 5 6.3	2.2 3.2 2.8 4 3.5 5 4.5 6.3	65 82 104 130	100 100 100 100	 		3RV2411-1DA20-0DA(3RV2411-1EA20-0DA(3RV2411-1FA20-0DA(3RV2411-1GA20-0DA()
8 10	5.5 8 7 10	163 208	100 100			3RV2411-1HA20-0DA0 3RV2411-1JA20-0DA0	
For specia	l operating condition	ns down to -50	°C ²⁾³⁾				
2.5 6.3 8 10 16	1.8 2.5 4.5 6.3 5.5 8 7 10 10 16	52 130 163 208 286	100 100 100 100 100 55	3RV2411-1CA10-0BA 3RV2411-1GA10-0BA 3RV2411-1HA10-0BA 3RV2411-1JA10-0BA 3RV2411-4AA10-0BA	0 0 0	 	

¹⁾ The motor starter protectors do not have UL/CSA approval and are not certified either according to the European Explosion Protection Directive ATEX or according to the International Explosion Protection Standard (IECEx).

Auxiliary switches and other accessories can be ordered separately (see page 7/47 onwards).

²⁾ The motor starter protectors have IEC approval, but not UL/CSA approval.

³⁾ The 3RV2411-....-0BA0 motor starter protectors have a mechanical endurance of 500 operating cycles.

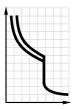
Motor starter protectors/circuit breakers SIRIUS 3RV2 motor starter protectors/circuit breakers

For transformer protection

CLASS 10, without auxiliary switches

Motor starter protectors for the protection of transformers with high inrush current

PU (UNIT, SET, M) = 1 PS* = 1 unit PG = 41E





3RV2421-..A10, 3RV2421-4BA10-0BA0,



3RV2421-4.A20; 3RV2421-4.A20-0DA0, 16 and 20 A

		~=					
Rated current	Setting range for thermal overload release	Instantaneous electronic release	Short-circuit breaking capacity at 400 V AC	Screw terminals	+	Spring-loaded terminals	•••
I_{n}	[4]	<i>I</i> >	I_{CU}	Article No.	Price per PU	Article No.	Price per PU
Α	Α	Α	kA		·		·
Size S0							
0.16	0.11 0.16	3.3	100	3RV2421-0AA10		-	
0.2	0.14 0.2	4.2	100	3RV2421-0BA10			
0.25	0.18 0.25	5.2	100	3RV2421-0CA10			
0.32	0.22 0.32	6.5	100	3RV2421-0DA10			
0.4	0.28 0.4	8.2	100	3RV2421-0EA10			
0.5	0.35 0.5	10	100	3RV2421-0FA10			
0.63	0.45 0.63	13	100	3RV2421-0GA10			
0.8	0.55 0.8	16	100	3RV2421-0HA10		-	
1	0.7 1	21	100	3RV2421-0JA10			
1.25	0.9 1.25	26	100	3RV2421-0KA10			
1.6	1.1 1.6	33	100	3RV2421-1AA10			
2	1.4 2	42	100	3RV2421-1BA10		-	
2.5	1.8 2.5	52	100	3RV2421-1CA10			
3.2	2.2 3.2	65	100	3RV2421-1DA10			
4 5	2.8 4 3.5 5	82 104	100 100	3RV2421-1EA10 3RV2421-1FA10			
		-				-	
6.3	4.5 6.3	130	100	3RV2421-1GA10			
8 10	5.5 8 7 10	163	100	3RV2421-1HA10			
12.5	7 10 9 12.5	208 260	100 100	3RV2421-1JA10 3RV2421-1KA10		-	
16	10 16	286	55	3RV2421-4AA10		3RV2421-4AA20	
20 22	13 20 16 22	325 364	55 55	3RV2421-4BA10 3RV2421-4CA10		3RV2421-4BA20 3RV2421-4CA20	
22 25	18 25	400	55	3RV2421-4CA10 3RV2421-4DA10		3RV2421-4CA20 3RV2421-4DA20	
				3HVZ4Z1-4DA10		3HVZ4Z1-4DAZU	
Without pl	nase asymmetry/fai	lure detection fo	or 1-, 2- and				

Without phase asymmetry/failure detection for 1-, 2- and 3-phase loads¹⁾

o pilase	70440				
16	10 16	286	55		3RV2421-4AA20-0DA0
20	13 20	325	55		3RV2421-4BA20-0DA0

For special operating conditions down to -50 °C²⁾³⁾

13 ... 20

1)	The motor starter protectors do not have UL/CSA approval and are not
	certified either according to the European Explosion Protection Directive ATEX

325

55

3RV2421-4BA10-0BA0

Auxiliary switches and other accessories can be ordered separately (see page 7/47 onwards).

20

or according to the International Explosion Protection Standard (IECEx).

2) The motor starter protectors have IEC approval, but not UL/CSA approval.

³⁾ The 3RV2431-....-0BA0 motor starter protectors have a mechanical endurance of 250 operating cycles.

Motor starter protectors/circuit breakers SIRIUS 3RV2 motor starter protectors/circuit breakers

For transformer protection

CLASS 10, without auxiliary switches

Motor starter protectors for the protection of transformers with high inrush current

PU (UNIT, SET, M) = 1PS* PG = 1 unit =41E



32





3RV2431-4.A10, 14 to 40 A; 3RV2431-4EA10-0BA0, 32 A

3RV2431-4.A10, 45 to 65 A

Rated current	Setting range for thermal overload release	Instantaneous electronic release	Short-circuit breaking capacity at 400 V AC	Screw terminals		Spring-loaded terminals	<u> </u>
I _n	<u> </u>	[>	$I_{ m CU}$	Article No.	Price per PU	Article No.	Price per PU
A Circ CO	A	Α	kA				
Size S2							
14	9.5 14	328	65	3RV2431-4SA10			
17	12 17	410	65	3RV2431-4TA10			
20	14 20	410	65	3RV2431-4BA10			
25	18 25	512	65	3RV2431-4DA10		-	
32	22 32	656	65	3RV2431-4EA10			
36	28 36	820	65	3RV2431-4PA10			
40	32 40	820	65	3RV2431-4UA10			
45	35 45	922	65	3RV2431-4VA10		-	
52	42 52	1 025	65	3RV2431-4WA10		-	
59	49 59	1 040	65	3RV2431-4XA10			
65	54 65	1 040	65	3RV2431-4JA10			
For specia	al operating condition	ons down to -50	°C ¹⁾²⁾				

3RV2431-4EA10-0BA0

22 ... 32 656 1) The motor starter protectors do not have UL/CSA approval and are not certified either according to the European Explosion Protection Directive ATEX or according to the International Explosion Protection Standard (IECEx).

Auxiliary switches and other accessories can be ordered separately (see page 7/47 onwards).

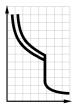
The 3RV2431-....-0BA0 motor starter protectors have a mechanical endurance of 250 operating cycles.

Motor starter protectors/circuit breakers SIRIUS 3RV2 motor starter protectors/circuit breakers

For transformer protection

CLASS 10, with transverse auxiliary switch (1 NO + 1 NC)

Motor starter protectors for the protection of transformers with high inrush current







3RV2411-..A15

3RV2421-4.A15

Rated current	Setting range for thermal overload release	Instantaneous electronic release	Short-circuit breaking capacity at 400 V AC	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
I_{n}	4	<i>I</i> >	I_{CU}	Article No.	Price per PU			
Α	Α	Α	kA					
Size S00								
0.16 0.2 0.25 0.32	0.11 0.16 0.14 0.2 0.18 0.25 0.22 0.32	3.3 4.2 5.2 6.5	100 100 100 100	3RV2411-0AA15 3RV2411-0BA15 3RV2411-0CA15 3RV2411-0DA15		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41E 41E 41E 41E
0.4 0.5 0.63 0.8	0.28 0.4 0.35 0.5 0.45 0.63 0.55 0.8	8.2 10 13 16	100 100 100 100	3RV2411-0EA15 3RV2411-0FA15 3RV2411-0GA15 3RV2411-0HA15		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41E 41E 41E 41E
1 1.25 1.6 2	0.7 1 0.9 1.25 1.1 1.6 1.4 2	21 26 33 42	100 100 100 100	3RV2411-0JA15 3RV2411-0KA15 3RV2411-1AA15 3RV2411-1BA15		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41E 41E 41E 41E
2.5 3.2 4 5	1.8 2.5 2.2 3.2 2.8 4 3.5 5	52 65 82 104	100 100 100 100	3RV2411-1CA15 3RV2411-1DA15 3RV2411-1EA15 3RV2411-1FA15		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41E 41E 41E 41E
6.3 8 10 12.5 16	4.5 6.3 5.5 8 7 10 9 12.5 10 16	130 163 208 260 286	100 100 100 100 100 55	3RV2411-1GA15 3RV2411-1HA15 3RV2411-1JA15 3RV2411-1KA15 3RV2411-4AA15		1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41E 41E 41E 41E 41E
Size S0 16 20 22 25	10 16 13 20 16 22 18 25	286 325 364 400	55 55 55 55	3RV2421-4AA15 3RV2421-4BA15 3RV2421-4CA15 3RV2421-4DA15		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41E 41E 41E 41E

Auxiliary switches and other accessories can be ordered separately (see page 7/47 onwards).

Motor starter protectors/circuit breakers SIRIUS 3RV2 motor starter protectors/circuit breakers

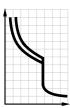
For system protection

Selection and ordering data

CLASS 10, without auxiliary switches

The motor starter protectors are suitable for 1-, 2- and 3-phase loads and do not feature phase asymmetry and phase failure detection. They do not have UL/CSA approval and are not certified either according to the European Explosion Protection Directive ATEX or according to the International Explosion Protection Standard (IECEx).

PU (UNIT, SET, M)	= 1
PS*	= 1 unit
PG	= 41E









3RV2021-..A10-0DA0

3RV2021-1EA20-0DA0

3RV2041-4.A10-0DA0

Rated current	Suitable for three-phase motors 1) with P	Setting range for thermal overload release	Instanta- neous electronic release	Short-circuit breaking capacity at 400 V AC	Screw terminals	+	Spring-loaded terminals	
I _n		<u></u>	<i>I</i> >	I _{CU}	Article No.	Price per PU	Article No.	Price per PU
A Size S0	kW	A	A	kA				
4 6.3 8 10	1.5 2.2 3 4	2.8 4 4.5 6.3 5.5 8 7 10	52 82 104 130	100 100 100 100	3RV2021-1EA10-0DA0 3RV2021-1GA10-0DA0 3RV2021-1HA10-0DA0 3RV2021-1JA10-0DA0		3RV2021-1EA20-0DA0 	
12.5 16 20 25 32	5.5 7.5 7.5 11 15	9 12.5 10 16 13 20 18 25 27 32	163 208 260 325 400	100 55 55 55 55	3RV2021-1KA10-0DA0 3RV2021-4AA10-0DA0 3RV2021-4BA10-0DA0 3RV2021-4DA10-0DA0 3RV2021-4EA10-0DA0		 	
Size S	3							
40 50 63 84 100	18.5 22 30 45 45, 55	28 40 36 50 45 63 65 84 80 100	520 650 819 1 170 1 300	65 65 65 65 65	3RV2041-4FA10-0DA0 3RV2041-4HA10-0DA0 3RV2041-4JA10-0DA0 3RV2041-4RA10-0DA0 3RV2041-4MA10-0DA0		 	

¹⁾ Guide value for 4-pole standard motors at 50 Hz 400 V AC. The actual starting and rated data of the motor to be protected must be considered when selecting the units.

Auxiliary switches and other accessories can be ordered separately (see page 7/47 onwards).

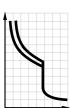
Motor starter protectors/circuit breakers SIRIUS 3RV2 motor starter protectors/circuit breakers

For system protection according to UL 489/CSA C22.2 No. 5

Selection and ordering data

Without auxiliary switches

Circuit breakers for system protection and non-motor loads according to UL/CSA









3RV2711-..D10

3RV2721-4.D10

3RV2742-5.D10

Rated current ¹⁾	Thermal overload release (non-adjustable)	Instantaneous electronic release	Short-circuit brea capacity at 480 Y/277 V AC ²	ŭ.	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
$I_{n1)}$	G	<i>I</i> >	$I_{ m bc}$		Article No.	Price per PU			
Α	Α	Α	kA	kA		perro			
Size S00									
0.16	0.16	2.1	65		3RV2711-0AD10		1	1 unit	41E
0.2	0.2	2.6	65		3RV2711-0BD10		1	1 unit	41E
0.25	0.25	3.3	65		3RV2711-0CD10		1	1 unit	41E
0.32	0.32	4.2	65		3RV2711-0DD10		1	1 unit	41E
0.4	0.4	5.2	65		3RV2711-0ED10		1	1 unit	41E
0.5 0.63	0.5 0.63	6.5 8.2	65 65		3RV2711-0FD10 3RV2711-0GD10		1 1	1 unit 1 unit	41E 41E
0.8	0.8	10	65		3RV2711-0GD10		i	1 unit	41E
1	1	13	65		3RV2711-0JD10		1	1 unit	41E
1.25	1.25	16	65		3RV2711-06D10		i	1 unit	41E
1.6	1.6	21	65		3RV2711-1AD10		1	1 unit	41E
2	2	26	65		3RV2711-1BD10		1	1 unit	41E
2.5	2.5	33	65		3RV2711-1CD10		1	1 unit	41E
3.2	3.2	42	65		3RV2711-1DD10		1	1 unit	41E
4	4	52	65		3RV2711-1ED10		1	1 unit	41E
5	5	65	65		3RV2711-1FD10		1	1 unit	41E
6.3	6.3	82	65		3RV2711-1GD10		1	1 unit	41E
8 10	8 10	104 130	65 65		3RV2711-1HD10 3RV2711-1JD10		1 1	1 unit 1 unit	41E 41E
12.5	12.5	163	65		3RV2711-15D10		i	1 unit	41E
15	15	208	65		3RV2711-4AD10		i	1 unit	41E
Size S0									
20	20	260	50		3RV2721-4BD10		1	1 unit	41E
22	22	286	50		3RV2721-4CD10		i	1 unit	41E
Size S3 ³⁾									
10	10	150	65	65	3RV2742-5AD10		1	1 unit	41E
15	15	225	65	65	3RV2742-5BD10		1	1 unit	41E
20	20	260	65	65	3RV2742-5CD10		1	1 unit	41E
25	25	325	65	65	3RV2742-5DD10		i	1 unit	41E
30	30	390	65	65	3RV2742-5ED10		1	1 unit	41E
35	35	455	65		3RV2742-5FD10		1	1 unit	41E
40	40	520	65		3RV2742-5GD10		1	1 unit	41E
45	45	585	65		3RV2742-5HD10		1	1 unit	41E
50	50	650	65		3RV2742-5JD10		1	1 unit	41E
60	60	780	65		3RV2742-5LD10		1	1 unit	41E
70	70	910	65		3RV2742-5QD10		1	1 unit	41E

¹⁾ Rated value 100% according to UL 489 and IEC 60947-2 ("100% rated breaker").

Lateral and transverse auxiliary switches can be ordered separately (see from page 7/47 onwards).

²⁾ Values for 600 Y/347 V AC, see page 7/16.

³⁾ Transverse auxiliary switches cannot be used for 3RV2742.

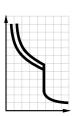
Motor starter protectors/circuit breakers SIRIUS 3RV2 motor starter protectors/circuit breakers

For transformer protection according to UL 489/CSA C22.2 No. 5

Selection and ordering data

Without auxiliary switches

Circuit breakers for system and transformer protection according to UL/CSA, specially designed for transformers with high inrush current







3RV2811-..D10

3RV2821-4.D10

Rated current ¹⁾	Thermal overload release (non-adjustable)	Instantaneous electronic release	Short-circuit breaking capacity at 480 Y/277 V AC ²⁾	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
$I_{n1)}$	G	<i>I</i> >	$I_{ extsf{bc}}$	Article No.	Price per PU			
Α	А	Α	kA		porro			
Size S00								
0.16 0.2 0.25 0.32	0.16 0.2 0.25 0.32	3.3 4.2 5.2 6.5	65 65 65 65	3RV2811-0AD10 3RV2811-0BD10 3RV2811-0CD10 3RV2811-0DD10		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41E 41E 41E 41E
0.4 0.5 0.63 0.8	0.4 0.5 0.63 0.8	8.2 10 13 16	65 65 65 65	3RV2811-0ED10 3RV2811-0FD10 3RV2811-0GD10 3RV2811-0HD10		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41E 41E 41E 41E
1 1.25 1.6 2	1 1.25 1.6 2	21 26 33 42	65 65 65 65	3RV2811-0JD10 3RV2811-0KD10 3RV2811-1AD10 3RV2811-1BD10		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41E 41E 41E 41E
2.5 3.2 4 5	2.5 3.2 4 5	52 65 82 104	65 65 65 65	3RV2811-1CD10 3RV2811-1DD10 3RV2811-1ED10 3RV2811-1FD10		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41E 41E 41E 41E
6.3 8 10 12.5 15	6.3 8 10 12.5 15	130 163 208 260 286	65 65 65 65 65	3RV2811-1GD10 3RV2811-1HD10 3RV2811-1JD10 3RV2811-1KD10 3RV2811-4AD10		1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41E 41E 41E 41E 41E
Size S0 20 22	20 22	325 364	50 50	3RV2821-4BD10 3RV2821-4CD10		1	1 unit 1 unit	41E 41E

¹⁾ Rated value 100% according to UL 489 and IEC 60947-2 ("100% rated breaker").

Lateral and transverse auxiliary switches can be ordered separately (see from page 7/47 onwards).

²⁾ Values for 600 Y/347 V AC, see page 7/16.

Motor starter protectors/circuit breakers SIRIUS 3RV2 motor starter protectors/circuit breakers

Accessories > Mountable accessories

Overview

Mounting location and function

The 3RV2 motor starter protectors/circuit breakers have three main contact elements. In order to achieve maximum flexibility, auxiliary switches, signaling switches, wireless auxiliary and signaling switches, auxiliary releases and isolator modules can be supplied separately.

These components are easily fitted to the switches without the use of any tools according to requirements.

The shock-protected isolation point is clearly visible and secured with

a padlock to prevent reinsertion of the plug.

Overview graphic, see page 7/5.

Front side Notes:	Transverse auxiliary switch, solid-state-compatible	An auxiliary switch can be inserted transversely on the front. The overall width of the motor starter protectors/circuit breakers remains unchanged.
A maximum of four auxiliary contacts with auxiliary switches can be mounted on each motor starter protector/circuit breaker. Transverse auxiliary switches cannot be used for 3RV2742 circuit breaker (size S3).	transverse auxiliary switch 1 NO + 1 NC or 2 NO or 1 CO	
Left-hand side Notes: A maximum of four auxiliary contacts with auxiliary switches can be mounted on each motor starter protector/circuit breaker.	Lateral auxiliary switch (two contacts) 1 NO + 1 NC or 2 NO or 2 NC	One of the three lateral auxiliary switches can be mounted on the left side per motor starter protector/circuit breaker. The contacts of the auxiliary switch close and open together with the main contacts of the motor starter protector/circuit breaker. Width: 9 mm
 The lateral auxiliary switch (two contacts) and the signaling switch can be mounted separately or together. It is not possible to mount the lateral auxiliary switch (two contacts) together with the wireless 	Lateral auxiliary switch (four contacts) 2 NO + 2 NC	One lateral auxiliary switch with four contacts can be mounted on the left side per motor starter protector/circuit breaker. The contacts of the auxiliary switch close and open together with the main contacts of the motor starter protector/circuit breaker. Width: 18 mm
auxiliary and signaling switch. The signaling switch and the wireless auxiliary	Signaling switch	One signaling switch can be mounted on the left side of each motor starter protector.
and signaling switch cannot be used for 3RV1011, 3RV27 and 3RV28 circuit breakers. Only lateral auxiliary switches can be used for 3RV2742 (size S3).	Tripping 1 NO + 1 NC Short circuit 1 NO + 1 NC	The signaling switch has two contact systems. One contact system always signals tripping irrespective of whether this was caused by a short circuit, an overload or an auxiliary release. The other contact system only switches in the event of a short circuit. There is no signaling as a result of switching off with the actuator.
		In order to be able to switch on the motor starter protector again after a shor circuit, the signaling switch must be reset manually after the error cause has been eliminated. Width: 18 mm
	3RV2 COM wireless auxiliary and signaling	One wireless auxiliary and signaling switch can be mounted on the left side of each motor starter protector.
	switch	It acquires the switching states of the motor starter protector in addition to the number of disconnections. In addition to the ON/OFF state, it differentiates whether tripping has been caused by an overload or a short circuit. The motor starter protector states are transmitted wirelessly by means of the integrated communication function.
		The wireless auxiliary and signaling switch requires a 24 V DC supply voltage. Width: 18 mm
Right-hand side	Auxiliary releases	
Notes: One auxiliary release can be mounted per motor starter protector/circuit breaker.	Shunt release	For remote-controlled tripping of the motor starter protector/circuit breaker. The release coil should only be energized for short periods (circuit diagrams to be observed).
 Accessories cannot be mounted on the right- hand side of the 3RV21 motor starter protectors 	or	
for motor protection with overload relay function.	Undervoltage release	Trips the motor starter protector/circuit breaker when the voltage is interrupted and prevents the motor from being restarted accidentally when the voltage is restored. Used for remote-controlled tripping of the motor starter protector/circuit breaker.
		Particularly suitable for EMERGENCY OFF disconnection by way of corresponding EMERGENCY OFF pushbuttons according to IEC 60204-1.
	or	
	Undervoltage release with leading auxiliary contacts 2 NO Own version for 3RV1011	Function and use as for the undervoltage release without leading auxiliary contacts, but with the following additional function: the auxiliary contacts will open in switch position OFF to deenergize the coil of the undervoltage release, thus interrupting energy consumption. In the "tripped" position, these auxiliary contacts are not guaranteed to open. The leading contacts permit the motor starter protector/circuit breaker to reclose.
		Width of auxiliary releases: 18 mm
Top Notes:	Isolator module	The isolator module can be mounted to the upper connection side of the motor starter protectors.
The isolator module cannot be used for 3RV1011, 3RV27 and 3RV28 circuit breakers.		The supply cable is connected to the motor starter protector through the isolator module.
The isolator module for size S2 can be used only with 3RV2 motor starter protectors/circuit breakers up to max 65 A		The plug can only be unplugged when the motor starter protector is open and isolates all 3 poles of the motor starter protector from the network. The shock-protected isolation point is clearly visible and secured with

For a complete overview of which accessories can be used for the various motor starter protectors/circuit breakers, see page 7/2.

• The isolator module cannot be used with the

breakers up to max. 65 A.

transverse auxiliary switch.

Motor starter protectors/circuit breakers SIRIUS 3RV2 motor starter protectors/circuit breakers

Accessories > Mountable accessories

Selection and ordering data

PU (UNIT, SET, M) = 1 PS* = 1 PG = 4 = 1 unit (unless otherwise specified)

=41E

PG	= 41E						
		Version	For motor starter protectors/ circuit breakers	Screw terminals	+	Spring-loaded terminals	•••
			Size	Article No.	Price per PU	Article No.	Price per PU
Auxiliary sw	ritches ¹⁾		GIZC				
rtaxillar y on	1.01.00	Transverse auxiliary switch	es ²⁾				
C 4 4 4 4		For mounting on the front					
3RV2901-1E		1 CO 1 NO + 1 NC 2 NO	S00 S3	3RV2901-1D 3RV2901-1E 3RV2901-1F		3RV2901-2E 3RV2901-2F	
9000	~	Solid-state-compatible		3HV29U1-1F		3HV29U1-2F	
	,	transverse auxiliary switch ²⁾					
3RV2901-2E		For mounting on the front,					
<u> </u>	44	for operation in dusty atmosphere and in solid-					
11 th 14 th th		state circuits with low					
3RV2901-1G		operating currents					
		1 CO Covers for transverse	S00 S3	3RV2901-1G		-	
		auxiliary switch (PS* = 10 units)	S00 S3	3RV2901-0H			
3RV2901-0H		(2 2 2 2 2)					
A.	4	Lateral auxiliary switches					
		For mounting on the left 1 NO + 1 NC 2 NO 2 NC 2 NO + 2 NC	S00 S3	3RV2901-1A 3RV2901-1B 3RV2901-1C 3RV2901-1J		3RV2901-2A 3RV2901-2B 3RV2901-2C	
3RV2901-1A	3RV2901-2A						
Signaling sv	vitches ³⁾						
		Signaling switches	S00 ⁴⁾ S3	3RV2921-1M		3RV2921-2M	
22		One signaling switch can be mounted on the left per motor starter protector.					
	. =	Separate tripped and short-circuit alarms, 1 NO + 1 NC each					
3RV2921-1M	3RV2921-2M		A)				
AHP .		3RV2 COM wireless auxiliary and signaling switch WeW	S00 ⁴⁾ S3	-		3RV2921-5M	
		One wireless auxiliary and signaling switch can be mounted on the left per motor starter protector.					
		The motor starter protector					
3RV2921-5M		status is signaled by radio. 24 V DC supply voltage					
Isolator mod	lules ³⁾⁵⁾						
1111	1117	Isolator modules	S00 ⁴⁾ , S0	3RV2928-1A			
		Visible isolating distance for isolating individual motor starter protectors from the network, lockable in disconnected position	S2	3RV2938-1A		_	
3RV2928-1A	3RV2938-1A						
31142320 1/1	J. 17 2000 1/1						

Each motor starter protector/circuit breaker can be fitted with one transverse and one lateral auxiliary switch. The lateral auxiliary switch with 2 NO + 2 NC is used without a transverse auxiliary switch.

²⁾ Not for 3RV2742 circuit breakers.

 $^{^{\}rm 3)}$ This accessory cannot be used for the 3RV27 and 3RV28 circuit breakers (sizes S00, S0, S3).

⁴⁾ Not for 3RV1011 motor starter protectors.

⁵⁾ The isolator module for size S2 can be used only with 3RV2 motor starter protectors/circuit breakers up to max. 65 A. Similarly, it cannot be used with the transverse auxiliary switch

Motor starter protectors/circuit breakers SIRIUS 3RV2 motor starter protectors/circuit breakers

Accessories > Mountable accessories

 $\begin{array}{ll} PU \text{ (UNIT, SET, M)} &= 1 \\ PS^* &= 1 \text{ unit} \\ PG &= 41E \end{array}$









3RV2902-1AV0

3RV2902-2AV0

3RV2922-1CP0

3RV2902-2DB0

Rated o	control sup	ply voltage U _s			For motor	Screw terminals		Spring-loaded	<u></u>
AC 50 Hz	AC 60 Hz	AC 50/60 Hz 100% ON period ¹⁾	AC/DC 50/60 Hz, DC 5 s ON period ²⁾	DC	starter protectors/ circuit breakers		•	terminals	
						Article No.	Price	Article No.	Price
V	V	V	V	V	Size		per PU		per PU
Auxili	ary relea	ses ³⁾							
	oltage rel								
				24	S00 S3	3RV2902-1AB4			
24	24				S00 S3	3RV2902-1AB0		-	
110	120				S00 S3	3RV2902-1AF0			
	208				S00 S3	3RV2902-1AM1		-	
230	240				S00 S3	3RV2902-1AP0		3RV2902-2AP0	
400	440				S00 S3	3RV2902-1AV0		3RV2902-2AV0	
415 500	480 600				S00 S3 S00 S3	3RV2902-1AV1 3RV2902-1AS0		-	
					500 53	3RV29U2-1A5U		-	
	-	eases with leading a	auxiliary contacts	2 NO					
24	24				S00 ⁴⁾ S3	3RV2922-1CB0		-	
230	240				S00 ⁴⁾ S3	3RV2922-1CP0		3RV2922-2CP0	
400 415	440 480				S00 ⁴⁾ S3 S00 ⁴⁾ S3	3RV2922-1CV0		3RV2922-2CV0	
		W W			500 7 53	3RV2922-1CV1		3RV2922-2CV1	
Shunt	releases								
		20 24	20 70		S00 S3	3RV2902-1DB0		3RV2902-2DB0	
		90 110	70 190		S00 S3	3RV2902-1DF0		3RV2902-2DF0	
		210 240	190 330		S00 S3	3RV2902-1DP0		3RV2902-2DP0	
		350 415 500	330 500 500		S00 S3 S00 S3	3RV2902-1DV0 3RV2902-1DS0		-	
		300	300		300 33	3HVZ9UZ-1D3U			

¹⁾ The voltage range is valid for 100% (infinite) ON period. The response voltage lies at 0.9 of the lower limit of the voltage range.

²⁾ The voltage range is valid for 5 s ON period at 50/60 Hz AC and DC. The response voltage lies at 0.85 of the lower limit of the voltage range.

³⁾ One auxiliary release can be mounted on the right per motor starter protector/circuit breaker (does not apply to 3RV21 motor starter protectors/circuit breakers with overload relay function).

⁴⁾ Not for 3RV1011 motor starter protectors.

Motor starter protectors/circuit breakers SIRIUS 3RV2 motor starter protectors/circuit breakers

Accessories > Busbar accessories

Overview

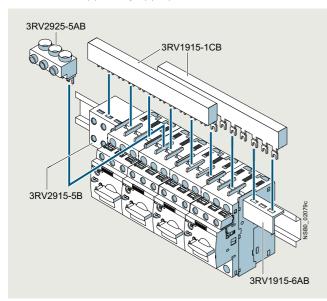
Insulated 3-phase busbar system

3-phase busbar systems provide an easy, time-saving and clearly arranged means of feeding 3RV2 motor starter protectors/circuit breakers with screw terminals. Different versions are available for sizes S00 to S2 and can be used for the various different types of motor starter protectors/circuit breakers (size S0 up to 32 A).

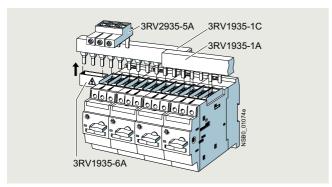
The 3RV1915 3-phase busbar systems are generally unsuitable for the 3RV21 motor starter protectors with sizes S00 and S0 for motor protection with overload relay function.

The busbars are suitable for between two and five motor starter protectors/circuit breakers. However, any kind of extension is possible by clamping the connection tags of an additional busbar (rotated by 180°) underneath the terminals of the respective last motor starter protector/circuit breaker.

A combination of motor starter protectors/circuit breakers of size S00 and S0 is possible. The motor starter protectors/circuit breakers are supplied by appropriate infeed terminals.



SIRIUS 3-phase busbar system size S00/S0



SIRIUS 3-phase busbar system size S2

The 3-phase busbar systems are finger-safe. They are designed for any short-circuit stress which can occur at the output side of connected motor starter protectors/circuit breakers.

The 3-phase busbar systems can also be used to construct "Starters (Type E)" according to UL/CSA and for 3RV27 and 3RV28 circuit breakers according to UL 489. However, special infeed terminals, 3RV2925-5EB for sizes S00/S0 and 3RV2935-5E for size S2, must be used for this purpose, see page 7/51.

8US busbar adapters for 60 mm systems

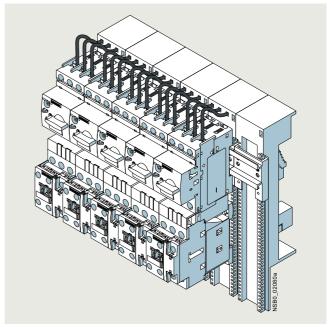
The motor starter protectors/circuit breakers are mounted directly with the aid of busbar adapters on busbar systems with 60 mm center-to-center clearance in order to save space and to reduce infeed times and costs.

Busbar adapters for busbar systems with 60 mm center-tocenter clearance are suitable for copper busbars with a width of 12 mm to 30 mm. The busbars can be 5 mm or 10 mm thick.

The motor starter protectors/circuit breakers are snapped onto the adapter and connected on the line side, either with wires or with the plug-in connectors of the SIRIUS infeed system (see page 7/53). This prepared unit is then plugged directly onto the busbar system, and is thus connected both mechanically and electrically at the same time.

For the setup of UL feeders (Type E and F), Type E terminal blocks or phase barriers must be fitted to the infeed module on the motor starter protector (see from page 7/57).

For further busbar adapters for snap-mounting direct-on-line starters and reversing starters as well as additional accessories such as line terminals and outgoing terminals, flat copper profile, etc., see Catalog LV 10.



SIRIUS load feeders with busbar adapters snapped onto busbars

Motor starter protectors/circuit breakers SIRIUS 3RV2 motor starter protectors/circuit breakers

Accessories > Busbar accessories

Selection and ordering data

	Modular spacing		of motor starte s that can be ed	er	Rated current I _n at 690 V	protectors/	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		without lateral acces- sories	with lateral auxiliary switch	incl. auxiliary release		circuit breakers					
	mm				Α	Size					
3-phase busbars											
MALES AND ADDRESS OF THE PARTY			l motor starter de on DIN rail								
3RV1915-1AB	45 ¹⁾²⁾	2 3			63 63 63	S00, S0 ³⁾ S00, S0 ³⁾ S00, S0 ³⁾	3RV1915-1AB 3RV1915-1BB 3RV1915-1CB		1	1 unit 1 unit	41E 41E 41E
WARRY TO A STREET		5			63	S00, S0 ³)	3RV1915-1CB		1	1 unit 1 unit	41E 41E
3RV1915-1BB	55 ¹⁾⁴⁾		2 3		63 63	S00, S0 ³⁾ S00, S0 ³⁾	3RV1915-2AB 3RV1915-2BB		1	1 unit 1 unit	41E 41E
			4 5		63 63	S00, S0 ³⁾ S00, S0 ³⁾	3RV1915-2CB 3RV1915-2DB		1	1 unit 1 unit	41E 41E
3RV1915-1CB		2			108 108	S2 S2	3RV1935-1A 3RV1935-1B		1 1	1 unit 1 unit	41E 41E
		4			108	S2	3RV1935-1C		1	1 unit	41E
AMARANA ANA ANA ANA ANA ANA ANA ANA ANA AN	63 ¹⁾⁵⁾			2	63 63	S00, S0 ³⁾ S00, S0 ³⁾	3RV1915-3AB 3RV1915-3CB		1 1	1 unit 1 unit	41E 41E
3RV1915-1DB	65 ⁶⁾	2			63	S00, S0 ³⁾	3RV1915-4AB				
	75 ⁵⁾		2	2 3	108 108	S2 S2	3RV1935-3A 3RV1935-3B		1	1 unit 1 unit	41E 41E
			4	4	108	S2	3RV1935-3C		i	1 unit	41E

Not suitable for 3RV21 motor starter protectors of sizes S00 and S0 with overload relay function.

⁶⁾ Suitable for 3RV21 motor starter protectors of sizes S00 and S0 with overload relay function.

	Version			cing prot	motor starter tectors/ uit breakers	Article No.	Price per PU		PS*	PG
Connecting pieces	For connecti for 3RV2 mo size S00/S0	e busbars ing 3-phase bitor starter prot (left) to the 3R r protector (rig	ectors of V1011	\$00	, S0	3RV1915-5DB		1	1 unit	41E
	Conductor of Solid or stranded	Finely stranded with end sleeve	AWG cables solid or stranded		starter protectors/ circuit breakers	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
2 mbass infeed tou	mm²	mm ²	AWG	Nm	Size					
3-phase infeed ter	Connection	from ton								
3RV2925-5AB 3RV2935-5A	2.5 25 2.5 25 2 x	4 16 2.5 16 2 x (2.5 35) ¹⁾ , 1 x	1 x	4 3 4 4 6	S00 ²⁾ , S0 S00, S0 S2	3RV1915-5A 3RV2925-5AB 3RV2935-5A		1 1 1	1 unit 1 unit 1 unit	41E 41E 41E
3RV2915-5B	Terminal is c	from below connected in p into account 2.5 16	lace of a switc	Input: 4, output: 2 2.5	soo, So	3RV2915-5B		1	1 unit	41E

¹⁾ If two different conductor cross-sections are connected to one clamping point, both cross-sections must be in the range specified.

²⁾ For 3RV2 motor starter protectors without accessories mounted on the side.

³⁾ Approved for motor starter protectors size S0 with $I_{\rm n} \le$ 32 A.

⁴⁾ For 3RV2 motor starter protectors with auxiliary switches with 1 NO + 1 NC, 2 NO and 2 NC mounted on the left (9 mm wide).

⁵⁾ For 3RV20, 3RV23 and 3RV24 motor starter protectors with mounted accessories (18 mm wide). Auxiliary switches with 2 NO + 2 NC or signaling switch (mounted on the left) or with auxiliary release (mounted on the right).

²⁾ Especially suitable for 3RV1011 motor starter protectors. If the 3RV2 motor starter protector is used, the terminal block extends beyond the device width.

Motor starter protectors/circuit breakers SIRIUS 3RV2 motor starter protectors/circuit breakers

Accessories > Busbar accessories

	Conductor c Solid or stranded	ross-section Finely stranded with end sleeve	AWG cables, solid or stranded	Tightening torque	For motor starter protectors/ circuit breakers	A	article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	mm²	mm²	AWG	Nm	Size						
3-phase infeed ter	minals for c	onstructing	g "starters (T	ype E)"							
	Connection	from top									
	2.5 25	2.5 16	10 4	3 4	S00, S0	31	RV2925-5EB		1	1 unit	41E
3RV2925-5EB	1 v	2 x (2.5 35) ¹⁾ , 1 x (2.5 50) ¹⁾	2 x (10 1/0) ¹⁾ , 1 x (10 2/0) ¹⁾	4 6	S2	31	RV2935-5E		1	1 unit	41E
3RV2935-5E		(2.6 66)	(1010)								

¹⁾ If two different conductor cross-sections are connected to one clamping point, both cross-sections must be in the range specified.

	Version	For motor starter protectors/ circuit breakers	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		Size					
Covers for connec	ction tags						
The state of the s	Touch protection for empty positions	S00, S0	3RV1915-6AB		1	10 units	41E
AAAAAA		S2	3RV1935-6A		1	5 units	41E
3RV1935-6A cover mounted on 3RV1915-1CB busbar							

Motor starter protectors/circuit breakers SIRIUS 3RV2 motor starter protectors/circuit breakers

Accessories > Busbar accessories

Busbar adapters











0110-	210	-5AS80	
OU.	/ IO	-::::A::::OU	

8US1216-5AT80

8US1251-5DS10

8US1251-5DT11

8US1211-4TR00

1 unit

140

8031216-5A380	808	8U51210-0A18U 8U51201-0D51U		8051251-5011	31-30111 8031211-411					
For motor starter protectors/ circuit breakers	Rated current	Connecting cable	Adapter length	Adapter width	Rated voltage	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Size	Α	AWG	mm	mm	V					
Busbar adapters	for 60 mm sy	stems								
For copper busbars Width: 12 mm and 3 Thickness: 5 mm and and for T and double	0 mm d 10 mm e-T special profile	es								
For motor starter p		oreakers with								
S00 ¹⁾ , S0	32		200	45	690	8US1216-5AS80		1	1 unit	140
S00 ¹⁾ , S0	32		260	45	690	8US1216-5AT80		1	1 unit	140
 For motor starter p 	rotectors/circuit l	oreakers with	screw tern	ninals ²⁾		Screw terminals	+			
S00 ¹⁾ , S0 ³⁾	25	12	200	45	690	8US1251-5DS10		1	1 unit	140
S00 ¹⁾ , S0	25	12	260	45	690	8US1251-5DT10		1	1 unit	140
S0	32	10	200	45	690	8US1251-5NS10		1	1 unit	140
S0 ³⁾	32	10	260	45	690	8US1251-5NT10		1	1 unit	140
S2	80	4	200	55	690	8US1261-5MS13		1	1 unit	140
S2	80	4	260	55	690	8US1261-6MT10		1	1 unit	140
S2 ⁴⁾	80	4	260	118	690	8US1211-6MT10		1	1 unit	140
S3	100/70 ⁵⁾	4	215	72	690/600 ⁵⁾	8US1211-4TR00		1	1 unit	140
For motor starter protectors/circuit breakers with spring-loaded terminals ⁶⁾						Spring-loaded terminals	<u></u>			
S00 ¹⁾ , S0 ³⁾	25	12	200	45	690	8US1251-5DS11		1	1 unit	140
S00 ¹⁾ , S0 ³⁾	25	12	260	45	690	8US1251-5DT11		1	1 unit	140
S0	32	10	200	45	690	8US1251-5NS11		1	1 unit	140

¹⁾ Not for 3RV1011 motor starter protectors.

32

10

260

45

690

S03)

For additional busbar adapters, see Catalog LV 10.

8US1251-5NT11

Accessories, see next page.

²⁾ For the setup of UL feeders (Type E and F), Type E terminal blocks or phase barriers (for sizes S00 to S2) must be fitted to the infeed module on the motor starter protector (see from page 7/57).

³⁾ Also approved for 3RV27, 3RV28 motor starter protectors according to UL.

⁴⁾ For the assembly of feeders for reversing starters comprising a motor starter protector and two contactors.

⁵⁾ Values according to UL/CSA:

⁻ Rated current: 70 A at 600 V AC

Short-circuit breaking capacity:
 480 V AC: 65 kA, up to I_n = 30 A,
 480 Y/277 V AC: 65 kA,
 600 Y/347 V AC: 20 kA.

⁶⁾ It is not possible to set up UL feeders (Type E and F).

Motor starter protectors/circuit breakers SIRIUS 3RV2 motor starter protectors/circuit breakers

Accessories > Busbar accessories

		Туре	Version	For 3RV20, 3RV23, 3RV24, 3RV27, 3RV28 motor starter protectors Size	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Accessorie	e for hush	par adapters		SIZE					
Accessorie	3 101 busi	Plug-in connectors To make contact with	For spring-loaded terminals		Spring-loaded terminals				
		the 3RV2 motor starter protectors	- Single-unit packaging		3RV2917-5AA00 3RV2927-5AA00		1 1	1 unit 1 unit	41E 41E
			- Multi-unit packaging	S00 ¹⁾ S0 ²⁾	3RV2917-5A 3RV2927-5A		1	10 units 10 units	41E 41E
3RV2917-5A	004								
			For screw terminals		Screw terminals	(1)			
			- Single-unit packaging		3RV2917-5CA00 3RV1927-5AA00		1 1	1 unit 1 unit	41E 41E
			- Multi-unit packaging	S00 ¹⁾³⁾ S0 ²⁾⁴⁾	3RV2917-5C 3RV1927-5A		1 1	10 units 10 units	41E 41E
3RV2917-5C/	400								
		Device holders For lateral attachment	Adapter length 200 mm, adapter width 45 mm	,	8US1250-5AS10		1	1 unit	140
		to busbar adapters	Adapter length 260 mm, adapter width 45 mm		8US1250-5AT10		1	1 unit	140
8US1250- 5AS10									
	8US1250- 5AT10								
		Side modules For widening busbar adapters	Adapter length 200 mm, adapter width 9 mm	, S00, S0	8US1998-2BJ10		1	10 units	140
		Vibration and shock kit For high vibration and shock loads		S2	8US1998-1DA10		1	1 unit	140

 $^{^{1)}}$ I > 14 A, please note derating.

²⁾ I > 16 A, please note derating.

³⁾ The plug-in connector cannot be used for the 3RV2711 and 3RV2811 motor starter protectors with size S00.

⁴⁾ The plug-in connector can be used for the 3RV2711, 3RV2811 (size S00) and 3RV2721, 3RV2821 (size S0) circuit breakers.

Motor starter protectors/circuit breakers SIRIUS 3RV2 motor starter protectors/circuit breakers

Accessories > Rotary operating mechanisms

Overview

Door-coupling rotary operating mechanisms

Motor starter protectors/circuit breakers with a rotary operating mechanism can be mounted in a control cabinet and operated externally by means of a door-coupling rotary operating mechanism. When the cabinet door with motor starter protector/circuit breaker is closed, the operating mechanism is coupled. When the motor starter protector/circuit breaker closes, the coupling is locked which prevents the door from being opened unintentionally. This interlock can be defeated by the maintenance personnel. In the OFF position, the rotary operating mechanism can be secured against reclosing with up to three padlocks. Inadvertent opening of the door is not possible in this case either.

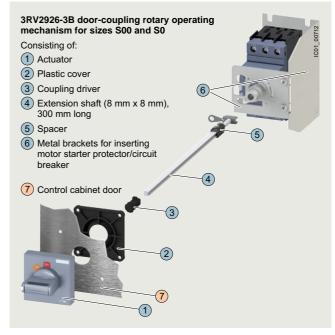
With the optional 3RV2926-.Q tolerance compensation, an offset can be compensated when installing the door-coupling rotary operating mechanism. For this purpose, the standard coupling head on the shaft is removed and replaced by the tolerance compensation.



Video: SIRIUS door-coupling rotary operating mechanism



SIRIUS 3RV2926-1B door-coupling rotary operating mechanism



SIRIUS 3RV2926-3B door-coupling rotary operating mechanism for harsh conditions

Motor starter protectors/circuit breakers SIRIUS 3RV2 motor starter protectors/circuit breakers

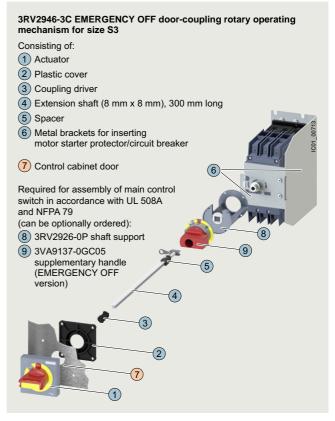
Accessories > Rotary operating mechanisms

Door-coupling rotary operating mechanism for mounting one main switch in size S3 according to UL 508A and NFPA 79

For the installation of a door-coupling rotary operating mechanism for harsh conditions for a main switch (only possible in frame size S3) in a UL control cabinet (according to UL 508A and NFPA 79), the standard stipulates a second handle in the control cabinet. With the cabinet door open, it shall only be possible to switch on this supplementary handle by means of a "deliberate action".

The following figure shows the setup required for this purpose, with the 3RV2946-3C door-coupling rotary operating mechanism for harsh conditions, the 3RV2926-0P shaft support, and the 3VA9137-0GC05 supplementary handle (EMERGENCY OFF version).

To switch on the supplementary handle, the handle must be pressed against a spring in the direction of the mounting plane. This is the required "deliberate action" so that the supplementary handle does not turn empty and the circuit breaker can be closed.



SIRIUS 3RV2946-3C EMERGENCY OFF door-coupling rotary operating mechanism for harsh operating conditions according to UL 508A and NFPA 79 with optional shaft support and supplementary handle (EMERGENCY OFF version)

Selection and ordering data

Version	Version of extension shaft	For motor starter protectors/ circuit breakers	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	mm	Size					

Door-coupling rotary operating mechanisms



3RV2926-1B



3RV2926-1C





. •	
The door-coupling rotary operating mechanisms consist of a selector	; a coupling driver and a 130/330 mm long extension shaft
(6 mm x 6 mm)	

The door-coupling rotary operating mechanisms are dimensioned for degree of protection IP64. For UL/CSA applications, they are tested for enclosure types 1, 3R and 12. The door interlocking prevents accidental opening of the control cabinet door in the ON position of the motor starter protector.

The OFF position can be locked with up to three padlocks.

With the optional 3RV2926-0Q tolerance compensation, an offset can be compensated when installing the door-coupling rotary operating mechanism

Door-coupling rotary operating mechanisms		130 330	S00 ¹⁾ S3 S00 ¹⁾ S3	3RV2926-1B 3RV2926-1K	1 1	1 unit 1 unit	41E 41E
EMERGENCY OFF door- coupling rotary operating mechanisms	Red/ yellow	130 330	S00 ¹⁾ S3 S00 ¹⁾ S3	3RV2926-1C 3RV2926-1L	1	1 unit 1 unit	41E 41E

Optional	accessories	
Tolerance		

compensation



1 unit 41E

¹⁾ Not for 3RV1011 motor starter protectors.

Motor starter protectors/circuit breakers SIRIUS 3RV2 motor starter protectors/circuit breakers

Accessories > Rotary operating mechanisms

Version	Version of extension shaft	For motor starter protectors/ circuit breakers	Article No.	Price per PU	 PS*	PG
	mm	Size				

Door-coupling rotary operating mechanisms for harsh conditions



3RV2946-3B

3RV2946-3C

3RV2926-2Q

3RV2926-0P

3VA9137-0GC01

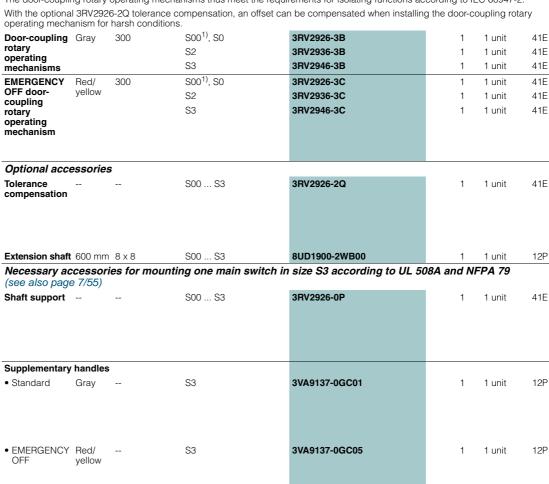
The door-coupling rotary operating mechanisms are designed to degree of protection IP65. For UL/CSA applications, they are tested for enclosure types 1, 3R and 12. The door interlocking reliably prevents opening of the control cabinet door in the ON position of the motor starter protector/circuit breaker. The OFF position can be locked with up to three padlocks

The door-coupling rotary operating mechanisms consist of a selector, a coupling driver, an extension shaft of 300 mm in length

(8 mm x 8 mm), a spacer and two metal brackets into which the motor starter protector/circuit breaker is inserted.

Laterally mountable auxiliary releases and 2-pole auxiliary switches can be used.

The door-coupling rotary operating mechanisms thus meet the requirements for isolating functions according to IEC 60947-2.



³VA9137-0GC05

1) Not for 3RV1011 motor starter protectors.

Motor starter protectors/circuit breakers SIRIUS 3RV2 motor starter protectors/circuit breakers

Accessories > Mounting accessories

Overview

More information

System Manual for modular system, see

https://support.industry.siemens.com/cs/ww/en/view/60311318

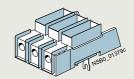
Equipment Manual, see https://support.industry.siemens.com/cs/ww/en/view/60279172

Accessories for "Self-Protected Combination Motor Controllers (Type E)" according to UL 508/UL 60947-4-1

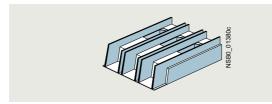
The 3RV20 motor starter protectors with screw terminals are approved according to UL 508/UL 60947-4-1 as "Self-Protected Combination Motor Controllers (Type E)".

The 3RV1011 motor starter protectors do not have this UL approval.

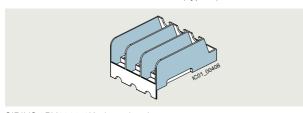
This requires increased clearance and creepage distances (1 inch and 2 inches respectively) at the input side of the device, which are achieved by mounting a terminal block or a phase barrier. No transverse auxiliary switches may be used when using 3RT2946-4GA07 terminal blocks for size S3.



SIRIUS 3RV2928-1H terminal block



SIRIUS 3RT2946-4GA07 terminal block (Type E)



SIRIUS 3RV2928-1K phase barrier

Motor starter protectors/ circuit breakers	Size	Essential accessories for "Self-Protected Combination Motor Controllers (Type E)" according to UL 508/UL 60947-4-1
3RV201., 3RV202.	S00/S0	3RV2928-1H terminal block or 3RV2928-1K phase barrier
3RV2031-4B.1., 3RV2031-4D.1., 3RV2031-4E.1., 3RV2031-4P.1., 3RV2031-4S.1., 3RV2031-4U.1., 3RV2031-4U.1.,	\$2	-
3RV2031-4J.1., 3RV2031-4K.1., 3RV2031-4R.1., 3RV2031-4W.1., 3RV2031-4X.1., 3RV2032	S2	3RV2938-1K phase barrier
3RV204.	S3	3RT2946-4GA07 terminal block

-- No accessories needed

Special 3-phase infeed terminals are required for constructing "Starters (Type E)" with an insulated 3-phase busbar system (see "Busbar accessories", page 7/51).

For the setup of "Starters (Type E)" with 8US busbar adapters, Type E terminal blocks or phase barriers (for sizes S00 to S2) must be fitted to the infeed module on the motor starter protector/circuit breaker, see page 7/60.

The 3RV29 infeed system also enables the assembly of "Starters (Type E)", see page 7/67 onwards.

Note:

According to CSA, these terminal blocks and the phase barriers can be omitted when the device is used as a "Self-Protected Combination Motor Controller (Type E)".

Motor starter protectors/circuit breakers SIRIUS 3RV2 motor starter protectors/circuit breakers

Accessories > Mounting accessories

Link modules

Feeders can be easily assembled from single devices with the help of the link modules. The following table shows the different combination options for devices with screw or spring-loaded terminals.

Combination	3RV2 motor starter	3RT2 contactors;	Link modules			
devices	protectors/ circuit breakers	3RW30, 3RW40 soft starters; 3RF34 solid-state contactors	Screw terminals	Spring-loaded terminals		
	Size	Size				
Link modules for connecting switching devices to 3	RV2 motor starter prote	ectors/circuit breakers ¹⁾				
BRT2 contactors with AC or DC coil	S00	S00	3RA1921-1DA00	3RA2911-2AA00		
	S0	S00	-			
	S2	S2	3RA2931-1AA00			
	S3 ²⁾	S3 ²⁾	3RA1941-1AA00			
BRT2 contactors with AC coil	S00	S0	3RA2921-1AA00			
	S0	S0	-	3RA2921-2AA00 ³⁾		
BRT2 contactors with DC or AC/DC coi	S00	S0	3RA2921-1BA00			
	S0	S0		3RA2921-2AA00		
3RW30 soft starters	S00	S00	3RA2921-1BA00	3RA2911-2GA00		
	S0	S00				
3RW30/3RW40 soft starters	S00	S0	3RA2921-1BA00			
	S0	S0		3RA2921-2GA00		
	S2 ⁴⁾	S2 ⁴⁾	3RA2931-1AA00			
	S3 ⁵⁾	S3 ⁵⁾	3RA1941-1AA00			
3RF34 solid-state contactors	S00/S0	S00	3RA2921-1BA00			
Hybrid link modules for connecting contactors with spring	g-loaded terminals to 3F	RV2 motor starter protectors/circu	it breakers with screw	terminals ⁶⁾		
BRT2 contactors with AC or DC coil	S00	S00	3RA2911-2FA00			
	S0	S0	3RA2921-2FA00			

- -- Version not possible
- The link modules cannot be used for 3RV2.21-4PA1., 3RV2.21-4FA1., 3RV2.31-4K.1., 3RV2.31-4R.1., 3RV2.32-4K.1., 3RV2.32-4R.1., 3RV27, 3RV28 and 3RV1011 motor starter protectors/circuit breakers.
- 2) To assemble the feeder between a motor starter protector and a contactor in size S3, the 3RA2942-1AA00 DIN-rail adapter must be used.
- 3) A spacer for height compensation on AC contactors, size S0, is optionally available, see page 7/61.
- 4) To assemble the feeder between a motor starter protector and a soft starter in size S2, the 3RA2932-1CA00 DIN-rail adapter must be used.
- 5) It is only permissible to assemble the feeder between the motor starter protector and the soft starter in size S3 on a mounting plate.
- 6) The hybrid link modules for motor starter protector to contactor cannot be used for 3RV2.21-4PA1., 3RV2.21-4FA1., 3RV27 and 3RV28 motor starter protectors/circuit breakers. They are suitable only for constructing directon-line starters.

Notes:

- Link modules can be used in
 - Size S00: up to max. 16 A
- Size S0: up to max. 32 A
- Size S2: up to max. 65 A
- Hybrid link modules can be used in
 - Size S00: up to max. 16 A
 - Size S0: up to max. 32 A

Motor starter protectors/circuit breakers SIRIUS 3RV2 motor starter protectors/circuit breakers

Accessories > Mounting accessories

Selection and ordering data

Accessories

Accessories							
	Version	For motor starter protectors/ circuit breakers	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Covers		Size	_				
	Terminal cover For cable lug and busbar connection for maintaining the required voltage clearances and as touch protection if box terminal is removed (2 units can be mounted per motor starter protector/circuit breaker)	S3	3RT1946-4EA1		1	1 unit	41B
3RV2 (size S3) with 3RT1946-4EA1 (belo	ow)						
3RV2908-0P	Scale covers Sealable, for covering the set current scale	3RV20, 3RV21, 3RV24: S00 S3	3RV2908-0P		100	10 units	41E
44	Covers for devices with screw terminals (box terminals)		Screw terminals	(†			
	Additional touch protection to be fitted at the box terminals (two units required per device)						
3RT2936-4EA2	Main current level	S2	3RT2936-4EA2		1	1 unit	41B
	for box terminals on 3RV2742 and block 3RT2946-4GA07	\$3	3RT2946-4EA2		1	1 unit	41B
	Additional touch protection to be fitted at the 3RV2742 box terminals (two units required per device) and at 3RT2946-4GA07 terminal block (Type E)						
	Main current level	S3	3RV2948-1LA00		1	1 unit	41E
3RV2948-1LA00	or constructing limiter combinations of	oi=o C21)					
Priase barriers to	Infeed to the limiter is always on the side 2T1/4T2/6T3. Use 3RV2948-1K phase barriers on the infeed side.	size 33 /					
	Main current level	S3	3RV2948-1K		1	1 unit	41E
3RV2948-1K Fixing accessor	ies						
3RV2928-0B	Push-in lugs For screw fixing of the motor starter protector, circuit breaker onto mounting plates Two units are required for each motor starter protector.	S00, S0	3RV2928-0B		100	10 units	41E
	g spring-loaded terminals						
	Screwdrivers For all SIRIUS devices with spring-loaded te	rminals	Spring-loaded terminals				
	Length approx. 200 mm, 3.0 mm x 0.5 mm, titanium gray/black, partially insulated	S00 S3	3RA2908-1A		1	1 unit	41B
3RA2908-1A Blank labels							
o o o o	Unit labeling plates ¹⁾ For SIRIUS devices, 20 mm x 7 mm, titanium gray	S00 S3	3RT2900-1SB20		100	340 units	41B
3PT2000 15P20	Adhesive labels For SIRIUS devices, 19 mm x 6 mm, titanium gray	S00 S3	3RT2900-1SB60		100	3060 units	41B
3RT2900-1SB20	m for individual innerintian of						

PC labeling system for individual inscription of unit labeling plates available from: murrplastik Systemtechnik GmbH (see page 16/18).

Motor starter protectors/circuit breakers SIRIUS 3RV2 motor starter protectors/circuit breakers

Accessories > Mounting accessories

Version	For motor starter protectors/ circuit breakers	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	Size			, ,		

Terminal blocks and phase barriers for "Self-Protected Combination Motor Controllers (Type E)" according to UL 508/UL 60947-4-1

For increased clearance and creepage

For increased clearance and creepage

distances (1 and 2 inch) Phase barriers

distances (1 and 2 inch)



Note:

UL 508/UL 60947-4-1 approval demands 1-inch clearance and 2-inch creepage distances for "Self-Protected Combination Motor Controllers (Type E)". The following terminal blocks or phase barriers must be used for the 3RV20 motor starter protectors with screw terminals. This also applies to construction with the 8US busbar adapter. 3RV20 motor starter protectors with spring-loaded terminals must be assembled with the 3RV29 infeed system for approval as "Self-Protected Combination Motor Controllers (Type E)" according to UL 508/UL 60947-4-1. The 3RV1011 motor starter protectors do not have UL approval as Type E starters.

The terminal block or phase barriers cannot be used in combination with the 3RV19.5 3-phase busbars.

For construction with 3-phase busbars, see "Busbar accessories", page 7/49 onwards Terminal blocks Type E S00¹⁾, S0 3RV2928-1H

S3²⁾

S2

S3

S00¹⁾, S0





3RV2928-1K

3RV2938-

- IK	
ry conductor terminals, 3-pol	е



For connection of auxiliary and control cables to the main conductor connections (for one side)

3RT2946-4F

3RT2946-4GA07

3RV2928-1K

3RV2938-1K

1 unit

41F

41B

41E

41E

41B

1 unit

1 unit

1 unit

1 unit

3RT2946-4F

¹⁾ Not for 3RV1011 motor starter protectors.

²⁾ Cannot be used on 3RV2.4. motor starter protectors in combination with transverse auxiliary switches.

10 units

10 units

1 unit

5 units

41B

41B

41B

41B

Protection equipment

Motor starter protectors/circuit breakers SIRIUS 3RV2 motor starter protectors/circuit breakers

(H)

Accessories > Mounting accessories

Link modules

For 3RV2 motor starter protectors/ circuit breakers	For 3RT2 contactors	Actuating voltage of contactor	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Sizo	Sizo						

Screw terminals

Link modules for motor starter protector to contactor 1 For connection between



3RA2921-1AA00





3RA1941-1AA00



3RA2911-2AA00



3RA2911-1CA00

	motor starter prot		tactor with screw terminals	Screw terminals	₩			
	Single-unit pack	aging						
	\$00/\$0 \$00/\$0 \$00/\$0 \$2 \$3	\$00 \$0 \$0 \$2 \$3	AC, DC AC DC, AC/DC AC, DC, AC/DC AC, DC, AC/DC	3RA1921-1DA00 3RA2921-1AA00 3RA2921-1BA00 3RA2931-1AA00 3RA1941-1AA00		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41B 41B 41B 41B 41B
	Multi-unit packag	ging						
	\$00/\$0 \$00/\$0 \$00/\$0 \$2 \$3	\$00 \$0 \$0 \$2 \$3	AC, DC AC DC, AC/DC AC, DC, AC/DC AC, DC, AC/DC	3RA1921-1D 3RA2921-1A 3RA2921-1B 3RA2931-1A 3RA1941-1A		1 1 1 1	10 units 10 units 10 units 5 units 5 units	41B 41B 41B 41B 41B
ı								
	For connection be motor starter prot terminals		tactor with spring-loaded	Spring-loaded terminals	•••			
	Single-unit pack	aging						
	S00 S0	S00 S0	AC, DC AC ²⁾ , DC, AC/DC	3RA2911-2AA00 3RA2921-2AA00		1 1	1 unit 1 unit	41B 41B

The link modules for motor starter protector to contactor cannot be used for 3RV1011, 3RV2.21-4PA1., 3RV2.21-4FA1., 3RV2.31-4K.1., 3RV2.31-4R.1., 3RV2.32-4K.1., 3RV2.32-4R.1., 3RV27 and 3RV28 motor starter protectors/circuit breakers.

Multi-unit packaging

S00

For height compensation on AC contactors size S0 with spring-loaded terminals

S0

S0

S0

S00

S0

S0

Spacers²⁾

 $^{2)}$ A spacer for height compensation on AC contactors size S0 is optionally available.

Note:

AC, DC AC²⁾, DC, AC/DC

Single-unit packaging Multi-unit packaging

Link modules can be used in

3RA2911-1CA00

3RA2911-1C

3RA2911-2A 3RA2921-2A

- Size S00: up to max. 16 A
- Size S0: up to max. 32 A
- Size S2: up to max. 65 A

3RA2911-2GA00

Protection equipment

Motor starter protectors/circuit breakers SIRIUS 3RV2 motor starter protectors/circuit breakers

Accessories > Mounting accessories

	For 3RV2 motor starter protectors/circuit breakers	For 3RW30, 3RW40 soft starters; 3RF34 solid-state contactors	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	Size	Size					
Link modules for motor starter pro	motor starter protector t tector to solid-state cont	o soft starter ¹⁾ and actor ¹⁾					
	Connection between motor starter/solid-state contactor		Screw terminals	+			
	Single-unit packaging						
	\$00/\$0 \$2 ²⁾ \$3 ³⁾	\$00/\$0 \$2 ²) \$3 ³)	3RA2921-1BA00 3RA2931-1AA00 3RA1941-1AA00		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
3RA2921-1BA00	Multi-unit packaging						
	S00/S0 S2 ²⁾ S3 ³⁾	S00/S0 S2 ²⁾ S3 ³⁾	3RA2921-1B 3RA2931-1A 3RA1941-1A		1 1 1	10 units 5 units 5 units	41B 41B 41B
	Connection between motor soft starter with spring-load		Spring-loaded terminals				
	Single-unit packaging						
3RA2931-1AA00	S00	S00	3RA2911-2GA00		1	1 unit	41B
3RA1941-1A	SO	S0	3RA2921-2GA00		1	1 unit	41B
THE STATE OF THE S							

- The link modules from motor starter protector to soft starter and motor starter protector to solid-state contactor cannot be used for the 3RV1011, 3RV2.21-4PA1., 3RV2.21-4FA1., 3RV2.31-4K.1., 3RV2.31-4R.1., 3RV2.32-4K.1., 3RV2.32-4R.1., 3RV27 and 3RV28 motor starter protectors/circuit breakers.
- 2) To assemble the feeder between a motor starter protector and a soft starter in size S2, the 3RA2932-1CA00 DIN-rail adapter must be used.
- 3) It is only permissible to assemble the feeder between the motor starter protector and the soft starter in size S3 on a mounting plate.

Note:

Link modules can be used in

- Size S00: up to max. 16 A
- Size S0: up to max. 32 A
- Size S2: up to max. 65 A

Motor starter protectors/circuit breakers SIRIUS 3RV2 motor starter protectors/circuit breakers

Accessories > Mounting accessories

	For 3RV2 motor starter protectors/ circuit breakers	For 3RT2 contactors	Actuating voltage of contactor	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	Size	Size						
Hybrid link modu	les for motor star	ter protecto	r to contactor ¹⁾					
			ction between motor starter d contactor with spring-loaded					
and of	Single-unit packag	ging						
144	S00 S0	S00 S0	AC, DC AC ²⁾ , DC, AC/DC	3RA2911-2FA00 3RA2921-2FA00		1 1	1 unit 1 unit	41B 41B
3RA2911-2FA00	Multi-unit packagi	ng						
	\$00 \$0	S00 S0	AC, DC AC ²⁾ , DC, AC/DC	3RA2911-2F 3RA2921-2F		1	10 units 10 units	41B 41B
3RA2921-2FA00								
	Spacers ²⁾ For height compen loaded terminals S0 S0	sation on AC c	contactors size S0 with spring- Single-unit packaging Multi-unit packaging	3RA2911-1CA00 3RA2911-1C		1	1 unit 5 units	41B 41B
8								
3RA2911-1CA00								

- 1) The hybrid link modules for motor starter protector to contactor cannot be used for 3RV1011, 3RV2.21-4PA1., 3RV2.21-4FA1., 3RV27 and 3RV28 motor starter protectors/circuit breakers. They are suitable only for constructing direct-on-line starters.
- A spacer for height compensation on AC contactors size S0 is optionally available.

Note:

Link modules can be used in

- Size S00: up to max. 16 A
- Size S0: up to max. 32 A

	For motor starter protectors/ circuit breakers	Version	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
	Туре		Article No.	Price per PU			
		nd motor feeder connector) for preakers with screw terminals					
		The connection module comprises an adapter and a motor feeder connector.					
SERVING TO THE PROPERTY OF THE	3RV2.2	Adapter Ambient temperature $t_{\rm U~max.} = 60~^{\circ}{\rm C}$ Size S0, rated operational current $I_{\rm e}$ at AC-3/AC-3e/400 V: 25 A	3RT1926-4RD01		1	1 unit	41B
3RT1926-4RD01 3RT1900-4RE01	3RV2.2	Motor feeder connector Size S0	3RT1900-4RE01		1	1 unit	41B

^{*} You can order this quantity or a multiple thereof. Illustrations are approximate

Motor starter protectors/circuit breakers
SIRIUS 3RV2 motor starter protectors/circuit breakers

Accessories > Enclosures and front plates

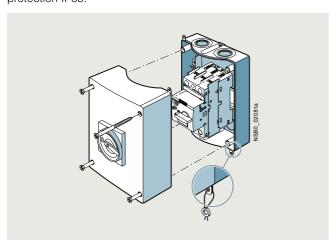
Overview

Enclosures

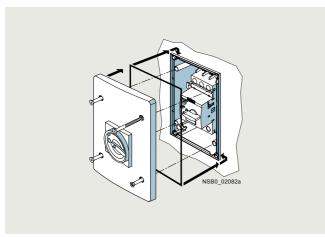
For the stand-alone installation of 3RV20 to 3RV24 motor starter protectors size S00 ($I_{\rm n\,max}$ = 16 A), S0 ($I_{\rm n\,max}$ = 32 A), S2 ($I_{\rm n\,max}$ = 65 A), and for 3RV1011 motor starter protectors, molded-plastic and cast aluminum enclosures for surface mounting and molded-plastic enclosures for flush mounting are available in various dimensions.

When installed in a molded-plastic enclosure, the motor starter protectors have a rated operational voltage $U_{\rm e}$ of 500 V.

The enclosures for surface mounting have the degree of protection IP55; the enclosures for flush mounting also comply with the degree of protection IP55 on the front. The cast aluminum enclosures for surface mounting achieve degree of protection IP65.



Enclosures for surface mounting



Enclosures for flush mounting (only for sizes S00 and S0)

There are two knock-out cable entries for cable glands at the top and two at the bottom; also on the rear corresponding cable entries are scored. There is a knockout on the top of the enclosure for indicator lights that are available as accessories.

The narrow enclosure can accommodate a motor starter protector without accessories, with transverse auxiliary switch and with lateral auxiliary switch. There is no provision for installing a motor starter protector with a signaling switch or wireless auxiliary and signaling switch.

With size S00 to S2 3RV2 circuit breakers, the molded-plastic enclosures are equipped with a rotary operating mechanism.

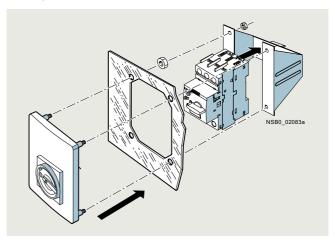
The enclosures can be supplied with either a black rotary operating mechanism or with an EMERGENCY OFF rotary operating mechanism with a red/yellow knob.

In the OFF position, all rotary operating mechanisms can be locked with up to three padlocks. These enclosures are not suitable for 3RV1011 motor starter protectors.

Front plates

Motor starter protectors are frequently required to be actuated in any enclosure. Front plates equipped with a rotary operating mechanism for 3RV20 to 3RV24 motor starter protectors sizes S00 to S3 are available for this purpose.

A holder for the motor starter protectors sizes S00 and S0, into which the motor starter protectors can be snapped, is available for the front plates. It is not possible to use a signaling switch, a wireless auxiliary and signaling switch or a 4-pole auxiliary switch. The front plates are not suitable for 3RV1011 motor starter protectors.



Front plate (including holder) for sizes S00 and S0

Motor starter protectors/circuit breakers SIRIUS 3RV2 motor starter protectors/circuit breakers

Accessories > Enclosures and front plates

Selection and ordering data

Selection and	ordering da	ta								
	Version	Degree of pro- tection	Integrated terminals	Width	For 3RV20 to 3RV24 motor starter protectors	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
				mm	Size					
Molded-plastic	c enclosures	for sur	face mo	ounting ¹⁾						
	With rotary operating mechanism,	IP55	N and PE	54 (for motor starter protector + lateral auxiliary switch)	S00 ³⁾ , S0	3RV1923-1CA00		1	1 unit	41E
3RV1933-1DA00	lockable in 0 position			72 (for motor starter protector + lateral auxiliary switch ²⁾ + auxiliary release)	S00 ³⁾ , S0	3RV1923-1DA00		1	1 unit	41E
				82 (for motor starter protector + lateral auxiliary switch ²⁾ + auxiliary release)	S2	3RV1933-1DA00		1	1 unit	41E
	With EMERGENCY OFF rotary	IP55	N and PE	54 (for motor starter protector + lateral auxiliary switch)	S00 ³⁾ , S0	3RV1923-1FA00		1	1 unit	41E
3RV1923-1FA00,	operating mechanism, lockable in 0 position			72 (for motor starter protector + lateral auxiliary switch ²⁾ + auxiliary release)	S00 ³⁾ , S0	3RV1923-1GA00		1	1 unit	41E
3RV1933-1GA00				82 (for motor starter protector + lateral auxiliary switch ²⁾ + auxiliary release)	S2	3RV1933-1GA00		1	1 unit	41E
Cast aluminur	n enclosures	for sur		ounting ¹⁾						
	With rotary operating mechanism, lockable in 0 position	IP65	PE ⁴⁾	72 (for motor starter protector + lateral auxiliary switch ²⁾ + auxiliary release)	S00 ³⁾ , S0	3RV1923-1DA01		1	1 unit	41E
3RV1923-1DA01	With EMERGENCY OFF rotary operating mechanism, lockable in 0 position	IP65	PE ⁴⁾	72 (for motor starter protector + lateral auxiliary switch ²⁾ + auxiliary release)	S00 ³⁾ , S0	3RV1923-1GA01		1	1 unit	41E
Molded-plastic	c enclosures	for flus	h moui	nting ⁵⁾						
	With rotary operating mechanism, lockable in 0 position	IP55 (front side)	N and PE	72 (for motor starter protector + lateral auxiliary switch ²⁾ + auxiliary release)	S00 ³⁾ , S0	3RV1923-2DA00		1	1 unit	41E
3RV1923-2DA00										
	With EMERGENCY OFF rotary operating mechanism, lockable in 0 position	IP55 (front side)	N and PE	72 (for motor starter protector + lateral auxiliary switch ²⁾ + auxiliary release)	S00 ³⁾ , S0	3RV1923-2GA00		1	1 unit	41E
	With actuator diaphragm	IP55 (front side)	N and PE	72 (for motor starter protector + lateral auxiliary switch ²⁾ + auxiliary release)	S00 ⁶⁾	3RV1913-2DA00		1	1 unit	41E
3RV1913-2DA00	a analaguras	for our		ounting						
Molded-plastic					C006)	2DV4040 40400		4	4	445
	With actuator diaphragm	IP55	N and PE	85 105	S00 ⁶⁾	3RV1913-1CA00 3RV1913-1DA00		1	1 unit 1 unit	41E 41E
3RV1913-1CA00										

³RV1913-1CA00

¹⁾ The rear cable bushings cannot be used on 3RV2.11-...2. and 3RV2.21-...2. devices with spring-loaded terminals.

²⁾ Only valid for lateral auxiliary switches with two auxiliary contacts.

³⁾ Not for 3RV1011 motor starter protectors.

⁴⁾ If required, an additional N terminal can be mounted (e.g. 8WA1011-1BG11).

⁵⁾ Not suitable for 3RV2.11-...2. and 3RV2.21-...2. devices with spring-loaded

⁶⁾ Only for 3RV1011 motor starter protectors.

Motor starter protectors/circuit breakers SIRIUS 3RV2 motor starter protectors/circuit breakers

Accessories > Enclosures and front plates

	Version	Degree of protection	For 3RV20 to 3RV24 motor starter protectors	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
			Size					
Front plates ¹⁾								
	Molded-plastic front plate with rotary operating mechanism, lockable in 0 position	IP55 (front side)	S00 ²⁾ up to S3	3RV1923-4B		1	1 unit	41E
	For actuation of 3RV2 motor starter protectors in any enclosure							
3RV1923-4B + 3RV1923-4G	Molded-plastic front plate with EMERGENCY OFF rotary operating mechanism, red/yellow, lockable in 0 position	IP55 (front side)	S00 ²⁾ up to S3	3RV1923-4E		1	1 unit	41E
	EMERGENCY OFF actuation of 3RV2 motor starter protectors in any enclosure							
	Holder for front plate		S00 ²⁾ , S0	3RV1923-4G		1	1 unit	41E
	Holder is mounted on front plate, motor starter protector with and without accessories is snapped in.							
41								

¹⁾ It is not possible to use a wireless auxiliary and signaling switch or 4-pole auxiliary switch with front plates.

²⁾ Not for 3RV1011 motor starter protectors.

	Version	Rated control supply voltage $U_{\rm s}$ for 3RV20 motor starter protectors		Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		V	Size					
Indicator lights								
3RV1903-5B	Indicator lights For all enclosures and front plates • With LED lamp for versions 110 120 V, with glow lamp for versions 220 500 V • With colored lenses red, green, yellow-orange and clear	110 120 220 240 380 415 480 500	S00 to S3	3RV1903-5B 3RV1903-5C 3RV1903-5E 3RV1903-5G		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41E 41E 41E 41E

Motor starter protectors/circuit breakers SIRIUS 3RV2 motor starter protectors/circuit breakers

3RV29 infeed system

Overview

The 3RV29 infeed system is a convenient means of energy supply and distribution for a group of several motor starter protectors or complete load feeders with screw or spring-loaded terminals in sizes S00 and S0. Motor starter protectors or load feeders with a rated current of maximum 32 A each can be used. 3RV21 motor starter protectors/circuit breakers cannot be used in this system.

The system is based on a basic module complete with a lateral incoming unit (3-phase busbar with infeed). This infeed with spring-loaded terminals is mounted on the right or left, depending on the version, and can be supplied with a maximum conductor cross-section of 25 mm² (with end sleeve). A basic module has two sockets onto each of which a motor starter protector can be snapped.

Expansion modules (3-phase busbars for system expansion) are available for extending the system. The individual modules are connected through an expansion plug.

The electrical connection between the 3-phase busbars and the motor starter protectors is implemented through plug-in connectors. The complete system can be mounted on a TH 35 DIN rail to IEC 60715, and can be expanded as required up to a maximum current-carrying capacity of 63 A.

The system is mounted extremely quickly and easily thanks to the simple plug-in terminals. Thanks to the lateral infeed, the system also saves space in the control cabinet.

The additional height required for the infeed unit is only 30 mm. The alternative infeed possibilities on each side offer a high

degree of flexibility for configuring the control cabinet: Infeed on left-hand or right-hand side as well as infeed on one side and outfeed on the other side to supply further loads are all possible. A terminal block with spring-loaded terminals in combination with a DIN rail enables the integration of not only SIRIUS motor starter protectors but also 1-phase, 2-phase and 3-phase components such as 5SY miniature circuit breakers or SIRIUS relay components.

The 3RV29 infeed system is approved according to IEC to 500 V. It is also UL-approved and authorized for "Self-Protected Combination Motor Controllers" starters (Type E), for starters (Type F) (starters (Type E) + contactors) and for circuit breakers according to UL 489 (3RV27/3RV28).

Assembly kits for constructing the infeed system with spring-loaded terminals

The following versions can be ordered:

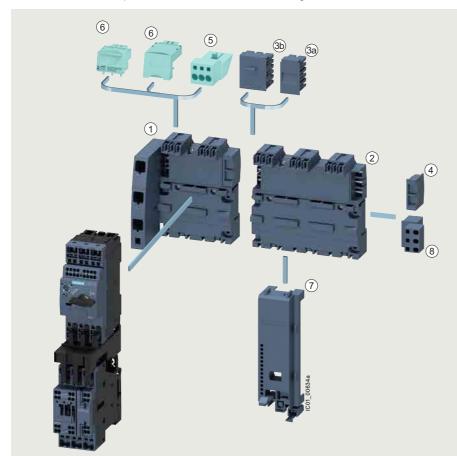
- · Basic set for two feeders
- Expansion sets for two or three feeders

The assembly kits contain 3-phase busbars, plug-in connectors and contactor bases (see page 7/72).

Note:

Each set contains plug-in connectors for sizes S00 and S0.

Example: The basic set contains four plug-in connectors (two each for S00 and S0).



- 1) 3-phase busbar with infeed
- ② 3-phase busbar for system expansion
- 3a Expansion plug
- (3b) Extra-wide expansion plug
- 4 End cover
- 5 Terminal block for device infeed
- 6 Plug-in connector
- (7) Contactor base
- (8) Terminal block

SIRIUS 3RV29 infeed system

Motor starter protectors/circuit breakers
SIRIUS 3RV2 motor starter protectors/circuit breakers

3RV29 infeed system

1 3-phase busbars with infeed

A 3-phase busbar with infeed unit is required for connecting the incoming supply. These modules comprise one infeed module and two sockets which each accept one motor starter protector. A choice of two versions with infeed on the left or right is available. The infeed is connected to spring-loaded terminals. They permit an infeed with conductor cross-sections of up to 25 mm² with end sleeve. An end cover is supplied with each module.

2) 3-phase busbars for system expansion

The 3-phase busbars for system expansion support expansion of the system. There is a choice of modules with two or three sockets. The system can be expanded as required up to a maximum current-carrying capacity of 63 A. An expansion plug is supplied with each module.

3 a Expansion plug

The expansion plug is used for electrical connection of adjacent 3-phase busbars. The current carrying capacity of this plug equals 63 A. One expansion plug is supplied with each 3-phase busbar for system expansion. Additional expansion plugs are therefore only required as spare parts.

(3)b Extra-wide expansion plug

The wide expansion plug makes the electrical connection between two 3-phase busbars, thus performing the same function as the 3RV2917-5BA00 expansion plug; the electrical characteristics (e.g. a current carrying capacity of 63 A) are identical.

The 3RV2917-5E expansion plug is 10 mm wider than the 3RV2917-5BA00 expansion plug, hence in the plugged state there is a distance of 10 mm between the connected 3-phase busbars. This distance can be used to lay the auxiliary current and control current wiring ("wiring duct"). The motor starter protector and contactor can be wired from underneath, which means that the complete cable duct above the system can be omitted.

(4) End cover

The end cover is used to cover the 3-phase busbar at the open end of the system. This cover is therefore only required once for each system. An end cover is supplied with each 3-phase busbar system with infeed. Further end covers are therefore only required as spare parts.

(5) Terminal block for device infeed

A new addition to the system is a plug for outfeeding to a device slot within a module. This offers the option not only of connecting 3-phase loads to the system, but also of integrating 1-phase loads into the infeed system.

6 Plug-in connector

The plug-in connector is used for the electrical connection between the 3-phase busbar and the 3RV2 or 3RV1011 motor starter protector. These plug-in connectors are available for screw or spring-loaded terminals.

7 Contactor base

Load feeders can be assembled in the system using the S00 and S0 contactor base. The contactor bases are suitable for contactors of sizes S00 and S0 with screw and spring-loaded terminals and are simply snapped onto the 3-phase busbars. Direct-on-line starters and reversing starters are possible. One contactor base is required for direct-on-line starters and two are required for reversing starters.

To assemble load feeders for reversing starters, the contactor bases can be arranged alongside each other (90 mm overall width). In this case the mechanical interlocking of the contactors is possible. The S0 contactor bases are also suitable for soft starters size S00 and S0 with screw terminal.

The infeed system is designed for mounting on a TH 35 DIN rail with 7.5 mm overall depth. This DIN rail gives the contactor base a stable mounting surface to sit on. If DIN rails with a depth of 15 mm are used, the spacer connected to the bottom of the contactor base must be knocked out and plugged into the DIN rail mating piece, which is also located on the underside. Then the contactor base also has a stable mounting surface. When DIN rails with a depth of 7.5 mm are used, the spacer has no function and can be removed.

The link modules are used for direct on-line starters, in which case the use of a contactor base is not absolutely necessary. Motor starter protector and contactor assemblies can then be directly snapped onto the sockets of the 3-phase busbars. For feeders of sizes S00 and S0, the corresponding 3RA1921-1...., 3RA2911-2...., 3RA2921-1.... or 3RA2921-2.... link modules should generally be used.

® Terminal block

The 3RV2917-5D terminal block enables the integration of not only SIRIUS motor starter protectors but also 1-phase, 2-phase and 3-phase components. The three phases can be fed out of the system using the terminal block; which means that 1-phase loads can also be integrated in the system. The terminal block is plugged into the slot of the expansion plug and thus enables outfeeding from the middle or end of the infeed system. The terminal block can be rotated through 180° and be locked to the support modules of the infeed system. In addition, the 45 mm wide TH 35 3RV1917-7B DIN rail option for screwing onto the support plate facilitates plugging the 1-phase, 2-phase and 3-phase components onto the infeed system.



Video: SIRIUS News SIRIUS 3RV29 infeed system - Assembly without tools

Protection equipmentMotor starter protectors/circuit breakers SIRIUS 3RV2 motor starter protectors/circuit breakers

3RV29 infeed system

Technical specifications

More information
Equipment Manual, see https://support.industry.siemens.com/cs/ww/en/view/60279172

General data								
Туре					3RV29.7			
Size					S00, S0			
Standards								
• IEC 60947-2					Yes			
• IEC 60947-4-1					Yes			
• UL 508/UL 60947-4	4-1				Yes			
Rated current In				Α	63			
Permissible rated c	urrent at i	inside temperature	of control cabinet					
Motor starter protectors	Size	Rated current	Inside temperature of control cabinet					
• 3RV2.11/3RV1011	S00	14 A	60 °C	%	100			
		> 14 16 A	40 °C 60 °C	%	100 87			
• 3RV2.21	S0	16 A	60 °C	%	100			
		> 16 25 A	40 °C 60 °C	%	100 87			
		> 25 32 A	40 °C	%	87			
Permissible ambier	nt tempera	iture						
• Storage/transport				°C	-50 +80			
Operation				°C	-20 +60			
Rated operational v	oltage <i>U</i> e							
 According to IEC 		10% overvoltag	je	V AC	500			
		5% overvoltage	•	V AC	525			
According to UL/C	SA			V AC	600			
Rated frequency				Hz	50/60			
Rated impulse with		tage <i>U_{imp}</i>		kV	6			
Short-circuit streng	ıth				Corresponds to the mounted motor starter protector or load feeder. The assembly instructions must be followed, see Operating Instructions			
Degree of protectio	n IP on th	e front according to	IEC 60529		IP20 if conductor cross-section 6 mm² finely stranded with end sleeve (with plastic collar) or conductor cross-section ≥ 10 mm² are used at the infeed terminal			
Touch protection or	n the front	t according to IEC 60	0529		Finger-safe for vertical touching from the front and if conductor cross-section 6 mm 2 finely stranded with end sleeve (with plastic collar) or conductor cross-section \geq 10 mm 2 are used at the infeed terminal			

Conductor cross-sections				
Туре		3-phase busbars with infeed 3RV2917-1A, -1E	Terminal block 3RV2917-5D	Terminal block for device infeed 3RV2917-5FA00
Conductor cross-sections (min./max.)				
Solid or stranded	mm ²	4 25	1.5 6	1 10
Finely stranded with end sleeve	mm ²	4 25	1.5 4	1 6
Finely stranded without end sleeve	mm^2	6 25	1.5 6	
AWG cables	AWG	10 3	15 10	18 8

Motor starter protectors/circuit breakers SIRIUS 3RV2 motor starter protectors/circuit breakers

3RV29 infeed system

Selection and ordering data

Selection and ordering	ng data							
	Туре	Version	For 3RV20, 3RV23, 3RV24, 3RV27, 3RV27, 3RV1011 motor starter protectors Size	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
3-phase busbars with	n infeed		0120					
3RV2917-1A	3-phase busbars with infeed Incl. 3RV2917-6A end cover	For two motor starter protectors with screw or spring-loaded terminals • With infeed on the left • With infeed on the right	S00, S0 S00, S0	3RV2917-1A 3RV2917-1E		1	1 unit 1 unit	41E 41E
3-phase busbars for								
3RV2917-4A	3-phase busbars Incl. 3RV2917-5BA00 expansion plug	For motor starter protectors with screw or spring-loaded terminals • For 2 motor starter protectors • For 3 motor starter protectors	S00, S0 S00, S0	3RV2917-4A 3RV2917-4B		1	1 unit 1 unit	41E 41E
Plug-in connectors								
	Plug-in connectors To make contact with the 3RV2 motor starter protectors	For spring-loaded terminals Single-unit packaging Multi-unit packaging	S00 ¹⁾ S0 ²⁾ S00 ¹⁾ S0 ²⁾	Spring-loaded terminals 3RV2917-5AA00 3RV2927-5AA00 3RV2917-5A 3RV2927-5A		1 1 1 1	1 unit 1 unit 10 units 10 units	41E 41E 41E 41E
3RV2917-5AA00		-						
		For screw terminalsSingle-unit packagingMulti-unit packaging	\$00 ¹⁾³⁾ \$0 ²⁾⁴⁾ \$00 ¹⁾³⁾ \$0 ²⁾⁴⁾	3RV2917-5CA00 3RV1927-5AA00 3RV2917-5C 3RV1927-5A	+	1 1 1 1	1 unit 1 unit 10 units 10 units	41E 41E 41E 41E
3RV2917-5CA00								
3RV1917-5CA00	Plug-in connectors To make contact with the 3RV1011 motor starter protectors	For screw terminalsSingle-unit packagingMulti-unit packaging	\$00 \$00	3RV1917-5CA00 3RV1917-5C		1	1 unit 10 units	41E 41E
4)								

 $^{^{1)}}$ I > 14 A, please note derating.

⁴⁾ The plug-in connector can be used for the 3RV2711, 3RV2811 (size S00) and 3RV2721, 3RV2821 (size S0) circuit breakers.

	Туре	Version	For contactors	А	article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
			Size						
Contactor bases									
All and a second	Contactor bases	Single-unit packaging	S00 ¹⁾	31	RV2917-7AA00		1	1 unit	41E
	For mounting direct-on- line or reversing starters		S00 ¹⁾ , S0	31	RV2927-7AA00		1	1 unit	41E
3RV2927-7AA00									
1) Not for 3PV1011 motor	etartor protoctore								

Not for 3RV1011 motor starter protectors.

 $^{^{2)}}$ I > 16 A, please note derating.

³⁾ The plug-in connector cannot be used for the 3RV2711 and 3RV2811 motor starter protectors with size S00.

Motor starter protectors/circuit breakers SIRIUS 3RV2 motor starter protectors/circuit breakers

3RV29 infeed system

				311729	iiiieeu s	ystem
	Туре	Version	Article No. Price per PU		PS*	PG
Terminal blocks						
3RV2917-5D	Terminal block For integration of 1-phase, 2-phase and 3-phase components	Single-unit packaging	3RV2917-5D	1	1 unit	41E
TH 35 DIN rails, width	n 45 mm					
3RV1917-7B	TH 35 DIN rail According to IEC 60715, width 45 mm For mounting on 3-phase busbars	Single-unit packaging	3RV1917-7B	1	1 unit	41E
Extra-wide expansion	n pluas					
	Extra-wide expansion plug As accessory	Single-unit packaging	3RV2917-5E	1	1 unit	41E
3RV2917-5E						
Expansion plugs 3RV2917-5BA00	Expansion plug ¹⁾ As spare part	Single-unit packaging	3RV2917-5BA00	1	1 unit	41E
End covers						
E	End covers ²⁾ As spare part	Multi-unit packaging	3RV2917-6A	100	10 units	41E
3RV2917-6A						
Terminal blocks for c	levice infeed					
3RV2917-5FA00	Terminal block for device infeed	Single-unit packaging	3RV2917-5FA00	1	1 unit	41E

The expansion plug is included in the scope of supply of the 3RV2917-4.
 3-phase busbars for system expansion.
 The end cover is included in the scope of supply of the 3RV2917-1.
 3-phase busbars with infeed system.

Motor starter protectors/circuit breakers SIRIUS 3RV2 motor starter protectors/circuit breakers

3RV29 infeed system

	Version	For motor starter protectors/ circuit breakers with spring- loaded terminals	Spring-loaded terminals		PU (UNIT, SET, M)	PS*	PG
		Size	Article No.	Price per PU			
Assembly kits with spring-loa	for constructing the infeed system aded terminals ¹⁾						
	Basic set for two feeders		3RV2907-1AB00		1	1 unit	41E
	contains:						
	1 x 3-phase busbars 3RV2917-1A (incl. end cover 3RV2917-6A), with infeed left, for two motor starter protectors with spring-loaded terminals	S00, S0					
3RV2907-1AB00	 2 x plug-in connectors for spring-loaded terminals 3RV2917-5AA00 	S00					
	 2 x plug-in connectors for spring-loaded terminals 3RV2927-5AA00 	S0					
	• 2 x 3RV2927-7AA00 contactor bases	S00, S0					
	Expansion set for two feeders		3RV2907-4AB00		1	1 unit	41E
	contains:						
E-22-21	 1 x 3-phase busbars 3RV2917-4A (incl. expansion plug 3RV2917-5BA00), for two motor starter protectors with spring-loaded terminals 	S00, S0					
OF MARKET LABOR	 2 x plug-in connectors for spring-loaded terminals 3RV2917-5AA00 	S00					
3RV2907-4AB00	 2 x plug-in connectors for spring-loaded terminals 3RV2927-5AA00 	S0					
	• 2 x 3RV2927-7AA00 contactor bases	S00, S0					
	Expansion set for three feeders		3RV2907-4BB00		1	1 unit	41E
	contains:						
12	 1 x 3-phase busbars 3RV2917-4B (incl. expansion plug 3RV2917-5BA00), for three motor starter protectors with spring-loaded terminals 	S00, S0					
3RV2907-4BB00	• 3 x plug-in connectors for spring-loaded terminals 3RV2917-5AA00	S00					
JNVZ9U1-4BBUU	• 3 x plug-in connectors for spring-loaded terminals 3RV2927-5AA00	S0					
	• 3 x 3RV2927-7AA00 contactor bases	S00, S0					

¹⁾ Not for 3RV1011 motor starter protectors.

Motor starter protectors/circuit breakers SIRIUS 3RV1 motor starter protectors/circuit breakers

AC-3e IE3/IE4 ready For

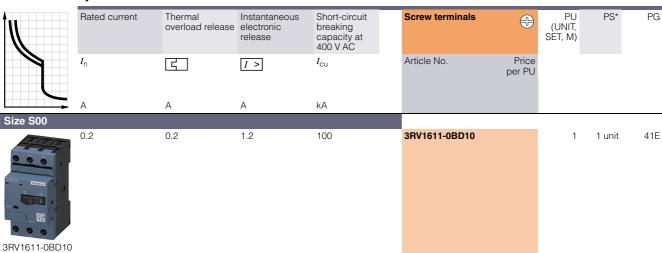
For fuse monitoring

Technical specifications

See pages 7/9, 7/11, 7/13, 7/18, 7/19 and 7/22

Selection and ordering data

Without auxiliary switches



Note:

The auxiliary switch required for signaling must be ordered separately.

Accessories

	Version	Contacts	Screw terminals	(1)	PU (UNIT, SET, M)	PS*	PG
			Article No.	Price per PU			
Mountable au	xiliary switches (essential accessories)						
ee ee	Transverse auxiliary switch With screw terminal, mountable on the front	1 NO + 1 NC	3RV2901-1E		1	1 unit	41E
3RV2901-1E 3RV2901-1A	Lateral auxiliary switch With screw terminal, mountable on the left	1 NO + 1 NC	3RV2901-1A		1	1 unit	41E

Additional auxiliary switches and other accessories, see from page 7/46 onwards.

Motor starter protectors/circuit breakers SIRIUS 3RV1 motor starter protectors/circuit breakers

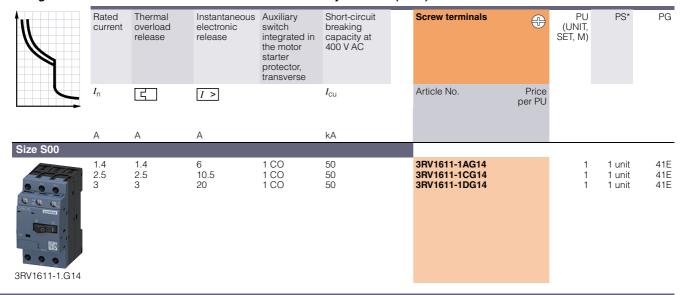
For distance protection

Technical specifications

See page 7/23

Selection and ordering data

Voltage transformer circuit breakers with transverse auxiliary switches (1 CO)



Accessories

	Version	Contacts	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
			Article No.	Price per PU			
au:	xiliary switches for other signaling purpo	oses					
	Lateral auxiliary switch With screw terminal, mountable on the left	1 NO + 1 NC	3RV2901-1A		1	1 unit	41E

Mountable a

3RV2901-1A

Additional auxiliary switches and other accessories, see from page 7/46 onwards.

Motor starter protectors/circuit breakers SIRIUS 3RV1 motor starter protectors/circuit breakers

AC-3e IE3/IE4 ready For motor protection

Selection and ordering data

CLASS 10, without auxiliary switches

0 = 100 10, 111		, , , , , , , , , , , , , , , , , , , ,								
	Rated current	Suitable for three-phase motors ¹⁾ with <i>P</i>	Setting range for thermal overload release	Instantaneous electronic release	Short-circuit breaking capacity at 400 V AC	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
	I_{n}		<u>द</u>	<i>I</i> >	$I_{ extsf{cu}}$	Article No.	Price per PU			
	Α	kW	Α	Α	kA					
Size S00										
E BOOM	0.16 0.2 0.25 0.32 0.4 0.5 0.63	0.04 0.06 0.06 0.09 0.09 0.12 0.18	0.11 0.16 0.14 0.2 0.18 0.25 0.22 0.32 0.28 0.4 0.35 0.5 0.45 0.63	2.1 2.6 3.3 4.2 5.2 6.5 8.2	100 100 100 100 100 100 100	3RV1011-0AA10 3RV1011-0BA10 3RV1011-0CA10 3RV1011-0DA10 3RV1011-0EA10 3RV1011-0FA10 3RV1011-0GA10		1 1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41E 41E 41E 41E 41E 41E 41E
3RV1011A10	0.8 1 1.25 1.6 2	0.18 0.25 0.37 0.55 0.75	0.55 0.8 0.7 1 0.9 1.25 1.1 1.6 1.4 2	10 13 16 21 26	100 100 100 100 100	3RV1011-0HA10 3RV1011-0JA10 3RV1011-0KA10 3RV1011-1AA10 3RV1011-1BA10		1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41E 41E 41E 41E 41E
	2.5 3.2 4 5	0.75 1.1 1.5 1.5	1.8 2.5 2.2 3.2 2.8 4 3.5 5	33 42 52 65	100 100 100 100	3RV1011-1CA10 3RV1011-1DA10 3RV1011-1EA10 3RV1011-1FA10		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41E 41E 41E 41E
	6.3 8 10 12	2.2 3 4 5.5	4.5 6.3 5.5 8 7 10 9 12	82 104 130 156	100 50 50 50	3RV1011-1GA10 3RV1011-1HA10 3RV1011-1JA10 3RV1011-1KA10		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41E 41E 41E 41E

¹⁾ Guide value for 4-pole standard motors at 50 Hz 400 V AC. The actual starting and rated data of the motor to be protected must be considered when selecting the units.

The accessories of 3RV2 motor starter protectors/circuit breakers can be used with exceptions, see page 7/46 onwards.

CLASS 10, with transverse auxiliary switch (1 NO + 1 NC)

	Rated current	Suitable for three-phase motors ¹⁾ with <i>P</i>	Setting range for thermal overload release	Instantaneous electronic release	Short-circuit breaking capacity at 400 V AC	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
	I_{n}		<u> </u>	<i>I</i> >	$I_{ extsf{CU}}$	Article No.	Price per PU			
	Α	kW	Α	Α	kA					
Size S00										
222	0.16 0.2 0.25 0.32	0.04 0.06 0.06 0.09	0.11 0.16 0.14 0.2 0.18 0.25 0.22 0.32	2.1 2.6 3.3 4.2	100 100 100 100	3RV1011-0AA15 3RV1011-0BA15 3RV1011-0CA15 3RV1011-0DA15		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41E 41E 41E 41E
C COURT	0.4 0.5 0.63 0.8	0.09 0.12 0.18 0.18	0.28 0.4 0.35 0.5 0.45 0.63 0.55 0.8	5.2 6.5 8.2 10	100 100 100 100	3RV1011-0EA15 3RV1011-0FA15 3RV1011-0GA15 3RV1011-0HA15		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41E 41E 41E 41E
3RV1011A15 with integrated	1 1.25 1.6 2	0.25 0.37 0.55 0.75	0.7 1 0.9 1.25 1.1 1.6 1.4 2	13 16 21 26	100 100 100 100	3RV1011-0JA15 3RV1011-0KA15 3RV1011-1AA15 3RV1011-1BA15		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41E 41E 41E 41E
transverse auxiliary switch	2.5 3.2 4 5	0.75 1.1 1.5 1.5	1.8 2.5 2.2 3.2 2.8 4 3.5 5	33 42 52 65	100 100 100 100	3RV1011-1CA15 3RV1011-1DA15 3RV1011-1EA15 3RV1011-1FA15		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41E 41E 41E 41E
	6.3 8 10 12	2.2 3 4 5.5	4.5 6.3 5.5 8 7 10 9 12	82 104 130 156	100 50 50 50	3RV1011-1GA15 3RV1011-1HA15 3RV1011-1JA15 3RV1011-1KA15		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41E 41E 41E 41E

¹⁾ Guide value for 4-pole standard motors at 50 Hz 400 V AC. The actual starting and rated data of the motor to be protected must be considered when selecting the units.

The accessories of 3RV2 motor starter protectors/circuit breakers can be used with exceptions, see page 7/46 onwards.

Overload relays

General data

Overview

More information

Homepage, see www.siemens.com/sirius-control

SiePortal, see

www.siemens.com/product?3RU2www.siemens.com/product?3RB

TIA Selection Tool Cloud (TST Cloud) for
• 3RU2 thermal overload relays, see
www.siemens.com/tstcloud/?node=ThermalOverloadRelay

3RB electronic overload relays, see www.siemens.com/tstcloud/?node=ElectronicOverloadRelay

Digital Configuration Manual for load feeders, see

https://imp.siemens.com/digital-engineering-manual/dem

Configuration Manual for load feeders, see

https://support.industry.siemens.com/cs/ww/en/view/39714188

Conversion tool, see www.siemens.com/conversion-tool







	2/11 4/12 6/13	ALCOHOL S		
Features	3RU2	3RB3	3RB2	Benefits
General data				
Sizes	S00 S3	S00 S3	S6 S12	 Are coordinated with the dimensions, connections and technical characteristics of the other devices in the SIRIUS modular system (contactors, etc.)
				 Permit the mounting of slim-line and compact load feeders in widths of 45 mm (S00, S0), 55 mm (S2), 70 mm (S3), 120 mm (S6) and 145 mm (S10/S12)
				Simplify configuration
Seamless current range	0.11 100 A	0.1 115 A	50 630 A	 Allows easy and consistent configuration with one series of overload relays (for small to large loads)
Protection functions				
Tripping due to overload	✓	✓	✓	Provides optimum inverse-time delayed protection of loads against excessive temperature rises due to overload
Tripping due to phase asymmetry	✓	✓	✓	 Provides optimum inverse-time delayed protection of loads against excessive temperature rises due to phase asymmetry
Tripping due to phase failure	✓	✓	✓	Minimizes heating of three-phase motors during phase failure
Protection of 1-phase loads	✓			Enables the protection of 1-phase loads
Tripping due to overtemperature	1)	1)	1)	 Provides optimum temperature-dependent protection of loads against excessive temperature rises, e.g. for stator-critical motors or in the event of insufficient coolant flow, contamination of the motor surface or long starting or braking operations
Tripping in the event of a ground fault by		✓ (only 3RB31)	✓ (only 3RB21)	 Provides optimum protection of loads against incomplete ground faults due to moisture, condensed water, damage to the insulation material, etc.
Internal ground-fault detection (activatable)				Eliminates the need for additional special equipment Saves space in the control cabinet
				Reduces wiring outlay and costs
Features				House Himing Suday and Socie
RESET function	1	√	1	Allows manual or automatic resetting of the device
Remote RESET function	(by means of separate module)	(only with 3RB31 and external auxiliary voltage	(only with 3RB21 and external auxiliary voltage	Allows the remote resetting of the device
		24 V DC)	24 V DC)	
TEST function for auxiliary contacts	1	✓	✓	Allows easy checking of the function and wiring
TEST function for electronics		✓	✓	Allows checking of the electronics
Status display	✓	✓	✓	Displays the current operating state
Large current adjustment button	✓	✓	✓	Makes it easier to set the relay exactly to the correct current value
Integrated auxiliary contacts (1 NO + 1 NC)	✓	✓	✓	Allow the load to be switched off if necessary Can be used to output signals
(A il - l- l -			1) = 0	NEW ICORN 46 - marietes marter destinated by the second to

- ✓ Available
- -- Not available

1) The SIRIUS 3RN thermistor motor protection devices can be used to provide additional temperature-dependent protection.

General data







	A14 M12 M			
Features	3RU2	3RB3	3RB2	Benefits
Design of load feeders				
Short-circuit strength up to 100 kA at 690 V (in conjunction with the corresponding fuses or the corresponding motor starter protector)	✓	✓	V	 Provides optimum protection of the loads and operating personnel in the event of short circuits due to insulation faults or faulty switching operations
Electrical and mechanical	✓	✓	✓	Simplifies configuration
matching to 3RT contactors				Reduces wiring outlay and costs Enables stand-alone installation as well as space-saving direct mounting
Straight-through transformers for main circuit ¹⁾ (in this case the cables are routed through the feed-through openings of the overload relay and connected directly to the box terminals of the contactor)		(S2, S3)	(S6)	 Reduce the contact resistance (only one point of contact) Save wiring costs (easy, no need for tools, and fast) Save material costs Reduce installation costs
Spring-loaded terminals for	✓	/		Enable fast connections
main circuit ¹⁾	(S00, S0)	(S00, S0)		 Permit vibration-resistant connections
				 Enables maintenance-free connections
Spring-loaded terminals for	✓	✓	✓	Enable fast connections
auxiliary circuits ¹⁾				Permit vibration-resistant connections
				Enables maintenance-free connections
Other features				
Temperature compensation	,	,	√	 Allows the use of the relays at high temperatures without derating Prevents premature tripping Allows compact installation of the control cabinet without distance between the devices/load feeders Simplifies configuration
				Enables space to be saved in the control cabinet
Very high long-term stability	✓	1	✓	Provides safe protection for the loads even after years of use in harsh operating conditions
Wide setting ranges		✓	✓	Minimize the configuring outlay and costs
		(1:4)	(1:4)	• Minimize storage overhead, storage costs, and tied-up capita
Fixed trip class	CLASS 10, CLASS 10A	3RB30: CLASS 10E or CLASS 20E	3RB20: CLASS 10E or CLASS 20E	Optimum motor protection for standard starts
CLASS 5E, 10E, 20E, 30E trip classes adjustable on the device		(only 3RB31)	(only 3RB21)	 Enable solutions for very fast starting motors requiring special protection (e.g. Ex motors) Enable heavy starting solutions Reduce the number of versions
				Minimize the configuring outlay and costs
				 Minimize storage overhead, storage costs, and tied-up capita
Low power loss		/	1	Reduces power consumption and energy costs (up to 98% less power is used than for thermal overload relays)
				 Minimizes temperature rises of the contactor and control cabinet – in some cases this may eliminate the need for contro cabinet cooling
	0)			Direct mounting to contactor saves space, even for high moto currents (i.e. no heat decoupling is required)
Internal power supply	2)	✓	1	Eliminates the need for configuration and connecting an additional control circuit
			1)	

[✓] Available

⁻⁻ Not available

¹⁾ Available as an alternative to screw terminals.

SIRIUS 3RU2 thermal overload relays use a bimetal contactor and therefore do not require a control supply voltage.

Overload relays

General data

Overview of overload relays - matching contactors

Over view or c	romoud	relaye i	natoming								
	Overload		Current	Contactors	s (type, size, opera	ting power in kW)					
	relays	measure- ment	range	3RT201.	3RT202.	3RT203.	3RT204.	3RT105.	3RT106.	3RT107.	3TF68/3TF69
				S00	S0	S2	S3	S6	S10	S12	14
	Туре		Α	3/4/5.5/7.5	5.5/7.5/11/15/18.5	15/18.5/22/30/37	37/45/55	55/75/90	110/132/160	200/250	375/450
SIRIUS 3RU2	thermal o	verload r	elays								
1 all al	3RU211	Integrated	0.11 16	✓							
	3RU212	Integrated	1.8 40		✓						
	3RU213	Integrated	11 80			✓					
VII VII VII VI	3RU214	Integrated	28 100				1				
3RU2											
SIRIUS 3RB3	0 electror	ic overloa	ad relays ^{1]})							
Latin	3RB301	Integrated	0.1 16	✓							
	3RB302	Integrated	0.1 40		✓						
OH U	3RB303	Integrated	12.5 80			✓					
******	3RB304	Integrated	32 115				1				
3RB30											
SIRIUS 3RB3	1 electror	ic overloa	ad relays ^{1]})							
L arthroph.	3RB311	Integrated	0.1 16	1							
	3RB312	Integrated	0.1 40		✓						
	3RB313	Integrated	12.5 80			✓					
Social .	3RB314	Integrated	32 115				1				
3RB31											
SIRIUS 3RB2	0 electror	ic overloa	ad relays ^{1]})							
	3RB205	Integrated	50 200					✓			
	3RB206	Integrated	55 630						✓	1	✓
	3RB201 + 3UF18	Integrated	630 820								✓
3RB20											
SIRIUS 3RB2	l electror	ic over <u>loa</u>	ad relays ¹								
	3RB215	Integrated						1			
444	3RB216	Integrated							/	/	/
	3RB211 + 3UF18		630 820								✓
3RB21											

- ✓ Can be used
- -- Cannot be used

- "Technical specifications" for the use of overload relays with trip class
 ≥ CLASS 20E, see "Short-circuit protection with fuses for motor feeders"
 Digital Configuration Manual for load feeders,
 Configuration Manual for load feeders.

Overload relays

General data

Connection methods

3RU2 thermal overload relays

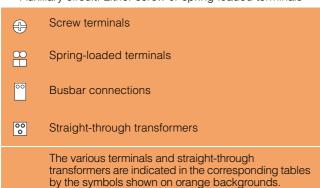
- Sizes S00 and S0:
 - Main and auxiliary circuit: Either screw or spring-loaded terminals
- Sizes S2 and S3:
- Main circuit: Screw terminals with box terminal
- Auxiliary circuit: Either screw or spring-loaded terminals

3RB3 electronic overload relays

- Sizes S00 and S0:
 - Main and auxiliary circuit: Either screw or spring-loaded terminals
- Sizes S2 and S3:
 - Main circuit: Screw terminals with box terminal or as straightthrough transformer
 - Auxiliary circuit: Either screw or spring-loaded terminals

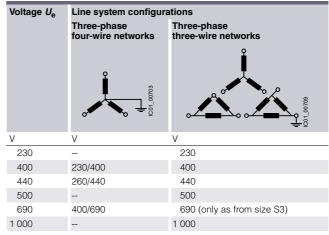
3RB2 electronic overload relays

- Size S6:
 - Main circuit: With busbar connection or as straight-through transformer
 - Auxiliary circuit: Either screw or spring-loaded terminals
- Sizes S10/S12:
 - Main circuit: With busbar connection
 - Auxiliary circuit: Either screw or spring-loaded terminals



Voltage data

The data for 3-phase power systems according to IEC 60947-4-1 are valid for the following line system configurations:



-- Not specified

Overload relays

SIRIUS 3RU2 thermal overload relays

Overview

More information

Homepage, see www.siemens.com/sirius-control SiePortal, see www.siemens.com/product?3RU2

TIA Selection Tool Cloud (TST Cloud) see www.siemens.com/tstcloud/?node=ThermalOverloadRelay

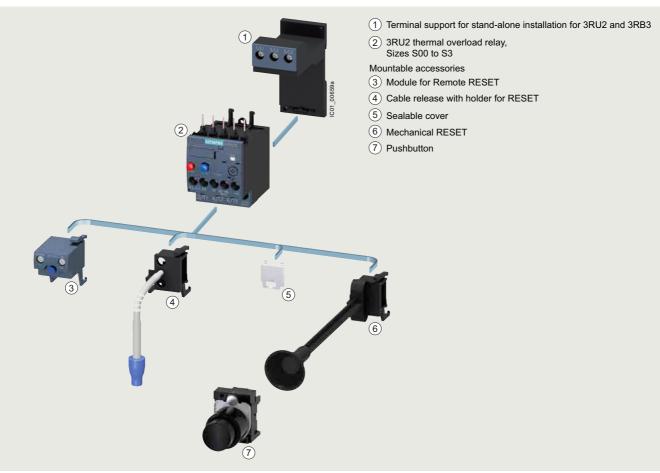
Conversion tool, see www.siemens.com/conversion-tool

Application Manual for switching devices with IE3 and IE4 motors, see https://support.industry.siemens.com/cs/ww/en/view/94770820

Equipment Manual, see

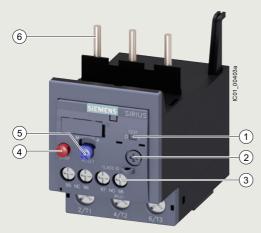
https://support.industry.siemens.com/cs/ww/en/view/60298164

Characteristics and certificates see https://support.industry.siemens.com/cs/ww/en/ps/16270



Mountable accessories for 3RU2 thermal overload relay

SIRIUS 3RU2 thermal overload relays



- 1) Switch position indicator and TEST function of the wiring: Indicates a trip and enables the wiring test.
- (2) Motor current setting: Setting the device to the rated motor current is easy with the large rotary knob.
- Connecting terminals:
 Depending on the device version, the connecting terminals are screw terminals or spring-loaded terminals for the main and auxiliary circuits.
- STOP button: If the STOP button is pressed, the NC contact is opened. This switches off the contactor downstream. The NC contact is closed again when the button is released.
- (5) Selector switch for Manual/Automatic RESET and RESET button: With this switch you can choose between Manual and Automatic RESET. A device set to Manual RESET can be reset locally by pressing the RESET button. A Remote RESET is possible using the RESET modules (accessories), which are independent of size.
- 6 Connection for mounting onto contactors:
 Optimally adapted in electrical, mechanical and design terms to the contactors. The overload relay can be connected directly to the contactor using these pins. Stand-alone installation is possible as an alternative (in conjunction with a terminal support for stand-alone installation).

A sealable transparent cover can be optionally mounted (accessory). It secures the motor current setting against adjustment.

3RU2 thermal overload relays up to 100 A have been designed to provide inverse-time delayed protection for loads with normal starting against impermissibly high temperature rises due to overload or phase failure.

An overload or phase failure results in an increase of the motor current beyond the set rated motor current. Via heating elements, this current rise heats up the bimetal strips inside the device which then bend and as a result trigger the auxiliary contacts by means of a tripping mechanism. The auxiliary contacts then switch off the load by means of a contactor. The break time depends on the ratio between the tripping current and the current setting $I_{\rm e}$ and is stored in the form of a long-term stable tripping characteristic curve, see Characteristic curves.

The "tripped" status is signaled by means of a switch position indicator. The relay is reset manually or automatically after a recovery time has elapsed.

The 3RU2 thermal overload relays are suitable for operation with frequency converters.

The devices are manufactured according to environmental guidelines and contain environmentally friendly and reusable materials. They comply with all important worldwide standards and approvals.

Use in hazardous areas

The 3RU2 overload relays are certified according to both the European Explosion Protection Directive (ATEX) and the International Explosion Protection Standard (IECEx), see Certificates.

SIRIUS 3RU2136-4.B0 thermal overload relay

Article number scheme

Product versions		Article number
Thermal overload relay		3RU2
Device type	e.g. 1 = CLASS 10, 1 NO + 1 NC	
Size, rated operational current and power	e.g. 16 = 16 A (7.5 kW) for size S00	
Setting range for overload release	e.g. 0A = 0.11 0.16 A	
Connection methods	e.g. B = screw terminals	
Installation type	e.g. 0 = mounting on contactor	
Example		3RU2 1 1 6 - 0 A B 0

Note:

The article number scheme shows an overview of product versions for better understanding of the logic behind the article numbers.

For your orders, please use the article numbers quoted in the selection and ordering data.

Overload relays

SIRIUS 3RU2 thermal overload relays

Benefits

The most important features and benefits of the 3RU2 thermal overload relays are listed in the overview table (see "General data", page 7/76 onwards).

Application

Industries

The 3RU2 thermal overload relays are suitable for customers from all industries who want to guarantee optimum inverse-time delayed protection of their electrical loads (e.g. motors) under normal starting conditions (CLASS 10, 10A).

Application

The 3RU2 thermal overload relays have been designed for the protection of three-phase and single-phase AC and DC motors.

If single-phase AC or DC loads are to be protected by the 3RU2 thermal overload relays, all three bimetal strips must be heated. For this purpose, all main conducting paths of the relay must be connected in series.

Ambient conditions

3RU2 thermal overload relays compensate temperature in the temperature range from -40 °C to +60 °C according to IEC 60947-4-1. At temperatures from +60 to +70 °C, the upper set value of the setting range has to be reduced by a specific factor.

Use of SIRIUS protection devices in conjunction with IE3 and IE4 motors

Note:

For the use of 3RU2 thermal overload relays in conjunction with highly efficient IE3 and IE4 motors, please observe the information on dimensioning and configuring, see Application Manual.

For more information, see page 1/8.

Technical specifications

More information

System Manual for modular system, see

https://support.industry.siemens.com/cs/ww/en/view/60311318

Digital Configuration Manual for load feeders, see https://imp.siemens.com/digital-engineering-manual/dem

Configuration Manual for load feeders, see

https://support.industry.siemens.com/cs/ww/en/view/39714188

Equipment Manual, see

https://support.industry.siemens.com/cs/ww/en/view/60298164

Technical specifications, see

https://support.industry.siemens.com/cs/ww/en/ps/16270/td

see https://support.industry.siemens.com/cs/ww/en/ps/16270/cert

The following technical information is intended to provide an initial overview of the various device versions and functions.

Туре		3RU2116	3RU2126	3RU2136	3RU2146	
Size		S00	S0	S2	S3	
Dimensions (W x H x D) (overload relay with terminal support for stand-alone assembly) • Screw terminals	/ mm	45 x 89 x 80	45 x 97 x 95	55 x 105 x 117	70 × 106 × 124	
Spring-loaded terminals	mm	45 x 102 x 79	45 x 114 x 95	55 x 105 x 117	70 x 106 x 124	
General data						
Tripping in the event of		Overload and phase	e failure			
Trip class according to IEC 60947-4-1	CLASS	10		10, 10A		
Phase failure sensitivity		Yes				
Overload warning		No				
Reset and recovery						
Reset options after tripping		Manual, Auto and Remote RESET (Remote RESET in conjunction with the appropriate accessories)				
 Recovery time For Automatic RESET For Manual RESET For Remote RESET 	min. min. min.	Depends on the strength of the tripping current and characteristic Depends on the strength of the tripping current and characteristic Depends on the strength of the tripping current and characteristic				
Features						
 Display of operating state on device 		Yes, by means of TEST function/switch position indicator slide				
TEST function	Yes					
RESET button	Yes					
STOP button		Yes				
Protection of motors in hazardous environments						
Certificate of suitability/explosion protection type according to ATEX Product Directive 2014/34/EU	DMT 98 ATEX G 001/ № II (2) GD IECEx BVS 15.0046					

According to international standard IECEx

SIRIUS 3RU2 thermal overload relays

Type		3RU2116	3RU2126	3RU2136	3RU2146	
Size		S00	S0	S2	S3	
Dimensions (W x H x D)	,	000		OL.		
(overload relay with terminal support for						
stand-alone assembly) • Screw terminals	mm	45 x 89 x 80	45 x 97 x 95	55 x 105 x 117	70 x 106 x 124	
Screw terminals Spring-loaded terminals	mm mm	45 x 102 x 79	45 x 114 x 95	55 x 105 x 117	70 x 106 x 124 70 x 106 x 124	
General data (continued)						
Ambient temperature						
Storage/transport	°C	-55 +80				
Operation	°C	-40 +70				
Temperature compensation	°C	Up to +60				
Permissible rated current at						
 Temperature inside control cabinet 60 °C 	%	,	ion is required above	e +60 °C)		
- Temperature inside control cabinet 70 °C	%	87				
Repeat terminals						
Coil repeat terminals		Yes	Not required			
Auxiliary contact repeat terminals		Yes	Not required			
Degree of protection IP on the front according to IEC 60529		,	als and spring-loade	· · · · · · · · · · · · · · · · · · ·		
Touch protection on the front according to IEC 60529				· · · · · ·	ring-loaded terminals	
Shock resistance with sine according to IEC 60068-2-27	<i>g</i> /ms	15/11 (auxiliary con	tacts 95/96 and 97/9	98: 8 <i>g</i> /11 ms)		
Electromagnetic compatibility (EMC)						
Interference immunity		Not relevant				
Emitted interference		Not relevant				
Installation altitude above sea level	m	Up to 2 000				
Mounting position		and stand-alone ins		ng position in the hat	ounting on contactors ched area, a setting	
		Stand-alone installa	ation:			
		135° 135′ 135′ 135′ 135′ 135′ 135′ 135′ 135′	I _e x 1,1 90°	45° I _e x 1,1 90°		
		Contactor + overload	22,5° 22,5°			
Type of mounting			ntactor or stand-alor ap-on mounting on [ne installation with te DIN rail.	rminal support,	

Overload relays

SIRIUS 3RU2 thermal overload relays

Туре		3RU2116	3RU2126	3RU2136	3RU2146
Size		S00	S0	S2	S3
Main circuit		000	00	GE .	00
Rated insulation voltage <i>U</i> _i	V	690			1 000
(pollution degree 3)	V	090			1 000
Rated impulse withstand voltage <i>U</i> _{imp}	kV	6			8
Rated operational voltage $U_{\rm e}$	V	690			
Type of current					
Direct current		Yes			
Alternating current		Yes, frequency	range up to 400 Hz		
Current setting	Α	0.11 0.16	1.8 2.5	11 16	28 40
		to	to	to	to
	A	11 16	34 40	70 80	80 100
Power loss per unit (max.)	W	4.8 7.5	5.7 9.6	10.5 18.9	13.5 21
Short-circuit protection					
With fuse without contactor		See "Selection	and ordering data", p	ages 7/86 7/89	
With fuse and contactor			rotection with Fuses/N	Motor Starter Prote	ectors for Motor Feeders'
		SeeDigital Confid	guration Manual for loa	ad feeders	
		Configuration	Manual for load feed	lers.	
Protective separation between main and auxiliary					
conducting paths					
according to IEC 60947-1	/	440	000.0-+	2 000	
Screw terminals or ring cable lug connections	V	440	690: Setting rang ≤ 25 A	e 690	
Spring-loaded terminals	V	440	440: Setting rang	e 690	
oping loaded terminale	•	110	> 25 A	0 000	
Auxiliary circuit					
Number of NO contacts		1			
Number of NC contacts		1			
Auxiliary contacts – Assignment		1 NO for the si	anal "tripped":		
			nnecting the contacto	r	
Rated insulation voltage $U_{\rm i}$	V	690			
(pollution degree 3)					
Rated impulse withstand voltage U _{imp}	kV	6			
Contact rating of the auxiliary contacts					
 NC, NO contacts with alternating current AC-15, rated operational current I_e at U_e 					
- 24 V	Α	3			
- 120 V	A	3			
- 125 V - 230 V	A A	3			
- 400 V	A	1			
- 600 V	Α	0.75			
- 690 V	Α	0.75			
NC, NO contacts with direct current DC-13,					
rated operational current $I_{ m e}$ at $U_{ m e}$ - 24 V	А	1			
- 24 V - 110 V	A	0.22			
- 125 V	A	0.22			
- 220 V	Α	0.11			
 Contact reliability (suitability for PLC control; 17 V, 5 mA) 		Yes			
Short-circuit protection					
• With fuse		0			
- Operational class gG - Quick	A A	6 10			
With miniature circuit breaker (C characteristic)	A		5 kA; <i>U</i> ≤ 260 V)		
Reliable operational voltage for protective separation	V	6 (up to I _k ≤ 0.5	J IV 1, U = 200 V)		
heliable operational voltage for protective separation between auxiliary conducting paths according to IEC 60947-1	v	440			
CSA, UL and UR rated data					
Auxiliary circuit – Switching capacity		B600, R300			
,		,			

SIRIUS 3RU2 thermal overload relays

Туре		3RU2116	3RU2126	3RU2136	3RU2146
Size Conductor cross-sections of main circuit		S00	S0	S2	S3
Connection type			nale		
Connection type		Screw termi	iiais		Screw terminals with box terminal
Terminal screw		M3, Pozidriv size 2	M4, Pozidriv size 2	M6, Pozidriv size 2	4 mm Allen screw
Operating devices	mm	Ø 5 6	Ø 5 6	Ø 5 6	4 mm Allen screw
Prescribed tightening torque	Nm	0.8 1.2	2 2.5	3 4.5	4.5 6
Conductor cross-sections (min./max.), one or two conductors can be connected					
Solid or stranded	mm ²	2 x (0.5 1.5) ¹⁾ .	2 x (1 2.5) ¹⁾ ,	2 x (1 35) ¹⁾ ,	2 x (2.5 16), ¹⁾ ,
- Solid of Stranded		2 x (0.75 2.5) ¹⁾ ,	2 x (2.5 10) ¹)	1 x (1 50) ¹⁾	2 x (10 50) ¹ /.
	2	max. 2 x 4	- (,,1)	- (,,1)	1 x (10 70) ¹⁾
Finely stranded with end sleeve (DIN 46228)	mm²	2 x (0.5 1.5) ¹⁾ , 2 x (0.75 2.5) ¹⁾	2 x (1 2.5) ¹⁾ ; 2 x (2.5 6) ¹⁾ ,	2 x (1 25) ¹⁾ , 1 x (1 35) ¹⁾	2 x (2.5 35) ¹⁾ , 1 x (2.5 50) ¹⁾
		2 x (0.7 0 2.0)	max. 1 x 10	(. x (2.0 00)
AWG cables, solid or stranded	AWG	2 x (20 16) ¹⁾ ,	2 x (16 12) ¹⁾ , 2 x (14 8) ¹⁾	2 x (18 2) ¹⁾ , 1 x (18 1) ¹⁾	2 x (10 1/0) ¹⁾ ,
		2 x (18 14) ¹⁾ , 2 x 12	2 x (14 8) ¹⁾	1 x (18 1) ¹⁾	1 x (10 2/0) ¹⁾
Removable box terminals ²⁾		EX IE			
With copper bars ³⁾	mm				2 x 12 x 4
With cable lugs ⁴⁾					
- Terminal screw					M6
- Prescribed tightening torque	Nm				4.5 6
- Usable ring cable lugs	mm				$d_2 = min. 6.3$
- -03 -> -> d ₂					$d_3^2 = \text{max. 19}$
((-))					
$\langle \Upsilon \rangle$					
740					
Connection type		← Spring-load	ed terminals		
Connection type		Spring-load	eu terminais		
Operating devices	mm	3.0 x 0.5 and 3.5 x	0.5		
Conductor cross-sections (min./max.), one conductor can be connected					
Solid or stranded	mm ²	1 x (0.5 4)	1 x (1 10)		
Finely stranded without end sleeve	mm ²	1 x (0.5 2.5)	1 x (1 6)		
Finely stranded with end sleeve (DIN 46228)	mm ²	1 x (0.5 2.5)	1 x (1 6)		
AWG cables, solid or stranded	AWG	1 x (20 12)	1 x (18 8)		
Max. outer diameter of the conductor insulation	mm	3.6	6.4		
Conductor cross-sections for auxiliary circuit		0.0	0.1		
Connection type			nals		
		Screw termi			
Terminal screw		M3, Pozidriv size 2	2		
Operating devices	mm	Ø 5 6			
Prescribed tightening torque	Nm	0.8 1.2			
Conductor cross-sections (min./max.), one or two conductors can be connected					
Solid or stranded	mm ²	2 x (0.5 1.5) ¹⁾ , 2	x (0.75 2.5) ¹⁾		
Finely stranded with end sleeve (DIN 46228)	mm ²	2 x (0.5 1.5) ¹ , 2			
AWG cables, solid or stranded	AWG	2 x (20 16) ¹⁾ , 2 x			
Connection type	AVVG	Spring-load			
		Spring-load	ou terminais		
Operating devices	mm	3.0 x 0.5 and 3.5 x	0.5		
Conductor cross-sections (min./max.), one or two conductors can be connected					
Solid or stranded	mm ²	2 × (0 5 0.5)			
		2 x (0.5 2.5)			
Finely stranded with and sleeve Finely stranded with and sleeve (PIN 46000)	mm ²	2 x (0.5 2.5)			
Finely stranded with end sleeve (DIN 46228) AWC pables polid or stranded	mm ²	2 x (0.5 1.5)			
AWG cables, solid or stranded May cuter diameter of the candidater insulation.	AWG	2 x (20 14)			
Max. outer diameter of the conductor insulation	mm	3.6			
1) If two different conductor cross-sections are connected to one	clamping	3) If bars larg	ger than 12 mm x 10	mm are connected	I, a 3RT2946-4EA2 cover
point, both cross-sections must be in the range specified. 2) Cable lug and busbar connection possible after removing the	207				ce, see page 7/105. the 3RT2946-4EA2 cover
terminals.	JUA				ce, see page 7/105.
			,		

Overload relays

SIRIUS 3RU2 thermal overload relays IE3/IE4 ready

Selection and ordering data

3RU2 thermal overload relays for mounting on contactor¹⁾, sizes S00 and S0, CLASS 10

Features and technical specifications:

- Connection methods Main and auxiliary circuit: Either screw or spring-loaded
- Overload and phase failure protection
- Auxiliary contacts 1 NO + 1 NC
- · Manual and Automatic RESET
- · Switch position indicator

- TEST function
- STOP button
- Sealable covers (optional accessory)

PU (UNIT, SET, M) = 1 PS* PG = 1 unit =41F









3RU2116-..B0

3RU2116-..C0

3RU2126-..B0

3RU2126-..C0

Size contac- tor	Trip class	Rated power for three-phase motors, rated value ²⁾	Current setting value of the inverse-time delayed overload release	Short-circuit protection with fuse, type of coordination "2", operational class gG ³⁾	Screw terminals	+	Spring-loaded terminals	
	CLASS	kW	А	А	Article No.	Price per PU	Article No.	Price per PU
Size S	00							
S00	10 10 10 10	0.04 0.06 0.06 0.09	0.11 0.16 0.14 0.2 0.18 0.25 0.22 0.32	0.5 1 1 1.6	3RU2116-0AB0 3RU2116-0BB0 3RU2116-0CB0 3RU2116-0DB0		3RU2116-0AC0 3RU2116-0BC0 3RU2116-0CC0 3RU2116-0DC0	
	10 10 10 10	0.09 0.12 0.18 0.18	0.28 0.4 0.35 0.5 0.45 0.63 0.55 0.8	2 2 2 4	3RU2116-0EB0 3RU2116-0FB0 3RU2116-0GB0 3RU2116-0HB0		3RU2116-0EC0 3RU2116-0FC0 3RU2116-0GC0 3RU2116-0HC0	
	10 10 10 10	0.25 0.37 0.55 0.75	0.7 1 0.9 1.25 1.1 1.6 1.4 2	4 4 6 6	3RU2116-0JB0 3RU2116-0KB0 3RU2116-1AB0 3RU2116-1BB0		3RU2116-0JC0 3RU2116-0KC0 3RU2116-1AC0 3RU2116-1BC0	
	10 10 10 10	0.75 1.1 1.5 1.5	1.8 2.5 2.2 3.2 2.8 4 3.5 5	10 10 16 20	3RU2116-1CB0 3RU2116-1DB0 3RU2116-1EB0 3RU2116-1FB0		3RU2116-1CC0 3RU2116-1DC0 3RU2116-1EC0 3RU2116-1FC0	
	10 10 10 10	2.2 3 4 5.5	4.5 6.3 5.5 8 7 10 9 12.5	20 25 35 35	3RU2116-1GB0 3RU2116-1HB0 3RU2116-1JB0 3RU2116-1KB0		3RU2116-1GC0 3RU2116-1HC0 3RU2116-1JC0 3RU2116-1KC0	
	10	7.5	11 16	40	3RU2116-4AB0		3RU2116-4AC0	
Size S								
S0	10 10 10 10	0.75 1.1 1.5 1.5	1.8 2.5 2.2 3.2 2.8 4 3.5 5	10 10 16 20	3RU2126-1CB0 3RU2126-1DB0 3RU2126-1EB0 3RU2126-1FB0		3RU2126-1CC0 3RU2126-1DC0 3RU2126-1EC0 3RU2126-1FC0	
	10 10 10 10	2.2 3 4 5.5	4.5 6.3 5.5 8 7 10 9 12.5	20 25 35 35	3RU2126-1GB0 3RU2126-1HB0 3RU2126-1JB0 3RU2126-1KB0		3RU2126-1GC0 3RU2126-1HC0 3RU2126-1JC0 3RU2126-1KC0	
	10 10 10 10	7.5 7.5 11 11	11 16 14 20 17 22 20 25	40 50 63 63	3RU2126-4AB0 3RU2126-4BB0 3RU2126-4CB0 3RU2126-4DB0		3RU2126-4AC0 3RU2126-4BC0 3RU2126-4CC0 3RU2126-4DC0	
	10 10 10 10	15 15 18.5 18.5	23 28 27 32 30 36 34 40	63 80 80 80	3RU2126-4NB0 3RU2126-4EB0 3RU2126-4PB0 3RU2126-4FB0		3RU2126-4NC0 3RU2126-4EC0 3RU2126-4PC0 3RU2126-4FC0	

¹⁾ With the appropriate terminal supports (see page 7/104), the 3RU2 overload relays for mounting on contactors can also be installed as stand-alone units.

²⁾ Guide value for 4-pole standard motors at 50 Hz 400 V AC. The actual starting and rated data of the motor to be protected must be considered when selecting the units.

³⁾ Maximum protection by fuse only for overload relays, type of coordination "2". For fuse values in connection with contactors, see

- Digital Configuration Manual for load feeders,

- Configuration Manual for load feeders.

Overload relays

IE3/IE4 ready SIRIUS 3RU2 thermal overload relays

3RU2 thermal overload relays for mounting on contactor¹⁾, sizes S2 and S3, CLASS 10 or 10A

Features and technical specifications:

- · Connection methods
 - Main circuit: Screw terminals with box terminal
 - Auxiliary circuit: Either screw or spring-loaded terminals
- Overload and phase failure protection
- Auxiliary contacts 1 NO + 1 NC
- Manual and Automatic RESET
- Switch position indicator

- TEST function
- STOP button
- Sealable covers (optional accessory)

PU (UNIT, SET, M) =1 PS* =1 unit PG =41F









3RU2136-..B0

3RU2136-..D0

3RU2146-4.B0

3RU2146-4.D0

Size contac- tor		Rated power for three-phase motors, rated value ²⁾	Current setting value of the inverse-time delayed overload release	Short-circuit protection with fuse, type of coordination "2", operational class gG ³⁾	Screw terminals	+	Spring-loaded terminals (on auxiliary current side)	<u></u>
	CLASS	kW	А	A	Article No.	Price per PU	Article No.	Price per PU
Size S	2							
S2	10 10 10 10 10 10 10	3 4 5.5 7.5 7.5 11 15	5.5 8 7 10 9 12.5 11 16 14 20 18 25 22 32	25 35 35 40 50 63 80	3RU2136-1HB0 3RU2136-1JB0 3RU2136-1KB0 3RU2136-4AB0 3RU2136-4AB0 3RU2136-4DB0 3RU2136-4EB0		3RU2136-1HD0 3RU2136-1JD0 3RU2136-1KD0 3RU2136-4AD0 3RU2136-4AD0 3RU2136-4DD0 3RU2136-4ED0	
	10 10 10 10 10 10	18.5 22 22 30 30	28 40 36 45 40 50 47 57 54 65	80 100 100 100 100 125	3RU2136-4FB0 3RU2136-4GB0 3RU2136-4HB0 3RU2136-4QB0 3RU2136-4JB0 3RU2136-4KB0		3RU2136-4FD0 3RU2136-4GD0 3RU2136-4HD0 3RU2136-4QD0 3RU2136-4JD0 3RU2136-4KD0	
	10A	37	70 80	160	3RU2136-4RB0		3RU2136-4RD0	
Size S	3							
S3	10 10 10 10 10 10	18.5 22 30 37 45 45	28 40 36 50 45 63 57 75 70 90 80 100 ⁴⁾	80 125 125 160 160 200	3RU2146-4FB0 3RU2146-4HB0 3RU2146-4JB0 3RU2146-4KB0 3RU2146-4LB0 3RU2146-4MB0		3RU2146-4FD0 3RU2146-4HD0 3RU2146-4JD0 3RU2146-4KD0 3RU2146-4KD0 3RU2146-4MD0	

With the appropriate terminal supports (see page 7/104), the 3RU2 overload relays for mounting on contactors can also be installed as stand-alone units.

²⁾ Guide value for 4-pole standard motors at 50 Hz 400 V AC. The actual starting and rated data of the motor to be protected must be considered when selecting the units.

³⁾ Maximum protection by fuse only for overload relays, type of coordination "2". For fuse values in connection with contactors, see

Digital Configuration Manual for load feeders,Configuration Manual for load feeders.

⁴⁾ For overload relays > 100 A, see 3RB2 electronic overload relays, page 7/90 onwards.

Overload relays

SIRIUS 3RU2 thermal overload relays IE3/IE4 ready

3RU2 thermal overload relays for stand-alone installation, sizes S00 and S0, CLASS 10

Features and technical specifications:

- Connection methods
 Main and auxiliary circuit: Either screw or spring-loaded
 terminals
- Overload and phase failure protection
- Auxiliary contacts 1 NO + 1 NC
- Manual and Automatic RESET
- Switch position indicator

- TEST function
- STOP button
- Sealable covers (optional accessory)

PU (UNIT, SET, M) = 1 PS* = 1 unit PG = 41F









3RU2116-..B1

3RU2116-..C1

3RU2126-4.B1

3RU2126-4.C1

Size contac- tor		Rated power for three-phase motors, rated value ¹⁾	Current setting value of the inverse-time delayed overload release	Short-circuit protection with fuse, type of coordination "2", operational class gG ²⁾	Screw terminals	4	Spring-loaded terminals	••
	CLASS	kW	А	A	Article No.	Price per PU	Article No.	Price per PU
Size S	00							
S00	10 10 10 10	0.04 0.06 0.06 0.09	0.11 0.16 0.14 0.2 0.18 0.25 0.22 0.32	0.5 1 1 1.6	3RU2116-0AB1 3RU2116-0BB1 3RU2116-0CB1 3RU2116-0DB1		3RU2116-0AC1 3RU2116-0BC1 3RU2116-0CC1 3RU2116-0DC1	
	10 10 10 10	0.09 0.12 0.18 0.18	0.28 0.4 0.35 0.5 0.45 0.63 0.55 0.8	2 2 2 4	3RU2116-0EB1 3RU2116-0FB1 3RU2116-0GB1 3RU2116-0HB1		3RU2116-0EC1 3RU2116-0FC1 3RU2116-0GC1 3RU2116-0HC1	
	10 10 10 10	0.25 0.37 0.55 0.75	0.7 1 0.9 1.25 1.1 1.6 1.4 2	4 4 6 6	3RU2116-0JB1 3RU2116-0KB1 3RU2116-1AB1 3RU2116-1BB1		3RU2116-0JC1 3RU2116-0KC1 3RU2116-1AC1 3RU2116-1BC1	
	10 10 10 10	0.75 1.1 1.5 1.5	1.8 2.5 2.2 3.2 2.8 4 3.5 5	10 10 16 20	3RU2116-1CB1 3RU2116-1DB1 3RU2116-1EB1 3RU2116-1FB1		3RU2116-1CC1 3RU2116-1DC1 3RU2116-1EC1 3RU2116-1FC1	
	10 10 10 10	2.2 3 4 5.5	4.5 6.3 5.5 8 7 10 9 12.5	20 25 35 35	3RU2116-1GB1 3RU2116-1HB1 3RU2116-1JB1 3RU2116-1KB1		3RU2116-1GC1 3RU2116-1HC1 3RU2116-1JC1 3RU2116-1KC1	
	10	7.5	11 16	40	3RU2116-4AB1		3RU2116-4AC1	
Size S	0							·
S0	10 10 10	7.5 11 11	14 20 17 22 20 25	50 63 63	3RU2126-4BB1 3RU2126-4CB1 3RU2126-4DB1		3RU2126-4BC1 3RU2126-4CC1 3RU2126-4DC1	
	10 10 10 10	15 15 18.5 18.5	23 28 27 32 30 36 34 40	63 80 80 80	3RU2126-4NB1 3RU2126-4EB1 3RU2126-4PB1 3RU2126-4FB1		3RU2126-4NC1 3RU2126-4EC1 3RU2126-4PC1 3RU2126-4FC1	

¹⁾ Guide value for 4-pole standard motors at 50 Hz 400 V AC. The actual starting and rated data of the motor to be protected must be considered when selecting the units.

²⁾ Maximum protection by fuse only for overload relays, type of coordination "2". For fuse values in connection with contactors, see - Digital Configuration Manual for load feeders,

⁻ Configuration Manual for load feeders

Overload relays

IE3/IE4 ready SIRIUS 3RU2 thermal overload relays

3RU2 thermal overload relays for stand-alone installation, sizes S2 and S3, CLASS 10 or 10A

Features and technical specifications:

- Connection methods
- Main circuit: Screw terminals with box terminal
- Auxiliary circuit: Either screw or spring-loaded terminals
- Auxiliary contacts 1 NO + 1 NC
- · Manual and Automatic RESET
- · Switch position indicator

- TEST function
- STOP button
- Sealable covers (optional accessory)

PU (UNIT, SET, M) = 1 PS' = 1 unit =41F









3RU2136-4.B1

3RU2136-4.D1

3RU2146-4.B1

3RU2146-4.D1

Size contac- tor		Rated power for three-phase motors, rated value ¹⁾	Current setting value of the inverse-time delayed overload release	Short-circuit protection with fuse, type of coordination "2", operational class gG ²)	Screw terminals	(+)	Spring-loaded terminals	<u> </u>
	CLASS	kW	А	Α	Article No.	Price per PU	Article No.	Price per PU
Size S	2							<u>.</u>
S2	10 10 10	15 18.5 22	22 32 28 40 36 45	80 80 100	3RU2136-4EB1 3RU2136-4FB1 3RU2136-4GB1		3RU2136-4ED1 3RU2136-4FD1 3RU2136-4GD1	
	10 10 10	22 30 30	40 50 47 57 54 65	100 100 125	3RU2136-4HB1 3RU2136-4QB1 3RU2136-4JB1		3RU2136-4HD1 3RU2136-4QD1 3RU2136-4JD1	
	10A 10A	37 37	62 73 70 80	160 160	3RU2136-4KB1 3RU2136-4RB1		3RU2136-4KD1 3RU2136-4RD1	
Size S	3							
S3	10 10 10 10	30 37 45 45	45 63 57 75 70 90 80 100 ³⁾	125 160 160 200	3RU2146-4JB1 3RU2146-4KB1 3RU2146-4LB1 3RU2146-4MB1		3RU2146-4JD1 3RU2146-4KD1 3RU2146-4LD1 3RU2146-4MD1	

¹⁾ Guide value for 4-pole standard motors at 50 Hz 400 V AC. The actual starting and rated data of the motor to be protected must be considered when selecting the units.

 $^{^{2)}\,}$ Maximum protection by fuse only for overload relays, type of coordination "2". For fuse values in connection with contactors, see - Digital Configuration Manual for load feeders, - Configuration Manual for load feeders.

 $^{^{3)}}$ For overload relays > 100 A, see 3RB2 electronic overload relays, page 7/90 onwards.

Overload relays

SIRIUS 3RB electronic overload relays

Overview

More information

Homepage, see www.siemens.com/sirius-control SiePortal, see www.siemens.com/product?3RB

TIA Selection Tool Cloud (TST Cloud), see

www.siemens.com/tstcloud/?node=ÉlectronicOverloadRelay

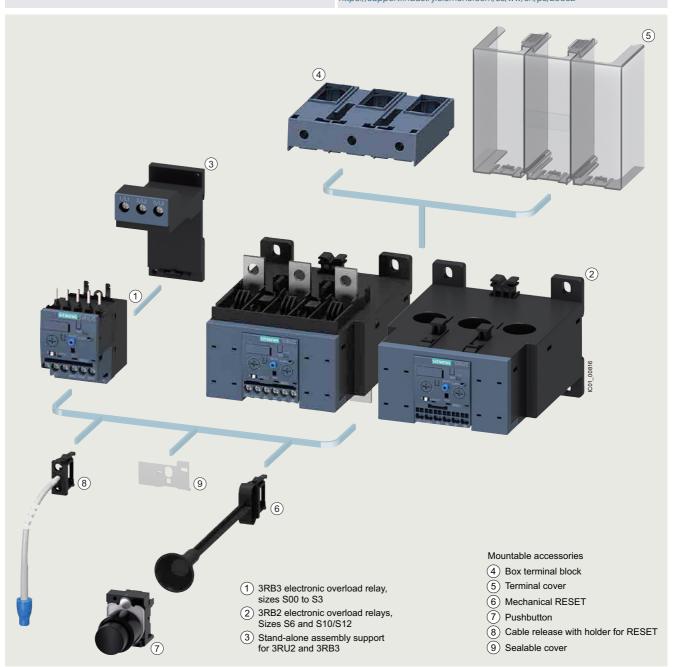
Conversion tool, see www.siemens.com/conversion-tool

Application Manual for switching devices with IE3 and IE4 motors, see https://support.industry.siemens.com/cs/ww/en/view/94770820

Equipment Manual, see

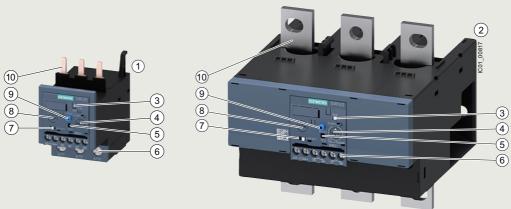
https://support.industry.siemens.com/cs/ww/en/view/60298164

Characteristics and certificates see https://support.industry.siemens.com/cs/ww/en/ps/29662



Mountable accessories for 3RB3 and 3RB2 electronic overload relays (see pages 7/104 to 7/106)

SIRIUS 3RB electronic overload relays



- 1 3RB3133-4.B0 overload relay, size S2
- (2) 3RB2153-4FW2 overload relay, size S6
- 3 Switch position indicator and TEST function of the wiring: Indicates a trip and enables the wiring test.
- Trip class setting/internal ground-fault detection (only 3RB31 and 3RB21):
 Using the rotary switch you can set the required trip class and activate the internal ground-fault detection dependent on the starting conditions.
- Solid-state test (device test):
 Enables a test of all important device components and functions.
- (6) Connecting terminals (removable terminal block for auxiliary circuits): Depending on the device version, the connecting terminals are screw terminals or spring-loaded terminals for the main and auxiliary circuits.
- Selector switch for Manual/Automatic RESET: With the slide switch you can choose between Manual and Automatic RESET.

- Motor current setting: Setting the device to the rated motor current is easy with the large rotary knob.
- 9 A device set to Manual RESET can be reset locally by pressing the RESET button. On 3RB31 and 3RB21 overload relays an electrical Remote RESET is integrated.
- (10) Connection for mounting onto contactors: Optimally adapted in electrical, mechanical and design terms to the 3RT contactors. The overload relay can be connected directly using these connection pins. Stand-alone installation is possible as an alternative (in conjunction with a terminal support for stand-alone installation).

A sealable transparent cover can be optionally mounted (accessory). It secures the motor current setting against adjustment.

3RB3 and 3RB2 electronic overload relays

The 3RB3 electronic overload relays up to 115 A and the 3RB2 electronic overload relays up to 630 A with internal power supply have been designed for inverse-time delayed protection of loads with normal and heavy starting (see Equipment Manual) against excessive temperature rises due to overload, phase asymmetry or phase failure.

An overload, phase asymmetry or phase failure result in an increase of the motor current beyond the set rated motor current. This current rise is detected by the current transformers integrated into the devices and evaluated by corresponding solid-state circuits which then output a pulse to the auxiliary contacts. The auxiliary contacts then switch off the load by means of a contactor. The break time depends on the ratio between the tripping current and the current setting $I_{\rm e}$ and is stored in the form of a long-term stable tripping characteristic curve, see Characteristics.

In addition to inverse-time delayed protection of loads against excessive temperature rises due to overload, phase asymmetry and phase failure, the 3RB31 and 3RB21 electronic overload relays also allow internal ground-fault detection (not possible in conjunction with contactor assemblies for star-delta (wye-delta) starting). This provides protection of loads against incomplete ground faults due to damage to the insulation material, moisture, condensed water, etc.

The "tripped" status is signaled by means of a switch position indicator. The relay is reset manually or automatically after the recovery time has elapsed.

The 3RB3 and 3RB2 electronic overload relays are suitable for operation with frequency converters, see Equipment Manual.

The devices are manufactured according to environmental guidelines and contain environmentally friendly and reusable materials. They comply with all important worldwide standards and approvals.

Use in hazardous areas

The 3RB electronic overload relays are suitable for the overload protection of motors with the following types of protection:

- II (2) G [Ex e] [Ex d] [Ex px]
- 🐼 II (2) D [Ex t] [Ex p]

EC type-examination certificate for Group II, Category (2) G/D exists:

- PTB 09 ATEX 3001 for 3RB3
- PTB 06 ATEX 3001 for 3RB2

Overload relays

SIRIUS 3RB electronic overload relays

Article number scheme

Product versions		Article number
Electronic overload relays		3RB3 □ □ □ − □ □ □ □ Sizes S00 to S3
		3RB2 □ □ □ - □ □ □ □ Sizes S6 and S10/S12, 14
Device type	e.g. 0 = standard device, with internal supply, for three-phase loads	
Size, rated operational current and power	e.g. 1 = 16 A (7.5 kW) for size S00	
Version of the Automatic RESET, electrical Remote RESET	e.g. 6 = switchable between Manual/Automatic RESET	
Trip class (CLASS)	e.g. 1 = CLASS 10E	
Setting range of the overload release	e.g. R = 0.1 0.4 A	
Connection methods	e.g. B = screw terminals for main and auxiliary circuits	
Installation type	e.g. 0 = mounting on contactor	
Example		3RB3 0 1 6 - 1 R B 0

Note:

The article number scheme shows an overview of product versions for better understanding of the logic behind the article numbers.

For your orders, please use the article numbers quoted in the selection and ordering data.

Benefits

The most important features and benefits of the 3RB3 and 3RB2 electronic overload relays are listed in the overview table (see "General data", page 7/76 onwards).

Application

Industries

The 3RB3 and 3RB2 electronic overload relays are suitable for customers from all industries who want to guarantee optimum inverse-time delayed protection of their electrical loads (e.g. motors) under normal and heavy starting conditions (CLASS 5E to 30E), minimize project completion times, inventories and energy consumption, and optimize plant availability and maintenance management.

Application

The 3RB3 and 3RB2 electronic overload relays have been designed for the protection of three-phase motors in sinusoidal 50/60 Hz voltage networks. These relays are not suitable for the protection of single-phase AC or DC loads. The 3RU2 thermal overload relays are recommended for that purpose.

Ambient conditions

The devices are insensitive to external influences such as shocks, corrosive ambient conditions, aging and temperature fluctuations.

For the temperature range from -25 to +60 °C, the 3RB3 and 3RB2 electronic overload relays compensate the temperature in accordance with IEC 60947-4-1.

For the 3RB2 electronic overload relays with the sizes S6 and S10/S12, the upper set value of the setting range must be reduced for ambient temperatures > 50 °C by a certain factor.

Use of SIRIUS protection devices in conjunction with IE3 and IE4 motors

Note:

For the use of 3RB3 and 3RB2 electronic overload relays in conjunction with high-efficiency IE3 and IE4 motors, please observe the information on dimensioning and configuring, see Application Manual.

For more information, see page 1/8.

SIRIUS 3RB electronic overload relays

Technical specifications

More information					
System Manual for modular system, see https://support.industry.siemens.com/cs/ww/en/view/60311318	Equipment Manual, see https://support.industry.siemens.com/cs/ww/en/view/60298164				
Digital Configuration Manual for load feeders, see https://imp.siemens.com/digital-engineering-manual/dem	Technical specifications, see https://support.industry.siemens.com/cs/ww/en/ps/29662/td				
Configuration Manual for load feeders, see https://support.industry.siemens.com/cs/ww/en/view/39714188					

The following technical information is intended to provide an initial overview of the various device versions and functions.

Туре		3RB3016, 3RB3113	3RB3026, 3RB3123	3RB3036, 3RB3133	3RB3046, 3RB3143	3RB2056, 3RB2153	3RB2066, 3RB2163
Size		S00	S0	S2	S3	S6	S10/S12
Dimensions (W x H x D) (overload relay with terminal support for stand-alone assembly)	l w → D V						
Screw terminals	mr	n 45 x 89 x 80	45 x 97 x 94	55 x 105 x 117	70 x 106 x 124	120 x 119 x 155	145 x 147 x 156
Spring-loaded terminals	mr	45 x 102 x 80	45 x 116 x 95	55 x 105 x 117	70 x 106 x 124		
General data							
Tripping in the event of			ase failure, and It (for 3RB31 an	phase asymmet d 3RB21 only)	ry		
Trip class according to IEC 60947-4-1	CLA	SS 3RB30: 10E, 3RB31: 5E, 1	20E; 0E, 20E or 30E	(adjustable)		3RB20: 10E or 2 3RB21: 5E, 10E, (adjustable)	
Phase failure sensitivity		Yes					
Reset and recovery							
Reset options after tripping		Manual and A Remote RESE		T, 3RB31 and 3F	RB21 have an inte	egrated connection	on for electrical
Recovery time							
- For Automatic RESET		Approx. 3 mir	ı				
For Manual RESETFor Remote RESET		Immediately Immediately					
Features		Illinediately					
Display of operating state on device		Yes by mean	is of switch nos	ition indicator sli	de		
• TEST function		, ,		essing the TEST			
TEOT Idiolon			ry contacts and			ting the switch po	sition indicator
RESET button		Yes					
STOP button		No					
Protection and operation of explosion	n-proof motors						
Certificate of suitability/explosion protect according to ATEX Product Directive 20		PTB 09 ATEX (x) II (2) G [E (x	x e] [Ex d] [Ex	px]		PTB 06 ATEX 30	e] [Ex d] [Ex px]
			rt.industry.sieme	ens.com/cs/ww/e	n/view/40591327		ndustry.siemens. iew/23814648
Ambient temperatures							
Storage/transport	°C	-40 +80					
Operation	°C	-25 +60					
Temperature compensation	°C	+60					
Permissible rated current at Temperature inside control cabinet (mounted on contactor	60 °C, %	100				70	
Temperature inside control cabinet (stand-alone installation	60 °C,	100					100 or 90 ¹⁾
- Temperature inside control cabinet	70 °C %	On request					
Repeat terminals							
Coil repeat terminal		Yes	Not required				
Auxiliary contact repeat terminal		Yes	Not required				
Degree of protection IP on the front according to IEC 60529							
Screw terminals/spring-loaded terminals	als	IP20					
Screw terminals/spring-loaded terminals/spring-loaded-lo	als					IP00 (IP20 with boover)	oox terminal/
Straight-through transformers				IP20		IP20	
1)							

 $^{^{\}rm 1)}$ 90% for relay with current setting range 160 to 630 A.

Overload relays

Туре		3RB3016, 3RB3113	3RB3026, 3RB3123	3RB3036, 3RB3133	3RB3046, 3RB3143	3RB2056, 3RB2153	3RB2066, 3RB2163
Size		S00	S0	S2	S3	S6	S10/S12
Dimensions (W x H x D) (overload relay with terminal support for stand-alone assembly)		300	30	<i>J</i> 2	33	30	310/312
Screw terminals	mm	45 x 89 x 80	45 x 97 x 94	55 x 105 x 117	70 x 106 x 124	120 x 119 x 155	145 x 147 x 156
Spring-loaded terminals	mm	45 x 102 x 80	45 x 116 x 95	55 x 105 x 117	70 x 106 x 124		
General data (continued)							
Touch protection on the front according to IEC 60529							
 Screw terminals/spring-loaded terminals 		Finger-safe for	r vertical touch	ing from the front	t		
Screw terminals/spring-loaded terminals						Finger-safe for v from the front (with box terminal	ŭ
Straight-through transformers				Finger-safe for	vertical touching	from the front	
according to IEC 60068-2-27	<i>J</i> , -	15/11 15/11 (signaling contact 97/98 (signaling contact 97/98 in position "tripped": in position "trip				15/11 (signaling contain position "tripped/11)	
Electromagnetic compatibility (EMC) – Interference immunity							
Conductor-related interference							
 Burst according to IEC 61000-4-4 (corresponds to degree of severity 3) 	kV	2 (power ports	s), 1 (signal por	rt)			
 Surge according to IEC 61000-4-5 (corresponds to degree of severity 3) 	kV	2 (line to earth	ı), 1 (line to line	·)			
Electrostatic discharge according to IEC 61000-4-2 (corresponds to degree of severity 3)	kV	8 (air discharge), 6 (contact discharge)					
• Field-related interference according to IEC 61000-4-3 (corresponds to degree of severity 3)	V/m	10					
Electromagnetic compatibility (EMC) – Emitted interference		Degree of sev	erity B accordi	ng to EN 55011 ((CISPR 11) and E	EN 55022 (CISPR	22)
Installation altitude above sea level	m	Up to 2 000					
Mounting position		Any					
Type of mounting		Direct mounting	ng/stand-alone	installation with t	erminal support	Direct mounting/ installation	stand-alone

	3RB3016, 3RB3113	3RB3026, 3RB3123	3RB3036, 3RB3133	3RB3046, 3RB3143	3RB2056, 3RB2153	3RB2066, 3RB2163
	S00	S0	S2	S3	S6	S10/S12
V	690		690 1 000 with straight-through transformer	1 000		
kV	6		6 8 with straight-through transformer	8		
V	690			1 000		
	No Yes. 50/60 H	z + 5%				
Α			12.5 50	12.5 50	50 200	55 250
	to	to	and	and		and 160 630
, \			20 00	JL 110		100 000
W			0.5 4.6	0.9 4.6	0.05	
	"Short-Circui see	t Protection wit	h Fuses/Motor Sta	rter Protectors	s for Motor Feede	rs",
				S,		
V	690					
V	600					
	4					
	·	eignal "tripped	u,			
	1 NC for disc					
V	300					
kV	4					
Α	4					
Α	4					
A	3					
A	2					
A	0.35					
A	0.3					
A	0.11 5 Yes					
Α	6					
	The informat	ion refers to sir	nusoidal residual c	urrents at 50/	60 Hz.	
	> 0.75 × I _{mot}	or of cotting of	< 2.5 × 11000000	urrent cettine		
S	< 1	it setting < 1 _{mo}	tor < 5.5 x upper 0	urrent setting		
	24 V DC, ma	x. 200 mA for a	approx. 20 ms, the	n < 10 mA	24 V DC, 100 2.4 W short-te	
					∠.¬ ₩ 311011-10	21111
V	300					
V	300					
	kV V A A A A A A A A A A A A A A A A A A	SRB3113 S00	SRB3113 SOO SOO	SRB3113 SRB3123 SRB3133 SRB31333 SRB3133 SRB	SRB3113 SRB3123 SRB3133 SRB3143 SRB3	See See

Overload relays

Туре		3RB3016, 3RB3113	3RB3026, 3RB3123	3RB3036, 3RB3133	3RB3046, 3RB3143
Size		S00	S0	S2	S3
Conductor cross-sections of main circuit			00	0L	
Connection type		Screw term	inals		Screw terminals with box terminal
Terminal screw		M3, Pozidriv size 2	M4. Pozidriv siz	7e 2	4 mm Allen screw
Operating devices	mm	Ø 5 6	Ø 5 6		4 mm Allen screw
Prescribed tightening torque	Nm	0.8 1.2	2 2.5		4.5 6
Conductor cross-sections (min./max.),					
one or two conductors can be connected	2	2 × (0 = 4 = 1)	0 v (1 0 E)1)	1 v (1 = EO)1)	0 v (0 5 10)1)
Solid or stranded	mm ²	2 x (0.5 1.5) ¹⁾ , 2 x (0.75 2.5) ¹⁾ , 2 x (0.5 4) ¹⁾	2 x (2.5 10) ¹	2 x (1 35) ¹ ,	2 x (2.5 16) ¹⁷ , 2 x (10 50) ¹), 1 x (10 70) ¹)
• Finely stranded with end sleeve (DIN 46228)	mm ²	2 x (0.5 1.5) ¹⁾ 2 x (0.75 2.5) ¹⁾	2 x (1 2.5) ¹⁾ , 2 x (2.5 6) ¹⁾ , max. 1 x 10	2 x (1 25) ¹⁾ , 1 x (1 35) ¹⁾	2 x (2.5 35) ¹⁾ , 1 x (2.5 50) ¹⁾
AWG cables, solid or stranded	AWG	2 x (20 16) ¹⁾ ,		2 x (18 2) ¹⁾ .	2 x (10 1/0) ¹⁾ ,
		2 x (18 14) ¹⁾ ,	2 x (14 8) ¹⁾	1 x (18 1) ¹⁾	1 x (10 2/0) ¹⁾
Removable box terminals ²⁾		2 x 12	∠ X (14 8)''		
With copper bars ³⁾	mm				2 x 12 x 4
With cable lugs ⁴⁾	71011				, , ,
- Terminal screw					M6
Prescribed tightening torque Usable ring cable lugs	Nm mm				$4.5 \dots 6$ $d_2 = min. 6.3$
- Usable ring cable lugs	111111	_			$d_2 = min. 0.3$ $d_3 = max. 19$
0.12740					
Connection type		Spring-load	led terminals		
Operating devices	mm	3.0 x 0.5 and 3.5 x	x 0.5		
Conductor cross-sections (min./max.),					
one conductor can be connected Solid or stranded	mm ²	1 x (0.5 4)	1 v /1 10)		
Finely stranded without end sleeve	mm ²	1 x (0.5 4) 1 x (0.5 2.5)	1 x (1 10) 1 x (1 6)		
Finely stranded without end sleeve Finely stranded with end sleeve (DIN 46228)	mm ²	1 x (0.5 2.5)	1 x (1 6)		
AWG cables, solid or stranded	AWG	1 x (20 12)	1 x (18 8)		
Max. outer diameter of the conductor insulation	mm	3.6	6.4		
Connection type			rough transform	iers	
Discrete of a series		0		15	18
Conductor cross-sections for auxiliary circuit	mm			15	10
Connection type			inals		
		Screw termi	ars		
Terminal screw		M3, Pozidriv size 2	2		
Operating devices	mm	Ø 5 6			
Prescribed tightening torque	Nm	0.8 1.2			
Conductor cross-sections (min./max.), one or two conductors can be connected					
Solid or stranded	mm ²	1 x (0.5 4) ¹⁾ , 2 >	x (0.5 2.5) ¹⁾		
• Finely stranded with end sleeve (DIN 46228)	mm ²	1 x (0.5 2.5) ¹⁾ , 2			
AWG cables, solid or stranded	AWG	2 x (20 14)			
Connection type			led terminals		
Operating devices	mm	3.0 × 0.5			
Conductor cross-sections (min./max.), one or two conductors can be connected		2.0 % 0.0			
Solid or stranded	mm ²	2 x (0.25 1.5)			
Finely stranded without end sleeve	mm ²	2 x (0.25 1.5)			
Finely stranded without end sleeve Finely stranded with end sleeve (DIN 46228)	mm ²	2 x (0.25 1.5) 2 x (0.25 1.5)			
AWG cables, solid or stranded		2 x (24 16)			
If two different conductor cross-sections are connected to one clam		,	than 12 mm ∨ 10	mm are connec	oted, a 3RT2946-4EA2 cover
dimerent conductor cross-sections are confidented to one claim	riig	ii bais laigel l		are cornied	7.00, a 01112040-4LAZ 00VEI

point, both cross-sections must be in the range specified.

2) Cable lug and busbar connection possible after removing the box terminals.

is needed to maintain the required phase clearance, see page 7/105.

⁴⁾ If conductors larger than 25 mm² are connected, the 3RT2946-4EA2 cover is needed to maintain the required phase clearance, see page 7/105.

Туре		3RB2056, 3RB2153	3RB2066, 3RB2163
Size		S6	S10/S12
Conductor cross-sections of main circuit			·
Connection type		Screw terminals with box terminal	
Terminal screw	mm	4 mm Allen screw	5 mm Allen screw
Operating devices	mm	4 mm Allen screw	5 mm Allen screw
Prescribed tightening torque	Nm	10 12	20 22
Conductor cross-sections (min./max.),			
one or two conductors can be connected Solid	mm ²		
	mm ²	With 3RT1955-4G box terminal:	 0 v /E0 10E)
Finely stranded without end sleeve	mm-	With 3RT1955-4G box terminal: 2 x (1 x max. 50, 1 x max. 70), 1 x (10 70); With 3RT1956-4G box terminal: 2 x (1 x max. 95, 1 x max. 120), 1 x (10 120)	2 x (50 185), Front clamping point only: 1 x (70 240); Rear clamping point only: 1 x (120 185)
• Finely stranded with end sleeve (DIN 46228)	mm ²	With 3RT1955-4G box terminal: $2 \times (1 \times \text{max}, 50, 1 \times \text{max}, 70), 1 \times (10 \dots 70);$ With 3RT1956-4G box terminal: $2 \times (1 \times \text{max}, 95, 1 \times \text{max}, 120), 1 \times (10 \dots 120)$	2 x (50 185), Front clamping point only: 1 x (70 240); Rear clamping point only: 1 x (120 185)
• Stranded	mm ²	With 3RT1955-4G box terminal: 2 x (max. 70), 1 x (16 70); With 3RT1956-4G box terminal: 2 x (max. 120), 1 x (16 120)	2 x (70 240), Front clamping point only: 1 x (95 300); Rear clamping point only: 1 x (120 240)
AWG cables, solid or stranded	AWG	With 3RT1955-4G box terminal: 2 x (max. 1/0), 1 x (6 2/0); With 3RT1956-4G box terminal: 2 x (max. 3/0), 1 x (6 250 kcmil)	2 x (2/0 500 kcmil), Front clamping point only: 1 x (3/0 600 kcmil); Rear clamping point only: 1 x (250 500 kcmil)
Ribbon cable conductors (number x width x thickness)	mm	With 3RT1955-4G box terminal: 2 x (6 x 15.5 x 0.8), 1 x (3 x 9 x 0.8 6 x 15.5 x 0.8); With 3RT1956-4G box terminal: 2 x (10 x 15.5 0.8), 1 x (3 x 9 x 0.8 10 x 15.5 x 0.8)	2 x (20 x 24 x 0.5), 1 x (6 x 9 x 0.8 20 x 24 x 0.5)
Connection type		Busbar connection	
Terminal screw		M8 x 25	M10 x 30
Prescribed tightening torque	Nm	10 14	14 24
Conductor cross-sections (min./max.)	2	051)	50 0.402)
Finely stranded with cable lug	mm ²		50 240 ²⁾
Stranded with cable lug	mm ²		70 240 ²⁾
AWG cables, solid or stranded, with cable lug	AWG	4 250 kcmil	2/0 500 kcmil
With connecting bars (max. width)	mm	15	25
Connection type		Straight-through transformers	
Diameter of opening	mm	24.5	
Conductor cross-sections for auxiliary circuit			
Connection type		Screw terminals	
Terminal screw		M3, Pozidriv size 2	
Operating devices	mm	Ø 5 6	
Prescribed tightening torque	Nm	0.8 1.2	
Conductor cross-sections (min./max.), one or two conductors can be connected			
Solid or stranded		1 x (0.5 4) ¹⁾ , 2 x (0.5 2.5) ¹⁾	
 Finely stranded with end sleeve (DIN 46228) 		1 x (0.5 2.5) ¹⁾ , 2 x (0.5 1.5) ¹⁾	
AWG cables, solid or stranded	AWG	2 x (20 14)	
Connection type		Spring-loaded terminals □	
Operating devices	mm	3.0 × 0.5	
Conductor cross-sections (min./max.), one or two conductors can be connected			
Solid or stranded	mm^2	2 x (0.25 1.5)	
Finely stranded without end sleeve	mm^2	2 x (0.25 1.5)	
 Finely stranded with end sleeve (DIN 46228) 	mm^2	2 x (0.25 1.5)	
AWG cables, solid or stranded	AWG	2 x (24 16)	
When connecting cable lugs according to DIN 46235 with conductor cross-sections of 95 mm ² and more, the 3RT1956-4EA1 terminal cover must be used to ensure phase clearance, see page 7/105.	r	When connecting cable lugs according to D sections from 240 mm ² , as well as DIN 4623 from 185 mm ² , the 3RT1956-4EA1 terminal ophase clearance, see page 7/105.	5 for cable cross-sections

Overload relays

SIRIUS 3RB electronic overload relays IE3/IE4 ready

Selection and ordering data

3RB30 electronic overload relays, CLASS 10E

Features and technical specifications:

- · Connection methods
 - Sizes S00 and S0
 - Main and auxiliary circuit: Either screw or spring-loaded terminals
 - Sizes S2 and S3
 - Main circuit: Screw terminals with box terminal or as straight-through transformer
 - Auxiliary circuit: Either screw or spring-loaded terminals
- Overload protection, phase failure protection and asymmetry protection
- · Internal power supply

- Auxiliary contacts 1 NO + 1 NC
- · Manual and Automatic RESET
- · Switch position indicator
- · TEST function and self-monitoring
- Sealable covers (optional accessory)

PU (UNIT, SET, M) = 1 PS* = 1 unit PG =41G













3RB3016-1.B	(
-------------	---

3RB3026-1.B0

3RB3036-1.B0

3RB3036-1.W1

3RB3046-1.B0

3RB3046-1.W1

Size contactor	Rated power for three-phase motors, rated value ¹⁾	Current setting value of the inverse-time delayed overload release	Short-circuit protection with fuse, type of coordination "2", operational class gG ²⁾	Screw terminals	+	Spring-loaded terminals	•••
	kW	A	A	Article No.	Price per PU	Article No.	Price per PU
Size S0)						
S00	Devices for mo						
	0.04 0.09 0.12 0.37	0.1 0.4 0.32 1.25	4 6	3RB3016-1RB0 3RB3016-1NB0		3RB3016-1RE0 3RB3016-1NE0	

300		

0.12 0.37 0.37 1.5	0.32 1.25	6 20
1.5 5.5	3 12	50
2.2 7.5	4 16	50

3RB3016-1NB0 3RB3016-1PB0
3RB3016-1SB0 3RB3016-1TB0

3RB3016-1PE0 3RB3016-1SE0 3RB3016-1TE0

Size S0

Devices for mounting on contactor3)

	•			
0.04 0.09	0.1 0.4	4	3RB3026-1RB0	3RB3026-1RE0
0.12 0.37	0.32 1.25	6	3RB3026-1NB0	3RB3026-1NE0
0.37 1.5	1 4	20	3RB3026-1PB0	3RB3026-1PE0
1.5 5.5	3 12	50	3RB3026-1SB0	3RB3026-1SE0
3 11	6 25	63	3RB3026-1QB0	3RB3026-1QE0
5.5 18.5	10 40	80	3RB3026-1VB0	3RB3026-1VE0

Size S2

Devices with screw terminals (main current side) and for mounting on contactor3)

7.5 22	12.5 50	200	3RB3036-1UB0	3RB3036-1UD0
11 37	20 80	250	3RB3036-1WB0	3RB3036-1WD0

Devices with straight-through transformer for stand-alone installation

7.5 22	12.5 50	200	3RB3036-1UW1	3RB3036-1UX1
11 37	20 80	250	3RB3036-1WW1	3RB3036-1WX1

Size S3

S3

Devices with screw terminals (main current side) and for mounting on contactor3)

	J			
7.5 22	12.5 50	200	3RB3046-1UB0	3RB3046-1UD0
18.5 55	32 115	315	3RB3046-1XB0	3RB3046-1XD0

Devices with straight-through transformer for stand-alone installation

motumation				
7.5 22	12.5 50	200	3RB3046-1UW1	3RB3046-1UX1
18.5 55	32 115	315	3RB3046-1XW1	3RB3046-1XX1

¹⁾ Guide value for 4-pole standard motors at 50 Hz 400 V AC. The actual starting and rated data of the motor to be protected must be considered when selecting the units.

Note:

For reliable operational current, note derating information, see Equipment Manual.

²⁾ Maximum protection by fuse only for overload relays, type of coordination "2"

For fuse values in connection with contactors, see
- Digital Configuration Manual for load feeders,
- Configuration Manual for load feeders.

³⁾ With the appropriate terminal supports (see page 7/104), these overload relays can also be installed as stand-alone units

IE3/IE4 ready SIRIUS 3RB electronic overload relays

3RB20 electronic overload relays for mounting on contactors and stand-alone installation, CLASS 10E

Features and technical specifications:

- · Connection methods
- Size S6
 - Main circuit: With busbar connection or as straight-through transformer (an appropriate connection kit with screws, spring washers and nuts is enclosed with the devices with busbar connection),
 - Auxiliary circuit: Either screw or spring-loaded terminals
- Sizes S10/S12
- Main circuit: With busbar connection (an appropriate connection kit with screws, spring washers and nuts is enclosed),
- Auxiliary circuit: Either screw or spring-loaded terminals

- Overload protection, phase failure protection and asymmetry protection
- Internal power supply
- Auxiliary contacts 1 NO + 1 NC
- · Manual and Automatic RESET
- · Switch position indicator
- TEST function and self-monitoring

PU (UNIT, SET, M) = 1 = 1 unit =41G





3RB2056-1FW2

3RB2066-1MF2

Size contactor	Rated power for three-phase motors, rated value ¹⁾	Current setting value of the inverse-time delayed overload release	Short-circuit protection with fuse, type of coordination "2", operational class gG ²⁾	Screw terminals (on auxiliary current side)	+	Spring-loaded terminals (on auxiliary current side)	
	kW	А	А	Article No.	Price per PU	Article No.	Price per PU

Size S6

Devices with busbar connection,

for mounting onto contactor and stand-alone installation

50 ... 200

Devices with straight-through transformer,

for mounting on contactor and stand-alone installation

For mounting 50 ... 200 on S6

contactors with box terminals

3RB2056-1FC2

3RB2066-1GC2

3RB2066-1MC2

3RB2056-1FF2

3RB2066-1GF2 3RB2066-1MF2

3RB2056-1FW2 3RB2056-1FX2

Size S10/S12

Devices with busbar connection,

for mounting onto contactor and stand-alone installation

S10/S12	30 132	55 250	400
and size 14 (3TF68/ 3TF69) ³⁾	90 355	160 630	800
3TF69) ³⁾			

 $^{^{\}rm 1)}$ Guide value for 4-pole standard motors at 50 Hz 400 V AC. The actual starting and rated data of the motor to be protected must be considered when selecting the units.

²⁾ Maximum protection by fuse only for overload relays, type of coordination "2". For fuse values in connection with contactors, see

Digital Configuration Manual for load feeders

⁻ Configuration Manual for load feeders.

³⁾ For 3TF68/3TF69 contactors, direct mounting is not possible.

Overload relays

SIRIUS 3RB electronic overload relays IE3/IE4 ready

3RB30 electronic overload relays, CLASS 20E

Features and technical specifications:

- · Connection methods
 - Sizes S00 and S0
 - Main and auxiliary circuit: Either screw or spring-loaded terminals
 - Sizes S2 and S3
 - Main circuit: Screw terminals with box terminal or as straight-through transformer
 - Auxiliary circuit: Either screw or spring-loaded terminals
- · Overload protection, phase failure protection and asymmetry protection
- Internal power supply

- Auxiliary contacts 1 NO + 1 NC
- Manual and Automatic RESET
- · Switch position indicator
- · TEST function and self-monitoring
- Sealable covers (optional accessory)

PU (UNIT, SET, M) = 1 PS* = 1 unit PG =41G













3RB3016-2.B0

3RB3026-2.B0

3RB3036-2.B0

3RB3036-2.W1

3RB3046-2.B0

3RB3046-2.W1

Size contactor	Rated power for three-phase motors, rated value ¹⁾	Current setting value of the inverse-time delayed overload release	Short-circuit protection with fuse, type of coordination "2", operational class gG ²⁾	Screw terminals	+	Spring-loaded terminals	
	kW	А	A	Article No.	Price per PU	Article No.	Price per PU

500	Devices 1	for	mounting	on	contact	or ³⁾

Devices for i	nounting on conta	0.01		
0.04 0.09	0.1 0.4	4	3RB3016-2RB0	3RB3016-2RE0
0.12 0.37	0.32 1.25	6	3RB3016-2NB0	3RB3016-2NE0
0.37 1.5	1 4	20	3RB3016-2PB0	3RB3016-2PE0
1.5 5.5	3 12	50	3RB3016-2SB0	3RB3016-2SE0
2.2 7.5	4 16	50	3RB3016-2TB0	3RB3016-2TE0

Size S0

Devices for mounting on contactor3)

Devices for it	iounting on contac	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		
0.04 0.09	0.1 0.4	4	3RB3026-2RB0	3RB3026-2RE0
0.12 0.37	0.32 1.25	6	3RB3026-2NB0	3RB3026-2NE0
0.37 1.5	1 4	20	3RB3026-2PB0	3RB3026-2PE0
1.5 5.5	3 12	50	3RB3026-2SB0	3RB3026-2SE0
3 11	6 25	63	3RB3026-2QB0	3RB3026-2QE0
5.5 18.5	10 40	80	3RB3026-2VB0	3RB3026-2VE0

Size S2

Devices with screw terminals (main current side) and for mounting on contactor3)

7.5 22	12.5 50	200	3RB3036-2UB0	3RB3036-2UD0
11 37	20 80	250	3RB3036-2WB0	3RB3036-2WD0

Devices with straight-through transformer for stand-alone installation

7.5 22	12.5 50	200	3RB3036-2UW1	3RB3036-2UX1
11 37	20 80	250	3RB3036-2WW1	3RB3036-2WX1

Size S3

S3

Devices with screw terminals (main current side) and

for mounting on contactor3)

7.5 22	12.5 50	200
18.5 55	32 115	315

Devices with straight-through transformer for stand-alone installation

٠,	Guide value for 4-pole standard motors at 50 Hz 400 V AC. The actual
	starting and rated data of the motor to be protected must be considered
	when selecting the units.

12.5 ... 50

32 ... 115

7.5 ... 22

18.5 ... 55

200

315

3RB3046-2UB0 3RB3046-2XB0 3RB3046-2UD0 3RB3046-2XD0

3RB3046-2UW1 3RB3046-2XW1 3RB3046-2UX1 3RB3046-2XX1

 $^{^{2)}\,}$ Maximum protection by fuse only for overload relays, type of coordination "2". For fuse values in connection with contactors, see

⁻ Digital Configuration Manual for load feeders,

⁻ Configuration Manual for load feeders.

³⁾ With the appropriate terminal supports (see page 7/104), these overload relays can also be installed as stand-alone units.

IE3/IE4 ready SIRIUS 3RB electronic overload relays

3RB20 electronic overload relays for mounting on contactors and stand-alone installation, CLASS 20E

Features and technical specifications:

- · Connection methods
 - Size S6
 - Main circuit: With busbar connection or as straight-through transformer (an appropriate connection kit with screws, spring washers and nuts is enclosed with the devices with busbar connection),
 - Auxiliary circuit: Either screw or spring-loaded terminals
 - Sizes S10/S12
 - Main circuit: With busbar connection (an appropriate connection kit with screws, spring washers and nuts is enclosed),
 - Auxiliary circuit: Either screw or spring-loaded terminals

- Overload protection, phase failure protection and asymmetry protection
- Internal power supply
- Auxiliary contacts 1 NO + 1 NC
- · Manual and Automatic RESET
- Switch position indicator
- TEST function and self-monitoring

 $\begin{array}{ll} PU \text{ (UNIT, SET, M)} &= 1 \\ PS^* &= 1 \text{ unit} \\ PG &= 41G \end{array}$





3RB2056-2FW2

3RB2066-2MF2

Size contactor	Rated power for three-phase motors, rated value ¹⁾	Current setting value of the inverse-time delayed overload release	Short-circuit protection with fuse, type of coordination "2", operational class gG ²⁾	Screw terminals (on auxiliary current side)	4	Spring-loaded terminals (on auxiliary current side)	
	kW	Α	Α	Article No.	Price per PU	Article No.	Price per PU

Size S6

Devices with busbar connection,

for mounting onto contactor and stand-alone installation

\$6 30 ... 90 50 ... 200 315

Devices with straight-through transformer,

for mounting on contactor and stand-alone installation

For mounting 30 ... 90 50 ... 200 31: on \$6 contactors with

3RB2056-2FC2

3RB2056-2FF2

3RB2056-2FW2 3RB2056-2FX2

box terminals
Size S10/S12²⁾

Devices with busbar connection,

for mounting onto contactor and stand-alone installation

S10/S12	30 132	55 250	400
and size 14 (3TF68/ 3TF69) ³⁾	90 355	160 630	800
3TF69) ³⁾			

¹⁾ Guide value for 4-pole standard motors at 50 Hz 400 V AC. The actual starting and rated data of the motor to be protected must be considered when selecting the units.

3RB2066-2GF2 3RB2066-2MF2

²⁾ Maximum protection by fuse only for overload relays, type of coordination "2". For fuse values in connection with contactors, see

Digital Configuration Manual for load feeders
 Configuration Manual for load feeders.

³⁾ For 3TF68/3TF69 contactors, direct mounting is not possible.

³RB2066-2GC2 3RB2066-2MC2

Overload relays

SIRIUS 3RB electronic overload relays IE3/IE4 ready

3RB31 electronic overload relays, CLASS 5E, 10E, 20E or 30E (adjustable)

Features and technical specifications:

- · Connection methods
 - Sizes S00 and S0
 - Main and auxiliary circuit: Either screw or spring-loaded terminals
 - Sizes S2 and S3
 - Main circuit: Screw terminals with box terminal or as straight-through transformer
 - Auxiliary circuit: Either screw or spring-loaded terminals
- Overload protection, phase failure protection and asymmetry
- Internal ground-fault detection (activatable)
- Internal power supply

- Auxiliary contacts 1 NO + 1 NC
- Manual and Automatic RESET
- Electrical Remote RESET integrated
- · Switch position indicator
- TEST function and self-monitoring
- Sealable covers (optional accessory)

PU (UNIT, SET, M) = 1 PS* = 1 unit PG =41G













3RB3113-4.	B0 3RB3123-4.	B0 3RB3133-4	.B0 3RB3133-4.W1	3RB3143-	4.B0	3RB3143-4.W1	
Size contactor	Rated power for three-phase motors, rated value ¹⁾	Current setting value of the inverse-time delayed overload release	Short-circuit protection with fuse, type of coordination "2", operational class gG ²)	Screw terminals	+	Spring-loaded terminals	
	kW	А	А	Article No.	Price per PU	Article No.	Price per PU
Size S00							
S00	Devices for mour	nting on contactor ^{3,})				
	0.04 0.09 0.12 0.37 0.37 1.5	0.1 0.4 0.32 1.25 1 4	4 6 20	3RB3113-4RB0 3RB3113-4NB0 3RB3113-4PB0		3RB3113-4RE0 3RB3113-4NE0 3RB3113-4PE0	
	1.5 5.5 2.2 7.5	3 12 4 16	50 50	3RB3113-4SB0 3RB3113-4TB0		3RB3113-4SE0 3RB3113-4TE0	
Size S0							
S0	Devices for moul	nting on contactor ^{3,})	_			
	0.04 0.09 0.12 0.37 0.37 1.5	0.1 0.4 0.32 1.25 1 4	4 6 20	3RB3123-4RB0 3RB3123-4NB0 3RB3123-4PB0		3RB3123-4RE0 3RB3123-4NE0 3RB3123-4PE0	
	1.5 5.5 3 11 5.5 18.5	3 12 6 25 10 40	50 63 80	3RB3123-4SB0 3RB3123-4QB0 3RB3123-4VB0		3RB3123-4SE0 3RB3123-4QE0 3RB3123-4VE0	
Size S2							

S2

Devices with screw terminals (main current side) and

for mounting on contactor3)

12.5 ... 50 250 20 80

Devices with straight-through transformer for

stand-alone installation

7.5 22	12.5 50	200
11 37	20 80	250

3RB3133-4UB0 3RB3133-4WB0

3RB3133-4UW1

3RB3133-4WW1

3RB3143-4UB0

3RB3143-4XB0

3RB3133-4UD0 3RB3133-4WD0

3RB3133-4UX1

3RB3133-4WX1

3RB3143-4UD0

3RB3143-4XD0

Size S3

Devices with screw terminals (main current side) and for mounting on contactor $^{3)}$ S3

12.5 ... 50 32 ... 115 18.5 ... 55 315

Devices with straight-through transformer for stand-alone installation

7.5 ... 22 18.5 ... 55 12.5 ... 50 32 ... 115 315

relays can also be installed as stand-alone units.

³RB3143-4UW1 3RB3143-4UX1 3RB3143-4XW1 3RB3143-4XX1 3) With the appropriate terminal supports (see page 7/104), these overload

¹⁾ Guide value for 4-pole standard motors at 50 Hz 400 V AC. The actual starting and rated data of the motor to be protected must be considered when selecting the units.

²⁾ Maximum protection by fuse only for overload relays, type of coordination "2". For fuse values in connection with contactors, see

⁻ Digital Configuration Manual for load feeders,

⁻ Configuration Manual for load feeders.

IE3/IE4 ready SIRIUS 3RB electronic overload relays

3RB21 electronic overload relays for mounting on contactors and stand-alone installation, CLASS 5E, 10E, 20E and 30E (adjustable)

Features and technical specifications:

- · Connection methods
 - Size S6

Main circuit: With busbar connection or as straight-through transformer (an appropriate connection kit with screws, spring washers and nuts is enclosed with the devices with busbar connection),

Auxiliary circuit: Either screw or spring-loaded terminals

- Sizes S10/S12

Main circuit: With busbar connection (an appropriate connection kit with screws, spring washers and nuts is enclosed),

Auxiliary circuit: Either screw or spring-loaded terminals

- Overload protection, phase failure protection and asymmetry protection
- Internal ground-fault detection (activatable)
- Internal power supply
- Auxiliary contacts 1 NO + 1 NC
- Manual and Automatic RESET
- Electrical Remote RESET integrated
- · Switch position indicator
- TEST function and self-monitoring

PU (UNIT, SET, M) = 1 PS* = 1 unit PG =41G





3RB2153-4FW2

3RB2163-4MF2

Size contactor	Rated power for three-phase motors, rated value ¹⁾	Current setting value of the inverse-time delayed overload release	Short-circuit protection with fuse, type of coordination "2", operational class gG ²)	Screw terminals (on auxiliary current side)	(1)	Spring-loaded terminals (on auxiliary current side)	
	kW	Α	A	Article No.	Price per PU	Article No.	Price per PU

Size S6

Devices with busbar connection,

for mounting onto contactor and stand-alone installation

S6	30 90	50 200	315	3RB2153-4FC2	3RB2153-4FF2
----	-------	--------	-----	--------------	--------------

Devices with straight-through transformer,

for mounting on contactor and stand-alone installation

3RB2153-4FW2 3RB2153-4FX2 For mounting 30 ... 90 50 200 315 on S6 contactors with box terminals

Size S10/S12²⁾

Devices with busbar connection,

for mounting onto contactor and stand-alone installation

S10/S12	30 132	55 250	400	3RB2163-4GC2	3RB2163-4GF2
and size 14	90 355	160 630	800	3RB2163-4MC2	3RB2163-4MF2
(3TF68/ 3TF69) ³⁾					

- 1) Guide value for 4-pole standard motors at 50 Hz 400 V AC. The actual starting and rated data of the motor to be protected must be considered when selecting the units.
- ²⁾ Maximum protection by fuse only for overload relays, type of coordination "2". For fuse values in connection with contactors, see Digital Configuration Manual for load feeders,
 Configuration Manual for load feeders.
- 3) For 3TF68/3TF69 contactors, direct mounting is not possible.

Overload relays

Accessories

Overview

Depending on the type of overload relay, an extensive range of accessories can be ordered as an option:

- Terminal supports for stand-alone installation
- Mechanical RESET
- Cable releases with holder for RESET to reset devices that are difficult to access
- Electrical Remote RESET module
- Sealable covers
- Terminal covers
- Box terminal blocks
- Tools for opening spring-loaded terminals
- Blank labels

Selection and ordering data

		Version	Size	Overload relays	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Towning	arramanta f	or stand-alone installation		Туре					
Terminal	supports it	Terminal supports for overlo	ad relays w	ith	Screw terminals	+			
All Parks		screw terminals	•						
		For separate mounting of the overload relays; screw fixing	S00	3RU2, 3RB3	3RU2916-3AA01		1	1 unit	41F
22.22	1241	and snap-on mounting on	S0		3RU2926-3AA01		1	1 unit	411
RU2916-	3RU2916-	DIN rail	S2		3RU2936-3AA01		1	1 unit	411
AA01	3AC01		S3		3RU2946-3AA01		1	1 unit	41F
	ED TON	Terminal supports for overlo spring-loaded terminals	ad relays w	ith	Spring-loaded terminals	$\stackrel{\sim}{\mathbb{H}}$			
66	HREI	For separate mounting of the	S00	3RU2, 3RB3	3RU2916-3AC01		1	1 unit	41F
	× 10	overload relays; screw fixing	S0		3RU2926-3AC01		1	1 unit	41F
	1/3/45	and snap-on mounting on DIN rail							
RU2926-	3RU2926-								
AA01	3AC01								
Series.	ľ								
RU2936-3	BAA01								
177	ille								
	10.								
RU2946-3	BAA01								
lechanio	cal RESET								
4	f 4	Resetting plungers, holders	and formers	3					
	ų /	μ	S00 S3	3RU2	3RU2900-1A		1	1 unit	41F
			S00 S12	2 3RB	3RB3980-0A		1	1 unit	41F
_									
	6								
	3RB3980-								
	3RB3980- 0A								
		Pushbutton with extended st							
		Pushbutton with extended st		n) 2 3RU2, 3RB	3SU1200-0FB10-0AA0)	1	1 unit	41.
					3SU1200-0FB10-0AA0)	1	1 unit	41.
	OA				3SU1200-0FB10-0AA0		1	1 unit	410
		IP65, Ø 22 mm			3SU1200-0FB10-0AA0)	1	1 unit	41.
	OA	IP65, Ø 22 mm Extension plunger	S00 S12	2 3RU2, 3RB					
	OA	IP65, Ø 22 mm Extension plunger For compensation of the	S00 S12		3SU1200-0FB10-0AA0		1	1 unit	
A A	OA	Extension plunger For compensation of the distance between the pushbutton and the resetting	S00 S12	2 3RU2, 3RB					41.
	OA	IP65, Ø 22 mm Extension plunger For compensation of the distance between the	S00 S12	2 3RU2, 3RB					

Accessories

							Acces	sories
	Version	Size	Overload	Article No.	Price	PU	PS*	PG
			relays		per PU	(UNIT, SET, M)		
Cable releases with h	older for DESET		Type					
Cable Teleases Willi II	For Ø 6.5 mm holes in the contr	ol panel:						
	max. control panel thickness 8							
	• Length 400 mm	S00 S3	3RU2	3RU2900-1B		1	1 unit	41F
	- I + I - 000		3RB3, 3RB2	3RB3980-0B		1	1 unit	41F
	Length 600 mm	S00 S3	3RU2 3RB3, 3RB2	3RU2900-1C 3RB3980-0C		1	1 unit 1 unit	41F 41F
		000 012	oribo, oribz	01120300 00			1 dilit	711
•								
3RU2900- 3RB3980- 1B 0B								
Modules for Remote I	RESET, electrical							
1.1.1	Operating range 0.85 1.1 x L							
	power consumption 80 VA AC, ON time 0.2 4 s.	70 W DC,						
9.10	switching frequency 60/h							
	• 24 30 V AC/DC	S00 S3	3RU2	3RU1900-2AB71		1	1 unit	41F
	• 110 127 V AC/DC	S00 S3	3RU2	3RU1900-2AF71		1	1 unit	41F
3RU1900-2A.71 mounted	• 220 250 V AC/DC	S00 S3	3RU2	3RU1900-2AM71		1	1 unit	41F
on the overload relay Sealable covers								
	For covering the setting knobs	S00 S3	3RU2	3RV2908-0P		100	10 units	41E
	ŭ ŭ							
3RV2908-0P								
-0 -	For covering the setting knobs	S00 S12	3RB3, 3RB2	3RB3984-0		1	1 unit	41F
3RB3984-0								
Terminal covers								
4///	For complying with the phase of protection if box terminal is rem		d as touch					
	Covers for cable lugs and bus		tions					
	• Length 100 mm	S3	3RU2, 3RB3	3RT1946-4EA1		1	1 unit	41B
	• Length 100 mm	S6	3RB2	3RT1956-4EA1		1	1 unit	41B
3RT1946-4EA1	• Length 120 mm	S10/S12	3RB2	3RT1966-4EA1		1	1 unit	41B
OH TO TO TEXT	Covers for devices for box ter	minals						
4-4-1	• Length 25 mm	S6	3RB2	3RT1956-4EA2		1	1 unit	41B
2DT1050 45A2	• Length 30 mm	S10/S12	3RB2	3RT1966-4EA2		1	1 unit	41B
3RT1956-4EA2	Covers for devices for busbar	connection	S					
A A A	Between contactor and	S6	3RB2	3RT1956-4EA3		1	1 unit	41B
1-19-91-1	overload relay, without box terminals (1 unit required per	S10/S12	3RB2	3RT1966-4EA3		1	1 unit	41B
3RT1966-4EA3	combination)							
	Covers for devices with screw							
	Additional touch protection for faMain current level	astening to the S2	a box terminals 3RU2, 3RB3	3RT2936-4EA2		1	1 unit	41B
	• Main Current level	S3	3RU2, 3RB3	3RT2946-4EA2		1	1 unit	41B
3RT2936-4EA2								
Box terminal blocks								
	For round and ribbon cables	1)						
	• Up to 70 mm ²	S6 ¹⁾	3RB2	3RT1955-4G		1	1 unit	41B
	 Up to 120 mm² Up to 240 mm² 	S6 S10/S12	3RB2 3RB2	3RT1956-4G 3RT1966-4G		1 1	1 unit 1 unit	41B 41B
3RT1955-4G	- OP to 240 Mill	310/312	OI IDZ	JIII 1300-4G		ı	i ullit	41D

 $^{^{\}rm 1)}$ In the scope of supply for 3RT1054-1 contactors (55 kW).

Overload relays

Accessories

General accessories

	Version	Size	Color	Overload relays	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
				Туре					
Tools for opening sp	ring-loaded te	rminals							
					Spring-loaded terminals	<u></u>			
3RA2908-1A	Screwdriver For all SIRIUS devices with spring-loaded terminals	Length approx. 200 mm, 3.0 mm x 0.5 mm	Titanium gray/ black, partially insulated	Main and auxiliary circuit connection: 3RU2, 3RB3, 3RB2	3RA2908-1A		1	1 unit	41B
Blank labels									
	Unit labeling plates ¹⁾ For SIRIUS devices	20 mm x 7 mm	Titanium gray	3RU2, 3RB3, 3RB2	3RT2900-1SB20		100	340 units	41B
3RT2900-1SB20	Adhesive labels For SIRIUS devices	19 mm x 6 mm	Titanium gray	3RU2, 3RB3, 3RB2	3RT2900-1SB60		100	3060 units	41B

PC labeling system for individual inscription of unit labeling plates available from: murrplastik Systemtechnik GmbH (see page 16/18).





	Price groups PG 14O, 255, 41B, 41D, 41E, 41L, 42C, 42D, 42F, 42G		
8/2	Introduction		
	SIRIUS 3RA2 load feeders		
8/5	General data		
8/22	3RA21 direct-on-line starters - for DIN-rail mounting or screw fixing		
8/30	- for 60 mm busbars		
8/34 8/40	3RA22 reversing starters - for DIN-rail mounting or screw fixing - for 60 mm busbars		
8/45	Accessories NEW		
8/56	3RV29 infeed system for load feeders		
SIRIUS 3RA6 compact starters			
	SIRIUS 3RA6 compact starters		
8/57	SIRIUS 3RA6 compact starters General data		
-, -	General data 3RA61, 3RA62 compact starters		
8/65	General data 3RA61, 3RA62 compact starters - 3RA61 direct-on-line starters		
-, -	General data 3RA61, 3RA62 compact starters - 3RA61 direct-on-line starters - 3RA62 reversing starters 3RA64, 3RA65 compact starters		
8/65	General data 3RA61, 3RA62 compact starters - 3RA61 direct-on-line starters - 3RA62 reversing starters		
8/65 8/66	General data 3RA61, 3RA62 compact starters - 3RA61 direct-on-line starters - 3RA62 reversing starters 3RA64, 3RA65 compact starters for IO-Link		
8/65 8/66 8/67	General data 3RA61, 3RA62 compact starters - 3RA61 direct-on-line starters - 3RA62 reversing starters 3RA64, 3RA65 compact starters for IO-Link - 3RA64 direct-on-line starters		
8/65 8/66 8/67 8/68	General data 3RA61, 3RA62 compact starters - 3RA61 direct-on-line starters - 3RA62 reversing starters 3RA64, 3RA65 compact starters for IO-Link - 3RA64 direct-on-line starters - 3RA65 reversing starters		
8/65 8/66 8/67 8/68 8/69	General data 3RA61, 3RA62 compact starters - 3RA61 direct-on-line starters - 3RA62 reversing starters 3RA64, 3RA65 compact starters for IO-Link - 3RA64 direct-on-line starters - 3RA65 reversing starters Accessories		
8/65 8/66 8/67 8/68 8/69 8/74	General data 3RA61, 3RA62 compact starters - 3RA61 direct-on-line starters - 3RA62 reversing starters 3RA64, 3RA65 compact starters for IO-Link - 3RA64 direct-on-line starters - 3RA65 reversing starters Accessories Add-on modules for AS-Interface		

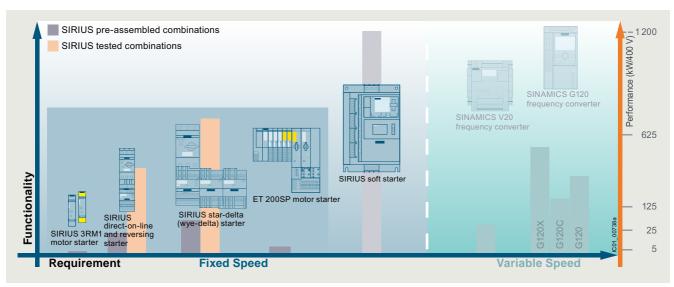
Introduction

Overview

Central and compact starter solutions

Our range offers you many different possibilities for simple and practical starter solutions in the control cabinet. Features common to all our load feeders, compact starters and motor starters: Like all SIRIUS devices, they are optimally coordinated with each other, have a very compact design and are particularly easy and quick to install and wire up.

In addition, there is a seamless range of SIRIUS 3RW soft starters available for soft starting in the control cabinet (see page 6/2).



Central and compact starter solutions

Decision support for motor start – Starting and operating three-phase asynchronous motors efficiently



Decision support tool for motor start

This tool guides you to the optimum individual drive solution via a short query about the application.

Based on this solution approach, you will then be directed to the right product configurator for selecting the appropriate products, see

www.siemens.com/motorstart-guide.

Introduction



		Туре	Page
SIRIUS 3RA2 load feeders			
	 The 3RA2 fuseless load feeders consist of the 3RV2 motor starter protector and the 3RT2 contactor. The motor starter protector and contactor are prewired and mechanically and electrically connected in preassembled assembly kits (link modules, wiring kits and DIN-rail or busbar adapters). 4 sizes (S00, S0, S2, S3) Can be supplied for direct-on-line starting or reversing operation as a complete unit or single devices for customer assembly Can be supplied with screw or spring-loaded terminals 		
3RA21 direct-on-line starters for DIN-rail mounting or screw fixing	• Rated control supply voltage 50/60 Hz 230 V AC and 24 V DC	3RA21	8/22
3RA21 direct-on-line starters for 60 mm busbars	Rated control supply voltage 50/60 Hz 230 V AC and 24 V DC	3RA21	8/30
3RA22 reversing starters for DIN-rail mounting or screw fixing	Rated control supply voltage 50/60 Hz 230 V AC and 24 V DC	3RA22	8/34
3RA22 reversing starters for 60 mm busbars	Rated control supply voltage 50/60 Hz 230 V AC and 24 V DC	3RA22	8/40
Accessories for 3RA2 direct-on-line and reversing starters			8/45
Infeed system	 The infeed system is a convenient means of incoming power supply and distribution for a group of several motor starter protectors or complete load feeders with screw or spring-loaded terminals up to size S0. 	3RV29	7/67, 8/56
SIRIUS 3RA6 compact starters			
	 Integrated functionality of a motor starter protector, contactor and electronic overload relay and various functions of optional mountable accessories Can be used for direct starting of standard three-phase motors up to 32 A 		
3RA61 direct-on-line starters	Up to 15 kW/400 V, weld-free, wide setting range, removable terminals	3RA61	8/65
3RA62 reversing starters	 Up to 15 kW/400 V, weld-free, wide setting range, removable terminals 	3RA62	8/66
3RA64 direct-on-line starters for IO-Link	 Up to 15 kW/400 V, weld-free, wide setting range, removable terminals 	3RA64	8/67
3RA65 reversing starters for IO-Link	• Up to 15 kW/400 V, weld-free, wide setting range, removable terminals	3RA65	8/68
Accessories for 3RA6 direct-on-line and reversing starters		3RA69	8/69
Add-on modules for AS-Interface		3RA69	8/74
Infeed system for 3RA6	 Modular expandability, up to 100 A, terminals up to 70 mm² 	3RA68	8/76
	3-phase infeeds and expansion modules		8/79
	Expansion modules		8/80
	 Accessories for infeed systems for 3RA6 		8/81

Introduction



				Туре	Page
SIRIUS 3RM	1 motor starters				
			 For switching three-phase motors up to 3 kW (at 400 V) and resistive loads up to 10 A at AC voltages up to 500 V under normal operating conditions Space-saving design (width 22.5 mm) 		
3RM10 direct-	on-line starters		Direct-on-line starting with electronic overload protection	3RM10	8/90
3RM12 reversi	ing starters		Reversing functionality with electronic overload protection	3RM12	8/90
3RM11 Failsafe	e direct-on-line sta	irters	 As 3RM10 plus safety-related shutdown 	3RM11	8/90
3RM13 Failsafe	e reversing starter	s	As 3RM12 plus safety-related shutdown	3RM13	8/90
Accessories for 3RM1 motor starters		rters	3RM19 3-phase infeed system for the main circuit	3RM19	8/91
			 Fuse modules for the use of 3RM1 motor starters on 8US busbar systems and mounting rails 	3RM19	8/88
			Adapters	8US1	8/91
			Cover profiles	8US1922	8/92
			Device connectors for the control circuit	3ZY1212	8/92
			Spare terminals for main and control circuits	3ZY11	8/93
			Push-in lugs for wall mounting, integrated sealable cover, coding pins	3ZY1	8/93
ET 200SP m	otor starters				
			 In hybrid technology in the SIMATIC ET 200SP I/O system For switching and protecting three-phase asynchronous motors, 1-phase AC motors and 1-phase asynchronous motors up to 5.5 kW (at 400 V) 		
3RK1308 direc	t-on-line starters		Direct-on-line starting with electronic overload protection	3RK1308-0A.0	8/100
3RK1308 rever	rsing starters		Reversing functionality with electronic overload protection	3RK1308-0B.0	8/100
3RK1308 fail-s	afe direct-on-line	starters	Direct-on-line starting with electronic overload protection	3RK1308-0C.0	8/100
3RK1308 fail-s	afe reversing start	ers	Reversing functionality with electronic overload protection	3RK1308-0D.0	8/100
BaseUnits			 Mounting components for infeed and for integration into the ET 200SP I/O system 	3RK1908-0AP00	8/101
3DI/LC control	l module		 Module with three digital inputs for the use of additional functions such as "Quick stop", and for manual local operation 	3RK1908-1AA00	8/101
Accessories			Cover for BaseUnit and infeed bus, additional mechanical mounting unit, fan	3RK19, 3RW49	8/102

Load feeders and motor starters for use in the control cabinet SIRIUS 3RA2 load feeders

General data

Overview

3RA2 load feeders



3RA22 reversing starters for DIN-rail mounting or screw fixing with screw terminals

The 3RA2 fuseless load feeders consist of the 3RV2 motor starter protector and the 3RT2 electromechanical contactor. The devices are electrically and mechanically connected using prefabricated assembly kits (link modules, wiring kits and DIN-rail or busbar adapters).

Around 500 preassembled 3RA2 combinations can be ordered for direct-on-line and reversing starting of standard three-phase motors up to 65 A (approx. 37 kW/400 V). Preassembled assembly kits are available as accessories for the power range up to 45 kW. The desired fuseless load feeder can thus be assembled quickly and economically by the customer. A time saving is also achieved in connection with switchgear acceptances, as – unlike with conventional wiring systems – there is no need to rectify possible wiring errors.

In the 3RA2 load feeder, the 3RV2 motor starter protector is responsible for overload and short-circuit protection. Back-up protective devices, such as melting fuses or limiters, are superfluous here, as the motor starter protector is short-circuit-proof up to 150 kA at 400 V.

The 3RT2 contactor is particularly suitable for extremely complex switching tasks requiring the greatest endurance.

The 3RA2 load feeders are available with setting ranges from 0.14 to 65 A in sizes S00, S0 and S2. Load feeders in size S3 up to 100 A are available for customer assembly:

Size	Width Direct-on-line starters/ reversing starters	Max. rated current $I_{ m n\ max}$	For three- phase motors up to	
	mm	A	kW	
S00	45/90	16	7.5	
S0	45/90	32	15	
S2	55/120	65	37	
S3	70/150	100	45	

The size of the 3RA2 load feeders is based on the size of the contactor:

Size 3RA2	S00	S0	S2	S3
Size of 3RV2 motor starter protector	S00	S00 ¹⁾ , S0	S2	S3
Size of 3RT2 contactor	S00	S0	S2	S3

¹⁾ The combination of an S00 motor starter protector with an S0 contactor is possible only for screw terminal versions.

More information

Homepage, see www.siemens.com/sirius-control SiePortal, see www.siemens.com/product?3RA2

Online configurator, see www.siemens.com/sirius/configurators

TIA Selection Tool Cloud (TST Cloud), see www.siemens.com/tstcloud/?node=LoadFeeder

Decision support for motor start – Starting and operating three-phase asynchronous motors efficiently, see www.siemens.com/motorstart-guide

Operating conditions

3RA2 load feeders are climate-proof. They are intended for use in enclosed rooms in which no harsh operating conditions (such as dust, caustic vapors, hazardous gases) prevail. Suitable covers must be provided for installation in dusty and damp locations.

Behavior in the event of short circuit

EN 60947-4-1 (VDE 0660 Part 102) and IEC 60947-4-1 make a distinction between two different types of coordination, which are referred to as type of coordination "1" and type of coordination "2". Any short circuits that occur are cleared safely by both types of coordination. The only differences concern the extent of the damage caused to the device by a short circuit.

Type of coordination "1"

deformation.

The load feeder may be non-operational after a short circuit has been cleared. Damage to the contactor or to the overload release is permissible.

Type of coordination "2"
There must be no damage to the overload release or to any other component after a short circuit has been cleared. The load feeder can resume operation without needing to be renewed. At most, welding of the contactor contacts is permissible if they can be disconnected easily without any significant

The types of coordination are indicated in the corresponding tables by the symbols shown on orange backgrounds.

Voltage specifications

The specifications for 3-phase power systems according to IEC 60947-4-1 are valid for the following line system configurations:

Voltage U _e	Line system configurations			
	Three-phase four-wire systems	Three-phase three-wire systems		
	Icor corresponding			
V	V	V		
230		230		
400	230/400	400		
440	260/440	440		
500		500		
690	400/690	690 (only from size S3)		

Not specified

Load feeders and motor starters for use in the control cabinet SIRIUS 3RA2 load feeders

General data

Tripping times

All 3RA2 load feeders described here are designed for normal starting, in other words for overload tripping times of less than 10 s (CLASS 10). At rated-load operating temperature the tripping times are shorter, depending on the particular equipment and the setting range. The exact values can be derived from the tripping characteristics of the motor starter protectors.

Connection methods

For all 3RA2 feeders up to 32 A, spring-loaded terminals are available as well as screw terminals. To connect two devices with spring-loaded terminals, there are plug-in link modules for sizes S00 and S0 which enable very quick mounting of the feeders and a vibration-resistant assembly.

To connect a motor starter protector with screw terminals to a contactor with spring-loaded terminals there are special hybrid link modules for the sizes S00 and S0.



Screw terminals



Spring-loaded terminals

The terminals are indicated in the corresponding tables by the symbols shown on orange backgrounds.

Use of load feeders in conjunction with IE3 and IE4 motors

Note:

For the use of SIRIUS 3RA2 load feeders in conjunction with highly efficient IE3 and IE4 motors, please observe the information on dimensioning and configuring, see Application Manual.

For more information, see page 1/8.

3RA2 complete units

The 3RA2 fuseless load feeders can be ordered as preassembled complete units for direct-on-line starting (3RA21) or for reversing operation (3RA22) with screw or spring-loaded terminals. From size S2, complete units for direct-on-line starting (3RA21) are only available with screw terminals.

Control supply voltages of 230 V AC 50 Hz and 24 V DC are available.

A distinction is also drawn between whether the feeder is mounted on a 35 mm DIN rail, on a flat surface using screws, or on a 60 mm busbar system.

3RA21 load feeders in the S0 size must be configured on DIN-rail adapters if high vibration and shock loads (railways, Kraftwerk Union, etc.) are involved.

A vibration and shock kit is available for mounting on busbar adapters.

Accessories

As the 3RA2 fuseless load feeders are constructed from 3RV2 motor starter protectors and 3RT2 contactors, the same accessories – such as auxiliary switches, undervoltage releases or door-coupling rotary operating mechanisms – can be used for the 3RA2 fuseless load feeders as for these motor starter protectors and contactors.

In particular, certain accessories have been optimized for the fuseless load feeders. These include the top-connected, transverse auxiliary switch on the motor starter protector, which is available in a range of different versions. Special auxiliary switches that can be snapped on from below are available for the contactor. These two accessories enable the fuseless load feeders to be wired simply without having to route cables through the device.

Incoming power supply

A total of four different incoming power supply options are available (see "3RV29 infeed system for load feeders" on page 8/56).

Customer assembly of fuseless load feeders

Whereas preassembled 3RA2s can be ordered up to 65 A, combinations in size S3 up to 100 A (approx. 45 kW/400 V) are also available for customer assembly.

The standard devices can be combined optimally – in terms of both technical specifications and dimensions, thanks to the modular system of the SIRIUS series.

The fuseless load feeders can thus be assembled easily by the customer. It is simply necessary to assemble the standard 3RV2 motor starter protector, the 3RT2 contactor and the appropriate assembly kit.

Single devices and assembly kits, see the "Selection and ordering data" for 3RA21 direct-on-line starters or 3RA22 reversing starters, page 8/22 or 8/34 onwards.

Assembly kits for direct-on-line starting or reversing operation for mounting onto DIN rails or busbars, see page 8/50.

For size S3 direct-on-line starters and sizes S0, S2 and S3 reversing starters, it is imperative that a DIN-rail adapter is used to ensure the necessary mechanical strength. If a busbar adapter is used (not possible for size S3), then a DIN-rail adapter is not necessary.

SENTRON 3VA circuit breakers and SIRIUS 3RT contactors are available for rated currents >100 A.

Single devices for customer assembly can be ordered if other rated control supply voltages are required. Assembly kits can be used to facilitate assembly.

Customers can also assemble tested combinations of motor starter protectors with electronic switching devices (soft starters, solid-state contactors) and load feeders with additional monitoring and control devices (3RR monitoring relays, SIMOCODE 3UF).

For the electrical and mechanical connection of protection equipment and controls, there are prefabricated assembly kits (link modules, wiring kits and DIN-rail or busbar adapters).

The following types of configuration are possible:

- Direct-on-line/reversing starting
- Star-delta (wye-delta) starting
- Solid-state/soft starting

For more information and assignment tables for combinations of the 3RA2 generation for customer assembly, see

- Digital Configuration Manual for load feeders, https://imp.siemens.com/digital-engineering-manual/dem
- Configuration Manual for load feeders, https://support.industry.siemens.com/cs/ww/en/view/39714188
- Equipment Manual, https://support.industry.siemens.com/cs/ww/en/view/60284351

General data

Customer assembly of fused load feeders

The flexible, modular system of SIRIUS also enables the configuration of fused load feeders up to 100 A (approx. 45 kW/400 V). 45 mm installation widths are also possible up to 32 A.

Compact 3NW7...-1 cylindrical fuse holders for IEC fuses size 10 x 38 mm, or 3NW7...-1HG holders for Class CC UL fuses, can be used for this purpose.

For more information about fuse systems, see Catalog LV 10.

Communication link through IO-Link

Load feeders can also be assembled with IO-Link for connection to the higher-level control system. For each feeder, this requires a contactor with a voltage tap onto which a 3RA2711 function module is plugged (various versions for direct-on-line, reversing and star-delta (wye-delta) starters). The design of the SIRIUS load feeders permits a group of up to four SIRIUS controls to be conveniently connected through the standardized open system IO-Link to a control system, thus reducing wiring considerably compared to the conventional parallel wiring method. The electrical connection is made using only three standard cables.

The function modules perform not only the communication (contactor operation and feedback, ready signal) but also the electrical interlocking (for reversing and star-delta (wye-delta) starters) and the timing relay function (star-delta (wye-delta) reversing time).

Communication information and supply voltages are passed on through ribbon cables so that the complete control current wiring on the feeder is no longer needed.

The monitoring and maintenance of a plant is made considerably easier by transmitting diverse diagnostics data from the function modules (e.g. missing main and auxiliary voltage, local disconnection...) through IO-Link to the higher-level control system. Also, feeders equipped for IO-Link can be conveniently controlled from the control cabinet door using the optional operator panel.

More information:

- IO-Link, see page 2/88 onwards
- 3RA27 function modules, see pages 3/75, 3/82 and 3/106

Communication link through AS-Interface

Connection of the load feeders to the higher-level control system is possible not only through IO-Link but also through AS-Interface. The AS-Interface connection is recommended wherever load feeders are used in distributed applications. In this case, too, a contactor with a voltage tap is required with a corresponding 3RA2712 function module (various versions for direct-on-line, reversing and star-delta (wye-delta) starters). The devices are implemented in A/B technology, making it easy to connect up to 62 feeders to an AS-i master (regardless of whether they are direct-on-line, reversing or star-delta (wye-delta) starters). This results in a significant reduction of wiring compared to the conventional parallel wiring method. The electrical connection is made using standard cables.

The function modules perform not only the communication (contactor operation and feedback, ready signal) but also the electrical interlocking (for reversing and star-delta (wye-delta) starters) and the timing relay function (star-delta (wye-delta) reversing time).

Communication information and supply voltages are passed on through ribbon cables so that the complete control current wiring on the starter is no longer needed.

More information:

- AS-Interface, see page 2/19 onwards
- 3RA27 function modules, see pages 3/75, 3/82 and 3/106

Contactors with voltage tap

For configuring load feeders with communication links (AS-i/IO-Link), contactors with voltage taps are required. These contactors are not included as standard in the preassembled 3RA2 load feeders. A load feeder with communication link must be assembled therefore from single devices.

Complete integration in the automation landscape

As the result of the communication link through IO-Link or AS-i, the SIRIUS load feeders are fully integrated in the automation landscape and can draw on all the advantages of TIA (e.g. integration in the TIA Maintenance Station).

Mounting

3RA2 fuseless load feeders can be supplied:

- For mounting onto TH 35 DIN rails according to IEC 60715 (depth 15 mm)
- For assembly on busbar adapters (busbar center-to-center clearance 60 mm, busbar thickness 5 to 10 mm with beveled edges)

The fuseless load feeders are also suitable for screw fixing using two 3RV2928-0B push-in lugs.

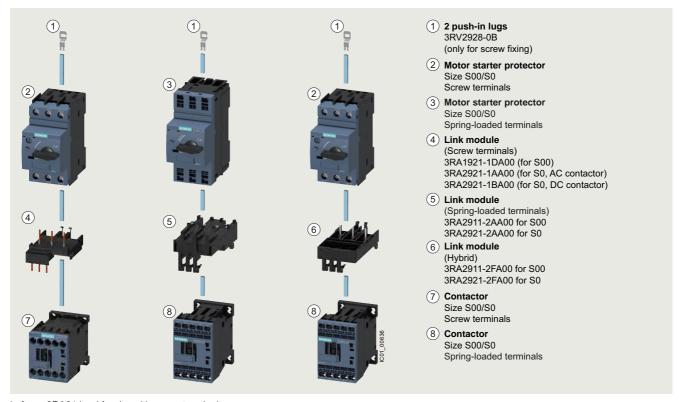
3RA2 fuseless load feeders can also be installed using the 3RV29 infeed system (S0 and S00 only, see page 7/67).

∞

Load feeders and motor starters for use in the control cabinet SIRIUS 3RA2 load feeders

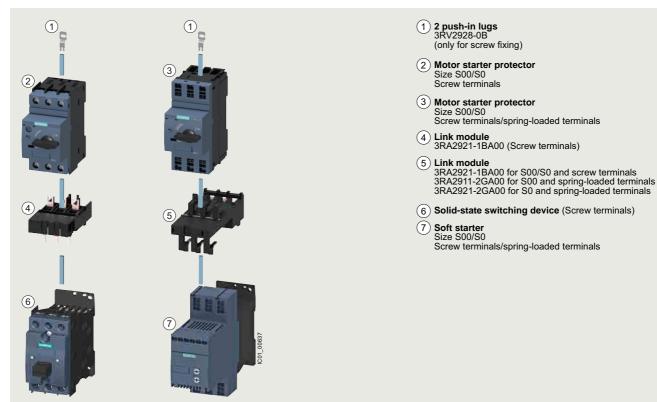
General data

Direct-on-line starting • For DIN-rail mounting or screw fixing • Sizes S00 and S0



3RA21 load feeder with screw terminals Center: 3RA21 load feeder with spring-loaded terminals

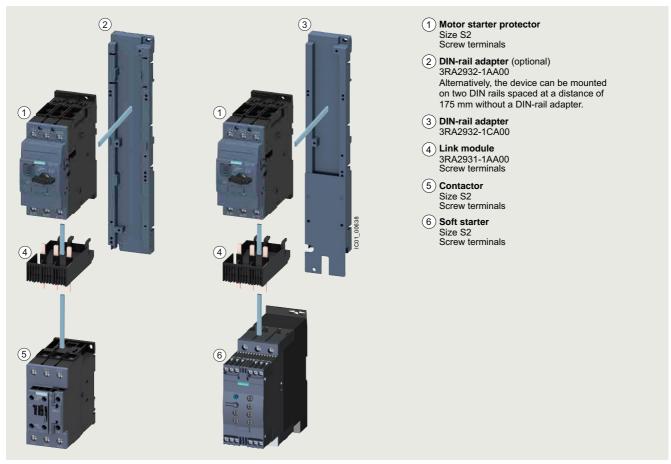
Motor starter protector combination with screw terminals, with contactor with spring-loaded terminals



Motor starter protector combination with solid-state switching device with screw terminals Left: Motor starter protector combination with soft starter with spring-loaded terminals

General data

Direct-on-line starting • For DIN-rail mounting • Size S2

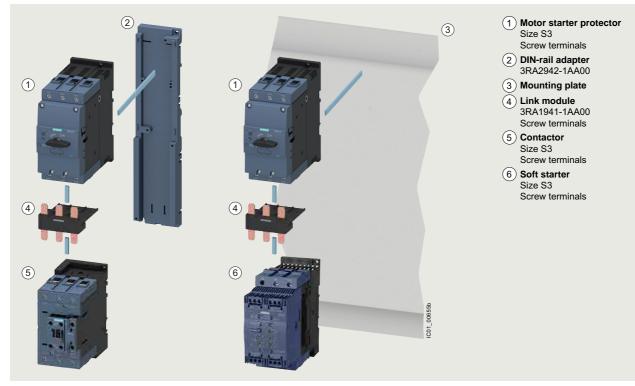


Left: 3RA21 load feeder with screw terminals

Right: Motor starter protector combination with soft starter with screw terminals

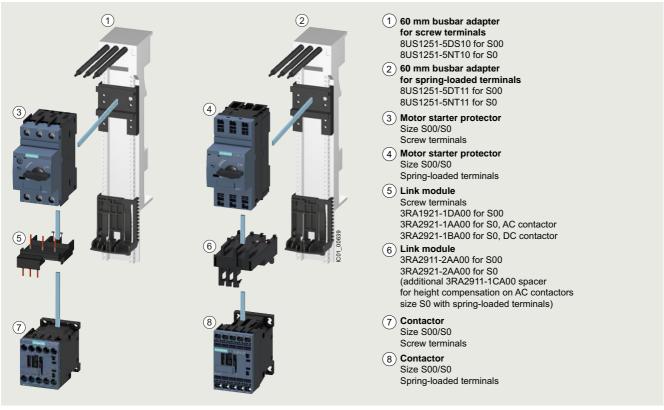
General data

Direct-on-line starting • For DIN-rail mounting • Size S3



3RA21 load feeder for direct-on-line starting and DIN-rail mounting in size S3 (the version with screw terminals is shown in the illustration)

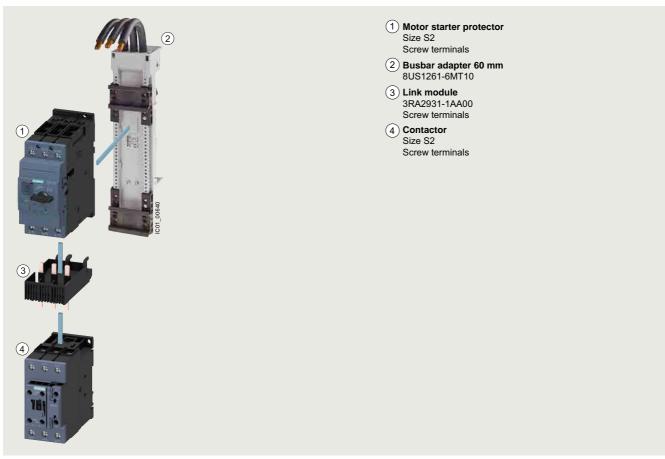
Direct-on-line starting • For 60 mm busbar systems • Sizes S00 and S0



Left: 3RA21 load feeder for direct-on-line starting with busbar adapter with screw terminals Right: 3RA21 load feeder for direct-on-line starting with busbar adapter with spring-loaded terminals

General data

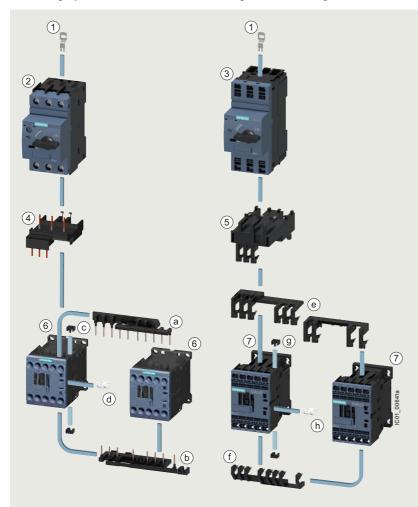
Direct-on-line starting • For 60 mm busbar systems • Size S2



3RA21 load feeder for direct-on-line starting with busbar adapter with screw terminals

General data

Reversing operation • For DIN-rail mounting or screw fixing • Size S00



- 1 Push-in lug 3RV2928-0B (only for screw fixing)
- (2) Motor starter protector Size S00/S0 Screw terminals
- (3) Motor starter protector Size S00/S0 Spring-loaded terminals
- 4 Link module Screw terminals 3RA1921-1DA00 for S00 3RA2921-1AA00 for S0, AC contactor 3RA2921-1BA00 for S0, DC contactor
- (5) Link module Spring-loaded terminals 3RA2911-2AA00 for S00 3RA2921-2AA00 for S0
- (6) Contactor Size S00/S0 Screw terminals
- (7) Contactor Size S00/S0 Spring-loaded terminals

Wiring kit 3RA2913-2AA1

- (a) Upper wiring module
- b Lower wiring module
- © Two connecting clips for two contactors
- d Mechanical interlock (can be removed if necessary)

Wiring kit 3RA2913-2AA2

- (e) Upper wiring module
- (f) Lower wiring module
- (9) Two connecting clips for two contactors
- (h) Mechanical interlock (can be removed if necessary)

3RA22 load feeder with screw terminals with push-in lugs with two contactors for reversing operation and Left:

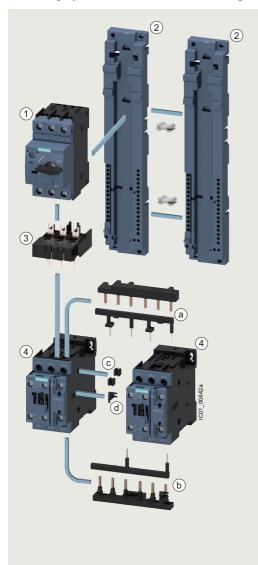
3RA2913-2AA1 wiring kit for connection of the contactors (incl. mechanical interlocking and connecting clips)

3RA22 load feeder with spring-loaded terminals with push-in lugs with two contactors for reversing operation and Right:

3RA2913-2AA2 wiring kit (incl. mechanical interlocking and connecting clips)

General data

Reversing operation • For DIN-rail mounting • Size S0



RH assembly kit for reversing operation and DIN-rail mounting in size S0

Screw terminals

3RA2923-1BB1

Spring-loaded terminals **3RA2923-1BB2**¹⁾

Consisting of:

- · Wiring kit for the
- main and auxiliary circuits
- · Two DIN-rail adapters
- · Two connecting wedges
- Mechanical interlock
- · Two connecting clips
- · Fixing accessories
- 1 Motor starter protector

Size S0

Screw terminals/spring-loaded terminals

2 DIN-rail adapters

3RA2922-1AA00

with two connecting wedges 8US1998-1AA00

(3) Link module

Screw terminals

3RA2921-1AA00 for S0, AC contactor 3RA2921-1BA00 for S0, DC contactor

Spring-loaded terminals 3RA2921-2AA00²⁾

(4) Contactor

Size S0

Screw terminals/spring-loaded terminals

Wiring kit

Screw terminals

3RA2923-2AA1

Spring-loaded terminals 3RA2923-2AA2

- (a) Upper wiring module
- (b) Lower wiring module
- (c) Two connecting clips for two contactors
- (d) Mechanical interlock (can be removed if necessary)

3RA22 load feeder for reversing operation and DIN-rail mounting in size S0 (the version with screw terminals is shown in the illustration)

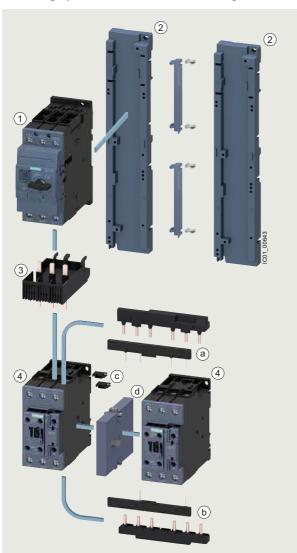
RH mounting kits for reversing operation and DIN-rail mounting in size S0, see page 8/52.

¹⁾ Contains two 3RA2911-1CA00 spacers for height compensation on AC contactors size S0 with spring-loaded terminals.

²⁾Additionally two 3RA2911-1CA00 spacers for height compensation on AC contactors size S0 with spring-loaded terminals.

General data

Reversing operation • For DIN-rail mounting • Size S2



RH assembly kit for reversing operation and DIN-rail mounting in size S2

3RA2933-1BB1

Consisting of:

- · Wiring kit for the main and auxiliary circuits
- · Two DIN-rail adapters
- Two side modules
- Four connecting wedgesMechanical interlock
- Two connectors for two contactors
- · Fixing accessories
- 1 Motor starter protector

Size S2

Screw terminals

2 DIN-rail adapter

3RA2932-1AA00

with two side modules 3RA2902-1B

and four connecting wedges

8US1998-1AA00 (3) Link module

3RA2931-1AA00

Screw terminals

4 Contactor Size S2

Screw terminals

Wiring kit

Screw terminals 3RA2933-2AA1

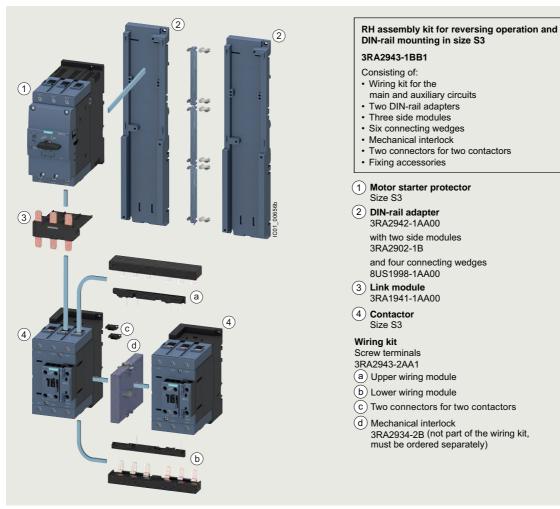
- (a) Upper wiring module
- (b) Lower wiring module
- © Two connectors for two contactors
- (d) Mechanical interlock 3RA2934-2B (not part of the wiring kit, must be ordered separately)

3RA22 load feeder for reversing operation and DIN-rail mounting in size S2 (the version with screw terminals is shown in the illustration)

RH mounting kits for reversing operation and DIN-rail mounting in size S2, see page 8/52.

General data

Reversing operation • For DIN-rail mounting • Size S3

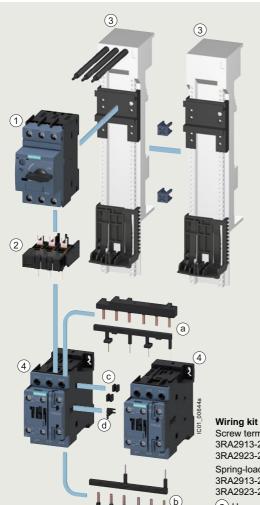


3RA22 load feeder for reversing operation and DIN-rail mounting in size S3 (the version with screw terminals is shown in the illustration)

RH mounting kits for reversing operation and DIN-rail mounting in size S3, see page 8/52.

General data

Reversing operation • For 60 mm busbar systems • Sizes S00 and S0



Screw terminals 3RA2913-2AA1 for S00 3RA2923-2AA1 for S0

Spring-loaded terminals 3RA2913-2AA2 for S00 3RA2923-2AA2 for S0

- (a) Upper wiring module
- (b) Lower wiring module
- (c) Two connecting clips for two contactors
- (d) Mechanical interlock (can be removed if necessary)

RS assembly kit for reversing operation and busbar mounting in size S00/S0

Screw terminals

3RA2913-1DB1 for S00 3RA2923-1DB1 for S0

Spring-loaded terminals

3RA2913-1DB2 for S00 3RA2923-1DB2 for S01)

Consisting of:

- · Wiring kit for the main and auxiliary circuits
- · Busbar adapter
- Device holder
- · Two connecting wedges
- · Mechanical interlock
- · Two connecting clips for two contactors
- Fixing accessories

(1) Motor starter protector

Size S00/S0

Screw terminals/spring-loaded terminals

(2) Link module

Screw terminals

3RA1921-1DA00 for S00 3RA2921-1AA00 for S0, AC contactor

3RA2921-1BA00 for S0, DC contactor

Spring-loaded terminals

3RA2911-2AA00 for S00 3RA2921-2AA00 for S0²⁾

(3) 60 mm busbar adapter

Screw terminals 8US1251-5DS10 for S00/S0 8US1251-5NT10 for S0

Spring-loaded terminals 8US1251-5DT11 for S00/S0 8US1251-5NT11 for S0

2 connecting wedges 8US1998-1AA10

60 mm device holder

8US1250-5AS10 or 8US1250-5AT10

(according to length of left adapter)

(4) Contactor

Size S00/S0

Screw terminals/spring-loaded terminals

1) Contains two 3RA2911-1CA00 spacers for height compensation on AC contactors size S0 with spring-loaded terminals.

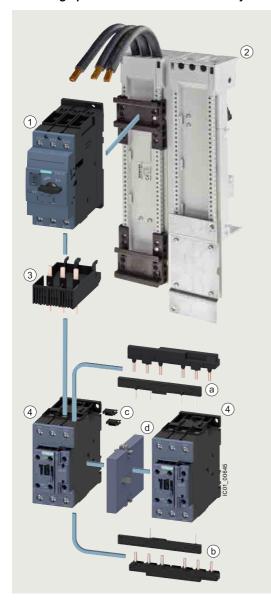
²⁾Additionally two 3RA2911-1CA00 spacers for height compensation on AC contactors size S0 with spring-loaded terminals.

3RA22 load feeder for reversing operation and 60 mm busbar (the version with screw terminals is shown in the illustration)

RS mounting kits for reversing operation and busbar mounting in size S00/S0, see page 8/54.

General data

Reversing operation • For 60 mm busbar systems • Size S2



RS assembly kit for reversing operation and busbar mounting in size S2

3RA2933-1DB1

Consisting of:

- Wiring kit for the main and auxiliary circuits
- · Busbar adapter
- · Mechanical interlock
- · Two connectors for two contactors
- Fixing accessories
- ① Motor starter protector Size S2
- Screw terminals

 (2) Busbar adapter 60 mm
 - 8US1211-6MT10
- (3) Link module 3RA2931-1AA00 Screw terminals
- 4 Contactor Size S2 Screw terminals

Wiring kit

Screw terminals 3RA2933-2AA1

- (a) Upper wiring module
- b Lower wiring module
- (c) Two connectors for two contactors
- d Mechanical interlock 3RA2934-2B (not part of the wiring kit, must be ordered separately)

3RA22 load feeder for reversing operation and 60 mm busbar in size S2 (the version with screw terminals is shown in the illustration)

RS mounting kits for reversing operation and busbar mounting in size S2, see page 8/54.

General data

Article number scheme

Product versions		Article number					
SIRIUS load feeders		3RA2 □ □ 0 -			- 🗆		
Product function	Direct-on-line starter	1					for motor standard output 0.06 45 kW
	Reversing starter	2					for motor standard output 0.06 45 kW
Size	S00	1					
	S0	2					
	e.g. 3 = S2						at $I_{q} = 100 \text{ kA}$ at 400 V
	e.g. 5 = S2						at $I_{\rm q}$ = 150 kA at 400 V
Setting range of the overload release	e.g. 0B = 0.14 0.2 A						
Assembly, assembly type, connection method	e.g. A = S00, S0, S2			3			Direct mounting, screw terminals
Contactor size, rated power at 400 V AC	e.g. 15 = S00/3 kW						
Version	e.g. 0 = S0, S2						1 NO + 1 NC integrated in contactor
of auxiliary switches	e.g. 1 = S00						1 NO integrated in contactor
on contactor	e.g. 2 = S00						1 NC integrated in contactor
Solenoid coil operating range (contactor)	e.g. A = S00, S0, S2						AC 0.8 x $U_{\rm smin}$ 1.1 x $U_{\rm smax}$, standard coll without RC circuit
Rated control supply	230 V AC					P 0	50/60 Hz AC for S00, 50 Hz AC for S0 S3
voltage (contactor)	24 V DC					B 4	
Example		3RA2 1 1 0 -	0 B A	1 5 -	- 1	A P 0	

Note:

The article number scheme shows an overview of product versions for better understanding of the logic behind the article numbers.

For your orders, please use the article numbers quoted in the selection and ordering data.

Benefits

- Minimum planning and assembly work and far less wiring with the preassembled complete units (only one article number 3RA2)
- Plug-in connectors available from the motor starter protector to all types of SIRIUS controls, for quicker and error-free assembly of feeders with screw and spring-loaded terminals
- High planning reliability through consistent combination tests for fuseless and fused configuration according to IEC and UL/CSA
- Comprehensive approvals for use world-wide on request, see page 16/9 onwards.
- High operational reliability through short-circuit breaking capacity of 150 kA with type of coordination "1" and "2"

- Uniform accessories for sizes S00, S0, S2 and S3
- Spring-loaded terminals possible throughout: Enhanced operational reliability (vibration-resistant wiring) and less wiring work thanks to plug-in connections (S00 and S0 only)
- Power loss 5 to 10% smaller than for comparable devices, hence lower energy consumption
- Connection of feeders to the control system through standardized system connection (IO-Link and AS-i), for fast integration in TIA and less wiring work

General data

Technical specifications

More information

SiePortal, see www.siemens.com/product?3RA2

Equipment Manual, see

https://support.industry.siemens.com/cs/ww/en/view/60284351

Digital Configuration Manual for load feeders, see https://imp.siemens.com/digital-engineering-manual/dem

Configuration Manual for load feeders, see

https://support.industry.siemens.com/cs/ww/en/view/39714188

FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/16289/faq

Direct-on-line starters/ reversing starters	Size	Connection method	Mounting	Control voltage	Width W	Height H	Depth D
					mm	mm	mm
Mounting dimensions							
Direct-on-line starters	S00	Screw terminals	DIN rails	AC/DC	45	167	97
3RA21.	3RA211.		Busbar adapters	AC/DC	45	200	155
(Size S3 or larger only		Spring-loaded terminals	DIN rails	AC/DC	45	198	97
available for customer assembly)			Busbar adapters	AC/DC	45	260	155
(Cooombiy)	S0	Screw terminals	DIN rails	AC	45	193	97
TE I	3RA212.			DC	45	193	107
			Busbar adapters	AC	45	260	155
				DC	45	260	165
→ W → V		Spring-loaded terminals	DIN rails	AC/DC	45	243	107
			Busbar adapters	AC/DC	45	260	165
	S2	Screw terminals	DIN rails	AC/DC	55	274	150
	3RA213./3RA215.		Busbar adapters	AC/DC	55	350	208
	S3 (customer assembly only)	Screw terminals	DIN-rail adapters	AC/DC	70	333	198
Reversing starters	S00	Screw terminals	DIN rails	AC/DC	90	170	97
3RA22.	3RA221.		Busbar adapters	AC/DC	90	200	155
(Size S2 or larger only		Spring-loaded terminals	DIN rails	AC/DC	90	204	97
available for customer assembly)			Busbar adapters	AC/DC	90	260	155
assembly)	S0	Screw terminals	DIN-rail adapters	AC	90	265	120.3
	3RA222.			DC	90	265	130
			Busbar adapters	AC	90	260	155
		Screw terminals Spring-loaded terminals Screw terminals		DC	90	260	165
		Spring-loaded terminals	DIN-rail adapters	AC/DC	90	270	131
			Busbar adapters	AC/DC	90	260	165
	S2	Screw terminals	DIN rails	AC/DC	120	295	175
	(customer assembly only)		Busbar adapters	AC/DC	120	361	208
	S3 (customer assembly only)	Screw terminals	DIN-rail adapters	AC/DC	150	333	198

Туре			3RA2.1	3RA2.2	3RA213, 3RA215	For customer assembly
Size Number of poles			S00 3	S0 3	\$2 3	S3 3
Mechanics and environment						
Permissible ambient temperature During operation During storage and transport		°C	-20 +60 -55 +80			
Weight		kg	0.6 1.5	0.8 2.3	2.2 2.5	4.0 4.2
Permissible mounting position			90° 90°	22,5° 22,5°		
			Important: Accor	ding to DIN 43602	, start command "I" a	t the right or top
Shock resistance	IEC 60068-2-27	<i>g</i> /ms	6/11 (sine pulse)			On request
Degree of protection IP on the front	According to IEC 60529		IP20			
Touch protection on the front	According to IEC 60529		Finger-safe for ve	ertical touching fro	m the front	

General data

Туре			3RA2.1	3RA2.2	3RA213,	For customer
Size			S00	S0	3RA215 S2	assembly S3
Number of poles			3	3	3	3
Electrical specifications Standards			• IEC 60947-1, EN	1 60047 1		
Standards			(VDE 0660 Part			
			• IEC 60947-2, EN			
			 (VDE 0660 Part IEC 60947-4-1, E 			
			(VDE 0660 Part			
Max. rated current $I_{n \text{ max}}$ (= max. rated operational current I_{e})		Α	16	32	65	100
Rated operational voltage $U_{\rm p}$		V	690			
Rated frequency		Hz	50/60			
Rated insulation voltage U _i		V	690			
(pollution degree 3) Rated impulse withstand voltage U _{imp}		kV	6			
Trip class (CLASS)	According to	KV	10			
mp stace (elines)	IEC 60947-4-1, EN 60947-4-1 (VDE 0660 Part 102)					
Rated short-circuit current I _q	According to	kA	150		3RA213: 100	With 3RV2041: 10
At 50/60 Hz 400 V AC	IEC 60947-4-1, EN 60947-4-1				3RA215: 150	With 3RV2042: 15
	(VDE 0660 Part 102)					
Types of coordination	According to IEC 60947-4-1,		See "Selection and	d ordering data", pag	je 8/22 onwards	
	EN 60947-4-1 (VDE 0660 Part 102)					
Power loss P _v of all main conducting path	,		See technical spec	cifications of the indi	vidual devices:	
Dependent on rated current I_n (upper setting range)			• "Protection Equip			s", page 3/25 onward breakers", page 7/17
Power consumption of the solenoid coils	with contactors		onwards See technical spec	cifications of the con	tactor nage 3/26 on	warde
Solenoid coil operating range with contact			occ teerimear sper		liactor, page 0/20 on	wards
Endurance of the motor starter protector						
Mechanical endurance		Oper-	100 000		Up to 52 A: 50 00	0 25 000
		ating cycles				
Electrical endurance		Oper-	100 000		From 59 A: 20 000	25 000
		ating cycles				
Max. switching frequency per hour (motor	starts)	1/h	15			
Endurance of contactor		0.504	30 million	10 million		
Mechanical endurance		ating	30 111111011	TO THIIIIOH		
Electrical endurance		cycles Oper-		naracteristic curves o	of the contactors, page	ge 3/26 onwards
Eloculous chadranto		ating cycles			. tilo comactoro, pa	ge
Phase failure sensitivity	According to	,	1			
of the motor starter protector	IEC 60947-1, EN 60947-1 (VDE 0660 Part 102)					
Isolating features of the	According to		✓			
motor starter protector	IEC 60947-2, EN 60947-2 (VDE 0660 Part 101)					
Main and EMERGENCY STOP switch	According to		/ (Mith avery eltere	rale ages of gets were	. !! -! !!	
features of the motor starter protector and accessories	IEC 60204-1, EN 60204-1 (VDE 0113 Part 1)		under conditions of	releases of category of proper use)	L	
Protective separation between main and auxiliary circuits	According to EN 60947-1, Appendix N	V	Up to 400			
Mirror contacts for contactors			✓ According to IEC (20047 4 1		
Integrated auxiliary switches			According to IEC	60947-4-1, Annex F		

✓ Function available

General data

Conductor cross-sections of main circui	t					
Туре		3RA2.10	3RA2.20	3RA2130-4E, 3RA2130-4P, 3RA2130-4U, 3RA2130-4V	3RA2130-4W, 3RA2130-4X, 3RA2130-4J, 3RA2130-4K, 3RA2150	For customer assembly
Size		S00	S0	S2		S3
Connection type		Screw termi	nals			Screw terminals with box terminal
Terminal screw		M3, Pozidriv size 2	M4, Pozidriv size 2	M6, Pozidriv size 2		4 mm Allen screw
Operating devices	mm	Ø 5 6	Ø 5 6	Ø 5 6		Allen screw
Prescribed tightening torque	Nm	0.8 1.2	2 2.5	3.0 4.5		4.5 6
Conductor cross-sections (min./max.), one or two conductors can be connected						
Solid or stranded	mm ²	2 x (0.75 2.5) ¹⁾ , 2 x (0.5 1.5) ¹⁾ , only for contactor 2 x 4	2 x (1 2.5) ¹⁾ 2 x (2.5 10) ¹)	2 x (1 25) ¹⁾ , 1 x (1 35) ¹⁾	2 x (1 35) ¹⁾ , 1 x (1 50) ¹⁾	2 x (2.5 16) ¹⁾ , 2 x (10 50) ¹⁾ , 1 x (10 70) ¹⁾
• Finely stranded with end sleeve (DIN 46228)	mm ²	2 x (0.5 1.5) ¹⁾ 2 x (0.75 2.5) ¹⁾	1 x 10	2 x (1 16) ¹⁾ , 1 x (1 25) ¹⁾		2 x (2.535) ¹⁾ 1 x (2.5 50) ¹⁾
AWG cables, solid or stranded	AWG	2 x (20 16) ¹⁾ , only for contactor 2 x (18 14) ¹⁾ , 2 x 12	2 x (16 12) ¹⁾ , 2 x (14 8) ¹⁾	2 x (18 3) ¹⁾ , 1 x (18 2) ¹⁾	2 x (18 2) ¹⁾ , 1 x (18 1) ¹⁾	2 × (10 1/0) ¹⁾ , 1 × (10 2/0) ¹⁾
 Ribbon cable conductors (Number x Width x Thickness) 	mm					2 x (6 x 9 x 0.8)
Connection type		Spring-load	ed terminals			
Operating devices	mm	3.0 x 0.5 and 3.5 x	0.5			
Conductor cross-sections (min./max.), one or two conductors can be connected						
Solid or stranded	mm ²	2 x (0.5 4)	2 x (1 10)			
 Finely stranded without end sleeve 	mm ²	2 x (0.5 2.5)	2 x (1 6)			
• Finely stranded with end sleeve (DIN 46228)	mm ²	2 x (0.5 2.5)	2 x (1 6)			
 AWG cables, solid or stranded 	AWG	2 x (20 12)	2 x (18 8)			
Max. outer diameter of the conductor insulation	mm	3.6	3.6			

¹⁾ If two different conductor cross-sections are connected to one clamping point, both cross-sections must be in the range specified.

Conductor cross-sections for auxiliary a	and
control circuits	

control circuits	_						
Туре		3RA2110 3RA2210	3RA2120 3RA2220	3RA2130 3RA2150	For customer assembly		
Size		S00	S0	S2	S3		
Connection type		Screw terminals					
Terminal screw		M3, Pozidriv size 2					
Operating devices	mm	Ø 5 6					
Prescribed tightening torque	Nm	0.8 1.2					
Conductor cross-sections (min./max.), one or two conductors can be connected							
Solid or stranded	mm^2	2 x (0.5 1.5) ¹⁾ , 2 x (0.75	2.5) ¹⁾				
 Finely stranded with end sleeve (DIN 46228) 	mm^2	2 x (0.5 1.5) ¹⁾ , 2 x (0.75	2.5) ¹⁾				
 AWG cables, solid or stranded 	AWG	2 x (18 14) ¹⁾ , 2 x (20 16) ¹⁾ , 2 x 12 for contactor S00 only					
Connection type		Spring-loaded term	inals				
Operating devices	mm	3.0 x 0.5 and 3.5 x 0.5					
Conductor cross-sections (min./max.), one or two conductors can be connected							
Solid or stranded	mm^2	2 x (0.5 2.5)					
 Finely stranded without end sleeve 	mm^2	2 x (0.5 2.5)					
• Finely stranded with end sleeve (DIN 46228)	mm^2	2 x (0.5 1.5)					
 AWG cables, solid or stranded 	AWG	2 x (20 14)					
Max. external diameter of the conductor insulation	mm	3.6					

¹⁾ If two different conductor cross-sections are connected to one clamping point, both cross-sections must be in the range specified.

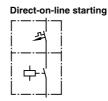
3RA21 direct-on-line starters > for DIN-rail mounting or screw fixing IE3/IE4 ready AC-

Selection and ordering data









Rated control supply voltage 50/60 Hz 230 V AC for S00, 50 Hz 230 V AC for S0, S2 and S3

With screw terminals

- Screw fixing with two push-in lugs per load feeder possible¹⁾
- The motor starter protector and contactor are mechanically and electrically connected by means of the link module.
 Auxiliary switches²⁾ can easily be fitted on the motor starter
- Auxiliary switches² can easily be fitted on the motor starter protector and the contactor thanks to the modular system.
- Integrated auxiliary switches: Contactor size S00: 1 NO,

Contactor sizes S0, S2 and S3: 1 NO + 1 NC

Size	Standard three-ph motor 4- 400 V AC	ase	Adjustable current response value of the inverse-time	Comprising single devi	g the followir ces	ng	Fuseless load feeder		PU (UNIT, SET, M)	PS*	PG
	Standard output P		delayed overload release	Motor starter protector	+ Contactor	+ Link module	Screw terminals	+			
	kW	А	占 A				Article No.	Basic price per PU			

Type of coordination	"2" at $I_{\rm q}$ = 150 kA at 400 V
(also compatible with t	vpe of coordination "1")

(also d	compatible	e with ty	pe of coordinati	on "1")				
				3RV20	3RT20	3RA	ToC 2	
S00	0.06 0.06 0.09	0.2 0.2 0.3	0.14 0.2 0.18 0.25 0.22 0.32	11-0BA10 11-0CA10 11-0DA10	15-1AP01	1921-1DA00	3RA2110-0BA15-1AP0 3RA2110-0CA15-1AP0 3RA2110-0DA15-1AP0	1 1 unit 41D 1 1 unit 41D 1 1 unit 41D
	0.09 0.12 0.18	0.3 0.4 0.6	0.28 0.4 0.35 0.5 0.45 0.63	11-0EA10 11-0FA10 11-0GA10			3RA2110-0EA15-1AP0 3RA2110-0FA15-1AP0 3RA2110-0GA15-1AP0	1 1 unit 41D 1 1 unit 41D 1 1 unit 41D
	0.18 0.25 0.37	0.6 0.85 1.1	0.55 0.8 0.7 1 0.9 1.25	11-0HA10 11-0JA10 11-0KA10			3RA2110-0HA15-1AP0 3RA2110-0JA15-1AP0 3RA2110-0KA15-1AP0	1 1 unit 41D 1 1 unit 41D 1 1 unit 41D
	0.55 0.75 0.75	1.5 1.9 1.9	1.1 1.6 1.4 2 1.8 2.5	11-1AA10 11-1BA10 11-1CA10			3RA2110-1AA15-1AP0 3RA2110-1BA15-1AP0 3RA2110-1CA15-1AP0	1 1 unit 41D 1 1 unit 41D 1 1 unit 41D
	1.1 1.5	2.7 3.6	2.2 3.2 2.8 4	11-1DA10 11-1EA10			3RA2110-1DA15-1AP0 3RA2110-1EA15-1AP0	1 1 unit 41D 1 1 unit 41D
S0	1.5 2.2 3 4 5.5	3.6 4.9 6.5 8.5 11.5	3.5 5 4.5 6.3 5.5 8 7 10 9 12.5	11-1FA10 11-1GA10 11-1HA10 11-1JA10 11-1KA10	24-1AP00	2921-1AA00	3RA2120-1FA24-0AP0 3RA2120-1GA24-0AP0 3RA2120-1HA24-0AP0 3RA2120-1JA24-0AP0 3RA2120-1KA24-0AP0	1 1 unit 41D 1 1 unit 41D 1 1 unit 41D 1 1 unit 41D 1 1 unit 41D
	7.5	15.5	10 16	21-4AA10	26-1AP00		3RA2120-4AA26-0AP0	1 1 unit 41D
	7.5 11 11 15 15	15.5 22 22 28 29 ⁴⁾	13 20 16 22 18 25 23 28 27 32	21-4BA10 21-4CA10 21-4DA10 21-4NA10 21-4EA10	27-1AP00		3RA2120-4BA27-0AP0 3RA2120-4CA27-0AP0 3RA2120-4DA27-0AP0 3RA2120-4NA27-0AP0 3RA2120-4EA27-0AP0	1 1 unit 41D 1 1 unit 41D 1 1 unit 41D 1 1 unit 41D 1 1 unit 41D
S2	15 18.5 18.5	29 35 35	22 32 28 36 32 40	32-4EA10 32-4PA10 32-4UA10	35-1AP00	2931-1AA00	3RA2150-4EA35-0AP0 3RA2150-4PA35-0AP0 3RA2150-4UA35-0AP0	1 1 unit 41D 1 1 unit 41D 1 1 unit 41D
	22 22	41 41	35 45 42 50	32-4VA10 32-4WA10	36-1AP00		3RA2150-4VA36-0AP0 3RA2150-4WA36-0AP0	1 1 unit 41D 1 1 unit 41D
	30 30	55 55	49 59 54 65	32-4XA10 32-4JA10	37-1AP00		3RA2150-4XA37-0AP0 3RA2150-4JA37-0AP0	1 1 unit 41D 1 1 unit 41D
	37 ⁵⁾	66	62 75	32-4KA10	38-1AP00		3RA2150-4KA38-0AP0	1 1 unit 41D

Size S3 available on request

Size S3 is only available for customer assembly

¹⁾ Push-in lugs, see "Accessories", page 8/52.

²⁾ Auxiliary switches, see "Accessories", page 8/45.

³⁾ The actual starting and rated data of the motor to be protected must be considered when selecting the units.

Suitable for use with IE3 and IE4 motors up to a starting current of 256 A. For higher starting currents we recommend using size S2.

⁵⁾ Maximum permissible current setting at motor starter protector 65 A, as the maximum permissible current of the 3RA2931-1AA00 link module is 65 A.

IE3/IE4 ready 3RA21 direct-on-line starters > for DIN-rail mounting or screw fixing





Rated control supply voltage 50/60 Hz 230 V AC for S00 With screw terminals

- Screw fixing with two push-in lugs per load feeder possible¹⁾
- The motor starter protector and contactor are mechanically and electrically connected by means of the link module.
 Auxiliary switches²⁾ can easily be fitted on the motor starter protector and the contactor thanks to the modular system.
- Integrated auxiliary switches: Contactor size S00: 1 NO

Size	Standard Adjustable current motor 4-pole at 400 V AC ³⁾ value of the inverse-time		current response value of the	Comprising single devi	g the followir ces	ng	Fuseless load feeder		PU (UNIT, SET, M)	PS*	PG	
	Standard output P		delayed	Motor starter protector	+ Contactor	+ Link module		Screw terminals	+			
	kW	А	了 A					Article No.	Basic price per PU			

	Type of coor						
ı	(motor starter	protector	is comp	oatible w	vith type c	of coordination	"2"

				3RV20	3RT20	3RA	ToC 1	
S00			er outputs, see to on the previous					
	1.5 2.2 3	3.6 4.9 6.5	3.5 5 4.5 6.3 5.5 8	11-1FA10 11-1GA10 11-1HA10	15-1AP01	1921-1DA00	3RA2110-1FA15-1AP0 3RA2110-1GA15-1AP0 3RA2110-1HA15-1AP0	1 1 unit 41D 1 1 unit 41D 1 1 unit 41D
	4 5.5 7.5	8.5 11.5 15.5	7 10 9 12.5 10 16	11-1JA10 11-1KA10 11-4AA10	16-1AP01 17-1AP01 18-1AP01		3RA2110-1JA16-1AP0 3RA2110-1KA17-1AP0 3RA2110-4AA18-1AP0	1 1 unit 41D 1 1 unit 41D 1 1 unit 41D

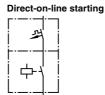
¹⁾ Push-in lugs, see "Accessories", page 8/52.

²⁾ Auxiliary switches, see "Accessories", page 8/45.

³⁾ The actual starting and rated data of the motor to be protected must be considered when selecting the units.

3RA21 direct-on-line starters > for DIN-rail mounting or screw fixing IE3/IE4 ready





Rated control supply voltage 50 Hz 230 V AC for S2 and S3 With screw terminals

- Screw fixing with two push-in lugs per load feeder possible¹⁾
- The motor starter protector and contactor are mechanically and electrically connected by means of the link module.
 Auxiliary switches²⁾ can easily be fitted on the motor starter
- protector and the contactor thanks to the modular system.
- Integrated auxiliary switches:

-	integrated	i auniii	iai y	SVVIL	CHES	٥.			
	Contactor	sizes	S2	and	S3:	1 NO	+	1	NC

Size	Standard Adjustable current motor 4-pole at 400 V AC ³⁾ value of the inverse-time		current response value of the	Comprising single device	the followir ces	ng	Fuseless load feeder		PU (UNIT, SET, M)	PS*	PG
	Standard output P	Motor current <i>I</i> (guide value)	delayed overload release	Motor starter protector	+ Contactor	+ Link module	Screw terminals				
	kW	А	G A				Article No.	Basic price per PU			

Type of coordination "2" at I_g = 100 kA at 400 V	
(motor starter protector is compatible with type of coordination "2")	

				3RV20	3RT20	3RA		ToC 2			
S2	15 18.5 18.5 22 22	29 35 35 41 41	22 32 28 36 32 40 35 45 42 50	31-4EA10 31-4PA10 31-4UA10 31-4VA10 31-4WA10	35-1AP00 36-1AP00	2931-1AA00	3RA2130-4EA35-0AP0 3RA2130-4PA35-0AP0 3RA2130-4UA35-0AP0 3RA2130-4VA36-0AP0 3RA2130-4WA36-0AP0		1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41D 41D 41D 41D 41D
	30 30 37 ⁴⁾	55 55 66	49 59 54 65 62 73	31-4XA10 31-4JA10 31-4KA10	37-1AP00 38-1AP00		3RA2130-4XA37-0AP0 3RA2130-4JA37-0AP0 3RA2130-4KA38-0AP0		1 1 1	1 unit 1 unit 1 unit	41D 41D 41D

S3 Size S3 available on request Size S3 is only available for customer assembly

¹⁾ Push-in lugs, see "Accessories", page 8/52.

²⁾ Auxiliary switches, see "Accessories", page 8/45.

 $^{^{\}rm 3)}$ The actual starting and rated data of the motor to be protected must be considered when selecting the units.

⁴⁾ Maximum permissible current setting at motor starter protector 65 A, as the maximum permissible current of the 3RA2931-1AA00 link module is 65 A.

IE3/IE4 ready 3RA21 direct-on-line starters > for DIN-rail mounting or screw fixing







Rated control supply voltage 50/60 Hz 230 V AC for S00, 50 Hz 230 V AC for S0 With spring-loaded terminals

- Screw fixing with two push-in lugs per load feeder possible¹⁾
- The motor starter protector and contactor are mechanically and electrically connected by means
- of the link module.
 Auxiliary switches²⁾ can easily be fitted on the motor starter protector and the contactor thanks to the modular system.
- Integrated auxiliary switches: Contactor size S00: 1 NO, Contactor size S0: 1 NO + 1 NC

Size	Standard three-phase current response value of the inverse-time delayed output current I P (guide value)		current response value of the	Comprising the following single devices			Fuseless load feeder		PU (UNIT, SET, M)	PS*	PG
			Motor starter protector	+ Contactor	+ Link module	Spring-loaded terminals					
	kW	A	G A				Article No.	Basic price per PU			

Type of coordination "2" at I_{cr} = 150 kA a	at 400 V
(also compatible with type of coordination '	"1")

				3RV20	3RT20	3RA29	ToC 2	
S00	0.06 0.06 0.09	0.2 0.2 0.3	0.14 0.2 0.18 0.25 0.22 0.32	11-0BA20 11-0CA20 11-0DA20	15-2AP01	11-2AA00	3RA2110-0BE15-1AP0 3RA2110-0CE15-1AP0 3RA2110-0DE15-1AP0	1 1 unit 41D 1 1 unit 41D 1 1 unit 41D
	0.09 0.12 0.18	0.3 0.4 0.6	0.28 0.4 0.35 0.5 0.45 0.63	11-0EA20 11-0FA20 11-0GA20			3RA2110-0EE15-1AP0 3RA2110-0FE15-1AP0 3RA2110-0GE15-1AP0	1 1 unit 41D 1 1 unit 41D 1 1 unit 41D
	0.18 0.25 0.37	0.6 0.85 1.1	0.55 0.8 0.7 1 0.9 1.25	11-0HA20 11-0JA20 11-0KA20			3RA2110-0HE15-1AP0 3RA2110-0JE15-1AP0 3RA2110-0KE15-1AP0	1 1 unit 41D 1 1 unit 41D 1 1 unit 41D
	0.55 0.75 0.75	1.5 1.9 1.9	1.1 1.6 1.4 2 1.8 2.5	11-1AA20 11-1BA20 11-1CA20			3RA2110-1AE15-1AP0 3RA2110-1BE15-1AP0 3RA2110-1CE15-1AP0	1 1 unit 41D 1 1 unit 41D 1 1 unit 41D
	1.1 1.5	2.7 3.6	2.2 3.2 2.8 4	11-1DA20 11-1EA20			3RA2110-1DE15-1AP0 3RA2110-1EE15-1AP0	1 1 unit 41D 1 1 unit 41D
SO	1.5 2.2 3 4 5.5	3.6 4.9 6.5 8.5 11.5	3.5 5 4.5 6.3 5.5 8 7 10 9 12.5	21-1FA20 21-1GA20 21-1HA20 21-1JA20 21-1KA20	24-2AP00	21-2AA00	3RA2120-1FE24-0AP0 3RA2120-1GE24-0AP0 3RA2120-1HE24-0AP0 3RA2120-1JE24-0AP0 3RA2120-1KE24-0AP0	1 1 unit 41D 1 1 unit 41D 1 1 unit 41D 1 1 unit 41D 1 1 unit 41D
	7.5 7.5 11 11 15 15	15.5 15.5 22 22 28 29 ⁴⁾	10 16 13 20 16 22 18 25 23 28 27 32	21-4AA20 21-4BA20 21-4CA20 21-4DA20 21-4NA20 21-4EA20	26-2AP00 27-2AP00		3RA2120-4AE26-0AP0 3RA2120-4BE27-0AP0 3RA2120-4CE27-0AP0 3RA2120-4DE27-0AP0 3RA2120-4NE27-0AP0 3RA2120-4EE27-0AP0	1 1 unit 41D 1 1 unit 41D

Type of coordination "1" at I_q = 150 kA at 400 V

(motor	starter p	rotector	is compatible	with type of co	pordination	"2")					
S00		rs for lowe nation "2".	er outputs, see t	able for type of			ToC 1				
	1.5 2.2 3	3.6 4.9 6.5	3.5 5 4.5 6.3 5.5 8	11-1FA20 11-1GA20 11-1HA20	15-2AP01	11-2AA00	3RA2110-1FE15-1AP0 3RA2110-1GE15-1AP0 3RA2110-1HE15-1AP0		1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	4 5.5 7.5	8.5 11.5 15.5	7 10 9 12.5 10 16	11-1JA20 11-1KA20 11-4AA20	16-2AP01 17-2AP01 18-2AP01		3RA2110-1JE16-1AP0 3RA2110-1KE17-1AP0 3RA2110-4AE18-1AP0		1 1 1	1 unit 1 unit 1 unit	41D 41D 41D

¹⁾ Push-in lugs, see "Accessories", page 8/52.

²⁾ Auxiliary switches, see "Accessories", page 8/45.

³⁾ The actual starting and rated data of the motor to be protected must be considered when selecting the units.

⁴⁾ Suitable for use with IE3 and IE4 motors up to a starting current of 256 A. For higher starting currents we recommend using size S2.

3RA21 direct-on-line starters > for DIN-rail mounting or screw fixing IE3/IE4 ready



3RA2110







Rated control supply voltage 24 V DC With screw terminals **Direct-on-line starting**

- Screw fixing with two push-in lugs per load feeder possible 1)
- The motor starter protector and contactor are mechanically and electrically connected by means
- of the link module.
 Auxiliary switches²⁾ can easily be fitted on the motor starter protector and the contactor thanks to the modular system.
- Integrated auxiliary switches: Contactor size S00: 1 NO, Contactor sizes S0, S2 and S3: 1 NO + 1 NC

Size	Size Standard three-phase motor 4-pole at 400 V AC ³ Standard Motor output current I P (guide value)		Adjustable current response value of the inverse-time	Comprising the following single devices		Fuseless load feeder		PU (UNIT, SET, M)	PS*	PG	
			delayed	Motor starter protector	+ Contactor	+ Link module	Screw terminals				
	kW	A	G A				Article No.	Basic price per PU			

Type of coordination '	"2" at I_{α} =	150 kA a	at 400 V
(also compatible with ty	me of coor	dination '	'1")

`	'	<i>-</i>		3RV20	3RT20	3RA	ToC 2	
S00	0.06 0.06 0.09	0.2 0.2 0.3	0.14 0.2 0.18 0.25 0.22 0.32	11-0BA10 11-0CA10 11-0DA10	15-1BB41	1921-1DA00	3RA2110-0BA15-1BB4 3RA2110-0CA15-1BB4 3RA2110-0DA15-1BB4	1 1 unit 41D 1 1 unit 41D 1 1 unit 41D
	0.09 0.12 0.18	0.3 0.4 0.6	0.28 0.4 0.35 0.5 0.45 0.63	11-0EA10 11-0FA10 11-0GA10			3RA2110-0EA15-1BB4 3RA2110-0FA15-1BB4 3RA2110-0GA15-1BB4	1 1 unit 41D 1 1 unit 41D 1 1 unit 41D
	0.18 0.25 0.37	0.6 0.85 1.1	0.55 0.8 0.7 1 0.9 1.25	11-0HA10 11-0JA10 11-0KA10			3RA2110-0HA15-1BB4 3RA2110-0JA15-1BB4 3RA2110-0KA15-1BB4	1 1 unit 41D 1 1 unit 41D 1 1 unit 41D
	0.55 0.75 0.75	1.5 1.9 1.9	1.1 1.6 1.4 2 1.8 2.5	11-1AA10 11-1BA10 11-1CA10			3RA2110-1AA15-1BB4 3RA2110-1BA15-1BB4 3RA2110-1CA15-1BB4	1 1 unit 41D 1 1 unit 41D 1 1 unit 41D
	1.1 1.5	2.7 3.6	2.2 3.2 2.8 4	11-1DA10 11-1EA10			3RA2110-1DA15-1BB4 3RA2110-1EA15-1BB4	1 1 unit 41D 1 1 unit 41D
S0	1.5 2.2 3 4 5.5	3.6 4.9 6.5 8.5 11.5	3.5 5 4.5 6.3 5.5 8 7 10 9 12.5	11-1FA10 11-1GA10 11-1HA10 11-1JA10 11-1KA10	24-1BB40	2921-1BA00	3RA2120-1FA24-0BB4 3RA2120-1GA24-0BB4 3RA2120-1HA24-0BB4 3RA2120-1JA24-0BB4 3RA2120-1KA24-0BB4	1 1 unit 41D 1 1 unit 41D 1 1 unit 41D 1 1 unit 41D 1 1 unit 41D
	7.5 7.5 11 11 15	15.5 15.5 22 22 28 29 ⁴⁾	10 16 13 20 16 22 18 25 23 28 27 32	21-4AA10 21-4BA10 21-4CA10 21-4DA10 21-4NA10 21-4EA10	26-1BB40 27-1BB40		3RA2120-4AA26-0BB4 3RA2120-4BA27-0BB4 3RA2120-4CA27-0BB4 3RA2120-4DA27-0BB4 3RA2120-4NA27-0BB4 3RA2120-4EA27-0BB4	1 1 unit 41D 1 1 unit 41D
S2	15 18.5 18.5 22 22	29 35 35 41 41	22 32 28 36 32 40 35 45 42 50	32-4EA10 32-4PA10 32-4UA10 32-4VA10 32-4WA10	35-1NB30 36-1NB30	2931-1AA00	3RA2150-4EA35-0NB3 3RA2150-4PA35-0NB3 3RA2150-4UA35-0NB3 3RA2150-4VA36-0NB3 3RA2150-4WA36-0NB3	1 1 unit 41D 1 1 unit 41D 1 1 unit 41D 1 1 unit 41D 1 1 unit 41D
	30 30 37 ⁵⁾	55 55 66	49 59 54 65 62 73	32-4XA10 32-4JA10 32-4KA10	37-1NB30 38-1NB30		3RA2150-4XA37-0NB3 3RA2150-4JA37-0NB3 3RA2150-4KA38-0NB3	1 1 unit 41D 1 1 unit 41D 1 1 unit 41D

S3 Size S3 available on request

Size S3 is only available for customer assembly

¹⁾ Push-in lugs, see "Accessories", page 8/52.

²⁾ Auxiliary switches, see "Accessories", page 8/45.

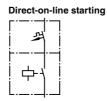
³⁾ The actual starting and rated data of the motor to be protected must be considered when selecting the units.

⁴⁾ Suitable for use with IE3 and IE4 motors up to a starting current of 256 A. For higher starting currents we recommend using size S2.

⁵⁾ Maximum permissible current setting at motor starter protector 65 A, as the maximum permissible current of the 3RA2931-1AA00 link module is 65 A.

IE3/IE4 ready 3RA21 direct-on-line starters > for DIN-rail mounting or screw fixing





Rated control supply voltage 24 V DC With screw terminals

- Screw fixing with two push-in lugs per load feeder possible¹⁾
 The motor starter protector and contactor are
- mechanically and electrically connected by means of the link module.
 Auxiliary switches²⁾ can easily be fitted on the motor starter protector and the contactor thanks to the modular system.
- Integrated auxiliary switches: Contactor size S00: 1 NO

Size	Standard three-pha motor 4- 400 V AC	ase pole at	Adjustable current response value of the inverse-time	Comprising single devi	g the followir ces	ng		Fuseless load feeder		PU (UNIT, SET, M)	PS*	PG
	Standard output P		delayed overload release	Motor starter protector	+ Contactor	+ Link module		Screw terminals	1			
	kW	А	G A					Article No.	Basic price per PU			
Type o			A " at <i>I</i> . = 150 k	Λ at /100 V			_		per PU			

Type of coordination "1" at I_{α} = 150 kA at 400 V	
(motor starter protector is compatible with type of coordination "2")
	_

				3RV20	3RT20	3RA		ToC 1			
S00			er outputs, see to on the previous								
	1.5 2.2 3	3.6 4.9 6.5	3.5 5 4.5 6.3 5.5 8	11-1FA10 11-1GA10 11-1HA10	15-1BB41	1921-1DA00	3RA2110-1FA15-1BB4 3RA2110-1GA15-1BB4 3RA2110-1HA15-1BB4		1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	4 5.5 7.5	8.5 11.5 15.5	7 10 9 12.5 10 16	11-1JA10 11-1KA10 11-4AA10	16-1BB41 17-1BB41 18-1BB41		3RA2110-1JA16-1BB4 3RA2110-1KA17-1BB4 3RA2110-4AA18-1BB4		1 1 1	1 unit 1 unit 1 unit	41D 41D 41D

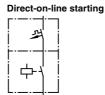
¹⁾ Push-in lugs, see "Accessories", page 8/52.

²⁾ Auxiliary switches, see "Accessories", page 8/45.

³⁾ The actual starting and rated data of the motor to be protected must be considered when selecting the units.

3RA21 direct-on-line starters > for DIN-rail mounting or screw fixing IE3/IE4 ready





Rated control supply voltage 24 V DC With screw terminals

- Screw fixing with two push-in lugs per load feeder possible¹⁾
 The motor starter protector and contactor are
- mechanically and electrically connected by means
- of the link module.
 Auxiliary switches²⁾ can easily be fitted on the motor starter protector and the contactor thanks to the modular system.

Integrated auxiliary switches: Contactor sizes S2 and S3: 1 NO + 1 NC

Size	Standard three-pha motor 4-p 400 V AC	se	Adjustable current response value of the inverse-time	Comprising single devi	g the followir ces	ng	Fuseless load feeder		PU (UNIT, SET, M)	PS*	PG
			delayed	Motor starter protector	+ Contactor	+ Link module	Screw terminals	+			
	L/M	٨	<u></u>				Article No.	Basic price per PU			

Type of	f coordination	"2"	at In =	= 100	kΑ	at 40	0 V
(motor c	startor protocto	ric	omna	tible v	vith	tuno	of oo

ordination "2")

				3RV20	3RT20	3RA	ToC 2			
S2	15 18.5 18.5 22 22	29 35 35 41 41	22 32 28 36 32 40 35 45 42 50	31-4EA10 31-4PA10 31-4UA10 31-4VA10 31-4WA10	35-1NB30 36-1NB30	2931-1AA00	3RA2130-4EA35-0NB3 3RA2130-4PA35-0NB3 3RA2130-4UA35-0NB3 3RA2130-4VA36-0NB3 3RA2130-4WA36-0NB3	1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41D 41D 41D 41D 41D
	30 30 37 ⁴⁾	55 55 66	49 59 54 65 62 73	31-4XA10 31-4JA10 31-4KA10	37-1NB30 38-1NB30		3RA2130-4XA37-0NB3 3RA2130-4JA37-0NB3 3RA2130-4KA38-0NB3	1 1 1	1 unit 1 unit 1 unit	41D 41D 41D

Size S3 available on request

Size S3 is only available for customer assembly

¹⁾ Push-in lugs, see "Accessories", page 8/52.

²⁾ Auxiliary switches, see "Accessories", page 8/45.

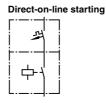
³⁾ The actual starting and rated data of the motor to be protected must be considered when selecting the units.

⁴⁾ Maximum permissible current setting at motor starter protector 65 A, as the maximum permissible current of the 3RA2931-1AA00 link module is 65 A.

IE3/IE4 ready 3RA21 direct-on-line starters > for DIN-rail mounting or screw fixing







Rated control supply voltage 24 V DC With spring-loaded terminals

- Screw fixing with two push-in lugs per load feeder possible¹⁾
 The motor starter protector and contactor are
- mechanically and electrically connected by means
- of the link module.
 Auxiliary switches²⁾ can easily be fitted on the motor starter protector and the contactor thanks to the modular system.
- Integrated auxiliary switches: Contactor size S00: 1 NO, Contactor size S0: 1 NO + 1 NC

Size	Standard three-ph motor 4- 400 V A	ase pole at	Adjustable current response value of the inverse-time				Fuseless load feeder		PU (UNIT, SET, M)	PS*	PG	
	Standard output P	Motor current I (guide value)	delayed	Motor starter protector	+ Contactor	+ Link module		Spring-loaded terminals				
	kW	А	了 A					Article No.	Basic price per PU			

(also compatible with type of coordination "1")	
3RV20	3

				3RV20	3RT20	3RA29	ToC 2			
S00	0.06 0.06 0.09	0.2 0.2 0.3	0.14 0.2 0.18 0.25 0.22 0.32	11-0BA20 11-0CA20 11-0DA20	15-2BB41	11-2AA00	3RA2110-0BE15-1BB4 3RA2110-0CE15-1BB4 3RA2110-0DE15-1BB4	1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	0.09 0.12 0.18	0.3 0.4 0.6	0.28 0.4 0.35 0.5 0.45 0.63	11-0EA20 11-0FA20 11-0GA20			3RA2110-0EE15-1BB4 3RA2110-0FE15-1BB4 3RA2110-0GE15-1BB4	1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	0.18 0.25 0.37	0.6 0.85 1.1	0.55 0.8 0.7 1 0.9 1.25	11-0HA20 11-0JA20 11-0KA20			3RA2110-0HE15-1BB4 3RA2110-0JE15-1BB4 3RA2110-0KE15-1BB4	1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	0.55 0.75 0.75	1.5 1.9 1.9	1.1 1.6 1.4 2 1.8 2.5	11-1AA20 11-1BA20 11-1CA20			3RA2110-1AE15-1BB4 3RA2110-1BE15-1BB4 3RA2110-1CE15-1BB4	1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	1.1 1.5	2.7 3.6	2.2 3.2 2.8 4	11-1DA20 11-1EA20			3RA2110-1DE15-1BB4 3RA2110-1EE15-1BB4	1 1	1 unit 1 unit	41D 41D
S0	1.5 2.2 3 4 5.5	3.6 4.9 6.5 8.5 11.5	3.5 5 4.5 6.3 5.5 8 7 10 9 12.5	21-1FA20 21-1GA20 21-1HA20 21-1JA20 21-1KA20	24-2BB40	21-2AA00	3RA2120-1FE24-0BB4 3RA2120-1GE24-0BB4 3RA2120-1HE24-0BB4 3RA2120-1JE24-0BB4 3RA2120-1KE24-0BB4	1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41D 41D 41D 41D 41D
	7.5	15.5	10 16	21-4AA20	26-2BB40		3RA2120-4AE26-0BB4	1	1 unit	41D
	7.5 11 11 15 15	15.5 22 22 28 29 ⁴⁾	13 20 16 22 18 25 23 28 27 32	21-4BA20 21-4CA20 21-4DA20 21-4NA20 21-4EA20	27-2BB40		3RA2120-4BE27-0BB4 3RA2120-4CE27-0BB4 3RA2120-4DE27-0BB4 3RA2120-4NE27-0BB4 3RA2120-4EE27-0BB4	1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41D 41D 41D 41D 41D

Type of coordination "1" at I_{cr} = 150 kA at 400 V

(motor	r starter p	rotector	is compatible	with type of co	oordination	"2")					
S00		rs for lowe nation "2".	er outputs, see to	able for type of				ToC 1			
	1.5 2.2 3	3.6 4.9 6.5	3.5 5 4.5 6.3 5.5 8	11-1FA20 11-1GA20 11-1HA20	15-2BB41	11-2AA00	3RA2110-1FE15-1BB4 3RA2110-1GE15-1BB4 3RA2110-1HE15-1BB4		1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	4 5.5 7.5	8.5 11.5 15.5	7 10 9 12.5 10 16	11-1JA20 11-1KA20 11-4AA20	16-2BB41 17-2BB41 18-2BB40		3RA2110-1JE16-1BB4 3RA2110-1KE17-1BB4 3RA2110-4AE18-1BB4		1 1 1	1 unit 1 unit 1 unit	41D 41D 41D

¹⁾ Push-in lugs, see "Accessories", page 8/52.

²⁾ Auxiliary switches, see "Accessories", page 8/45.

³⁾ The actual starting and rated data of the motor to be protected must be considered when selecting the units.

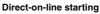
⁴⁾ Suitable for use with IE3 and IE4 motors up to a starting current of 256 A. For higher starting currents we recommend using size \$2.

3RA21 direct-on-line starters > for 60 mm busbars IE3/IE4 ready

Selection and ordering data









Rated control supply voltage 50/60 Hz 230 V AC for S0 and S2 With screw terminals

- With busbar adapter
- The motor starter protector and contactor are mechanically and electrically connected by means
- of the link module.

 Auxiliary switches 1) can easily be fitted on the motor starter protector and the contactor thanks to the modular system.
- İntegrated auxiliary switches: Contactor size S00: 1 NO,

Contactor sizes S0 and S2: 1 NO + 1 NC

Size	Standard three-ph motor 4- 400 V A	nase	Adjustable current response value of the inverse-time	Comprising single devi	g the followir ices	ng	Fuseless load feeder		PU (UNIT, SET, M)	PS*	PG
	Standard output P		delayed overload release	Motor starter protector	+ Contactor	+ Link module + Busbar adapter	Screw terminals	*			
	kW	А	引				Article No.	Basic price per PU			

Type of coordination "	2" at I_{g} = 150 kA at 400 V
(also compatible with tw	on of coordination "1")

				3RV20	3RT20	3RA	ToC 2	
S00	0.06 0.06 0.09	0.2 0.2 0.3	0.14 0.2 0.18 0.25 0.22 0.32	11-0BA10 11-0CA10 11-0DA10	15-1AP01	1921-1DA00 + 8US1251- 5DS10	3RA2110-0BD15-1AP0 3RA2110-0CD15-1AP0 3RA2110-0DD15-1AP0	1 1 unit 41D 1 1 unit 41D 1 1 unit 41D
	0.09 0.12 0.18	0.3 0.4 0.6	0.28 0.4 0.35 0.5 0.45 0.63	11-0EA10 11-0FA10 11-0GA10			3RA2110-0ED15-1AP0 3RA2110-0FD15-1AP0 3RA2110-0GD15-1AP0	1 1 unit 41D 1 1 unit 41D 1 1 unit 41D
	0.18 0.25 0.37	0.6 0.85 1.1	0.55 0.8 0.7 1 0.9 1.25	11-0HA10 11-0JA10 11-0KA10			3RA2110-0HD15-1AP0 3RA2110-0JD15-1AP0 3RA2110-0KD15-1AP0	1 1 unit 41D 1 1 unit 41D 1 1 unit 41D
	0.55 0.75 0.75	1.5 1.9 1.9	1.1 1.6 1.4 2 1.8 2.5	11-1AA10 11-1BA10 11-1CA10			3RA2110-1AD15-1AP0 3RA2110-1BD15-1AP0 3RA2110-1CD15-1AP0	1 1 unit 41D 1 1 unit 41D 1 1 unit 41D
	1.1 1.5	2.7 3.6	2.2 3.2 2.8 4	11-1DA10 11-1EA10			3RA2110-1DD15-1AP0 3RA2110-1ED15-1AP0	1 1 unit 41D 1 1 unit 41D
S0	1.5 2.2 3 4 5.5	3.6 4.9 6.5 8.5 11.5	3.5 5 4.5 6.3 5.5 8 7 10 9 12.5	11-1FA10 11-1GA10 11-1HA10 11-1JA10 11-1KA10	24-1AP00	2921-1AA00 + 8US1251- 5DT10	3RA2120-1FD24-0AP0 3RA2120-1GD24-0AP0 3RA2120-1HD24-0AP0 3RA2120-1JD24-0AP0 3RA2120-1KD24-0AP0	1 1 unit 41D 1 1 unit 41D 1 1 unit 41D 1 1 unit 41D 1 1 unit 41D
	7.5 7.5 11 11 15	15.5 15.5 22 22 28 29 ³⁾	10 16 13 20 16 22 18 25 23 28 27 32	21-4AA10 21-4BA10 21-4CA10 21-4DA10 21-4NA10 21-4EA10	26-1AP00 27-1AP00	2921-1AA00 + 8US1251- 5NT10	3RA2120-4AD26-0AP0 3RA2120-4BD27-0AP0 3RA2120-4CD27-0AP0 3RA2120-4DD27-0AP0 3RA2120-4ND27-0AP0 3RA2120-4ED27-0AP0	1 1 unit 41D 1 1 unit 41D
S2	15 18.5 18.5 22 22	29 35 35 41 41	22 32 28 36 32 40 35 45 42 50	32-4EA10 32-4PA10 32-4UA10 32-4VA10 32-4WA10	35-1AP00 36-1AP00	2931-1AA00 + 8US1261- 6MT10	Size S2 is only available for custom	er assembly.
	30 30 37 ⁴⁾	55 55 66	49 59 54 65 62 73	32-4XA10 32-4JA10 32-4KA10	37-1AP00 38-1AP00			

Type of coordination "1" at I_q = 150 kA at 400 V

(1110101	starter p	TOLECTO	is compatible	with type of co	Jordination	~)					
S00		rs for lowe nation "2".	er outputs, see ta	able for type of				ToC 1			
	1.5 2.2 3	3.6 4.9 6.5	3.5 5 4.5 6.3 5.5 8	11-1FA10 11-1GA10 11-1HA10	15-1AP01	1921-1DA00 + 8US1251- 5DS10	3RA2110-1FD15-1AP0 3RA2110-1GD15-1AP0 3RA2110-1HD15-1AP0		1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	4 5.5 7.5	8.5 11.5 15.5	7 10 9 12.5 10 16	11-1JA10 11-1KA10 11-4AA10	16-1AP01 17-1AP01 18-1AP01		3RA2110-1JD16-1AP0 3RA2110-1KD17-1AP0 3RA2110-4AD18-1AP0		1 1 1	1 unit 1 unit 1 unit	41D 41D 41D

¹⁾ Auxiliary switches, see "Accessories", page 8/45.

The actual starting and rated data of the motor to be protected must be considered when selecting the units.

³⁾ Suitable for use with IE3 and IE4 motors up to a starting current of 256 A. For higher starting currents we recommend using size \$2.

⁴⁾ Maximum permissible current setting at motor starter protector 65 A, as the maximum permissible current of the 3RA2931-1AA00 link module is 65 A.

AC-3e IE3/IE4 ready 3RA21 direct-on-line starters > for 60 mm busbars



3RA2110





Rated control supply voltage 50/60 Hz 230 V AC for S00, 50 Hz 230 V AC for S0 With spring-loaded terminals

- With busbar adapter
- The motor starter protector and contactor are mechanically and electrically connected by means of the link module
- of the link module.
 Auxiliary switches¹⁾ can easily be fitted on the motor starter protector and the contactor thanks to the modular system.
- İntegrated auxiliary switches: Contactor size S00: 1 NO, Contactor size S0: 1 NO + 1 NC

Size	Standard three-ph motor 4- 400 V AG	ase	Adjustable current response value of the	Comprising single devi	g the followir ces	ng	Fuseless load feeder		PU (UNIT, SET, M)	PS*	PG
	Standard output P	Motor current I (guide value)	inverse-time delayed overload release	Motor starter protector	+ Contactor	+ Link module + Busbar adapter	Spring-loaded terminals				
	kW	А	G A				Article No.	Basic price per PU			

Type of coordination "2" at $I_{\rm q}$ = 150 kA at 400 V (also compatible with type of coordination "1") 3RV20

				3RV20	3RT20	3RA29	ToC 2			
S00	0.06 0.06 0.09	0.2 0.2 0.3	0.14 0.2 0.18 0.25 0.22 0.32	11-0BA20 11-0CA20 11-0DA20	15-2AP01	11-2AA00 + 8US1251- 5DT11	3RA2110-0BH15-1AP0 3RA2110-0CH15-1AP0 3RA2110-0DH15-1AP0	1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	0.09 0.12 0.18	0.3 0.4 0.6	0.28 0.4 0.35 0.5 0.45 0.63	11-0EA20 11-0FA20 11-0GA20			3RA2110-0EH15-1AP0 3RA2110-0FH15-1AP0 3RA2110-0GH15-1AP0	1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	0.18 0.25 0.37	0.6 0.85 1.1	0.55 0.8 0.7 1 0.9 1.25	11-0HA20 11-0JA20 11-0KA20			3RA2110-0HH15-1AP0 3RA2110-0JH15-1AP0 3RA2110-0KH15-1AP0	1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	0.55 0.75 0.75	1.5 1.9 1.9	1.1 1.6 1.4 2 1.8 2.5	11-1AA20 11-1BA20 11-1CA20			3RA2110-1AH15-1AP0 3RA2110-1BH15-1AP0 3RA2110-1CH15-1AP0	1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	1.1 1.5	2.7 3.6	2.2 3.2 2.8 4	11-1DA20 11-1EA20			3RA2110-1DH15-1AP0 3RA2110-1EH15-1AP0	1 1	1 unit 1 unit	41D 41D
S0	1.5 2.2 3 4 5.5	3.6 4.9 6.5 8.5 11.5	3.5 5 4.5 6.3 5.5 8 7 10 9 12.5	21-1FA20 21-1GA20 21-1HA20 21-1JA20 21-1KA20	24-2AP00	21-2AA00 + 8US1251- 5NT11 ³⁾	3RA2120-1FH24-0AP0 3RA2120-1GH24-0AP0 3RA2120-1HH24-0AP0 3RA2120-1H24-0AP0 3RA2120-1KH24-0AP0	1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41D 41D 41D 41D 41D
	7.5	15.5	10 16	21-4AA20	26-2AP00		3RA2120-4AH26-0AP0	1	1 unit	41D
	7.5 11 11 15 15	15.5 22 22 28 29 ⁴⁾	13 20 16 22 18 25 23 28 27 32	21-4BA20 21-4CA20 21-4DA20 21-4NA20 21-4EA20	27-2AP00		3RA2120-4BH27-0AP0 3RA2120-4CH27-0AP0 3RA2120-4DH27-0AP0 3RA2120-4NH27-0AP0 3RA2120-4EH27-0AP0	1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41D 41D 41D 41D 41D

Type of coordination "1" at $I_q = 150$ kA at 400 V

(motor	starter p	rotector	is compatible	with type of co	Dordination	2)					
S00		rs for lowe nation "2".	er outputs, see ta	able for type of				ToC 1			
	1.5 2.2 3	3.6 4.9 6.5	3.5 5 4.5 6.3 5.5 8	11-1FA20 11-1GA20 11-1HA20	15-2AP01	11-2AA00 + 8US1251- 5DT11	3RA2110-1FH15-1AP0 3RA2110-1GH15-1AP0 3RA2110-1HH15-1AP0		1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	4 5.5 7.5	8.5 11.5 15.5	7 10 9 12.5 10 16	11-1JA20 11-1KA20 11-4AA20	16-2AP01 17-2AP01 18-2AP01		3RA2110-1JH16-1AP0 3RA2110-1KH17-1AP0 3RA2110-4AH18-1AP0		1 1 1	1 unit 1 unit 1 unit	41D 41D 41D

¹⁾ Auxiliary switches, see "Accessories", page 8/45.

²⁾ The actual starting and rated data of the motor to be protected must be considered when selecting the units.

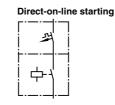
³⁾ A 3RA2911-1CA00 spacer for height compensation on AC contactors size S0 with spring-loaded terminals is included in the scope of supply.

⁴⁾ Suitable for use with IE3 and IE4 motors up to a starting current of 256 A. For higher starting currents we recommend using size S2.

3RA21 direct-on-line starters > for 60 mm busbars IE3/IE4 ready







Rated control supply voltage 24 V DC With screw terminals

- With busbar adapter
- The motor starter protector and contactor are mechanically and electrically connected by means
- Auxiliary switches¹⁾ can easily be fitted on the motor starter protector and the contactor thanks to the modular system.
- Integrated auxiliary switches: Contactor size S00: 1 NO,

Contactor sizes S0 and S2: 1 NO + 1 NC

Size	Standard three-ph motor 4- 400 V AG	iase	Adjustable current response value of the inverse-time		Comprising the following single devices Motor + Contactor + Link			Fuseless load feeder		PU (UNIT, SET, M)	PS*	PG
	Standard output P	Motor current I (guide value)	delayed	Motor starter protector	+ Contactor	+ Link module + Busbar adapter		Screw terminals				
	kW	А	了 A					Article No.	Basic price per PU			

Type of coordination "2" at $I_0 = 150$ kA at 400 V

(also d	compatibl	e with ty	pe of coordinat	ion "1")				
				3RV20	3RT20	3RA	ToC 2	
S00	0.06 0.06 0.09	0.2 0.2 0.3	0.14 0.2 0.18 0.25 0.22 0.32	11-0BA10 11-0CA10 11-0DA10	15-1BB41	1921-1DA00 + 8US1251- 5DS10	3RA2110-0BD15-1BB4 3RA2110-0CD15-1BB4 3RA2110-0DD15-1BB4	1 1 unit 41D 1 1 unit 41D 1 1 unit 41D
	0.09 0.12 0.18	0.3 0.4 0.6	0.28 0.4 0.35 0.5 0.45 0.63	11-0EA10 11-0FA10 11-0GA10			3RA2110-0ED15-1BB4 3RA2110-0FD15-1BB4 3RA2110-0GD15-1BB4	1 1 unit 41D 1 1 unit 41D 1 1 unit 41D
	0.18 0.25 0.37	0.6 0.85 1.1	0.55 0.8 0.7 1 0.9 1.25	11-0HA10 11-0JA10 11-0KA10			3RA2110-0HD15-1BB4 3RA2110-0JD15-1BB4 3RA2110-0KD15-1BB4	1 1 unit 41D 1 1 unit 41D 1 1 unit 41D
	0.55 0.75 0.75	1.5 1.9 1.9	1.1 1.6 1.4 2 1.8 2.5	11-1AA10 11-1BA10 11-1CA10			3RA2110-1AD15-1BB4 3RA2110-1BD15-1BB4 3RA2110-1CD15-1BB4	1 1 unit 41D 1 1 unit 41D 1 1 unit 41D
	1.1 1.5	2.7 3.6	2.2 3.2 2.8 4	11-1DA10 11-1EA10			3RA2110-1DD15-1BB4 3RA2110-1ED15-1BB4	1 1 unit 41D 1 1 unit 41D
S0	1.5 2.2 3 4 5.5	3.6 4.9 6.5 8.5 11.5	3.5 5 4.5 6.3 5.5 8 7 10 9 12.5	11-1FA10 11-1GA10 11-1HA10 11-1JA10 11-1KA10	24-1BB40	2921-1BA00 + 8US1251- 5DT10	3RA2120-1FD24-0BB4 3RA2120-1GD24-0BB4 3RA2120-1HD24-0BB4 3RA2120-1JD24-0BB4 3RA2120-1KD24-0BB4	1 1 unit 41D 1 1 unit 41D 1 1 unit 41D 1 1 unit 41D 1 1 unit 41D
	7.5 7.5 11 11 15	15.5 15.5 22 22 28 29 ³⁾	10 16 13 20 16 22 18 25 23 28 27 32	21-4AA10 21-4BA10 21-4CA10 21-4DA10 21-4NA10 21-4EA10	26-1BB40 27-1BB40	2921-1BA00 + 8US1251- 5NT10	3RA2120-4AD26-0BB4 3RA2120-4BD27-0BB4 3RA2120-4CD27-0BB4 3RA2120-4DD27-0BB4 3RA2120-4ND27-0BB4 3RA2120-4ED27-0BB4	1 1 unit 41D 1 1 unit 41D
S2	15 18.5 18.5 22 22	29 35 35 41 41	22 32 28 36 32 40 35 45 42 50	32-4EA10 32-4PA10 32-4UA10 32-4VA10 32-4WA10	35-1NB30 36-1NB30	2931-1AA00 + 8US1261- 6MT10	Size S2 is only available for custom	er assembly.
	30 30	55 55	49 59 54 65	32-4XA10 32-4JA10	37-1NB30			

Type of coordination "1" at I_q = 150 kA at 400 V (motor starter protector is compatible with type of coordination

32-4KA10

(1110101	otalitoi p	,, 0100101	io compandio	With type of ot	oramation	- /					
S00		rs for lowe nation "2".	er outputs, see to	able for type of				ToC 1			
	1.5 2.2 3	3.6 4.9 6.5	3.5 5 4.5 6.3 5.5 8	11-1FA10 11-1GA10 11-1HA10	15-1BB41	1921-1DA00 + 8US1251- 5DS10	3RA2110-1FD15-1BB4 3RA2110-1GD15-1BB4 3RA2110-1HD15-1BB4		1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	4 5.5 7.5	8.5 11.5 15.5	7 10 9 12.5 10 16	11-1JA10 11-1KA10 11-4AA10	16-1BB41 17-1BB41 18-1BB41		3RA2110-1JD16-1BB4 3RA2110-1KD17-1BB4 3RA2110-4AD18-1BB4		1 1 1	1 unit 1 unit 1 unit	41D 41D 41D

¹⁾ Auxiliary switches, see "Accessories", page 8/45.

²⁾ The actual starting and rated data of the motor to be protected must be considered when selecting the units.

³⁾ Suitable for use with IE3 and IE4 motors up to a starting current of 256 A. For higher starting currents we recommend using size \$2.

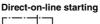
⁴⁾ Maximum permissible current setting at motor starter protector 65 A, as the maximum permissible current of the 3RA2931-1AA00 link module is 65 A.

AC-3e IE3/IE4 ready 3RA21 direct-on-line starters > for 60 mm busbars



3RA2110







Rated control supply voltage 24 V DC With spring-loaded terminals

- With busbar adapter
- The motor starter protector and contactor are mechanically and electrically connected by means of the link module.
- Auxiliary switches ¹⁾ can easily be fitted on the motor starter protector and the contactor thanks to the modular system.
- Integrated auxiliary switches: Contactor size S00: 1 NO, Contactor size S0: 1 NO + 1 NC

Size	Standar three-ph motor 4- 400 V A	ase pole at	Adjustable current response value of the		Comprising the following single devices Motor + Contactor + Link			Fuseless load feeder		PU (UNIT, SET, M)	PS*	PG
	Standard output P	Motor current I (guide value)	inverse-time delayed overload release	Motor starter protector	+ Contactor	+ Link module + Busbar adapter		Spring-loaded terminals				
	kW	Δ	<u></u>					Article No.	Basic price per PU			

Type of coordination "2" at I_{α} = 150	
(also compatible with type of coordina	ition "1")

				3RV20	3RT20	3RA29	ToC 2			
S00	0.06 0.06 0.09	0.2 0.2 0.3	0.14 0.2 0.18 0.25 0.22 0.32	11-0BA20 11-0CA20 11-0DA20	15-2BB41	11-2AA00 + 8US1251- 5DT11	3RA2110-0BH15-1BB4 3RA2110-0CH15-1BB4 3RA2110-0DH15-1BB4	1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	0.09 0.12 0.18	0.3 0.4 0.6	0.28 0.4 0.35 0.5 0.45 0.63	11-0EA20 11-0FA20 11-0GA20			3RA2110-0EH15-1BB4 3RA2110-0FH15-1BB4 3RA2110-0GH15-1BB4	1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	0.18 0.25 0.37	0.6 0.85 1.1	0.55 0.8 0.7 1 0.9 1.25	11-0HA20 11-0JA20 11-0KA20			3RA2110-0HH15-1BB4 3RA2110-0JH15-1BB4 3RA2110-0KH15-1BB4	1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	0.55 0.75 0.75	1.5 1.9 1.9	1.1 1.6 1.4 2 1.8 2.5	11-1AA20 11-1BA20 11-1CA20			3RA2110-1AH15-1BB4 3RA2110-1BH15-1BB4 3RA2110-1CH15-1BB4	1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	1.1 1.5	2.7 3.6	2.2 3.2 2.8 4	11-1DA20 11-1EA20			3RA2110-1DH15-1BB4 3RA2110-1EH15-1BB4	1 1	1 unit 1 unit	41D 41D
S0	1.5 2.2 3 4 5.5	3.6 4.9 6.5 8.5 11.5	3.5 5 4.5 6.3 5.5 8 7 10 9 12.5	21-1FA20 21-1GA20 21-1HA20 21-1JA20 21-1KA20	24-2BB40	21-2AA00 + 8US1251- 5NT11	3RA2120-1FH24-0BB4 3RA2120-1GH24-0BB4 3RA2120-1HH24-0BB4 3RA2120-1JH24-0BB4 3RA2120-1KH24-0BB4	1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41D 41D 41D 41D 41D
	7.5	15.5	10 16	21-4AA20	26-2BB40		3RA2120-4AH26-0BB4	1	1 unit	41D
	7.5 11 11 15 15	15.5 22 22 28 29 ³⁾	13 20 16 22 18 25 23 28 27 32	21-4BA20 21-4CA20 21-4DA20 21-4NA20 21-4EA20	27-2BB40		3RA2120-4BH27-0BB4 3RA2120-4CH27-0BB4 3RA2120-4DH27-0BB4 3RA2120-4NH27-0BB4 3RA2120-4EH27-0BB4	1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41D 41D 41D 41D 41D

Type of coordination "1" at $I_q = 150 \text{ kA}$ at 400 V

(motor	starter p	rotector	is compatible	with type of co							
S00		rs for lowe nation "2".	er outputs, see to	able for type of				ToC 1			
	1.5 2.2 3	3.6 4.9 6.5	3.5 5 4.5 6.3 5.5 8	11-1FA20 11-1GA20 11-1HA20	15-2BB41	11-2AA00 + 8US1251- 5DT11	3RA2110-1FH15-1BB4 3RA2110-1GH15-1BB4 3RA2110-1HH15-1BB4		1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	4 5.5 7.5	8.5 11.5 15.5	7 10 9 12.5 10 16	11-1JA20 11-1KA20 11-4AA20	16-2BB41 17-2BB41 18-2BB40		3RA2110-1JH16-1BB4 3RA2110-1KH17-1BB4 3RA2110-4AH18-1BB4		1 1 1	1 unit 1 unit 1 unit	41D 41D 41D

¹⁾ Auxiliary switches, see "Accessories", page 8/45.

²⁾ The actual starting and rated data of the motor to be protected must be considered when selecting the units.

³⁾ Suitable for use with IE3 and IE4 motors up to a starting current of 256 A. For higher starting currents we recommend using size S2.

3RA22 reversing starters > for DIN-rail mounting or screw fixing IE3/IE4 ready

Selection and ordering data



3RA2210



3RA2220

Reversing operation



Rated control supply voltage 50/60 Hz 230 V AC for S00, 50 Hz 230 V AC for S0, S2 and S3

With screw terminals

- Screw fixing with two push-in lugs per load feeder possible¹⁾
- Without DIN-rail adapter for size S00
- With 2 DIN-rail adapters for size S0 for mechanical reinforcement (included in the scope of supply)
- The motor starter protector and contactor are mechanically and electrically connected by means
- of the link module.

 Auxiliary switches²⁾ can easily be fitted on the motor starter protector and the contactor thanks to the modular system.
- With contactor sizes S0, S2 and S3, an integrated
- NO contact is still available for free use.

Size	Standard three-ph motor 4- 400 V AC	ase	Adjustable current response value of the inverse-time	Comprising single devi	the followir	ng	Fuseless load feeder		PU (UNIT, SET, M)	PS*	PG
	Standard output P	Motor current I (guide value)	delayed	Motor starter protector	+ 2 contactors	+ Link module + Assembly kit RH ⁴⁾ /wiring kit	Screw terminals	1			
	kW	A	引				Article No.	Basic price per PU			

Type of coordination "2" at I_q = 150 kA at 400 V (also compatible with type of coordination "1")

(4100	ompatib	o with ty	pe oi coolulla	,						
				3RV20	3RT20	3RA	ToC 2			
S00	0.06 0.06 0.09	0.2 0.2 0.3	0.14 0.2 0.18 0.25 0.22 0.32	11-0BA10 11-0CA10 11-0DA10	15-1AP02	1921-1DA00 + 2913-2AA1	3RA2210-0BA15-2AP0 3RA2210-0CA15-2AP0 3RA2210-0DA15-2AP0	1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	0.09 0.12 0.18	0.3 0.4 0.6	0.28 0.4 0.35 0.5 0.45 0.63	11-0EA10 11-0FA10 11-0GA10			3RA2210-0EA15-2AP0 3RA2210-0FA15-2AP0 3RA2210-0GA15-2AP0	1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	0.18 0.25 0.37	0.6 0.85 1.1	0.55 0.8 0.7 1 0.9 1.25	11-0HA10 11-0JA10 11-0KA10			3RA2210-0HA15-2AP0 3RA2210-0JA15-2AP0 3RA2210-0KA15-2AP0	1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	0.55 0.75 0.75	1.5 1.9 1.9	1.1 1.6 1.4 2 1.8 2.5	11-1AA10 11-1BA10 11-1CA10			3RA2210-1AA15-2AP0 3RA2210-1BA15-2AP0 3RA2210-1CA15-2AP0	1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	1.1 1.5	2.7 3.6	2.2 3.2 2.8 4	11-1DA10 11-1EA10			3RA2210-1DA15-2AP0 3RA2210-1EA15-2AP0	1 1	1 unit 1 unit	41D 41D
S0	1.5 2.2 3 4 5.5	3.6 4.9 6.5 8.5 11.5	3.5 5 4.5 6.3 5.5 8 7 10 9 12.5	11-1FA10 11-1GA10 11-1HA10 11-1JA10 11-1KA10	24-1AP00	2921-1AA00 + 2923-1BB1	3RA2220-1FB24-0AP0 3RA2220-1GB24-0AP0 3RA2220-1HB24-0AP0 3RA2220-1JB24-0AP0 3RA2220-1KB24-0AP0	1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41D 41D 41D 41D 41D
	7.5	15.5	10 16	21-4AA10	26-1AP00		3RA2220-4AB26-0AP0	1	1 unit	41D
	7.5 11 11 15 15	15.5 22 22 28 29 ⁵⁾	13 20 16 22 18 25 23 28 27 32	21-4BA10 21-4CA10 21-4DA10 21-4NA10 21-4EA10	27-1AP00		3RA2220-4BB27-0AP0 3RA2220-4CB27-0AP0 3RA2220-4DB27-0AP0 3RA2220-4NB27-0AP0 3RA2220-4EB27-0AP0	1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41D 41D 41D 41D 41D
S2	15 18.5 18.5 22 22	29 35 35 41 41	22 32 28 36 32 40 35 45 42 50	32-4EA10 32-4PA10 32-4UA10 32-4VA10 32-4WA10	35-1AP00 36-1AP00	2931-1AA00 + 2933-1BB1	Size S2 is only available for custom	er assembly	·.	
	30 30	55 55	49 59 54 65	32-4XA10 32-4JA10	37-1AP00					
	37 ⁶⁾	66	62 73	32-4KA10	38-1AP00					

Size S3 available on request

1) Push-in lugs, see "Accessories", page 8/52.

²⁾ Auxiliary switches, see "Accessories", page 8/45.

³⁾ The actual starting and rated data of the motor to be protected must be considered when selecting the units.

⁴⁾ RH = Mounting kit for reversing operation and DIN-rail mounting in sizes S0 and S2.

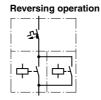
Size S3 is only available for customer assembly

⁵⁾ Suitable for use with IE3 and IE4 motors up to a starting current of 256 A. For higher starting currents we recommend using size S2.

⁶⁾ Maximum permissible current setting at motor starter protector 65 A, as the maximum permissible current of the 3RA2931-1AA00 link module is 65 A.

AC-3e IE3/IE4 ready 3RA22 reversing starters > for DIN-rail mounting or screw fixing





Rated control supply voltage 50/60 Hz 230 V AC for S00, 50 Hz 230 V AC for S0 With screw terminals

- Screw fixing with two push-in lugs per load feeder possible¹⁾
- Without DIN-rail adapter for size S00
- The motor starter protector and contactor are mechanically and electrically connected by means of the link module
- of the link module.
 Auxiliary switches²) can easily be fitted on the motor starter protector and the contactor thanks to the modular system.

Size	Standard three-phas motor 4-pc 400 V AC ³	ole at	Adjustable current response value of the inverse-time	Comprising single device		ng	Fuseless load feeder		PU (UNIT, SET, M)	PS*	PG
	P ' (delayed overload release	Motor starter protector	+ 2 contactors	+ Link module + RH mounting kit ⁴ /wiring kit	Screw terminals	+			
	kW A	A	日 A				Article No.	Basic price per PU			

	r starter protector is compatible with type of coordination "2")	
	3RV20 3RT20 3RA	ToC 1
S00	Feeders for lower outputs, see table for type of coordination "2" on the previous page.	

-										
S00			er outputs, see to on the previous							
	1.5 2.2 3	3.6 4.9 6.5	3.5 5 4.5 6.3 5.5 8	11-1FA10 11-1GA10 11-1HA10	15-1AP02	1921-1DA00 + 2913-2AA1	3RA2210-1FA15-2AP0 3RA2210-1GA15-2AP0 3RA2210-1HA15-2AP0	1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	4 5.5 7.5	8.5 11.5 15.5	7 10 9 12.5 10 16	11-1JA10 11-1KA10 11-4AA10	16-1AP02 17-1AP02 18-1AP02		3RA2210-1JA16-2AP0 3RA2210-1KA17-2AP0 3RA2210-4AA18-2AP0	1 1 1	1 unit 1 unit 1 unit	41D 41D 41D

¹⁾ Push-in lugs, see "Accessories", page 8/52.

Type of coordination "1" at $I_{\rm c} = 150$ kA at 400 V

²⁾ Auxiliary switches, see "Accessories", page 8/45.

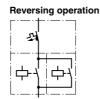
³⁾ The actual starting and rated data of the motor to be protected must be considered when selecting the units.

⁴⁾ RH = Mounting kit for reversing operation and DIN-rail mounting in sizes S0 and S2.

3RA22 reversing starters > for DIN-rail mounting or screw fixing IE3/IE4 ready







Rated control supply voltage 50/60 Hz 230 V AC for S00, 50 Hz 230 V AC for S0 With spring-loaded terminals

- Screw fixing with two push-in lugs per load feeder possible¹⁾
- Without DIN-rail adapter for size S00
- With two DIN-rail adapters for size S0 for mechanical reinforcement (included in the scope of supply)
- The motor starter protector and contactor are mechanically and electrically connected by means
- of the link module.

 Auxiliary switches²⁾ can easily be fitted on the motor starter protector and the contactor thanks to the modular system.
- With the contactor S0, an integrated NO contact is still available for free use.

Size	Standard three-ph motor 4- 400 V AC	ase pole at	Adjustable current response value of the	Comprising single devi	the followi ces	ng	Fuseless load feeder		PU (UNIT, SET, M)	PS*	PG
	Standard output P	Motor current I (guide value)	inverse-time delayed overload release	Motor starter protector	+ 2 contactors	+ Link module + RH mounting kit ⁴⁾ /wiring kit	Spring-loaded terminals				
	1.147		<u></u>				Article No.	Basic price			

Type of coordination "2" at $I_{\rm q}$ = 150 kA at 400 V (also compatible with type of coordination "1")

				3RV20	3RT20	3RA29	ToC 2			
S00	0.06 0.06 0.09	0.2 0.2 0.3	0.14 0.2 0.18 0.25 0.22 0.32	11-0BA20 11-0CA20 11-0DA20	15-2AP02	11-2AA00 + 2913-2AA2	3RA2210-0BE15-2AP0 3RA2210-0CE15-2AP0 3RA2210-0DE15-2AP0	1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	0.09 0.12 0.18	0.3 0.4 0.6	0.28 0.4 0.35 0.5 0.45 0.63	11-0EA20 11-0FA20 11-0GA20			3RA2210-0EE15-2AP0 3RA2210-0FE15-2AP0 3RA2210-0GE15-2AP0	1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	0.18 0.25 0.37	0.6 0.85 1.1	0.55 0.8 0.7 1 0.9 1.25	11-0HA20 11-0JA20 11-0KA20			3RA2210-0HE15-2AP0 3RA2210-0JE15-2AP0 3RA2210-0KE15-2AP0	1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	0.55 0.75 0.75	1.5 1.9 1.9	1.1 1.6 1.4 2 1.8 2.5	11-1AA20 11-1BA20 11-1CA20			3RA2210-1AE15-2AP0 3RA2210-1BE15-2AP0 3RA2210-1CE15-2AP0	1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	1.1 1.5	2.7 3.6	2.2 3.2 2.8 4	11-1DA20 11-1EA20			3RA2210-1DE15-2AP0 3RA2210-1EE15-2AP0	1 1	1 unit 1 unit	41D 41D
S0	1.5 2.2 3 4 5.5	3.6 4.9 6.5 8.5 11.5	3.5 5 4.5 6.3 5.5 8 7 10 9 12.5	21-1FA20 21-1GA20 21-1HA20 21-1JA20 21-1KA20	24-2AP00	21-2AA00 + 2923- 1BB2 ⁵⁾	3RA2220-1FF24-0AP0 3RA2220-1GF24-0AP0 3RA2220-1HF24-0AP0 3RA2220-1JF24-0AP0 3RA2220-1KF24-0AP0	1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41D 41D 41D 41D 41D
	7.5	15.5	10 16	21-4AA20	26-2AP00		3RA2220-4AF26-0AP0	1	1 unit	41D
	7.5 11 11 15 15	15.5 22 22 28 29 ⁶⁾	13 20 16 22 18 25 23 28 27 32	21-4BA20 21-4CA20 21-4DA20 21-4NA20 21-4EA20	27-2AP00		3RA2220-4BF27-0AP0 3RA2220-4CF27-0AP0 3RA2220-4DF27-0AP0 3RA2220-4NF27-0AP0 3RA2220-4EF27-0AP0	1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41D 41D 41D 41D 41D

Type of coordination "1" at I_q = 150 kA at 400 V (motor starter protector is compatible with type of coordination "2"

(1110101	otal tol p	ders for lower outputs, see table for type of		- /							
S00		rs for lowe nation "2".		able for type of				ToC 1			
	1.5 2.2 3	3.6 4.9 6.5	3.5 5 4.5 6.3 5.5 8	11-1FA20 11-1GA20 11-1HA20	15-2AP02	11-2AA00 + 2913-2AA2	3RA2210-1FE15-2AP0 3RA2210-1GE15-2AP0 3RA2210-1HE15-2AP0		1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	4 5.5 7.5	8.5 11.5 15.5	7 10 9 12.5 10 16	11-1JA20 11-1KA20 11-4AA20	16-2AP02 17-2AP02 18-2AP02		3RA2210-1JE16-2AP0 3RA2210-1KE17-2AP0 3RA2210-4AE18-2AP0		1 1 1	1 unit 1 unit 1 unit	41D 41D 41D

¹⁾ Push-in lugs, see "Accessories", page 8/52.

²⁾ Auxiliary switches, see "Accessories", page 8/45.

³⁾ The actual starting and rated data of the motor to be protected must be considered when selecting the units.

⁴⁾ RH = Mounting kit for reversing operation and DIN-rail mounting in size S0.

⁵⁾ The RH mounting kit also includes the 3RA2911-1CA00 spacer for height compensation on AC contactors size S0 with spring-loaded terminals.

⁶⁾ Suitable for use with IE3 and IE4 motors up to a starting current of 256 A. For higher starting currents we recommend using size S2.

IE3/IE4 ready 3RA22 reversing starters > for DIN-rail mounting or screw fixing





Rated control supply voltage 24 V DC Reversing operation With screw terminals

- Screw fixing with two push-in lugs per load feeder possible 1)
- Without DIN-rail adapter for size S00
- With two DIN-rail adapters for size S0 for mechanical reinforcement (included in the scope of supply)
- The motor starter protector and contactor are mechanically and electrically connected by means
- of the link module.

 Auxiliary switches²⁾ can easily be fitted on the motor starter protector and the contactor thanks to the modular system.

per PU

With contactor sizes S0, S2 and S3, an integrated NO contact is still available for free use.



Standard

output P

three-phase

motor 4-pole at 400 V AC³⁾

Standard Motor

3RA2210

Size

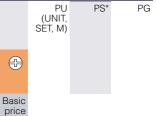
3RA2220

	ase pole at	Adjustable current response	Comprising single device	the followin	g
ł	Motor current I (guide	value of the inverse-time delayed overload release	Motor starter protector	+ 2 contactors	+ Link module + RH mounting kit ⁴⁾ /wiring kit

Screw terminals Article No.

Fuseless

load feeder



kW	Α	Α

value)

Ē	Гуре	of c	oordin	ation	"2"	at I_{α}	= 150) kA	at 40	0 V
			patible							

				3RV20	3RT20	3RA	ToC 2			
S00	0.06 0.06 0.09	0.2 0.2 0.3	0.14 0.2 0.18 0.25 0.22 0.32	11-0BA10 11-0CA10 11-0DA10	15-1BB42	1921-1DA00 + 2913-2AA1	3RA2210-0BA15-2BB4 3RA2210-0CA15-2BB4 3RA2210-0DA15-2BB4	1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	0.09 0.12 0.18	0.3 0.4 0.6	0.28 0.4 0.35 0.5 0.45 0.63	11-0EA10 11-0FA10 11-0GA10			3RA2210-0EA15-2BB4 3RA2210-0FA15-2BB4 3RA2210-0GA15-2BB4	1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	0.18 0.25 0.37	0.6 0.85 1.1	0.55 0.8 0.7 1 0.9 1.25	11-0HA10 11-0JA10 11-0KA10			3RA2210-0HA15-2BB4 3RA2210-0JA15-2BB4 3RA2210-0KA15-2BB4	1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	0.55 0.75 0.75	1.5 1.9 1.9	1.1 1.6 1.4 2 1.8 2.5	11-1AA10 11-1BA10 11-1CA10			3RA2210-1AA15-2BB4 3RA2210-1BA15-2BB4 3RA2210-1CA15-2BB4	1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	1.1 1.5	2.7 3.6	2.2 3.2 2.8 4	11-1DA10 11-1EA10			3RA2210-1DA15-2BB4 3RA2210-1EA15-2BB4	1 1	1 unit 1 unit	41D 41D
S0	1.5 2.2 3 4 5.5	3.6 4.9 6.5 8.5 11.5	3.5 5 4.5 6.3 5.5 8 7 10 9 12.5	11-1FA10 11-1GA10 11-1HA10 11-1JA10 11-1KA10	24-1BB40	2921-1BA00 + 2923-1BB1	3RA2220-1FB24-0BB4 3RA2220-1GB24-0BB4 3RA2220-1HB24-0BB4 3RA2220-1JB24-0BB4 3RA2220-1KB24-0BB4	1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41D 41D 41D 41D 41D
	7.5	15.5	10 16	21-4AA10	26-1BB40		3RA2220-4AB26-0BB4	1	1 unit	41D
	7.5 11 11 15 15	15.5 22 22 28 29 ⁵⁾	13 20 16 22 18 25 23 28 27 32	21-4BA10 21-4CA10 21-4DA10 21-4NA10 21-4EA10	27-1BB40		3RA2220-4BB27-0BB4 3RA2220-4CB27-0BB4 3RA2220-4DB27-0BB4 3RA2220-4NB27-0BB4 3RA2220-4EB27-0BB4	1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41D 41D 41D 41D 41D
S2	15 18.5 18.5 22 22	29 35 35 41 41	22 32 28 36 32 40 35 45 42 50	32-4EA10 32-4PA10 32-4UA10 32-4VA10 32-4WA10	35-1NB30 36-1NB30	2931-1AA00 + 2933-1BB1	Size S2 is only available for custom	er assembly.		
	30 30 37 ⁶⁾	55 55 66	49 59 54 65 62 73	32-4XA10 32-4JA10 32-4KA10	37-1NB30 38-1NB30					
	0: 0:						0: 00: 1 "11.			

S3 Size S3 available on request Size S3 is only available for customer assembly.

¹⁾ Push-in lugs, see "Accessories", page 8/52.

²⁾ Auxiliary switches, see "Accessories", page 8/45.

³⁾ The actual starting and rated data of the motor to be protected must be considered when selecting the units.

 $^{^{4)}\,}$ RH = Mounting kit for reversing operation and DIN-rail mounting in sizes S0 and S2.

⁵⁾ Suitable for use with IE3 and IE4 motors up to a starting current of 256 A. For higher starting currents we recommend using size S2.

⁶⁾ Maximum permissible current setting at motor starter protector 65 A, as the maximum permissible current of the 3RA2931-1AA00 link module is 65 A.

3RA22 reversing starters > for DIN-rail mounting or screw fixing | IE3/IE4 ready



Reversing operation

Rated control supply voltage 24 V DC With screw terminals

- Screw fixing with two push-in lugs per load feeder possible 1)
- Without DIN-rail adapter for size S00
- The motor starter protector and contactor are mechanically and electrically connected by means
- of the link module.

 Auxiliary switches²⁾ can easily be fitted on the motor starter protector and the contactor thanks to the modular system.

Size	Standar three-ph motor 4 400 V A	nase	Adjustable current response value of the inverse-time	Comprising single devi	g the followir ces	ng	Fuseless load feeder		PU (UNIT, SET, M)	PS*	PG
	Standard output P		delayed overload release	Motor starter protector	+ 2 contactors	+ Link module + wiring kit	Screw terminals	+			
	kW	Α	G A				Article No.	Basic price per PU			

Type o	f coordination	"1" at 1	$I_{\rm cl} = 150$	kA at 400	٧
/		. :	and the land	لم مصنية ملقاني	

(motor starter protector is compatible with type of coordination "2")

				3HV20	3H120	ЗНА		ToC 1			
S00			er outputs, see on the previous		f						
	1.5 2.2 3	3.6 4.9 6.5	3.5 5 4.5 6.3 5.5 8	11-1FA10 11-1GA10 11-1HA10	15-1BB42	1921-1DA00 + 2913-2AA1	3RA2210-1FA15-2BB4 3RA2210-1GA15-2BB4 3RA2210-1HA15-2BB4		1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	4 5.5 7.5	8.5 11.5 15.5	7 10 9 12.5 10 16	11-1JA10 11-1KA10 11-4AA10	16-1BB42 17-1BB42 18-1BB42		3RA2210-1JA16-2BB4 3RA2210-1KA17-2BB4 3RA2210-4AA18-2BB4		1 1 1	1 unit 1 unit 1 unit	41D 41D 41D

¹⁾ Push-in lugs, see "Accessories", page 8/52.

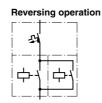
²⁾ Auxiliary switches, see "Accessories", page 8/45.

³⁾ The actual starting and rated data of the motor to be protected must be considered when selecting the units.

AC-3e IE3/IE4 ready 3RA22 reversing starters > for DIN-rail mounting or screw fixing







Rated control supply voltage 24 V DC With spring-loaded terminals

- Screw fixing with two push-in lugs per load feeder possible 1)
- Without DIN-rail adapter for size S00
- With two DIN-rail adapters for size S0 for mechanical reinforcement (included in the scope of supply)
- The motor starter protector and contactor are mechanically and electrically connected by means of the link module.
- of the link module.
 Auxiliary switches²) can easily be fitted on the motor starter protector and the contactor thanks to the modular system.
- With the contactor S0, an integrated NO contact is still available for free use.

Size	Standard three-ph motor 4- 400 V A	ase pole at	Adjustable current response value of the	Comprising single devi	g the following the second ces	ng	Fuseless load feeder		PU (UNIT, SET, M)	PS*	PG
	Standard output P	Motor current I (guide value)	inverse-time delayed overload release	Motor starter protector	+ 2 contactors	+ Link module + RH mounting kit ⁴⁾ /wiring kit	Spring-loaded terminals	•••			
	kW	А	日 A				Article No.	Basic price per PU			
Type of	of coordin compatible	ation "2 with typ	t " at $I_{ m q}$ = 150 l e of coordinati	kA at 400 V on "1")							
				3BV20	3RT20	3BA29		ToC			

Type (also c	of coordi compatible	nation ' e with ty	' 2" at I_q = 150 pe of coordinat	kA at 400 V tion "1")	′						
				3RV20	3RT20	3RA29		ToC 2			
S00	0.06 0.06 0.09	0.2 0.2 0.3	0.14 0.2 0.18 0.25 0.22 0.32	11-0BA20 11-0CA20 11-0DA20	15-2BB42	11-2AA00 + 2913-2AA2	3RA2210-0BE15-2BB4 3RA2210-0CE15-2BB4 3RA2210-0DE15-2BB4		1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	0.09 0.12 0.18	0.3 0.4 0.6	0.28 0.4 0.35 0.5 0.45 0.63	11-0EA20 11-0FA20 11-0GA20			3RA2210-0EE15-2BB4 3RA2210-0FE15-2BB4 3RA2210-0GE15-2BB4		1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	0.18 0.25 0.37	0.6 0.85 1.1	0.55 0.8 0.7 1 0.9 1.25	11-0HA20 11-0JA20 11-0KA20			3RA2210-0HE15-2BB4 3RA2210-0JE15-2BB4 3RA2210-0KE15-2BB4		1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	0.55 0.75 0.75	1.5 1.9 1.9	1.1 1.6 1.4 2 1.8 2.5	11-1AA20 11-1BA20 11-1CA20			3RA2210-1AE15-2BB4 3RA2210-1BE15-2BB4 3RA2210-1CE15-2BB4		1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	1.1 1.5	2.7 3.6	2.2 3.2 2.8 4	11-1DA20 11-1EA20			3RA2210-1DE15-2BB4 3RA2210-1EE15-2BB4		1 1	1 unit 1 unit	41D 41D
S0	1.5 2.2 3 4 5.5	3.6 4.9 6.5 8.5 11.5	3.5 5 4.5 6.3 5.5 8 7 10 9 12.5	21-1FA20 21-1GA20 21-1HA20 21-1JA20 21-1KA20	24-2BB40	21-2AA00 + 2923-1BB2	3RA2220-1FF24-0BB4 3RA2220-1GF24-0BB4 3RA2220-1HF24-0BB4 3RA2220-1JF24-0BB4 3RA2220-1KF24-0BB4		1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41D 41D 41D 41D 41D
	7.5 7.5 11 11 15	15.5 15.5 22 22 28 29 ⁵⁾	10 16 13 20 16 22 18 25 23 28 27 32	21-4AA20 21-4BA20 21-4CA20 21-4DA20 21-4NA20 21-4EA20	26-2BB40 27-2BB40		3RA2220-4AF26-0BB4 3RA2220-4BF27-0BB4 3RA2220-4CF27-0BB4 3RA2220-4DF27-0BB4 3RA2220-4FF27-0BB4 3RA2220-4FF27-0BB4		1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41D 41D 41D 41D 41D 41D

Type of coordination "1" at I_g = 150 kA at 400 V	
(motor starter protector is compatible with type of coordination	h '

(motor	starter p	rotector	is compatible	with type of c	coordination	2)					
S00		rs for lowe nation "2".	er outputs, see t	table for type of				ToC 1			
	1.5 2.2 3	3.6 4.9 6.5	3.5 5 4.5 6.3 5.5 8	11-1FA20 11-1GA20 11-1HA20	15-2BB42	11-2AA00 + 2913-2AA2	3RA2210-1FE15-2BB4 3RA2210-1GE15-2BB4 3RA2210-1HE15-2BB4		1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	4 5.5 7.5	8.5 11.5 15.5	7 10 9 12.5 10 16	11-1JA20 11-1KA20 11-4AA20	16-2BB42 17-2BB42 18-2BB42		3RA2210-1JE16-2BB4 3RA2210-1KE17-2BB4 3RA2210-4AE18-2BB4		1 1 1	1 unit 1 unit 1 unit	41D 41D 41D

¹⁾ Push-in lugs, see "Accessories", page 8/52.

²⁾ Auxiliary switches, see "Accessories", page 8/45.

³⁾ The actual starting and rated data of the motor to be protected must be considered when selecting the units.

⁴⁾ RH = Mounting kit for reversing operation and DIN-rail mounting in size S0.

⁵⁾ Suitable for use with IE3 and IE4 motors up to a starting current of 256 A. For higher starting currents we recommend using size S2.

3RA22 reversing starters > for 60 mm busbars IE3/IE4 ready AC-36

Selection and ordering data





Reversing operation

Rated control supply voltage 50/60 Hz 230 V AC for S00, 50 Hz 230 V AC for S0 and S2 With screw terminals

- With busbar adapter and device holder (included in the scope of supply)
- The motor starter protector and contactor are mechanically and electrically connected by means of the link module.
 Auxiliary switches¹⁾ can easily be fitted on the motor starter
- Auxiliary switches¹⁾ can easily be fitted on the motor starter protector and the contactor thanks to the modular system.
- With contactor sizes S0 and S2, an integrated NO contact is still available for free use.

S	Size	Standard three-ph motor 4- 400 V AC	ase	Adjustable current response value of the inverse-time	Comprising single device	the followir	ng	Fuseless load feeder		PU (UNIT, SET, M)	PS*	PG
		Standard output P		delayed	Motor starter protector	+ 2 contactors	+ Link module + RS mounting kit ³ /wiring kit	Screw terminals				
		kW	А	了 A				Article No.	Basic price per PU			

Type of coordination "2" at I_c	₁ = 150 kA at 400 V
(also compatible with type of co	ordination "1")

				3RV20	3RT20	3RA	ToC 2]		
S00	0.06 0.06 0.09	0.2 0.2 0.3	0.14 0.2 0.18 0.25 0.22 0.32	11-0BA10 11-0CA10 11-0DA10	15-1AP02	1921-1DA00 + 2913-1DB1	3RA2210-0BD15-2AP0 3RA2210-0CD15-2AP0 3RA2210-0DD15-2AP0	1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	0.09 0.12 0.18	0.3 0.4 0.6	0.28 0.4 0.35 0.5 0.45 0.63	11-0EA10 11-0FA10 11-0GA10			3RA2210-0ED15-2AP0 3RA2210-0FD15-2AP0 3RA2210-0GD15-2AP0	1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	0.18 0.25 0.37	0.6 0.85 1.1	0.55 0.8 0.7 1 0.9 1.25	11-0HA10 11-0JA10 11-0KA10			3RA2210-0HD15-2AP0 3RA2210-0JD15-2AP0 3RA2210-0KD15-2AP0	1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	0.55 0.75 0.75	1.5 1.9 1.9	1.1 1.6 1.4 2 1.8 2.5	11-1AA10 11-1BA10 11-1CA10			3RA2210-1AD15-2AP0 3RA2210-1BD15-2AP0 3RA2210-1CD15-2AP0	1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	1.1 1.5	2.7 3.6	2.2 3.2 2.8 4	11-1DA10 11-1EA10			3RA2210-1DD15-2AP0 3RA2210-1ED15-2AP0	1 1	1 unit 1 unit	41D 41D
S0	1.5 2.2 3 4 5.5	3.6 4.9 6.5 8.5 11.5	3.5 5 4.5 6.3 5.5 8 7 10 9 12.5	11-1FA10 11-1GA10 11-1HA10 11-1JA10 11-1KA10	24-1AP00	2921-1AA00 + 2923-1DB1	3RA2220-1FD24-0AP0 3RA2220-1GD24-0AP0 3RA2220-1HD24-0AP0 3RA2220-1JD24-0AP0 3RA2220-1KD24-0AP0	1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41D 41D 41D 41D 41D
	7.5	15.5	10 16	21-4AA10	26-1AP00		3RA2220-4AD26-0AP0	1	1 unit	41D
	7.5 11 11 15 15	15.5 22 22 28 29 ⁴⁾	13 20 16 22 18 25 23 28 27 32	21-4BA10 21-4CA10 21-4DA10 21-4NA10 21-4EA10	27-1AP00		3RA2220-4BD27-0AP0 3RA2220-4CD27-0AP0 3RA2220-4DD27-0AP0 3RA2220-4ND27-0AP0 3RA2220-4ED27-0AP0	1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41D 41D 41D 41D 41D
S2	15 18.5 18.5 22	29 35 35 41	22 32 28 36 32 40 35 45	32-4EA10 32-4PA10 32-4UA10 32-4VA10	35-1AP00 36-1AP00	2931-1AA00 + 2933-1DB1	Size S2 is only available for custor	mer assembly	<i>(</i> .	

¹⁾ Auxiliary switches, see "Accessories", page 8/45.

41

55

55

22

30

30

37⁵⁾

42 ... 50

49 ... 59

54 ... 65

62 ... 73

32-4WA10

32-4XA10

32-4JA10

32-4KA10 38-1AP00

37-1AP00

²⁾ The actual starting and rated data of the motor to be protected must be considered when selecting the units.

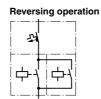
³⁾ RS = Mounting kit for reversing operation and busbar mounting.

⁴⁾ Suitable for use with IE3 and IE4 motors up to a starting current of 256 A. For higher starting currents we recommend using size S2.

⁵⁾ Maximum permissible current setting at motor starter protector 65 A, as the maximum permissible current of the 3RA2931-1AA00 link module is 65 A.

AC-3e IE3/IE4 ready 3RA22 reversing starters > for 60 mm busbars





Rated control supply voltage 50/60 Hz 230 V AC for S00 With screw terminals

- With busbar adapter and device holder (included in the scope of supply)
- The motor starter protector and contactor are mechanically and electrically connected by means of the link module.
- of the link module.
 Auxiliary switches¹⁾ can easily be fitted on the motor starter protector and the contactor thanks to the modular system.

Size	Standard three-ph motor 4- 400 V AC Standard	ase pole at C ²⁾ Motor	Adjustable current response value of the inverse-time delayed	single devi	+ 2	+ Link module	Fuseless load feeder Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
	P	(guide value)	overload release	starter protector	contactors	+ RS mounting kit ³⁾ /wiring kit					
			<u></u>				Article No.	Basic price			
	kW	Α	Α					per PU			

(motor starter protector is compatible with type of coordination "2

(. 0.00.10. 1		io companio	, p = =						
				3RV20	3RT20	3RA	ToC 1			
S00			er outputs, see to on the previous							
	1.5 2.2 3	3.6 4.9 6.5	3.5 5 4.5 6.3 5.5 8	11-1FA10 11-1GA10 11-1HA10	15-1AP02	1921-1DA00 + 2913-1DB1	3RA2210-1FD15-2AP0 3RA2210-1GD15-2AP0 3RA2210-1HD15-2AP0	1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	4 5.5 7.5	8.5 11.5 15.5	7 10 9 12.5 10 16	11-1JA10 11-1KA10 11-4AA10	16-1AP02 17-1AP02 18-1AP02		3RA2210-1JD16-2AP0 3RA2210-1KD17-2AP0 3RA2210-4AD18-2AP0	1 1 1	1 unit 1 unit 1 unit	41D 41D 41D

¹⁾ Auxiliary switches, see "Accessories", page 8/45.

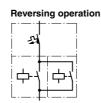
²⁾ The actual starting and rated data of the motor to be protected must be considered when selecting the units.

³⁾ RS = Mounting kit for reversing operation and busbar mounting.

3RA22 reversing starters > for 60 mm busbars IE3/IE4 ready







Rated control supply voltage 50/60 Hz 230 V AC for S00, 50 Hz 230 V AC for S0 With spring-loaded terminals

- With busbar adapter and device holder (included in the scope of supply)
- The motor starter protector and contactor are mechanically and electrically connected by means
- of the link module.

 Auxiliary switches 1) can easily be fitted on the motor starter protector and the contactor thanks to the modular system.
- With the contactor S0, an integrated NO contact is still

3RA2210	3RA2220					available for free use.					
Size	Standard three-phase motor 4-pole at 400 V AC ²		Adjustable current response value of the	Comprising the following single devices			Fuseless load feeder		PU (UNIT, SET, M)	PS*	PG
	Standard output P	Motor current I (guide value)	inverse-time delayed overload release	Motor starter protector	+ 2 contactors	+ Link module + RS mounting kit ³ /wiring kit	Spring-loaded terminals	•••			
	kW	Α	日 A				Article No.	Basic price per PU			
Type of	coordin	ation "2	." at I_q = 150 k e of coordination	A at 400 V				porro			
(33.33.33.33		71		3RV20	3RT20	3RA29		ToC 2			
S00	0.06 0.06 0.09	0.2 0.2 0.3	0.14 0.2 0.18 0.25 0.22 0.32	11-0BA20 11-0CA20 11-0DA20	15-2AP02	11-2AA00 + 13-1DB2	3RA2210-0BH15-2AP0 3RA2210-0CH15-2AP0 3RA2210-0DH15-2AP0		1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	0.09 0.12 0.18	0.3 0.4 0.6	0.28 0.4 0.35 0.5 0.45 0.63	11-0EA20 11-0FA20 11-0GA20			3RA2210-0EH15-2AP0 3RA2210-0FH15-2AP0 3RA2210-0GH15-2AP0		1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	0.18 0.25 0.37	0.6 0.85 1.1	0.55 0.8 0.7 1 0.9 1.25	11-0HA20 11-0JA20 11-0KA20			3RA2210-0HH15-2AP0 3RA2210-0JH15-2AP0 3RA2210-0KH15-2AP0		1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	0.55 0.75 0.75	1.5 1.9 1.9	1.1 1.6 1.4 2 1.8 2.5	11-1AA20 11-1BA20 11-1CA20			3RA2210-1AH15-2AP0 3RA2210-1BH15-2AP0 3RA2210-1CH15-2AP0		1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	1.1 1.5	2.7 3.6	2.2 3.2 2.8 4	11-1DA20 11-1EA20			3RA2210-1DH15-2AP0 3RA2210-1EH15-2AP0		1 1	1 unit 1 unit	41D 41D
S0	1.5 2.2 3 4 5.5	3.6 4.9 6.5 8.5 11.5	3.5 5 4.5 6.3 5.5 8 7 10 9 12.5	21-1FA20 21-1GA20 21-1HA20 21-1JA20 21-1KA20	24-2AP00	21-2AA00 + 23-1DB2 ⁴⁾	3RA2220-1FH24-0AP0 3RA2220-1GH24-0AP0 3RA2220-1HH24-0AP0 3RA2220-1JH24-0AP0 3RA2220-1KH24-0AP0		1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41D 41D 41D 41D 41D
	7.5 7.5	15.5 15.5	10 16 13 20	21-4AA20 21-4BA20	26-2AP00 27-2AP00		3RA2220-4AH26-0AP0 3RA2220-4BH27-0AP0		1 1	1 unit 1 unit	41D 41D
	11 11 15 15	22 22 28 29 ⁵⁾	16 22 18 25 23 28 27 32	21-4CA20 21-4DA20 21-4NA20 21-4EA20	27 27 11 00		3RA2220-4CH27-0AP0 3RA2220-4DH27-0AP0 3RA2220-4NH27-0AP0 3RA2220-4EH27-0AP0		1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41D 41D 41D 41D 41D
Type of (motor st	coordin tarter pro	ation "1 otector is	" at I_q = 150 k compatible wi	A at 400 V th type of c	oordination	"2")					
S00	Feeders coordina		outputs, see tab	le for type of				ToC 1			
	1.5 2.2 3	3.6 4.9 6.5	3.5 5 4.5 6.3 5.5 8	11-1FA20 11-1GA20 11-1HA20	15-2AP02	11-2AA00 + 13-1DB2	3RA2210-1FH15-2AP0 3RA2210-1GH15-2AP0 3RA2210-1HH15-2AP0		1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	4 5.5 7.5	8.5 11.5 15.5	7 10 9 12.5 10 16	11-1JA20 11-1KA20 11-4AA20	16-2AP02 17-2AP02 18-2AP02		3RA2210-1JH16-2AP0 3RA2210-1KH17-2AP0 3RA2210-4AH18-2AP0		1 1 1	1 unit 1 unit 1 unit	41D 41D 41D

^{15.5} 1) Auxiliary switches, see "Accessories", page 8/45.

²⁾ The actual starting and rated data of the motor to be protected must be considered when selecting the units.

³⁾ RS = Mounting kit for reversing operation and busbar mounting.

⁴⁾ The RS mounting kit also includes the 3RA2911-1CA00 spacer for height compensation on AC contactors size S0 with spring-loaded terminals.

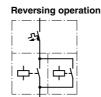
⁵⁾ Suitable for use with IE3 and IE4 motors up to a starting current of 256 A. For higher starting currents we recommend using size S2.

AC-3e IE3/IE4 ready 3RA22 reversing starters > for 60 mm busbars



3RA2210





Rated control supply voltage 24 V DC With screw terminals

- With busbar adapter and device holder (included in the scope of supply)
- The motor starter protector and contactor are mechanically and electrically connected by means of the link module.
- of the link module.
 Auxiliary switches¹⁾ can easily be fitted on the motor starter protector and the contactor thanks to the modular system.
- With contactor sizes S0 and S2, an integrated NO contact is still available for free use.

Size	Standard three-pha motor 4-p 400 V AC	ase oole at	Adjustable current response value of the inverse-time	Comprising single devi	the following th	ng	Fuseless load feeder		PU (UNIT, SET, M)	PS*	PG
	Standard output P	Motor current <i>I</i> (guide value)	delayed	Motor starter protector	+ 2 contactors	+ Link module + RS mounting kit ³⁾ /wiring kit	Screw terminals	+			
	kW	Δ	<u> </u>				Article No.	Basic price per PU			

	pordination			
(also comp	patible with ty	pe of cod	brdination	"1")

				3RV20	3RT20	3RA	ToC 2	
S00	0.06 0.06 0.09	0.2 0.2 0.3	0.14 0.2 0.18 0.25 0.22 0.32	11-0BA10 11-0CA10 11-0DA10	15-1BB42	1921-1DA00 + 2913-1DB1	3RA2210-0BD15-2BB4 3RA2210-0CD15-2BB4 3RA2210-0DD15-2BB4	1 1 unit 41D 1 1 unit 41D 1 1 unit 41D
	0.09 0.12 0.18	0.3 0.4 0.6	0.28 0.4 0.35 0.5 0.45 0.63	11-0EA10 11-0FA10 11-0GA10			3RA2210-0ED15-2BB4 3RA2210-0FD15-2BB4 3RA2210-0GD15-2BB4	1 1 unit 41D 1 1 unit 41D 1 1 unit 41D
	0.18 0.25 0.37	0.6 0.85 1.1	0.55 0.8 0.7 1 0.9 1.25	11-0HA10 11-0JA10 11-0KA10			3RA2210-0HD15-2BB4 3RA2210-0JD15-2BB4 3RA2210-0KD15-2BB4	1 1 unit 41D 1 1 unit 41D 1 1 unit 41D
	0.55 0.75 0.75	1.5 1.9 1.9	1.1 1.6 1.4 2 1.8 2.5	11-1AA10 11-1BA10 11-1CA10			3RA2210-1AD15-2BB4 3RA2210-1BD15-2BB4 3RA2210-1CD15-2BB4	1 1 unit 41D 1 1 unit 41D 1 1 unit 41D
	1.1 1.5	2.7 3.6	2.2 3.2 2.8 4	11-1DA10 11-1EA10			3RA2210-1DD15-2BB4 3RA2210-1ED15-2BB4	1 1 unit 41D 1 1 unit 41D
S0	1.5 2.2 3 4 5.5	3.6 4.9 6.5 8.5 11.5	3.5 5 4.5 6.3 5.5 8 7 10 9 12.5	11-1FA10 11-1GA10 11-1HA10 11-1JA10 11-1KA10	24-1BB40	2921-1BA00 + 2923-1DB1	3RA2220-1FD24-0BB4 3RA2220-1GD24-0BB4 3RA2220-1HD24-0BB4 3RA2220-1JD24-0BB4 3RA2220-1KD24-0BB4	1 1 unit 41D 1 1 unit 41D 1 1 unit 41D 1 1 unit 41D 1 1 unit 41D
	7.5 7.5 11 11 15	15.5 15.5 22 22 28 29 ⁴⁾	10 16 13 20 16 22 18 25 23 28 27 32	21-4AA10 21-4BA10 21-4CA10 21-4DA10 21-4NA10 21-4EA10	26-1BB40 27-1BB40		3RA2220-4AD26-0BB4 3RA2220-4BD27-0BB4 3RA2220-4CD27-0BB4 3RA2220-4DD27-0BB4 3RA2220-4ND27-0BB4 3RA2220-4ED27-0BB4	1 1 unit 41D 1 1 unit 41D
S2	15 18.5 18.5 22 22	29 35 35 41 41	22 32 28 36 32 40 35 45 42 50	32-4EA10 32-4PA10 32-4UA10 32-4VA10 32-4WA10	35-1NB30 36-1NB30	2931-1AA00 + 2933-1DB1	Size S2 is only available for custor	ner assembly.
	30 30 37 ⁵⁾	55 55 66	49 59 54 65 62 73	32-4XA10 32-4JA10 32-4KA10	37-1NB30 38-1NB30			

Type of coordination "1" at $I_q = 150$ kA at 400 V

(1110101	otalici p	notottoi	15 Companion	With type of o	ooranialion	-)					
S00		rs for lowe nation "2".	er outputs, see t	able for type of				ToC 1			
	1.5 2.2 3	3.6 4.9 6.5	3.5 5 4.5 6.3 5.5 8	11-1FA10 11-1GA10 11-1HA10	15-1BB42	1921-1DA00 + 2913-1DB1	3RA2210-1FD15-2BB4 3RA2210-1GD15-2BB4 3RA2210-1HD15-2BB4		1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	4 5.5 7.5	8.5 11.5 15.5	7 10 9 12.5 10 16	11-1JA10 11-1KA10 11-4AA10	16-1BB42 17-1BB42 18-1BB42		3RA2210-1JD16-2BB4 3RA2210-1KD17-2BB4 3RA2210-4AD18-2BB4		1 1 1	1 unit 1 unit 1 unit	41D 41D 41D

¹⁾ Auxiliary switches, see "Accessories", page 8/45.

²⁾ The actual starting and rated data of the motor to be protected must be considered when selecting the units.

³⁾ RS = Mounting kit for reversing operation and busbar mounting.

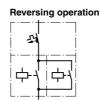
⁴⁾ Suitable for use with IE3 and IE4 motors up to a starting current of 256 A. For higher starting currents we recommend using size S2.

⁵⁾ Maximum permissible current setting at motor starter protector 65 A, as the maximum permissible current of the 3RA2931-1AA00 link module is 65 A.

3RA22 reversing starters > for 60 mm busbars IE3/IE4 ready AC-3e







Rated control supply voltage 24 V DC With spring-loaded terminals

- With busbar adapter and device holder (included in the scope of supply)
- The motor starter protector and contactor are mechanically and electrically connected by means
- of the link module.

 Auxiliary switches 1) can easily be fitted on the motor starter protector and the contactor thanks to the modular system.
- With the contactor S0, an integrated NO contact is still available for free use.

Size		e-phase current single devices or 4-pole at response value of the inverse-time Motor + 2					Fuseless load feeder		PU (UNIT, SET, M)	PS*	PG	
	Standard output P	d Motor current I (guide value)	alla Laccia al	Motor starter protector	+ 2 contactors	+ Link module + RS mounting kit ³⁾ /wiring kit		Spring-loaded terminals				
	kW	A	G					Article No.	Basic price per PU			
Type (of coordin	nation "2 with type	!" at I_q = 150 l e of coordinati	cA at 400 V on "1")								
		,		3RV20	3RT20	3RA29			ToC 2			
S00	0.06 0.06 0.09	0.2 0.2 0.3	0.14 0.2 0.18 0.25 0.22 0.32	11-0BA20 11-0CA20 11-0DA20	15-2BB42	11-2AA00 + 13-1DB2		3RA2210-0BH15-2BB4 3RA2210-0CH15-2BB4 3RA2210-0DH15-2BB4		1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	0.09 0.12 0.18	0.3 0.4 0.6	0.28 0.4 0.35 0.5 0.45 0.63	11-0EA20 11-0FA20 11-0GA20				3RA2210-0EH15-2BB4 3RA2210-0FH15-2BB4 3RA2210-0GH15-2BB4		1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	0.18 0.25 0.37	0.6 0.85 1.1	0.55 0.8 0.7 1 0.9 1.25	11-0HA20 11-0JA20 11-0KA20				3RA2210-0HH15-2BB4 3RA2210-0JH15-2BB4 3RA2210-0KH15-2BB4		1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	0.55 0.75 0.75	1.5 1.9 1.9	1.1 1.6 1.4 2 1.8 2.5	11-1AA20 11-1BA20 11-1CA20				3RA2210-1AH15-2BB4 3RA2210-1BH15-2BB4 3RA2210-1CH15-2BB4		1 1 1	1 unit 1 unit 1 unit	41D 41D 41D
	1.1 1.5	2.7 3.6	2.2 3.2 2.8 4	11-1DA20 11-1EA20				3RA2210-1DH15-2BB4 3RA2210-1EH15-2BB4		1 1	1 unit 1 unit	41D 41D
S0	1.5 2.2 3 4 5.5	3.6 4.9 6.5 8.5 11.5	3.5 5 4.5 6.3 5.5 8 7 10 9 12.5	21-1FA20 21-1GA20 21-1HA20 21-1JA20 21-1KA20	24-2BB40	21-2AA00 + 23-1DB2		3RA2220-1FH24-0BB4 3RA2220-1GH24-0BB4 3RA2220-1HH24-0BB4 3RA2220-1JH24-0BB4 3RA2220-1KH24-0BB4		1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41D 41D 41D 41D 41D
	7.5	15.5	10 16	21-4AA20	26-2BB40			3RA2220-4AH26-0BB4		1	1 unit	41D
	7.5 11 11 15 15	15.5 22 22 28 29 ⁴⁾	13 20 16 22 18 25 23 28 27 32	21-4BA20 21-4CA20 21-4DA20 21-4NA20 21-4EA20	27-2BB40			3RA2220-4BH27-0BB4 3RA2220-4CH27-0BB4 3RA2220-4DH27-0BB4 3RA2220-4NH27-0BB4 3RA2220-4EH27-0BB4		1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41D 41D 41D 41D 41D
			" at I_q = 150 I_q compatible w			ı "2")						
S00	Feeder		outputs, see tab						ToC 1			

3.6

4.9

6.5

8.5

11.5

1.5

2.2

3

4

5.5 7.5

3.5 ... 5

4.5 ... 6.3

5.5 ... 8

7 ... 10

9 ... 12.5 10 ... 16

11-1FA20

11-1GA20

11-1HA20

11-1JA20

11-1KA20

11-4AA20

15-2BB42 11-2AA00

16-2BB42

17-2BB42

18-2BB42

+ 13-1DB2

3RA2210-1FH15-2BB4

3RA2210-1GH15-2BB4

3RA2210-1HH15-2BB4

3RA2210-1JH16-2BB4

3RA2210-1KH17-2BB4

3RA2210-4AH18-2BB4

1 unit

1 unit

1 unit

1 unit

1 unit

1 unit

41D

41D

41D

41D

41D

41D

^{15.5} 1) Auxiliary switches, see "Accessories", page 8/45.

²⁾ The actual starting and rated data of the motor to be protected must be considered when selecting the units.

³⁾ RS = Mounting kit for reversing operation and busbar mounting.

⁴⁾ Suitable for use with IE3 and IE4 motors up to a starting current of 256 A. For higher starting currents we recommend using size \$2.

Accessories

Overview

The accessories listed here are parts and add-ons for the 3RA2 direct-on-line and reversing starters as well as

components for the customer assembly of fuseless load feeders.

Selection and ordering data

Accessories for motor starter protectors



 $\begin{array}{ll} PU \text{ (UNIT, SET, M)} &= 1 \\ PS^* &= 1 \text{ unit} \\ PG &= 41E \end{array}$

011V2301 1L	OTTVZ501 ZE	011V2301 171	01172301271				
Version		For motor starter protectors		Screw terminals	+	Spring-loaded terminals	8
				Article No.	Price per PU	Article No.	Price per PU
		Size					
Auxiliary switch	nes ¹⁾						
Transverse auxilia For front mounting	ry switches						
1 CO 1 NO + 1 NC		S00 S3		3RV2901-1D 3RV2901-1E		 3RV2901-2E	
2 NO				3RV2901-1F		3RV2901-2F	
Lateral auxiliary so For mounting on the							
1 NO + 1 NC		S00 S3		3RV2901-1A		3RV2901-2A	

Each motor starter protector can be fitted with one transverse and one lateral auxiliary switch. The lateral auxiliary switch with 2 NO + 2 NC is used without a transverse auxiliary switch.





PU (UNIT, SET, M) = 1 $PS^* = 1 \text{ unit}$ PG = 41E

3RV2902-1A	

3RV2902-2A

Rated c	Rated control supply voltage $U_{\rm S}$			For motor starter protectors	Scr	ew terminals	(1)	Spring-loaded terminals	<u></u>
AC 50 Hz	60 Hz 60 Hz 50/60 Hz 50/60 Hz, 100% OP ¹⁾ DC 5 s OP ²⁾		F		cle No.	Price per PU	Article No.	Price per PU	
V	V	V	V	Size					
Auxilia	ry releas	ses for moto	r starter pro	tectors ³⁾					
Underv	oltage rele	ases							
230	240			S00 S3	3RV	/2902-1AP0		3RV2902-2AP0	
Shunt r	eleases								
		210 240	190 330	S00 S3	3RV	/2902-1DP0		3RV2902-2DP0	

¹⁾ The voltage range is valid for 100% (infinite) ON period. The response voltage lies at 0.9 of the lower limit of the voltage range.

For the complete range of accessories for the motor starter protectors, see page 7/46 onwards.

²⁾ The voltage range is valid for 5 s ON period at 50/60 Hz AC and DC. The response voltage lies at 0.85 of the lower limit of the voltage range.

³⁾ One auxiliary release can be mounted on the right per motor starter protector (does not apply to 3RV21 motor starter protectors with overload relay function).

Accessories

Accessories for co	ntactors						
	For contactors	Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	Size						
Auxiliary switches	for snapping ont	to the front of contactors					
	Cable entry from	n below	Screw terminals	+			
3RH2911-1BA	S00 S3	1-pole - 1 NO - 1 NC	3RH2911-1BA10 3RH2911-1BA01		1 1	1 unit 1 unit	41B 41B
	S00 S3	2-pole - 1 NO + 1 NC - 2 NO	3RH2911-1MA11 3RH2911-1MA20		1 1	1 unit 1 unit	41B 41B
3RH2911-1MA							
Auxiliary switches	for contactors, fo	or lateral mounting					
3	,	J	Screw terminals				
2	S00 S00 S00	2 NC 1 NO + 1 NC 2 NO	3RH2911-1DA02 3RH2911-1DA11 3RH2911-1DA20		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
3RH2911-1DA	S0/S3 S0/S3 S0/S3	2 NC 1 NO + 1 NC 2 NO	3RH2921-1DA02 3RH2921-1DA11 3RH2921-1DA20		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
Shrize I I- IDA			Spring-loaded terminals				
	S00 S00 S00	2 NC 1 NO + 1 NC 2 NO	3RH2911-2DA02 3RH2911-2DA11 3RH2911-2DA20		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
3RH2911-2DA	S0/S3 S0/S3 S0/S3	2 NC 1 NO + 1 NC 2 NO	3RH2921-2DA02 3RH2921-2DA11 3RH2921-2DA20		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
Connection module		notor feeder connector) for contactors sed for direct-on-line starters)					
SIEMENS SIEMEN SIEMENS SIEMENS SIEMENS SIEMENS SIEMENS SIEMENS SIEMENS SIEMENS	feeder connecto	module comprises an adapter and a motor or.	Screw terminals				
and and streeting that a state of the state of	Adapters Ambient temper	ature $t_{\text{LLmax}} = 60 ^{\circ}\text{C}$					
3RT1926-4RD01	S00	Rated operational current I _e at AC-3 and AC-3e/400 V: 20 A	3RT1916-4RD01		1	1 unit	41B
5.11 1020 HID01	S0	Rated operational current I _e at AC-3 and AC-3e/400 V: 25 A	3RT1926-4RD01		1	1 unit	41B
8 6 65	Motor feeder co						
	S00, S0		3RT1900-4RE01		1	1 unit	41B
3RT1900-4RE01							

For the complete range of accessories for the 3RT contactors, see page 3/71 onwards.

		es

Version	Rated control	supply	Article No. ²⁾	Price	PU	PS*	PG
	voltage U _s ¹⁾			per PU	(UNIT, SET, M)		
	AC operation	DC operation					
ut LED for contacto		V DC	_				
rminals)	13						
00							
		tors					
Varistors	24 48	24 70	3RT2916-1BB00		1	1 unit	41B 41B
RC elements	24 48	24 70	3RT2916-1CB00		1	1 unit	41B
Interference	127 240	150 250	3RT2916-1CD00		1	1 unit	41B 41B
suppression diode		12 250	3H12916-1DG00		I	i unit	416
Diode assembly (diode and Zener diode) for DC operation		12 250	3RT2916-1EH00		1	1 unit	41B
0							
		ors					
Varistors ²⁾	24 48 127 240	24 70 150 250	3RT2926-1BB00 3RT2926-1BD00		1	1 unit 1 unit	41B 41B
RC elements	24 48	24 70	3RT2926-1CB00		1	1 unit	41B 41B
Diode assemblies		24	3RT2926-1ER00		1	1 unit	41B
for DC operation		30 250	3RT2926-1ES00		1	1 unit	41B
2							
gging into the front sid	e of the contact	ors					
Varistors ²⁾	24 48 127 240	24 70 150 250	3RT2936-1BB00 3RT2936-1BD00		1 1	1 unit 1 unit	41B 41B
RC elements	24 48 127 240	24 70 150 250	3RT2936-1CB00 3RT2936-1CD00		1	1 unit 1 unit	41B 41B
Diode assemblies for DC operation		24 30 250	3RT2936-1ER00 3RT2936-1ES00		1	1 unit 1 unit	41B 41B
3							
		ors					
Varistors ²⁾	24 48 127 240	24 70 150 250	3RT2936-1BB00 3RT2936-1BD00		1 1	1 unit 1 unit	41B 41B
Diode assemblies for DC operation		24 30 250	3RT2936-1ER00 3RT2936-1ES00		1 1	1 unit 1 unit	41B 41B
r auxiliary switches an	d coils A1 and A	A2.					
RC elements	24 48 127 240	24 70 150 250	3RT2946-1CB00 3RT2946-1CD00		1 1	1 unit 1 unit	41B 41B
	ut LED for contactorminals) (i) ging onto the front sidwithout auxiliary swite Varistors RC elements Interference suppression diode Diode assembly (diode and Zener diode) for DC operation ging into the front sidnstalling the auxiliary Varistors ²) RC elements Diode assemblies for DC operation (i) ging into the front sidnstalling the auxiliary Varistors ²) RC elements Diode assemblies for DC operation (i) ging into the front sidnstalling the auxiliary Varistors ²) Diode assemblies for DC operation (i) ging into the front sidnstalling the auxiliary Varistors ²) Diode assemblies for DC operation (i) ging into the front sidnstalling the auxiliary varistors ²) Diode assemblies for DC operation	voltage U_8^{-1}) AC operation VAC ut LED for contactors rminals) ging onto the front side of the contact without auxiliary switches) Varistors 24 48 127 240 RC elements 24 48 127 240 Interference suppression diode Diode assembly (diode and Zener diode) for DC operation ging into the front side of the contact nstalling the auxiliary switch) Varistors ² 24 48 127 240 RC elements 24 48 127 240 Diode assemblies for DC operation Promote a sembles for DC operation RC elements 24 48 127 240 RC elements 24 48 127 240 Diode assemblies for DC operation Ging into the front side of the contact nstalling the auxiliary switch) Varistors ² 24 48 127 240 Diode assemblies for DC operation Ging into the front side of the contact nstalling the auxiliary switch) Varistors ² 24 48 127 240 Diode assemblies for DC operation Ging into the front side of the contact nstalling the auxiliary switch) Varistors ² 24 48 127 240 Diode assemblies for DC operation Ging into the two recesses on the left or auxiliary switches and coils A1 and A2 page 3/11. RC elements 24 48 127 240 RC elements Voltage U _s Volt	AC operation DC operation VAC VDC	Vac Vac	Voltage U ₆ Volt	Vac Vac	

Can be used for AC operation for 50/60 Hz. Other voltages on request.
 The varistor is already integrated on the DC and AC/DC contactors.

Accessories

Accessories for the customer assembly of fuseless load feeders

	For motor starter protectors	For contactors	Actuating voltage of contactor	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	Size	Size				, ,		
Link modules from mo	tor starter pr	otector to c	ontactor ¹⁾					
	Connection be contactor with		starter protector and als	Screw terminals				
	Single-unit pa	ackaging						
	S00/S0 S00/S0	S00 S0	AC/DC AC	3RA1921-1DA00 3RA2921-1AA00		1 1	1 unit 1 unit	41B 41B
The state of the s	S00/S0	S0	DC, AC/DC	3RA2921-1BA00		1	1 unit	41B
	S2 S3	S2 S3	AC, DC, AC/DC AC, DC, AC/DC	3RA2931-1AA00 3RA1941-1AA00		1 1	1 unit 1 unit	41B 41B
3RA2921-1AA00	00	00	7,0,00,7,0,00	OTIATOTT TAAOO		'	1 dilit	410
3RA2931-1AA00								
	Multi-unit pad	kaging						
	S00/S0	S00	AC/DC	3RA1921-1D		1	10 units	41B
	S00/S0 S00/S0	S0 S0	AC DC, AC/DC	3RA2921-1A 3RA2921-1B		1	10 units 10 units	41B 41B
	S2	S2	AC, DC, AC/DC	3RA2931-1A		1	5 units	41B
	S3	S3	AC, DC, AC/DC	3RA1941-1A		1	5 units	41B
3RA1941-1AA00								
1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	Connection be contactor with		starter protector and differentials	Spring-loaded terminals				
Colonia Contraction	Single-unit pa	ackaging						
	S00 S0	S00 S0	AC/DC AC ²⁾ , DC, AC/DC	3RA2911-2AA00 3RA2921-2AA00		1 1	1 unit 1 unit	41B 41B
	Multi-unit pad	ckaging						
	S00 S0	S00 S0	AC/DC AC ²⁾ , DC, AC/DC	3RA2911-2A 3RA2921-2A		1	10 units 10 units	41B 41B
3RA2911-2AA00				3NA2921-2A		- 1	10 units	410
Hybrid link modules from								
4-4-	terminals and	contactor with	starter protector with screw n spring-loaded terminals					
	Single-unit pa	S00	AC/DC	3RA2911-2FA00		1	1 unit	41B
	S0	S0	AC/DC AC ²⁾ , DC, AC/DC	3RA2911-2FA00		1	1 unit	41B
4.1.1								
3RA2911-2FA00	Bandaiia							
id idad	Multi-unit pad S00	S00	AC/DC	3RA2911-2F		1	10 units	/1B
	S0	S0	AC ²), DC, AC/DC	3RA2921-2F		1	10 units	41B 41B
3RA2921-2FA00								
The link modules from mo			tor cannot be used Noto:					

- The link modules from motor starter protector to contactor cannot be used for the 3RV1011, 3RV2.21-4PA1., 3RV2.21-4FA1., 3RV2.31-4K.1., 3RV2.31-4R.1., 3RV2.32-4K.1., 3RV2.32-4R.1., 3RV27 and 3RV28 motor starter protectors/circuit breakers.
- $^{2)}\,$ A spacer for height compensation on AC contactors, size S0, is optionally available, see page 8/54.
- 3) The hybrid link modules for motor starter protector to contactor cannot be used for the 3RV1011, 3RV2.21-4PA1., 3RV2.21-4FA1., 3RV27 and 3RV28 motor starter protectors/circuit breakers. They are only suitable for assembling direct-on-line starters.

Note:

Link modules can be used in

- Size S00 up to max. 16 A
- Size S0 up to max. 32 A
- Size S2 up to max. 65 A

Hybrid link modules can be used in

- Size S00 up to max. 16 A
- Size S0 up to max. 32 A

Accessories

	_	-					
	For motor starter protectors	For 3RW30, 3RW40 soft starters; 3RF34 solid-state contactors	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	Size	Size					
Link modules for motor starter prote	notor starter protector to so ector to solid-state contacto	oft starter ¹⁾ and r ¹⁾					
	Connection between motor starter/solid-state contacto	starter protector and soft	Screw terminals				
	Single-unit packaging						
	S00/S0	S00/S0	3RA2921-1BA00		1	1 unit	41B
	S2 ²⁾	S2	3RA2931-1AA00		1	1 unit	41B
	S3 ³⁾	S3	3RA1941-1AA00		1	1 unit	41B
3RA2921-1BA00	Multi-unit packaging						
1 1	S00/S0	S00/S0	3RA2921-1B		1	10 units	41B
	S2 ²⁾	S2 ²⁾	3RA2931-1A		1	5 units	41B
	S3 ³⁾	S3 ³⁾	3RA1941-1A		1	5 units	41B
	Connection between motor starter with spring-loaded t		Spring-loaded terminals	<u></u>			
	Single-unit packaging						
3RA2931-1AA00	S00	S00	3RA2911-2GA00		1	1 unit	41B
	S0	SO	3RA2921-2GA00		1	1 unit	41B
3RA1941-1AA00							
3RA2921-2GA00							
011A2321-2GA00							

- The link modules from motor starter protector to soft starter and motor starter protector to solid-state contactor cannot be used for the 3RV1011, 3RV2.21-4PA1., 3RV2.21-4FA1., 3RV2.31-4K.1., 3RV2.31-4R.1., 3RV2.32-4K.1., 3RV2.32-4R.1., 3RV27 and 3RV28 motor starter protectors/circuit breakers.
- To assemble the feeder between a motor starter protector and a soft starter in size S2, the 3RA2932-1CA00 DIN-rail adapter must be used.
- 3) It is only permitted to assemble the feeder between the motor starter protector and the soft starter in size S3 on a mounting plate.

Note:

Link modules can be used in

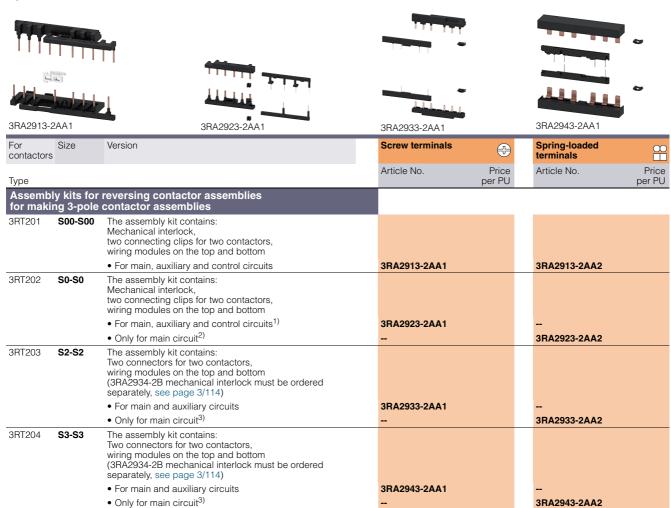
- Size S00 up to max. 16 A
- Size S0 up to max. 32 A
- Size S2 up to max. 65 A

Accessories

PU (UNIT, SET, M) = 1

PS* = 1 unit (unless otherwise specified)

PG = 41B



Use of the 3RA2923-2AA1 assembly kit in conjunction with the 3RT202.-....-3MA0 contactors is limited because the auxiliary switches in the basic unit are not allowed to be used on account of the permanently mounted auxiliary switch.

²⁾ Version in size S0 with spring-loaded terminals: Only the wiring modules for the main circuit are included. No connecting clips are included for the auxiliary and control circuit.

³⁾ Version in sizes S2 and S3 with spring-loaded terminals in the auxiliary and control circuits: Only the wiring modules for the main circuit are included. A cable set is included for the auxiliary circuit.

							Access	sories
	For contacto	Version		Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Safety main circuit co		for two	contactors					
100		For swit	tching two contactors in series	Screw terminals	4			
3RA2916-1A	\$00 \$0 \$2			3RA2916-1A 3RA2926-1A 3RA2936-1A		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
	For motor starter protectors	For contactors	Version	Article No.	Price per PU		PS*	PG
Mounting rails for moload feeders with bus			for the customer assembly of 3RA21					
45		S0	For the discrete configuration of direct- on-line starters a further mounting rail is needed for the contactor in addition to the mounting rail for the motor starter protector existing on the busbar adapter. For pushing onto the device adapter, including fixing screws	8US1998-7CB45		1	10 units	140
8US1998-7CB45								
DIN-rail adapters	\$00, \$00 \$00, \$00 \$00, \$0 \$00, \$0 \$00, \$0 \$2 \$2	\$00, \$00 \$00, \$00 \$00, \$0 \$00, \$0 \$2 \$2	For mechanical fixing of motor starter protector and contactor; for snapping onto DIN rail or for screw fixing Short, single-unit packaging Short, multi-unit packaging Single-unit packaging Multi-unit packaging Single-unit packaging Multi-unit packaging Multi-unit packaging	3RA2922-1BA00 3RA2922-1B 3RA2922-1AA00 3RA2922-1A 3RA2932-1AA00 3RA2932-1A		1 1 1 1 1	1 unit 5 units 1 unit 5 units 1 unit 5 units	41B 41B 41B 41B 41B
3RA2922-1AA00	S3	S3	Single-unit packaging	3RA2942-1AA00		1	1 unit	41B
3RA2932-1CA00	<u>\$3</u>	\$3 \$2	Multi-unit packaging For mechanical fixing of motor starter protector and soft starter; for snapping onto DIN rail or for screw fixing Single-unit packaging	3RA2942-1A 3RA2932-1CA00		1	5 units	41B 41B
Side modules for DIN	•							
3RA2902-1B	500 53	500 \$3	For DIN-rail adapters 10 mm wide, 96 mm long, for widening DIN-rail adapters when using lateral auxiliary switches, 2 units required	3RA2902-1B		1	10 units	41B
Connecting wedges								
8US1998-1AA00		anical linkin quired for r	g of DIN-rail adapters nounting)	8US1998-1AA00		100	100 units	140

Accessories

Accessories								
	For motor starter protectors	For contactors	Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
RH mounting kits for	reversing	operation	on and DIN-rail mounting					
	RH mount	ting kits fo	or screw terminals	Screw terminals				
	S0	S0	Comprising: • Wiring kit for main and auxiliary circuit • Two DIN-rail adapters • Two connecting wedges • Mechanical interlock • Two connecting clips for two contactors • Fixing accessories	3RA2923-1BB1		1	1 unit	41B
3RA2923-1BB1			Link modules must be ordered separately.					
2000	S2	\$2	Comprising: • Wiring kit for main and auxiliary circuit • Two DIN-rail adapters • Two side modules • Four connecting wedges • Mechanical interlock • Two connectors for two contactors • Fixing accessories Link modules must be ordered	3RA2933-1BB1		1	1 unit	41B
OD A COOK ADD A			separately.					
3RA2933-1BB1	S3	S3	Comprising: • Wiring kit for main and auxiliary circuit • Two DIN-rail adapters • Three side modules • Six connecting wedges • Mechanical interlock • Two connectors for two contactors • Fixing accessories	3RA2943-1BB1		1	1 unit	41B
3RA2943-1BB1			Link modules must be ordered separately.					
6.0.20.0.132.	RH mount	ting kit for	spring-loaded terminals	Spring-loaded terminals	•••			
acar	S0	S0	Comprising: • Wiring kit for main and auxiliary circuit • Two DIN-rail adapters • Two connecting wedges • Mechanical interlock • Two connecting clips for two contactors • Two spacers • Fixing accessories	3RA2923-1BB2		1	1 unit	41B
www			Link modules must be ordered separately.					
3RA2923-1BB2								
Push-in lugs for screen								
3RV2928-0B	S00, S0		For screw fixing of the motor starter protector (of the load feeder) onto mounting plates; 2 units are required for each motor starter protector	3RV2928-0B		100	10 units	41E

Graphic overviews for RH assembly kits, see page 8/13 onwards.

Accessories

Busbar adapters



















8US1216-5AS80

8US1216-5AT80

8US1251-5DS10

8US1251-5DT11

8US1250-5AS10

8US1250-5AT10

3RV2917-5AA00 3RV2917-5CA00

For load feeders	Rated current	Connect- ing cable		Adapter width	Rated voltage	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Size	Α	AWG	mm	mm	V			,,		
Busbar adapters for 6	60 mm sy	/stems								
For copper busbars accord Width: 12 mm and 30 mm Thickness: 5 mm and 10 r and for T and double-T sp	mm									
For load feeders with plu	ug-in conn	ectors NEW	4							
S00, S0	32		200	45	690	8US1216-5AS80				
S00, S0	32		260	45	690	8US1216-5AT80				
						Screw terminals				
 For load feeders with sc 	rew termin	als					+			
S00/S0	25	12	200	45	690	8US1251-5DS10		1	1 unit	140
S00 (motor starter	25	12	260	45	690	8US1251-5DT10		1	1 unit	140
protector)/S0 (contactor) S0	32	10	200	45	690	8US1251-5NS10		1	1 unit	140
SO	32	10	260	45	690	8US1251-5NT10		i	1 unit	140
S2	80	4	260	55	690	8US1261-6MT10		1	1 unit	140
S2 ¹⁾	80	4	260	118	690	8US1211-6MT10		1	1 unit	140
For load feeders with sp	ring-loade	d terminals				Spring-loaded terminals	8			
S00	25	12	200	45	690	8US1251-5DS11		1	1 unit	140
S00/S0	25	12	260	45	690	8US1251-5DT11		1	1 unit	140
S0	32	10	200	45	690	8US1251-5NS11		1	1 unit	140
S0	32	10	260	45	690	8US1251-5NT11		1	1 unit	140
Accessories ²⁾										
Plug-in connectors To make contact with the 3	3RV2 moto	r starter prof	tectors			Screw terminals	(1)			
Single-unit packaging	51112111010	. otartor pro-								
S00 ³⁾⁵⁾						3RV2917-5CA00		1	1 unit	41E
S0 ⁴)6)						3RV1927-5AA00		1	1 unit	41E
Multi-unit packaging						0117 1027 070100			1 dillic	
S00 ³⁾⁵⁾						0PV0047 F0			10	445
S0 ⁴)6)						3RV2917-5C 3RV1927-5A		1	10 units 10 units	41E 41E
30 * *								'	10 units	41L
						Spring-loaded terminals				
Single-unit packaging						terminais				
S00 ³⁾ S0 ⁴⁾						3RV2917-5AA00 3RV2927-5AA00		1 1	1 unit	41E 41E
						3HV2927-5AA00		ı	1 unit	41⊏
Multi-unit packaging										
S00 ³⁾ S0 ⁴⁾						3RV2917-5A		1	10 units	41E
						3RV2927-5A		1	10 units	41E
Device holders			200	45		8US1250-5AS10		1	1 unit	140
For lateral attachment to busbar adapters			260	45		8US1250-5AT10		1	1 unit	140
•			200	9		01104000 00 140			10	140
Side modules For widening busbar adapters			200	9		8US1998-2BJ10		1	10 units	140
Vibration and shock kit For high vibration and shock loads										
S2						8US1998-1DA10		1	1 unit	140
02			-			0031330-1DA10		1	i uiiit	140

 $^{^{1)}\,}$ For the assembly of feeders for reversing starters comprising a motor starter protector and two contactors.

²⁾ Additional mounting rails for busbar adapters, see page 8/51.

 $^{^{3)}}$ I > 14 A, please note derating.

 $^{^{4)}}$ I > 16 A, please note derating.

⁵⁾ The plug-in connector cannot be used for the 3RV2711 and 3RV2811 circuit breakers in size S00.

⁶⁾ The plug-in connector can be used for the 3RV2711, 3RV2811 (size S00) and 3RV2721, 3RV2821 (size S0) circuit breakers.

Accessories

starter	contac-	Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Size	Size						
ersing o ems	peration						
RS mount	ing kits fo	r screw terminals	Screw terminals				
S00, S0 S0 S00	\$00 \$0 \$0	Comprising: • Wiring kit for main and auxiliary circuit • Busbar adapters • Device holders • Two connecting wedges • Mechanical interlock • Two connecting clips for two contactors • Fixing accessories Link modules must be ordered separately	3RA2913-1DB1 3RA2923-1DB1 3RA2923-1EB1		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
S2	S2	Comprising: Wiring kit for main and auxiliary circuit Busbar adapters Mechanical interlock Two connectors for two contactors Fixing accessories Link modules must be ordered separately.	3RA2933-1DB1		1	1 unit	41B
RS mount	ing kits fo	r spring-loaded terminals	Spring-loaded	00			
S00 S0	\$00 \$0	Comprising: Wiring kit for main and auxiliary circuit Busbar adapters Device holders Two connecting wedges Mechanical interlock Two connectors for two contactors Two spacers (for size S0 only) Fixing accessories Link modules must be ordered separately.	3RA2913-1DB2 3RA2923-1DB2		1 1	1 unit 1 unit	41B 41B
5 C S F S S S F S S S F S S S F S S S F S S S S F S S S S F S	starter protectors bize ersing o ms as mount biological bis bis bis bis bis bis bis bis bis bis	ersing operation ms RS mounting kits for S00, S0 S00 S0	starter contactors tors Size Size ersing operation ms RS mounting kits for screw terminals Signounting kits for main and auxiliary circuit Signounting kits for screw terminals Signounting kits for screw terminals Signounting kits for main and auxiliary circuit Signounting kits for screw terminals Signounting kits for screw terminals Signounting kits for main and auxiliary circuit Signounting kits for screw terminals Signounting kits for screw terminals Signounting kits for main and auxiliary circuit Signounting kits for screw terminals Signounting kits for screw terminals Signounting kits for main and auxiliary circuit Signounting kits for screw terminals Signounting kits for screw termina	trarter contactorotectors fors Size Size ersing operation ms RS mounting kits for screw terminals Size Size ersing operation ms RS mounting kits for screw terminals Size Size ersing operation ms RS mounting kits for screw terminals Size Size ersing operation ms RS mounting kits for screw terminals Size Size Size Ending in the formain and auxiliary circuit Ending interlock Two connecting wedges Mechanical interlock Two connecting clips for two contactors Fixing accessories Link modules must be ordered separately. Experimental interlock Two connectors for two contactors Fixing accessories Link modules must be ordered separately. RS mounting kits for spring-loaded terminals Expring-loaded terminals Spring-loaded terminals Fixing accessories Link modules must be ordered Spring-loaded terminals Spring-loaded terminals Spring-loaded terminals Spring-loaded terminals Two connectors for two contactors Two connectors for two contactors Two spacers (for size Size Size Size Size Size Size Size S	retret contactoristoris Size ersing operation ms IS mounting kits for screw terminals Sign Sign Sign Sign Sign Sign Sign Sign	tarter contac- vice Size ersing operation ms 85 mounting kits for screw terminals 500, \$0 S00 Comprising:	tarter contactors tors size Size ersing operation state Size ersing operation state Size state operation state operatio

Graphic overviews for RS assembly kits, see page 8/16 onwards.

	For motor starter protectors	For contactors	Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	Size	Size						
Connecting wedges								
	For mecha holders	nical linkin	g of busbar adapters and device	8US1998-1AA10		1	50 units	140
8US1998-1AA10								
Spacers								
	For height spring-load		tion on AC contactors size S0 with als	Spring-loaded terminals	<u></u>			
67-18	S0	S0	Single-unit packaging	3RA2911-1CA00		1	1 unit	41B
3RA2911-1CA00	SO	SO	Multi-unit packaging	3RA2911-1C		1	5 units	41B

Accessories

	Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Tools for opening spri	ng-loaded terminals					
	Screwdriver For all SIRIUS devices with spring-loaded terminals	Spring-loaded terminals	<u></u>			
3RA2908-1A	Length approx. 200 mm, 3.0 mm x 0.5 mm, titanium gray/black, partially insulated	3RA2908-1A		1	1 unit	41B
Blank labels						
3RT2900-1SB20	Unit labeling plates ¹⁾ For SIRIUS devices 20 mm x 7 mm, titanium gray	3RT2900-1SB20		100 3	340 units	41B
Manuals						
	Digital Configuration Manual for load feeders see https://imp.siemens.com/digital-engineering-manual/dem.					
	Configuration Manual for load feeders see https://support.industry.siemens.com/cs/ww/en/view/39714188.					

PC labeling system for individual inscription of unit labeling plates available from: murrplastik Systemtechnik GmbH (see page 16/18).

3RV29 infeed system for load feeders

Overview

Types of infeed for 3RA2 fuseless load feeders

On the whole four different incoming power supply possibilities are available:

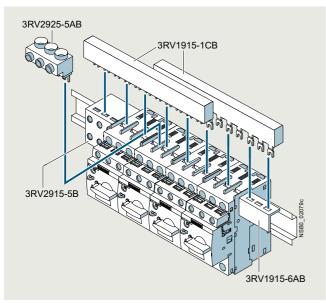
- Parallel wiring
- Use of 3-phase busbars (combination with SIRIUS motor starter protectors and contactors possible)
- 8US busbar adapters
- SIRIUS 3RV29 infeed systems

Insulated 3-phase busbar system

3-phase busbar systems provide an easy, time-saving and clearly arranged means of feeding 3RA2 load feeders with screw terminals. Different versions are available for sizes S00 and S0 and can also be used for the various different types of motor starter protectors.

The busbars are suitable for between two and five feeders. However, any kind of extension is possible by clamping the connection tags of an additional busbar (rotated 180°) underneath the terminals of the respective last motor starter protector.

A combination of feeders of different sizes is possible with sizes S00 and S0. Connecting pieces are available for this purpose. The motor starter protectors are supplied by appropriate infeed terminals.



SIRIUS 3-phase busbar system size S00/S0

The 3-phase busbar systems are finger-safe. They are designed for any short-circuit stress which can occur at the output side of connected motor starter protectors.

The 3-phase busbar systems can also be used for the assembly of "Starters (Type E)" of size S0 or S2 according to UL/CSA. However, special infeed terminals, 3RV2925-5EB for sizes S00/S0 and 3RV2935-5E for size S2, must be used for this purpose, see page 7/51.

8US busbar adapters for 60 mm systems

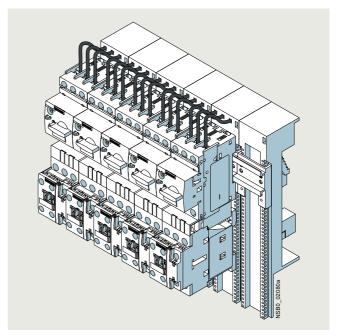
The load feeders are mounted directly with the aid of busbar adapters on busbar systems with 60 mm center-to-center clearance in order to save space and to reduce infeed times and costs.

The busbar adapters for busbar systems with 60 mm center-tocenter clearance are suitable for copper busbars with a width of 12 to 30 mm. The busbars can be 4 to 5 mm or 10 mm thick.

The feeders are snapped onto the adapter and connected on the line side, either with wires or with the plug-in connectors of the SIRIUS infeed system (see page 8/53). This prepared unit is then plugged directly onto the busbar system, and is thus connected both mechanically and electrically at the same time.

For the setup of UL feeders (Type E and F), Type E terminal blocks or phase barriers must be fitted to the infeed module on the load feeder (see page 7/59).

"Selection and ordering data", see page 8/53.



SIRIUS load feeders with busbar adapters snapped onto busbars

SIRIUS 3RV29 infeed system

The 3RV29 infeed system is a convenient means of incoming power supply and distribution for a group of several motor starter protectors or complete load feeders with screw or springloaded terminals up to size S0.

The system is based on a basic module complete with a lateral incoming unit (3-phase busbar with infeed) which has two slots.

Expansion modules are available for extending the system (3-phase busbars for system expansion).

3RV29 infeed system, see page 7/67 onwards.

General data

Overview

3RA6 fuseless compact starters and infeed system for 3RA6



3RA62 reversing starter

Integrated functionality

The SIRIUS 3RA6 compact starters are a generation of special load feeders with the integrated functionality of a motor starter protector, contactor and electronic overload relay. In addition, various functions of optional mountable accessories (e.g. auxiliary switches, surge suppressors) are already integrated in the SIRIUS compact starter.



3RA6 compact starters with the integrated functionality of a motor starter protector, contactor and electronic overload relay

Applications

SIRIUS compact starters can be used wherever standard three-phase motors or resistive loads up to 32 A (approx. 15 kW/400 V) are directly started or switched.

The compact starters are not suitable for the protection of DC loads.

Approvals according to IEC, UL, CSA and CCC standards have been issued for the compact starters.

More information

Homepage, see www.siemens.com/sirius-compact-starters SiePortal, see www.siemens.com/product?3RA6

Online configurator, see www.siemens.com/sirius/configurators

Very high operational reliability

The high short-circuit breaking capacity and defined shutdown when the end of service life is reached mean that the SIRIUS compact starter achieves a very high level of operational reliability that would otherwise have only been possible with considerable additional outlay. This sets it apart from devices with similar functionality.

Safe disconnection

The auxiliary switches (NC contacts) of the 3RA6 compact starters are designed as mirror contacts. This enables their use for safe disconnection, e.g. EMERGENCY STOP up to SIL 1 (IEC 62061) or PL c (ISO 13849-1) or, if used in conjunction with an additional infeed contactor, up to SIL 3 (IEC 62061) or PL e (ISO 13849-1).

Communication link through AS-Interface

To enable the communication link through AS-Interface, an AS-i add-on module is available in several versions for mounting on the SIRIUS compact starter instead of the control circuit terminals.

The design of the AS-i add-on module permits a group of up to 62 feeders with a total of four cables to be connected to the control system. This reduces wiring work considerably compared to the parallel wiring method.

Communication link through IO-Link

Up to four compact starters in IO-Link version (reversing and direct-on-line starters) can be connected together and conveniently linked to the IO-Link master through a standardized IO-Link connection.

The IO-Link connection enables a high density of information in the local range.

For details of the communication link using IO-Link, see page 2/88 onwards.

The diagnostics data of the process collected by the 3RA6 compact starter, e.g. short circuit, end of service life, limit position, etc., are not only indicated on the compact starter itself but also transmitted to the higher-level control system through

Thanks to the optionally available operator panel, which can be installed in the control cabinet door, it is easy to control the 3RA6 compact starters with IO-Link from the control cabinet door.

Permanent wiring/easy replacement

Using the SIRIUS infeed system for 3RA6 (see page 8/76), it is possible to carry out the wiring in advance without a compact starter having to be connected.

A compact starter is very easily replaced simply by pulling it out of the device without disconnecting the wiring.

Even with screw fixing or mounting on a DIN rail there is no need to disconnect any wiring (on account of the removable main and control circuit terminals) in order to replace a compact starter.

General data

Consistent solution from the infeed to the motor feeder

The SIRIUS infeed system for 3RA6 with integrated PE bar offers a user-friendly system for feeding in summation currents up to 100 A with a maximum conductor cross-section of 70 mm² and for connecting the motor cable directly without additional intermediate terminals.

Screw and spring-loaded terminals

The SIRIUS compact starters and the infeed system for 3RA6 are available with screw and spring-loaded terminals.



The terminals are indicated in the corresponding tables by the symbols shown on orange backgrounds.

System configurator for engineering

A free-of-charge system configurator is available to reduce further the amount of engineering work for selecting the required compact starters and matching infeed.

Use of load feeders in conjunction with IE3 and IE4 motorsNote:

For the use of SIRIUS 3RA6 compact starters in conjunction with highly efficient IE3 and IE4 motors, please observe the information on dimensioning and configuring, see Application Manual.

For more information, see page 1/8.

Types of infeed for the 3RA6 fuseless compact starters

On the whole four different infeed possibilities are available:

- · Parallel wiring
- Use of 3-phase busbars (combination with SIRIUS motor starter protectors and SIRIUS contactors possible)
- 8US busbar adapters
- SIRIUS infeed system for 3RA6 (see page 8/76)

To comply with the clearance and creepage distances demanded according to UL 508 there are the following infeed possibilities:

Type of infeed	Infeed terminal (according to UL 508, Type E)	Туре
Parallel wiring	Terminal block for "Self-Protected Combination Motor Controller (Type E)"	3RV2928-1H
3-phase busbars	3-phase infeed terminal for the assembly of "Starters (Type E)", UL 508	3RV2925-5EB
Infeed system for 3RA6	Infeed on left, 50/70 mm ² screw terminal with 3 sockets, outgoing terminal with screw/spring- loaded terminals, including PE bar	3RA6813-8AB (screw terminals), 3RA6813-8AC (spring-loaded terminals)

SIRIUS 3RA6 compact starters

SIRIUS 3RA6 compact starters are universal motor feeders according to IEC 60947-6-2. As control and protective switching devices (CPS) they can connect, convey and disconnect the thermal, dynamic and electrical loads from short-circuit currents up to $I_{\rm q}=53$ kA, i.e. they are practically weld-free. They combine the functions of a motor starter protector, a contactor and an electronic overload relay in one enclosure. The versions available are the 45-mm-wide direct-on-line starters and the 90-mm-wide reversing starters.

The reversing starter version comes with not only an internal electrical interlock but also with a mechanical interlock to prevent simultaneous actuation of both directions of rotation.

The compact starters have isolating features according to IEC 60947-2 and can be used as disconnector units (main control switch according to EN 60204 or VDE 0113). Isolation is effected by moving the handle into the "OFF" position; disconnection by means of the control contacts is not enough.

3RA6 fuseless compact starters are available in five current setting ranges. The 3RA61 and 3RA62 have two control voltage ranges (AC/DC), and the 3RA64 and 3RA65 have one control voltage range (DC):

Current	At 400 V AC for	Rated control supply voltage for								
setting range	three-phase motors Standard output <i>P</i>	3RA61, 3RA62 compact starters	3RA64, 3RA65 compact starters for IO-Link							
А	kW	V AC/DC	V DC							
0.1 0.4	0.09	24	24							
0.32 1.25	0.37	110 240								
1 4	1.5									
3 12	5.5									
8 32	15									

Notes:

The 3RA2 load feeders can be used for fuseless load feeders > 32 A up to 65 A. Load feeders in size S3 up to 100 A are available for customer assembly (see also page 8/5).

The SENTRON 3VL circuit breakers and the SIRIUS 3RT contactors can be used for fuseless load feeders > 100 A.

Operating conditions

The SIRIUS 3RA6 compact starters are suitable for use in any climate. They are intended for use in enclosed rooms in which no harsh operating conditions (such as dust, caustic vapors, hazardous gases) prevail. Suitable covers must be provided for installation in dusty and damp locations.

The permissible ambient temperature during operation is -20 to +60 °C. The rated short-circuit current $I_{\rm CS}$ according to IEC 60947-6-2 is 53 kA at 400 V.

Note

The maximum permissible short-circuit currents of the device versions for the various line system configurations and voltages are available upon request from Technical Support: www.siemens.com/support-request

General data

Overload tripping times

The tripping time in the event of overload can be set on the device to normal starting conditions (CLASS 10) and to heavy starting conditions (CLASS 20). As the breaker mechanism still remains closed after an overload, resetting is possible by either local Manual RESET or Auto RESET¹⁾ after three minutes cooling time.

With Auto RESET, there is no need to open the control cabinet.

Diagnostics options

The compact starter provides the following on-site diagnostics options:

- With LEDs
 - Connection to the control voltage
 - Position of the main contacts
- · With mechanical display
 - Tripping due to overload
 - Tripping due to short circuit
 - Tripping due to malfunction (end of service life reached because of worn switching contacts or a worn switching mechanism or faults in the control electronics)

These states can also be evaluated in the higher-level control system:

- With parallel wiring using the integrated auxiliary and signaling switches of the compact starter
- With AS-Interface or IO-Link in even greater detail using the respective communications interface

Four complement versions for 3RA61 and 3RA62 compact starters

- For DIN-rail mounting or screw fixing: basic version including one pair of main circuit terminals and one pair of control circuit terminals
- For DIN-rail mounting or screw fixing when using the AS-i add-on module: without control circuit terminals because the AS-i add-on module is plugged on instead
- For use with the infeed system for 3RA6: without main circuit terminals because they are supplied with the infeed system and the expansion modules
- For use with the infeed system for 3RA6 and the AS-i add-on module: without terminal complement (also for reordering when replacing the compact starter)

The control circuit terminals are always required by the compact starters for IO-Link; the main circuit terminals depend on the use of the infeed system.

1) The Auto RESET function is not available for versions 3RA6120-.B/-.C and 3RA6250-.B/-.C with a rated current of 1.25 A and 4 A. The reset can be alternatively carried out by disconnecting the supply voltage A1/A2 via the NC contacts 95/96 (overload signaling contact). The Auto RESET function is provided with this circuitry.

More components of the 3RA6

Apart from the control supply voltage, "Overload" (1 CO) and "Short circuit/Function fault" (1 NO) signaling contacts are already integrated into the 3RA61/3RA62 – and lockable via two 6-pole removable control circuit terminals. The 3RA61 has two auxiliary contacts (1 NO + 1 NC) for displaying the position of the main contacts. Unlike the 3RA61 direct-on-line starter, the 3RA62 reversing starter has one auxiliary contact (1 NO) per direction of rotation per main contact.

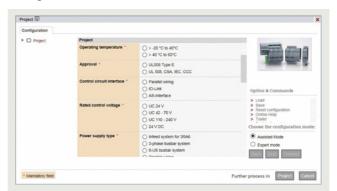
A slot for an optional auxiliary switch (either 2 NO, 2 NC or 1 NO + 1 NC) is available for the 3RA61 and 3RA64 direct-online starters. For the 3RA62 and 3RA65 reversing starters, two slots are available (auxiliary switches, see "Accessories", page 8/70).

Force-guided operation of the auxiliary contacts

Force-guided operation between individual auxiliary circuits exists for the compact starter in the version as a direct-on-line starter for parallel wiring (3RA61) between the auxiliary circuits of the NC contacts (NC 21-22) and the NO contacts (NO 13-14) in the basic unit.

In addition, the optional auxiliary switch offers force-guided contacts in the 3RA6913-1A version, each with one normally closed contact and one normally open contact.

Configurator



Configurator

Advantages:

- Simple usage from individual compact starters or also with corresponding infeed system and AS-i connection
- In the final configuration, you will be presented with additional technical information such as CAD data and product data sheets as well as characteristic curves, operating instructions, manuals, etc.

See www.siemens.com/sirius/configurators

General data

Article number scheme

Product versions		Article	e nu	mb	er				
Compact starters		3RA6			1 —				
Product function	Direct-on-line starter Reversing starter Direct-on-line starter for IO-Link Reversing starter for IO-Link Infeed system Accessories • Auxiliary switches • Terminals • IO-Link accessories • Fixing elements • Control kit		8 9 1 2 3 4	5 0 0 0 0	 				For motor standard output 0.09 15 kW ¹⁾ For motor standard output 0.09 15 kW ¹⁾ For motor standard output 0.09 15 kW ¹⁾ For motor standard output 0.09 15 kW ¹⁾
Connection methods	No terminals Screw terminals Spring-loaded terminals					0 1 2			
Setting range	0.1 0.4 A 0.32 1.25 A 1 4 A 3 12 A 8 32 A					E (>		
Rated control supply voltage	24 V DC 24 V AC/DC 110 240 V AC/DC						B B P	3	For direct-on-line/reversing starters for IO-Link For direct-on-line/reversing starters For direct-on-line/reversing starters
Terminal complement versions	None 1/1 0/1 1/0							3	 Without main and control circuit terminals With 1 pair of main circuit and 1 pair of control circuit terminals Without main circuit terminals, with 1 pair of control circuit terminals With 1 pair of main circuit terminals, without control circuit terminals

3RA6 1 2 0 - 0 A B 3 0

Note:

Example

The article number scheme shows an overview of product versions for better understanding of the logic behind the article numbers.

For your orders, please use the article numbers quoted in the selection and ordering data.

Benefits

Product advantages

The SIRIUS 3RA6 compact starters offer a number of benefits:

- Compact design saves space in the control cabinet
- Little planning and assembly work and far less wiring thanks to a single complete unit with one article number
- Low variance and therefore low stock levels, with two wide voltage ranges and five wide setting ranges for the rated current
- High plant availability through integrated functionalities such as prevention of main contact welding and disconnection at end of service life
- Enhanced productivity through automatic device RESET¹⁾ in case of overload and differentiated detection of overload and short circuit
- Easy checking of the wiring and testing of the motor direction prior to startup thanks to optional control kits
- 1) The Auto RESET function is not available for versions 3RA6120-.B/-.C with a rated current of 1.25 A and 3RA6250-.B/-.C with a rated current of 4 A. The reset can be alternatively carried out by disconnecting the supply voltage A1/A2 via the NC contacts 95/96 (overload signaling contact). The Auto RESET function is provided with this circuitry.

- Quick replacement of devices thanks to removable terminals with spring-loaded and screw terminals in the main and control circuit
- Efficient power distribution through the related SIRIUS infeed system for 3RA6
- Direct connection of the motor feeder cable to the SIRIUS infeed system for 3RA6 thanks to integrated PE bar
- Connecting and looping through of incoming feeders up to a cross-section of 70 mm²
- When using the infeed system for 3RA6, possibility of directly connecting the motor cable without intermediate terminals
- Integration in Totally Integrated Automation thanks to the optional connection to AS-Interface or IO-Link

The SIRIUS 3RA6 compact starters create the basis for high-availability and future-proof machine concepts.

Standard three-phase motor, basis 4-pole at 400 V AC; the actual starting and rated data of the motor to be protected must be considered when selecting the units.

General data

Technical specifications

More information

SiePortal, see www.siemens.com/product?3RA6

System Manual, see

http://support.industry.siemens.com/cs/ww/en/view/27865747

FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/16301/faq

Manual, see

Notes on security:

In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial security concept. Siemens products and solutions represent only one component of such a concept.

For more information about the subject of Industrial Security, see www.siemens.com/industrialsecurity.

Туре			3RA61	3RA62	3RA64	3RA65
Mechanics and environment						
Mounting dimensions (W x H x D)						
Screw terminals		mm	45 x 170 x 165	90 x 170 x 165	45 x 170 x 165	90 x 170 x 165
Spring-loaded terminals		mm	45 x 191 x 165	90 x 191 x 165	45 x 191 x 165	90 x 191 x 165
	w					
Depth from DIN rail		mm	160			
Permissible ambient temperature						
• For operation		°C	-20 +70, restr	iction as from 60 o	depending on des	ign
(permissible operational current, see the						
following section "Electrical specifications") • During storage		°C	-55 +80			
During transport		°Č	-55 +80			
Permissible mounting position			-1- 22	,5° ,22,5° &		
<u>-</u>			90° ++++ 90° *\	,		
				\display /		
			1 1 1 1 1	¥ ¥		
Shock resistance (sine-wave pulse)			$a = 60 \text{ m/s}^2 = 6$	g with 10 ms; for e	every 3 shocks in	all axes
Vibratory load			$f = 4 \dots 5.8 \text{ Hz}; c$	d = 15 mm; f = 5.8	500 Hz; a = 20	m/s ² ; 10 cycles
Degree of protection IP on the front	According to IEC 60529		IP20			
Touch protection on the front	According to IEC 60529		Finger-safe for v	ertical touching fr	om the front	
Installation altitude		m	Up to 2 000 abo	ve sea level withou	ut restriction	
Relative air humidity		%	10 90			
Pollution degree			3			
Electrical specifications						
Device standard			IEC 60947-6-2			
Maximum rated operational voltage U _e		V	690			
		V		E and 3RA650	0E	
			-	er 32 A versions)		
Rated frequency		Hz	50/60			
Rated insulation voltage <i>U</i> _i (pollution degree 3)		V	690			
Rated impulse withstand voltage U_{imp}		kV	6			
Rated operational current $I_e^{1)}$	0.1 0.4 A	Α	0.4			
and setting range of overload release	0.32 1.25 A	A	1.25			
	1 4 A	Α	4			
	3 12 A 8 32 A	A A	12 32			
Permissible operational current of the compa	A)	А	32			
When several compact starters are mounted significantly						
infeed system (for more details on the various of						
see System Manual)	40.00	0/	100			
 For a control cabinet inside temperature of For a control cabinet inside temperature of 	+40 °C +60 °C	% %	100			
For a control cabinet inside temperature of	+70 °C	%	60			
Trip class (CLASS)	According to IEC 60947-4-1,	1	10/20			
(-	EN 60947-4-1	•	.,			
	(VDE 0660 Part 102)					
Overload function Ratio of lower to upper current mark			1:4			
Ratio of lower to upper current mark		LΛ	1:4			
Rated service short-circuit breaking capacity I_{CS} at 50/60 Hz, 400 V AC		kA	53			
Rated service short-circuit breaking		kA	1.5			
capacity I _{CSIT} at 50/60 Hz, 400/690 V AC						
in IT systems		0)				
1) For the use of 3BA6 compact starters in coni	iunction with highly energy-	<) D ₄	etails about installa	ation conditions ar	nd the use of the o	ompact starters

¹⁾ For the use of 3RA6 compact starters in conjunction with highly energy-efficient IE3 and IE4 motors, please observe the information on dimensioning and configuring, see Application Manual.

Details about installation conditions and the use of the compact starters, and particularly about the derating of the rated current, can be found in the System Manual.

General data

Туре			3RA61 3RA	.62	3RA64	3RA65
Electrical specifications (continued)						
Power loss $P_{v \text{ max}}$ of all main conducting paths	0.4 A	mW	10			
Dependent on rated current I_e	1.25 A	mW	100			
(upper setting range)	4 A	W	1			
	12 A	W	1.8			
	32 A	W	5.4			
Max. switching frequency	AC-41 AC-43	1/h 1/h	750 250			
	AC-43 AC-44	1/h	15			
No-load switching frequency		1/h	3 600		3600 dependir	ng on the IO-Link
no load ciritoning includincy		.,	0 000		communication	
Isolating features of the compact starter	According to IEC 60947-3		/			
·	<u> </u>		Isolation is assured on	ly by moving	the actuator into	the "OFF" position.
Main and EMERGENCY OFF switch features	According to IEC 60204		✓			
of the compact starter and accessories						
Protective separation	According to IEC 60947-2					
Control circuit to auxiliary circuit						
Horizontal DIN rail Other mounting position		V V	Up to 400			
Other mounting position		V	Up to 250			
Auxiliary circuit to auxiliary circuit Horizontal DIN rail		V	Up to 400			
Other mounting position		V	Up to 250			
Main circuit to auxiliary circuit						
Any mounting position		V	Up to 400			
EMC interference immunity	According to IEC 60947-1		Corresponds to degre	e of severity	3	
Conducted interference	BURST according to			Ī		
	IEC 61000-4-4					
In the main circuitIn the auxiliary circuit		kV kV	4		4 2	
· · · · · · · · · · · · · · · · · · ·	OLIDOE	ĸv	3		2	
Conducted interference	SURGE according to IEC 61000-4-5					
In the main circuit						
- Conductor - Ground		kV	4		2	
Conductor - ConductorIn the auxiliary circuit		kV	2		1	
- Conductor - Ground		kV	2		0.5 ¹⁾	
- Conductor - Conductor		kV	1		0.5 ¹⁾	
Auxiliary switches						
Integrated Position of the main contacts			1 NO + 1 NC 2 NO	,	1 NO + 1 NO	2 NO
Position of the main contactsOverload/short circuit and malfunction signal			1 NO + 1 NC 2 NO 1 CO/1 NO)	1 NO + 1 NC	2 NO
Expandable			. 00/1110			
- Position of the main contacts			2 NO, 2 NC, 1 NO + 1 No	C		
Surge suppressors			Integrated (varistor)			
Electromagnetic operating mechanisms						
Control voltage		V	24 AC/DC		24 DC	
		V	110 240 AC/DC			
Frequency	At AC	Hz	50/60 (±5%)			
Operating range			0.7 1.25 <i>U</i> _s		0.85 1.2 <i>U</i> _s	
No-load switching frequency		1/h	3 600			
Line protection	At 10 kA	mm ²	2.5			
	At 50 kA	mm ²	4			
Shock resistance						
Breaker mechanism OFF Dreaker mechanism ON		g	25			
Breaker mechanism ON		g	15			
Functional switching						
Making capacity			12 x I _n			
Breaking capacity			10 × I _n			
Switching capacity dependent on	Up to 12 A	kW	5.5			
rated current	Up to 32 A	kW	15			
Endurance in operating cycles	A+1 - 0 0 v 1 and 400 V		2		2 000 000	2 v 1 E00 000
Electrical endurance	At $I_{\rm e} = 0.9 \times I_{\rm n}$ and 400 V		3 2 x 10 000 000 3	10 000 000	3 000 000	2 x 1 500 000
			.5 555 555	.5 555 555		

[✓] Function available

To maintain maximum interference immunity in a harsh electromagnetic environment, additional overvoltage protection should be provided in the control circuit. The 5SD7432-5 plug-in surge arrester with remote signaling is suitable, for example, see Catalog LV 10.

General data

Туре		3RA6120□B3., 3RA6250□B3.			3RA6120-	3RA6120EB3., 3RA6250EB3.			
	□ = A, B,	C or D							
	, ,	Rated operational current ≤ 12 A			Rated operational current 32 A				
Rated control supply voltage V		24 AC	•		24 DC		24 AC		
Inrush peak current	Α	0.59		0.47		0.59		0.47	
Hold current	А	0.13		0.12		0.17		0.14	
Closed	W	2.8	2.8 2.9			3.5		3.1	
Operating times, typical									
• On	ms	< 160			< 160		< 140		
• Off	ms	< 35		< 35		< 30		< 30	
Туре		3RA6120-	.□P3., 3RA62	50□P3.		3RA6120-	.EP3., 3RA62	50EP3.	
		\Box = A, B,	C or D						
		Rated ope	erational curr	ent ≤ 12 A		Rated operational current 32 A			
Rated control supply voltage	٧	110 AC	240 AC	110 DC	240 DC	110 AC	240 AC	110 DC	240 DC
Inrush peak current	Α	0.24	0.40	0.17	0.29	0.24	0.40	0.17	0.29
Hold current	А	0.06	0.08	0.03	0.02	0.06	0.07	0.04	0.03
Closed	W	3.8	6	3.1	5.1	3.7	5.2	3.4	5.8
Operating times, typical									
• On	ms	< 160	< 140	< 150	< 140	< 160	< 140	< 150	< 140
• Off	ms	< 50	< 80	< 50	< 70	< 40	< 60	< 40	< 60
Туре		3RA6400-	.□B4., 3RA65	600□B4.		3RA6400-	.EB4., 3RA65	00EB4.	
		\Box = A, B,	C or D						
		Rated ope	erational curr	ent ≤ 12 A		Rated operational current 32 A			
Rated control supply voltage	٧	24 DC				24 DC			
Inrush peak current	Α	0.39				0.53			
Hold current	А	0.13				0.15			
Closed	W	2.9				3.4			
Operating times, typical ¹⁾									
• On	ms	< 140				< 140			
• Off	ms	< 35				< 30			

¹⁾ IO-Link communication in addition.

Туре			3RA6
Control circuit			
Rated operational voltage External auxiliary switch Internal auxiliary switch Short-circuit signaling switch Overload signaling switch		V V V	400/690 400/690 400 400
Switching capacity • External auxiliary switch	AC-15 • Up to $U_e = 230 \text{ V}$ • Up to $U_e = 400 \text{ V}$ • Up to $U_e = 289/500 \text{ V}$ • Up to $U_e = 400/690 \text{ V}$ DC-13	A A A	6 3 2 1
Internal auxiliary switch	• Up to $U_e = 24 \text{ V}$ • Up to $U_e = 60 \text{ V}$ • Up to $U_e = 125 \text{ V}$ • Up to $U_e = 250 \text{ V}$ • Up to $U_e = 250 \text{ V}$	A A A	6 0.9 0.55 0.27
	 Up to U_e = 230 V Up to U_e = 400 V Up to U_e = 289/500 V Up to U_e = 400/690 V 	A A A	6 3 2 1
	DC-13 • Up to U _e = 24 V • Up to U _e = 60 V • Up to U _e = 125 V • Up to U _e = 250 V • Up to U _e = 480 V	A A A A	10 2 1 0.27 0.1
Signaling switch	AC-15 • Up to $U_e = 230 \text{ V}$ • Up to $U_e = 400 \text{ V}$ DC-13 • Up to $U_e = 24 \text{ V}$ • Up to $U_e = 250 \text{ V}$	A A A	3 1 2 0.11

General data

Туре			3RA61, 3RA62	3RA64, 3RA65
External auxiliary switches, internal au	xiliary switches			
Endurance in operating cycles	•			
Mechanical endurance			10 000 000	3 000 000
Electrical endurance	AC-15, 230 V			
	 Up to 6 A 		200 000	
	• Up to 3 A		500 000	
	Up to 1 AUp to 0.3 A		2 000 000 10 000 000	
	DC-13, 24 V		10 000 000	
	• Up to 6 A		30 000	
	• Up to 3 A		100 000	
	 Up to 0.5 A 		2 000 000	
	• Up to 0.2 A		10 000 000	
	DC-13, 110 V			
	• Up to 1 A		40 000	
	• Up to 0.55 A		100 000	
	Up to 0.3 AUp to 0.1 A		300 000 2 000 000	
	• Up to 0.04 A		10 000 000	
	DC-13, 220 V		10 000 000	
	• Up to 0.3 A		110 000	
	• Up to 0.1 A		650 000	
	• Up to 0.05 A		2 000 000	
	 Up to 0.018 A 		10 000 000	
Contact reliability	At 17 V and 5 mA	Oper-	1 faulty switching operat	ion per 100 000 000
-		ating		
		cycles		
Short-circuit protection				
 Short-circuit current I_K ≤ 1.1 kA 	Fuse links,	Α	10	
	operational class gG			
	NEOZED type 5SEDIAZED type 5SB			
	- LV HRC type 3NA			
 Short-circuit current I_K < 400 A 	Miniature circuit breaker up to	Α	10	
Short should surround IK 1 100 / 1	230 V with C characteristic	, ,		
Signaling switches				
Endurance in operating cycles				
Mechanical endurance			20 000	
 Electrical endurance AC-15 	At 230 V and 3 A		6 050	
Contact reliability	At 17 V and 5 mA	Oper-	1 faulty switching operat	ion per 100 000 000
•		ating	, .	·
		cycles		
Short-circuit protection				
 Short-circuit current I_K ≤ 1.1 kA 	Fuse links,	Α	6	
	operational class gG			
	- NEOZED type 5SE			
	- DIAZED type 5SB			
• Short circuit current I < 400 A	- LV HRC type 3NA	٨	6	
 Short-circuit current I_K < 400 A 	Miniature circuit breaker up to 230 V with C characteristic	Α.	U	
Overland (short sireuit		۸	4	
Overload (short-circuit current $I_K \le 1.1 \text{ kA}$)	Fuse links,	Α	4	
	operational class gG - NEOZED type 5SE			
	- DIAZED type 5SB			
	- LV HRC type 3NA			
	* 1			

IE3/IE4 ready 3RA61, 3RA62 compact starters > 3RA61 direct-on-line starters

Selection and ordering data







Width 45 mm

3RA6120-1D□33

3RA6120-1E□33

3RA6120-1AB34

3RA6120-1BB34

3RA6120-1CB34

3RA6120-1DB34

3RA6120-1EB34

В

Р

Rated short-circuit current I_{CS} = 53 kA at 400 V

A set of 3RA6940-0A adapters is required for screw fixing.

PU (UNIT, SET, M) = 1 PS* PG = 1 unit = 42F

March S.	Sanaa A					
3RA6120-1CB32	3RA6120-2EB32					
Standard three-pha- motor 4-pole at 400 Standard output P	Se Setting range of the electronic overload rel	Instantaneous ease electronic release	Article No.	Price per PU	Article No.	Price per PU
	4	<i>I</i> >				
kW	Α	А				
and with the AS	nfeed system for 3RA6 -i add-on module or as a I control circuit terminals	replacement device				
0.09	0.1 0.4	56	3RA6120-0A□30		-	
0.37	0.32 1.25	56	3RA6120-0B□30			
1.5	1 4	56	3RA6120-0C□30			
5.5	3 12	168	3RA6120-0D□30		-	
15	8 32	448	3RA6120-0E□30		-	
			Screw terminals		Spring-loaded terminals	<u></u>
	unting or screw fixing in circuit terminals and 1 pa	air of control circuit terminal	ls			
0.09	0.1 0.4	56	3RA6120-1A□32		3RA6120-2A□32	
0.37	0.32 1.25	56	3RA6120-1B□32		3RA6120-2B□32	
1.5	1 4	56	3RA6120-1C□32		3RA6120-2C□32	
5.5	3 12	168	3RA6120-1D□32		3RA6120-2D□32	
15	8 32	448	3RA6120-1E□32		3RA6120-2E□32	
	nfeed system for 3RA6 uit terminals, with 1 pair of	control circuit terminals				
0.09	0.1 0.4	56	3RA6120-1A□33		3RA6120-2A□33	
0.37	0.32 1.25	56	3RA6120-1B□33		3RA6120-2B□33	
1.5	1 4	56	3RA6120-1C□33		3RA6120-2C□33	

8 ... 32 Article No. supplements for rated control supply voltage

3 ... 12

• 24 V AC/DC

5.5

15

• 110 ... 240 V AC/DC

For DIN-rail mounting or screw fixing for use with AS-i add-on module with 1 pair of main circuit terminals, without control circuit terminals Rated control supply voltage 24 V AC/DC

168

448

0.09	0.1 0.4	56
0.37	0.32 1.25	56
1.5	1 4	56
5.5	3 12	168
15	8 32	448

1)	The actual starting and rated data of the motor to be protected must be
	considered when selecting the units.

3RA6120-2D□33

3RA6120-2E□33

3RA6120-2AB34

3RA6120-2BB34

3RA6120-2CB34

3RA6120-2DB34 3RA6120-2EB34

В

Р

Load feeders and motor starters for use in the control cabinet

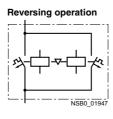
SIRIUS 3RA6 compact starters

3RA61, 3RA62 compact starters > 3RA62 reversing starters | IE3/IE4 ready

Selection and ordering data







Width 90 mm

Rated short-circuit current I_{CS} = 53 kA at 400 V

Two sets of 3RA6940-0A adapters are required for screw fixing.

Standard three-phase motor 4-pole at 400 V AC ¹⁾ Standard output <i>P</i>	Setting range of the electronic overload release	Instantaneous electronic release	Article No.	Price per PU	Article No.	Price per PU
kW	G A	[

For use in the infeed system for 3RA6 and with the AS-i add-on module or as a replacement device without main and control circuit terminals

0.09	0.1 0.4	56
0.37	0.32 1.25	56
1.5	1 4	56
5.5	3 12	168
15	8 32	448

3RA6250-0A□30
3RA6250-0B□30
3RA6250-0C□30
3RA6250-0D□30
3RA6250-0E□30

			Screw terminals	+	Spring-loaded terminals	$\overset{\infty}{\square}$
	unting or screw fixing in circuit terminals and 1	pair of control circuit terminals				
0.09	0.1 0.4	56	3RA6250-1A□32		3RA6250-2A□32	
0.37	0.32 1.25	56	3RA6250-1B□32		3RA6250-2B□32	
1.5	1 4	56	3RA6250-1C□32		3RA6250-2C□32	
5.5	3 12	168	3RA6250-1D□32		3RA6250-2D□32	
15	8 32	448	3RA6250-1E□32		3RA6250-2E□32	
	nfeed system for 3RA6 and terminals, with 1 pair of	of control circuit terminals				
0.09	0.1 0.4	56	3RA6250-1A□33		3RA6250-2A□33	
0.37	0.32 1.25	56	3RA6250-1B□33		3RA6250-2B□33	
1.5	1 4	56	3RA6250-1C□33		3RA6250-2C□33	
5.5	3 12	168	3RA6250-1D□33		3RA6250-2D□33	
15	8 32	448	3RA6250-1E□33		3RA6250-2E□33	
Article No. supple	Article No. supplements for rated control supply voltage					

• 24 V AC/DC

• 110 ... 240 V AC/DC

For DIN-rail mounting or screw fixing for use with AS-i add-on module with 1 pair of main circuit terminals, without control circuit terminals Rated control supply voltage 24 V AC/DC

0.09	0.1 0.4	56
0.37	0.32 1.25	56
1.5	1 4	56
5.5	3 12	168
15	8 32	448

¹⁾ The actual starting and rated data of the motor to be protected must be considered when selecting the units.

3RA6250-1AB34 3RA6250-1BB34 3RA6250-1CB34 3RA6250-1DB34 3RA6250-1EB34

B P

3RA6250-2AB34 3RA6250-2BB34 3RA6250-2CB34 3RA6250-2DB34 3RA6250-2EB34

IE3/IE4 ready 3RA64, 3RA65 compact starters for IO-Link > 3RA64 direct-on-line starters

Selection and ordering data

3RA64 with 3RA6911-1A auxiliary switch

Direct-on-line starting

Rated control supply voltage 24 V DC

Width 45 mm

Rated short-circuit current $I_{\rm CS}$ = 53 kA at 400 V

A set of 3RA6940-0A adapters is required for screw fixing.

auxillary switch						
Standard three-phase motor 4-pole at 400 V AC ¹⁷ Standard output <i>P</i>	Setting range of the electronic overload release	Instantaneous electronic release	Article No.	Price per PU		
	4	<i>I</i> >				
kW	Α	A	Screw terminals	+	Spring-loaded terminals	
For DIN-rail mounting with 1 pair of main circu	or screw fixing uit terminals and 1 pair of	control circuit terminals				
0.09	0.1 0.4	56	3RA6400-1AB42		3RA6400-2AB42	
0.37	0.32 1.25	56	3RA6400-1BB42		3RA6400-2BB42	
1.5	1 4	56	3RA6400-1CB42		3RA6400-2CB42	
5.5	3 12	168	3RA6400-1DB42		3RA6400-2DB42	
15	8 32	448	3RA6400-1EB42		3RA6400-2EB42	
For use in the infeed without main circuit terr	system for 3RA6 minals, with 1 pair of cont	rol circuit terminals				
0.09	0.1 0.4	56	3RA6400-1AB43		3RA6400-2AB43	
0.37	0.32 1.25	56	3RA6400-1BB43		3RA6400-2BB43	
1.5	1 4	56	3RA6400-1CB43		3RA6400-2CB43	
5.5	3 12	168	3RA6400-1DB43		3RA6400-2DB43	
15	8 32	448	3RA6400-1EB43		3RA6400-2EB43	

¹⁾ The actual starting and rated data of the motor to be protected must be considered when selecting the units.

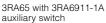
Load feeders and motor starters for use in the control cabinet

SIRIUS 3RA6 compact starters

3RA64, 3RA65 compact starters for IO-Link > 3RA65 reversing starters IE3/IE4 ready

Selection and ordering data





Reversing operation

Rated control supply voltage 24 V DC

Width 90 mm

Rated short-circuit current $I_{\rm CS}$ = 53 kA at 400 V

Two sets of 3RA6940-0A adapters are required for screw fixing.

$$\begin{array}{ll} PU \text{ (UNIT, SET, M)} = 1 \\ PS^* & = 1 \text{ unit} \\ PG & = 42F \end{array}$$

darinary ourtern						
Standard three-phase motor 4-pole at 400 V AC ¹⁾ Standard output <i>P</i>	Setting range of the electronic overload release	Instantaneous electronic release	Article No.	Price per PU	Article No.	Price per PU
	4	[>				
kW	A	A	Screw terminals	+	Spring-loaded terminals	<u>~</u>
For DIN-rail mounting with 1 pair of main circu	or screw fixing iit terminals and 1 pair of	control circuit terminals				
0.09	0.1 0.4	56	3RA6500-1AB42		3RA6500-2AB42	
0.37	0.32 1.25	56	3RA6500-1BB42		3RA6500-2BB42	
1.5	1 4	56	3RA6500-1CB42		3RA6500-2CB42	
5.5	3 12	168	3RA6500-1DB42		3RA6500-2DB42	
15	8 32	448	3RA6500-1EB42		3RA6500-2EB42	
For use in the infeed s without main circuit term	system for 3RA6 ninals, with 1 pair of cont	rol circuit terminals				
0.09	0.1 0.4	56	3RA6500-1AB43		3RA6500-2AB43	
0.37	0.32 1.25	56	3RA6500-1BB43		3RA6500-2BB43	
1.5	1 4	56	3RA6500-1CB43		3RA6500-2CB43	
5.5	3 12	168	3RA6500-1DB43		3RA6500-2DB43	
15	8 32	448	3RA6500-1EB43		3RA6500-2EB43	

¹⁾ The actual starting and rated data of the motor to be protected must be considered when selecting the units.

Accessories

Overview

Accessories for SIRIUS 3RA6 compact starters

The following accessories are available specially for the 3RA6 compact starters:

- Infeed system for 3RA6, see page 8/76 onwards
- AS-i add-on modules, see "Add-on modules for AS-Interface", page 8/74 onwards
- External auxiliary switches: Snap-on auxiliary switch as versions 2 NO, 2 NC and 1 NO + 1 NC with screw or springloaded terminals; the contacts of the auxiliary switch open and close jointly with the main contacts of the compact starter. The NC contacts are designed as mirror contacts.
- Control kit: Aid for manually closing the main contacts in order to check the wiring and motor direction under conditions of short-circuit protection
- Adapter for screw fixing the compact starter, including push-in lugs
- Main circuit terminal: Available with screw and spring-loaded terminals
- Main circuit terminals mixed connection method:
 With the main circuit terminals mixed connection method
 it is also possible in the main circuit to switch from screw
 terminals on the line side to spring-loaded terminals on
 the outgoing side.

This enables, for example, the side-by-side mounting of several compact starters and their cost-efficient connection using 3-phase busbars on the infeed side. The motors are then connected directly by the quick and reliably contacting spring-loaded terminals.

Accessories for UL applications

The terminal block for "Self-Protected Combination Motor Controller (Type E)" is available for complying with the clearance and creepage distances required according to UL 508.

Accessories for infeed using 3-phase busbar systems

The 3RV1915-1.B 3-phase busbars can be used as an easy, time-saving and clearly arranged means of feeding SIRIUS 3RA6 compact starters with screw terminals. Motor starter protector sizes S00 and S0 can also be integrated.

The busbars are suitable for between two and five devices. However, any kind of extension up to a maximum summation current of 63 A is possible by clamping the connection tags of an additional busbar (rotated by 180°) underneath the terminals of the respective last motor starter protector.

Motor starter protectors S00 and S0 of the 3RV2 series can be combined in any way. The motor starter protectors are supplied by appropriate infeed terminals. Special infeed terminals are required for assembling "Starters (Type E)" according to UL/CSA.

The 3-phase busbar systems have touch protection but empty connection tags must be fitted with covers. They are designed for any short-circuit stress which can occur at the output side of connected SIRIUS 3RA6 compact starters or motor starter protectors.

Busbar adapters for 60 mm systems

The compact starters are mounted directly with the aid of busbar adapters on busbar systems with 60 mm center-to-center clearance in order to save space and to reduce infeed times and costs. These compact starters are suitable for copper busbars with a width from 12 to 30 mm. The busbars can be 4 to 5 mm or 10 mm thick.

The 8US busbar system can be loaded with a maximum summation current of 630 A.

The "reversing starter" version requires a device holder alongside the busbar adapter for lateral mounting.

The compact starters are snapped onto the adapter and connected on the line side. This prepared unit is then plugged directly onto the busbar system, and is thus connected both mechanically and electrically at the same time.

For further accessories, such as incoming and outgoing terminals, flat copper profiles etc., see Catalog LV 10.

Accessories for SIRIUS 3RA6 compact starters in IO-Link version

The following accessories are available specially for the 3RA64, 3RA65 compact starters:

- Additional connecting cables for side-by-side mounting of up to four compact starters
- Operator panel for on-site control and diagnostics of up to four compact starters coupled to each other

Load feeders and motor starters for use in the control cabinet

SIRIUS 3RA6 compact starters

Accessories

Accessories							
Selection an	d orderii	ng data					
		Version	Article No.	Price per PU		PS*	PG
Ó	specially	/ for 3RA6 compact starters Control kit For mechanical actuation of the compact starter	3RA6950-0A		1	1 unit	42F
3RA6950-0A		Adapter for screw fixing the compact starter (set including push-in lugs) Direct-on-line starters require one set, reversing starters two sets.	3RA6940-0A		1	1 unit	42F
3RA6911-1A		Auxiliary switches for compact starters • 2 NO • 2 NC • 1 NO + 1 NC (these auxiliary contacts are force-guided) Main circuit terminals (line side and outgoing side)	3RA6911-1A 3RA6912-1A 3RA6913-1A 3RA6920-1A	+	1 1 1	1 unit 1 unit 1 unit 1 unit	42F 42F 42F 42F
3RA6920-1A 3RA6920-1B		Control circuit terminals (1 set comprising 2 terminals) • For 3RA61 • For 3RA62	3RA6920-1B 3RA6920-1C		1 1	1 unit 1 unit	42F 42F
3RA6911-2A		Auxiliary switches for compact starters • 2 NO • 2 NC • 1 NO + 1 NC (these auxiliary contacts are force-guided) Main circuit terminals	Spring-loaded terminals 3RA6911-2A 3RA6912-2A 3RA6913-2A 3RA6920-2A		1 1 1	1 unit 1 unit 1 unit	42F 42F 42F
3RA6920-2A		(line side and outgoing side)	JIIAUJZUZA		1	i unit	42F
3RA6920-2B		Control circuit terminals (1 set comprising 2 terminals) • For 3RA61 • For 3RA62	3RA6920-2B 3RA6920-2C		1 1	1 unit 1 unit	42F 42F

					Acces	sories
	Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Accessories specially	for 3RA6 compact starters (continued)					
3RA6920-3A	Main circuit terminals, mixed connection method 1 set comprises: 1 joint block on the line side with screw terminals 1 joint block on the outgoing side with spring-loaded terminals	3RA6920-3A		1	1 unit	42F
	Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Accessories specially	for 3RA64, 3RA65 compact starters for IO-Link					
	Additional connecting cables (flat) for side-by-side mounting of up to 4 compact starters • 10-pole					
	- 8 mm ¹⁾ - 200 mm ¹⁾ • 14-pole	3RA6932-0A 3RA6933-0B		1	5 units 5 units	42F 42F
3RA6931-0A	- 8 mm ²) - 200 mm	3RA6931-0A 3RA6933-0C		1 1	5 units 5 units	42F 42F
3.2.2	Operator panel (set) 1 operator panel 1 enabling module 1 interface cover 1 fixing terminal	3RA6935-0A		1	1 unit	42F
3RA6935-0A						
	Enabling module (replacement)	3RA6936-0A		1	1 unit	42F
	Interface covers (replacement) Connecting cable (round) For connecting the operator panel 10-pole, 2 000 mm	3RA6936-0B 3RA6933-0A		1	5 units 1 unit	42F 42F
concepts.	es are required for EMERGENCY OFF group					
Is included in the scope in IO-Link version.	of supply of the SIRIUS 3RA6 compact starter					
For matching IO-Link n	nasters, see page 2/98 onwards.					
	Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	otected Combination Motor Controllers (Type E)" ed through parallel wiring with compact starters					

4	1/1	
	00	17/

3RV2928-1H

Terminal block Type E

For extended clearance and creepage distances (1 and 2 inch)

Note:

UL 508 demands 1-inch clearance and 2-inch creepage distance on the line side for "Combination motor controller (Type E)". Terminal blocks are not required for use according to CSA. These terminal blocks cannot be used in combination with 3RV19.5 3-phase busbars.

3RV2928-1H

1 unit

41E

Accessories

	Number of a starters and protectors the connected Without late accessories	d motor starter hat can be eral	Modular spacing	Rated current I at 690 V		Article No.	Pric per Pl		PS*	PG
			mm	Α	Size					
3-phase busbars for i	nfeed with	3BA6								
o prideo buobaro for f		several compa	act starter	e and/or m	otor starter					
		vith screw term								
0D/4045 4AD	DIN rails, in	sulated, with to	ouch prote	ection.	•					
3RV1915-1AB	2		45	63	S00, S0	3RV1915-		1	1 unit	41E
	3 4		45 45	63 63	S00, S0 S00, S0	3RV1915-		1	1 unit 1 unit	41E 41E
3RV1915-1BB	5		45	63	S00, S0	3RV1915-		i	1 unit	41E
31171913-100										
MANAGARA										
3RV1915-1CB										
AND AND AND AND AND AND AND AND AND AND										
3RV1915-1DB										
0117101010										
	Version		Mo	dular	For	Article No.	Price	e PU	PS*	PG
	VELSIOLI				motor	Article No.	per Pl		13	ru
					starter		·	SÈT, M)		
					protectors					
			mm	1	Size					
Covers for connectio			ousbars					_		
	Touch prote				S00, S0	3RV1915-	6AB	1	10 units	41E
AAAAAAAA	empty posit	ions								
3RV1935-6AB										
cover mounted on 3RV1915-1CB										
busbar										
	Conductor	cross-section		Tightening		Article No.			PS*	PG
		Finely AWC	<i>a</i>	torque	compact starters		per Pl	J (UNIT, SET, M)		
		stranded cable with end or st	les, solid randed		and motor			JL1, WI)		
		sleeve	ianaea		starter					
					protectors					
		mm² AW0		Nm	Size					
3-phase infeed termin					EC					
and for assembling "			oraing to	UL 508						
	Connection									
at the	2.5 25 2	2.5 16 10	. 4	3 4	S00, S0	3RV2925-	5EB	1	1 unit	41E
6101011										
חחח										
3RV2925-5EB										
3-phase infeed terming								_		
	Connection	n from below ¹)							
	2.5 25 2	2.5 16 10		Input: 4;	S00, S0	3RV2915-	5B	1	1 unit	41E
			(Output: 2 2.5						
6 8 8			4	د ح.ن						
3RV2915-5B										

This terminal is connected in place of a compact starter, please take the space requirement (45 mm) into account.

					Access	sories
	Version	Article No.	Price per PU		PS*	PG
Busbar adapters for 60) mm systems					
	For copper busbars according to DIN 46433 Width: 12 30 mm Thickness: 4 5 mm or 10 mm	8US1211-1NS10		1	1 unit	140
8US1211-1NS10						
for 60 mm systems	ral mounting alongside the busbar adapter					
	Required in addition to the busbar adapter for mounting a reversing starter	8US1250-1AA10		1	1 unit	140
8US1250-1AA10						
Tools for opening spri	-					
	Screwdriver For all SIRIUS devices with spring-loaded terminals	Spring-loaded terminals				
3RA2908-1A	Length approx. 200 mm, 3.0 mm x 0.5 mm, titanium gray/black, partially insulated	3RA2908-1A		1	1 unit	41B
Blank labels						
3RT2900-1SB20	Unit labeling plates ¹⁾ For SIRIUS devices 20 mm x 7 mm, titanium gray	3RT2900-1SB20		100 3	340 units	41B
	System Manual for 3RA6 compact starter and infeed system for the 3RA6, see https://support.industry.siemens.com/cs/ww/en/view/27865747					

PC labeling system for individual inscription of unit labeling plates available from: murrplastik Systemtechnik GmbH (see page 16/18).

Add-on modules for AS-Interface

Overview

Various AS-i add-on modules are available for communication of the 3RA6 compact starter with the control system through AS-Interface:

- · Standard version
- · With two local inputs
- With two free external inputs
- With one free external input and one free external output
- With two free external outputs
- · For local control

The AS-i add-on modules can be combined only in connection with compact starters with a rated control supply voltage of 24 V AC/DC.

AS-i add-on module for local control

With this new module it is also possible for the connected compact starter to be operated directly using simple switches, i.e. without recourse to AS-i communication, if required.

"Automatic" mode

NC contacts can be connected to the inputs Y2 and Y4 through the local terminals on the AS-i add-on module. If the "+" terminals are connected simultaneously to both local inputs, the AS-i add-on module will be in "Automatic" mode, i.e. it will communicate with the control system through AS-Interface.

Local control

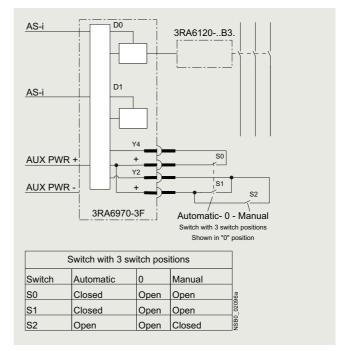
Opening the two inputs Y2 and Y4 will result in the direct disconnection of the compact starter. Operation through AS-i communication is finished and the compact starter can now be switched on and off directly using NO contacts (one NO contact per direction of rotation on the reversing starter).

"LED AUX Power" must light up green, the 24 V DC supply must be ensured and the AS-i supply voltage must no longer be applied.

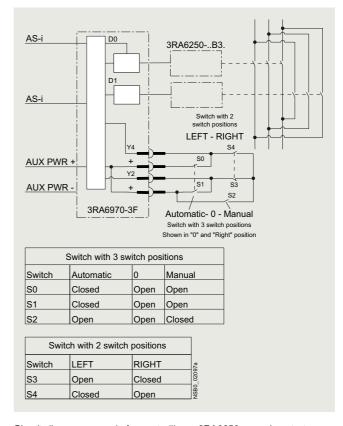
Resetting to "Automatic" mode

If a "1" signal is simultaneously applied at the local inputs, the availability bit DI 0 is switched to a "1" signal.

If AS-i communication is reset, the motor is first switched off and then on again when requested by the control system.



Circuit diagram example for controlling a 3RA6120 direct-on-line starter using an AS-i add-on module for local control



Circuit diagram example for controlling a 3RA6250 reversing starter using an AS-i add-on module for local control

Add-on modules for AS-Interface

					_
Version	Article No.	Price per PU		PS*	PG
s					
Standard version	3RA6970-3A		1	1 unit	42F
For communication of the compact starter with the control system through AS-Interface					
With two local inputs	3RA6970-3B		1	1 unit	42F
For safe disconnection through local safety relays, e.g. cable-operated switches					
With two free external inputs	3RA6970-3C		1	1 unit	42F
Replaces the digital standard inputs "Motor On" and "Group warning"					
With one free external input and one free external output	3RA6970-3D		1	1 unit	42F
Replaces the digital standard input "Group warning"					
With two free external outputs	3RA6970-3E		1	1 unit	42F
Only for direct-on-line starters, replaces the digital standard output "Motor CCW"					
For local control	3RA6970-3F		1	1 unit	42F
Control of the compact starter optionally using AS-Interface or local switches					
add-on modules					
Connection plugs for data and auxiliary supply cable With 2 insulation displacement terminations for standard stranded wires 2 x 0.5 0.75 mm ²					
Flat, yellow, extender	3RK1901-0NA00		1	5 units	42C
 Flat, black, extender 	3RK1901-0PA00		1	5 units	42C
i add-on modules					
AS-Interface addressing unit V3.0 For AS-Interface modules and sensors and actuators with integrated AS-Interface according to AS-i specification V3.0 For setting the AS-i address of standard slaves, and slaves with extended addressing mode (A/B devices) With input/output test function and many other commissioning functions Battery operation with four type AA batteries (IEC LR6, NEDA 15) Scope of supply: Addressing unit with four batteries Addressing cable, with M12 plug to addressing plug	3RK1904-2AB02		1	1 unit	42C
	Standard version For communication of the compact starter with the control system through AS-Interface With two local inputs For safe disconnection through local safety relays, e.g. cable-operated switches With two free external inputs Replaces the digital standard inputs "Motor On" and "Group warning" With one free external input and one free external output Replaces the digital standard input "Group warning" With two free external outputs Only for direct-on-line starters, replaces the digital standard output "Motor CCW" For local control Control of the compact starter optionally using AS-Interface or local switches add-on modules Connection plugs for data and auxiliary supply cable With 2 insulation displacement terminations for standard stranded wires 2 x 0.5 0.75 mm² • Flat, yellow, extender • Flat, black, extender i add-on modules AS-Interface addressing unit V3.0 • For AS-Interface according to AS-i specification V3.0 • For setting the AS-i address of standard slaves, and slaves with extended addressing mode (A/B devices) • With input/output test function and many other commissioning functions • Battery operation with four type AA batteries (IEC LR6, NEDA 15) • Scope of supply: - Addressing unit with four batteries	Standard version For communication of the compact starter with the control system through AS-Interface With two local inputs For safe disconnection through local safety relays, e.g. cable-operated switches With two free external inputs Replaces the digital standard inputs 'Motor On' and 'Group warning' With noe free external input and one free external output Replaces the digital standard input "Group warning" With two free external input and one free external output Replaces the digital standard input "Group warning" With two free external outputs Only for direct-on-line starters, replaces the digital standard output "Motor CCW" For local control Control of the compact starter optionally using AS-Interface or local switches add-on modules Connection plugs for data and auxiliary supply cable With 2 insulation displacement terminations for standard stranded wires 2 x 0.5 0.75 mm² • Flat, yellow, extender • Flat, black, extender AS-Interface addressing unit V3.0 • For AS-Interface modules and sensors and actuators with integrated AS-Interface according to AS-i specification V3.0 • For AS-Interface modules and sensors and actuators with integrated AS-interface according to AS-i specification V3.0 • For setting the AS-i address of standard slaves, and slaves with extended addressing mode (AJB devices) • With input/output test function and many other commissioning functions • Battery operation with four type AA batteries (IEC LR6, NEDA 15) • Scope of supply: - Addressing unit with four batteries	Standard version For communication of the compact starter with the control system through AS-Interface With two local inputs For safe disconnection through local safety relays, e.g. cable-operated switches With two free external inputs Replaces the digital standard inputs 'Motor On' and 'Group warning' With one free external input and one free external output Replaces the digital standard input 'Group warning' With two free external input and one free external output Replaces the digital standard output 'Group warning' With two free external outputs Only for direct-on-line starters, replaces the digital standard output 'Motor CCW' For local control Control of the compact starter optionally using AS-Interface or local switches add-on modules Connection plugs for data and auxiliary supply cable With 2 insulation displacement terminations for standard stranded wires 2 x 0.5 0.75 mm² • Flat, yellow, extender • Flat, pellow, extender i add-on modules AS-Interface addressing unit V3.0 • For AS-Interface modules and sensors and actuators with integrated AS-Interface according to AS-i specification V3.0 • For setting the AS-i address of standard slaves, and slaves with extended addressing mode (A/B devices) • With input/output test function and many other commissioning functions • Battery operation with four type AA batteries (IEC LR6, NEDA 15) • Scope of supply: - Addressing unit with four batteries	Standard version For communication of the compact starter with the control system through AS-Interface With two local inputs For safe disconnection through local safety relays, e.g. cable-operated switches With two free external inputs "Motor On" and "Group warning" With one free external input and one free external output Replaces the digital standard input "Group warning" With two free external outputs Only for direct-on-line starters, replaces the digital standard output "Motor CCW" For local control Control of the compact starter optionally using AS-Interface or local switches add-on modules Connection plugs for data and auxiliary supply cable With 2 insulation displacement terminations for standard stranded wires 2 x 0.5 0.75 mm² Flat, yellow, extender AS-Interface addressing unit V3.0 For AS-Interface according to AS-I specification V3.0 For Setting the AS-I address of standard slaves, and slaves with extended addressing mode (A/B devices) With input/output test function and many other commissioning functions Battery operation with four type AA batteries ((EC LRR, NEDA 15) Scope of supply): Addressing unit with four batteries	S Standard version For communication of the compact starter with the control system through AS-Interface With two fee external inputs Replaces the digital standard inputs With row free external input and one free external output With two free external input and one free external output Replaces the digital standard input 'Group warning' With two free external outputs Only for direct-on-line starters, replaces the digital standard output 'Group warning' With two free external outputs Only for direct-on-line starters, replaces the digital standard output 'Motor CCW' For local control Control of the compact starter optionally using AS-Interface or local switches add-on modules AS-Interface addressing unit V3.0 • Flat, yellow, extender • Flat, black, extender AS-Interface addressing unit V3.0 • For setting the AS-i address of standard slaves with extended addressing mode (A/B devices) • With input/output test function and many other commissioning functions • Battery operation with four type AA batteries ((EC LRG, NEDA 15) • Scope of supply: - Addressing unit with four batteries

For matching AS-Interface masters, routers and power supply units, see pages 2/29, 2/41 and 2/67 onwards.

Infeed system for 3RA6

Overview

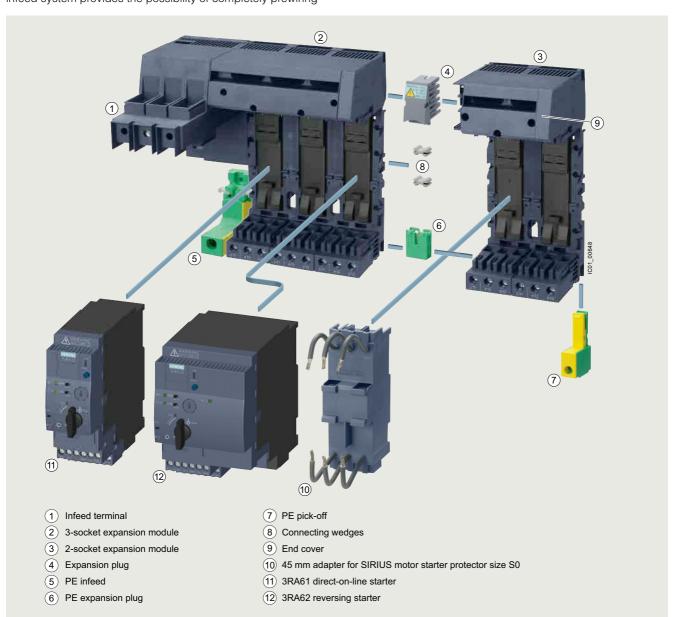
More information

Homepage, see www.siemens.com/sirius-infeed-system SiePortal, see www.siemens.com/product?3RA68

Online configurator, see www.siemens.com/sirius/configurators

The infeed system for 3RA6 compact starters enables far less wiring in the main circuit and, thanks to the easy exchangeability of the compact starters, reduces the usual downtimes for maintenance work during the plant's operating phase. The infeed system provides the possibility of completely prewiring

the main circuit without a compact starter needing to be connected at the same time. As the result of the removable terminals in the main circuit, compact starters can be integrated in an infeed system in easy manner (without the use of tools).



Infeed system for 3RA6 compact starters

Infeed system for 3RA6

In addition, the integrated PE bar means it is optionally possible to connect the motor cable directly to the infeed system without additional intermediate terminals. The infeed system for 3RA6 compact starters is designed for summation currents up to 100 Å with a maximum conductor cross-section of up to 70 mm² on the infeed terminal block.

The infeed system can be mounted on a DIN rail or flat surfaces.

(1) Infeed

The 3-phase infeed is available as an infeed with screw terminal (25/35 mm² up to 63 A or 50/70 mm² up to 100 A) and as an infeed with spring-loaded terminal (25/35 mm² up to 63 A).

The infeed with spring-loaded terminal can be fitted on the left as well as on the right of an expansion module.

The infeed with screw terminal is supplied only with a 3-socket expansion module and permanently fitted on the left side.

The infeeds with screw terminal enable connection of the main conductors (L1, L2, L3) either from above or from below.

The infeed with screw terminal is supplied complete with one end cover, the infeed with spring-loaded terminal complete with two end covers.

(2) 3-socket expansion module

The expansion module with three sockets for compact starters is available with screw terminals and with spring-loaded terminals.

Expansion modules enable the infeed system to be expanded and can be fitted to each other in any number.

Two expansion modules are held together with the help of two connecting wedges and one expansion plug. These assembly parts are included in the scope of supply of the respective expansion module.

When the infeed system for 3RA6 compact starters is used, the compact starters (plug-in modules) are easily assembled and disassembled even when live.

Optional possibilities:

- PE connection on motor outgoing side
- Outfeed for external auxiliary devices
- Connection to 3RV29 infeed system
 Integration of SIRIUS 3RV2 motor starter protectors size S0 up to 25 A (using 3RA6890-0BA adapter)

(3) 2-socket expansion module

If only two instead of three additional sockets are required, then the 2-socket expansion module is the right choice. It has the same functionality as the 3-socket expansion module.

(4) Expansion plug

Two expansion modules can be connected together using the expansion plug. Flexible expansion of the infeed system is thus possible.

(5) PE infeed

This module enables a PE cable to be connected.

The PE infeed can be ordered with screw terminals and springloaded terminals (35 mm²) and can be fitted on the right or left of the expansion block.

(6) PE expansion plug

The PE expansion plug is inserted from below and enables two PF bars to be connected.

7 PE pick-off

The PE pick-off is available with screw terminals and springloaded terminals (6/10 mm²). It is snapped into the infeed system from below.

8 Connecting wedges

Two connecting wedges are used to hold together two expansion modules.

(9) End covers

On the last expansion module of a row, the socket provided for the expansion plug can be covered by inserting the end cover.

(10) 45 mm adapter for SIRIUS motor starter protectors size S0

SIRIUS 3RV2 motor starter protectors size S0 with screw terminals can be fitted to the adapter, enabling them to be plugged into the infeed system.

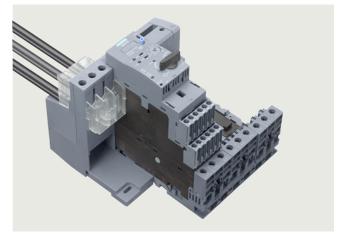
Terminal covers for increasing finger protection on the

Universally configured terminal covers are available for the 25/35 mm² and 50/70 mm² 3-phase infeeds with screw terminal:

- 3RA6880-2AB terminal covers for infeeds with screw terminal 25/35 mm² (3RA6812-8AB/-8AC)
- 3RA6880-3AB terminal covers for infeeds with screw terminal 50/70 mm² (3RA6813-8AB/-8AC)

The terminal covers can be used in two ways on the infeed terminals of the infeeds with screw terminal 25/35 mm² and 50/70 mm² (see illustration):

- If the terminals are connected, the cables are also covered:
 - by approx. 14 mm with the 3RA6880-2AB
 - by approx. 18 mm with the 3RA6880-3AB
- On clamping points without connected cables, the covers can be turned once and then pushed over the clamping points for finger-safe covering of the metal parts.



Use of the 3RA6880-2AB terminal cover on the infeed with screw terminal 25/35 mm² (3RA6812-8AB/-8AC). The upper cover increases the fingersafety for the connected conductors. The identical lower cover is turned for use and prevents touching of the voltage-carrying metal parts of the infeed terminal. For better recognition, the covers are shown as transparent in this illustration and not in their original color.

Infeed system for 3RA6

Terminal blocks

Using the terminal block the three phases can be fed out of the system; this means that 1-phase, 2-phase and 3-phase components can also be integrated in the system.

After the end cover is pulled out, the terminal block can be plugged onto an expansion module.

Expansion plug for SIRIUS 3RV29 infeed systems

After the end cover is pulled out, the expansion plug for the SIRIUS 3RV29 infeed system can be plugged onto an expansion module. It connects the infeed system for 3RA6 compact starters with the SIRIUS 3RV29 infeed system.

Maximum rated operational current

The following maximum rated operational currents apply for the components of the infeed system for 3RA6:

Component	Maximum rated operational current
	A
Infeed with screw terminal 50/70 mm ²	100
Infeed with screw terminal 25/35 mm ²	63
Infeed with spring-loaded terminal 25/35 mm ²	63
Expansion plug	63

With side-by-side mounting of several expansion modules, the maximum rated operational current from the second expansion module to the end of the row is 63 A.

Proposal for upstream short-circuit protection devices

The following short-circuit data apply for the components of the infeed system for 3RA6 compact starters:

	a system for only to compat		
Conductor cross-section	Maximum let-through current $I_{ m d,max}$ and current integral I^2t	Proposal for upstream short-circuit protection device	Maxi- mum prospec- tive I _{short} - circuit kA
3RA681	cuit protection for BA. infeed with screw terminal n ² and 50/70 mm ²)		
2.5 35, 2.5 70	$I_{d,max}$ < 21 kA, I^2t = 530 kA ² s	3RV2041-4MA10 (LV HRC gG 3NA3; 315 A)	50
	cuit protection for infeed ng-loaded terminal 25/35 mm ² , -5AC		
4	$I_{d,max} < 9.5 \text{ kA}, I^2 t = 85 \text{ kA}^2 \text{s}$	3RV2021-4DA10	40
6	$I_{d,max}$ < 12.5 kA, I^2t = 140 kA ² s	3RV2031-4EA10	30
10	$I_{d,max}$ < 15 kA, I^2t = 180 kA ² s	3RV2031-4WA10	25
16/25	$I_{d,max}$ < 19 kA, I^2t = 440 kA ² s	3RV2031-4JA10	65
		3RV2041-4JA10	65
35	$I_{d,max}$ < 21 kA, I^2t = 530 kA ² s	3RV2041-4MA10 (LV HRC gG 3NA3; 315 A)	50
Short-circ block, 3R	cuit protection for terminal V2917-5D		_
1.5	I _{d, max} < 7.5 kA	5SY	
2.5	$I_{\rm d,max}$ < 9.5 kA	1)	
4	$I_{\rm d,max}$ < 9.5 kA		
6	$I_{\rm d,max}$ < 12.5 kA		

¹⁾ To prevent the possibility of short circuits, the cables on the terminal block must be installed so that they are short-circuit-proof.

Load feeders and motor starters for use in the control cabinet SIRIUS 3RA6 compact starters

Infeed system for 3RA6

Selection and ordering data

Version	Article No.	Price	PU	PS*	PG
		per PU			
			SET, M)		

3-phase infeeds and expansion modules



Infeeds with screw terminal 25/35 mm² on the left

Infeed with screw terminal on the line side with a permanently fitted 3-socket expansion module with screw or spring-loaded terminals on the outgoing side and integrated PE bar

Expansion module with 3 sockets for 3 direct-on-line starters or 1 direct-on-line starter and 1 reversing starter

3RA6812-8AB



- Screw terminals on the outgoing side
- Spring-loaded terminals on the outgoing side



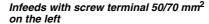
1 unit 42F

42F 1 unit





3RA6813-8AB

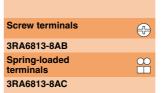


Infeed with screw terminal on the line side with a permanently fitted 3-socket expansion module with screw or spring-loaded terminals on the outgoing side and integrated PE bar

Expansion module with 3 sockets for 3 direct-on-line starters or 1 direct-on-line starter and 1 reversing starter, suitable for UL operation according to UL 508 Type E



- · Screw terminals on the outgoing side
- · Spring-loaded terminals on the outgoing side



1 unit 42F

1 unit 42F

3RA6813-8AC



3RA6830-5AC

Infeed with spring-loaded terminal 25/35 mm² on the left or right

Up to 63 A



42F 1 unit

Load feeders and motor starters for use in the control cabinet SIRIUS 3RA6 compact starters

Infeed system for 3RA6

Version Article No. Price PS* PG per PU (UNIT, SÈT, M) **Expansion modules** 2-socket expansion modules With screw or spring-loaded terminals and integrated PE bar With 2 sockets for 2 direct-on-line starters or 1 reversing starter Expansion plug and 2 connecting wedges are included in the scope of supply. **Screw terminals** · Version with screw terminals 3RA6822-0AB 1 unit 42F 3RA6822-0AB **Spring-loaded terminals** 3RA6822-0AC 42F • Version with spring-loaded terminals 1 unit 3RA6822-0AC 3-socket expansion modules With screw or spring-loaded terminals and integrated PE bar With 3 sockets for 3 direct-on-line starters or 1 direct-on-line starter and 1 reversing starter Expansion plug and 2 connecting wedges are included in the scope of supply. **Screw terminals** Version with screw terminals 3RA6823-0AB 42F 1 unit 3RA6823-0AB **Spring-loaded terminals** 3RA6823-0AC • Version with spring-loaded terminals 1 unit 42F

3RA6823-0AC

Load feeders and motor starters for use in the control cabinet SIRIUS 3RA6 compact starters

Infeed system for 3RA6

	Version	Article No.	Price per PU	PU (UNIT,	PS*	PG
				SÈT, M)		
Accessories for infeed						
	PE infeeds, 25/35 mm ²					
and the same		Screw terminals	+			
	Version with screw terminals	3RA6860-6AB		1	1 unit	42F
3RA6860-6AB		Spring-loaded				
	Version with spring-loaded terminals	terminals 3RA6860-5AC		1	1 unit	42F
3RA6860-5AC	2					
_	PE pick-offs 6/10 mm ²	Screw terminals				
	Version with screw terminals	3RA6870-4AB	+	1	1 unit	42F
3RA6870-4AB						
511A0070-4AD		Spring-loaded	8			
	Version with spring-loaded terminals	terminals 3RA6870-3AC		1	1 unit	42F
3RA6870-3AC						
	Expansion plugs					
	PE expansion plug	3RA6890-0EA		1	1 unit	42F
3RA6890-0EA	Emandian alua	0040000445			49	405
3RA6890-1AB	Expansion plug Between 2 expansion modules Included in the scope of supply of the expansion modules	3RA6890-1AB		1	1 unit	42F
3RA6890-1AA	Expansion plug for SIRIUS 3RV29 infeed system Connect infeed system for 3RA6 to 3RV29 infeed system	3RA6890-1AA		1	1 unit	42F

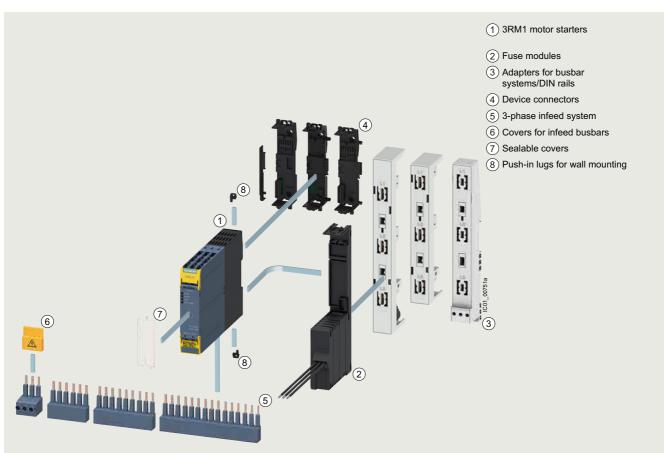
Load feeders and motor starters for use in the control cabinet SIRIUS 3RA6 compact starters

Infeed system for 3RA6

	Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Accessories for info	ed systems for 3RA6 (continued)					
Accessories for fille	45 mm adapter					
	For SIRIUS 3RV2.2 motor starter protectors/circuit breakers size S0 up to 25 A	Screw terminals	(+)			
3RA6890-0BA	Screw terminals (conductor cross-section AWG 10)	3RA6890-0BA		1	1 unit	42F
	Terminal covers for infeeds with screw terminals					
	IP20 terminal cover for infeeds with screw terminal 25/35 mm² (3RA6812-8AB/-8AC)	3RA6880-2AB		1	1 unit	42F
	(2 units per pack)					
3RA6880-2AB						
	IP20 terminal cover for infeeds with screw terminal 50/70 mm² (3RA6813-8AB/-8AC)	3RA6880-3AB		1	1 unit	42F
	(2 units per pack)					
3RA6880-3AB	Terminal block					
	For integration of 1-phase, 2-phase and 3-phase external	Spring-loaded	<u></u>			
	components	terminals 3RV2917-5D	Ш	1	1 . mit	41E
3RV2917-5D	Spring-loaded terminals	3NV2311-3D		'	1 unit	415
Tools for opening sp	ring-loaded terminals					
	Screwdriver					
	For all SIRIUS devices with spring-loaded terminals	Spring-loaded terminals	<u></u>			
	Length approx. 200 mm,	3RA2908-1A		1	1 unit	41B
	3.0 mm x 0.5 mm, titanium gray/black,					
3RA2908-1A	partially insulated					
Manuals	Contact Manual for ODAC account at the star and					
	System Manual for 3RA6 compact starter and infeed system for the 3RA6, see					
	https://support.industry.siemens.com/cs/ww/en/view/27865747					

SIRIUS 3RM1 motor starters

Overview



SIRIUS 3RM1 motor starters with accessories

More information

3RM1 motor starters:

- Homepage, see www.siemens.com/sirius-motor-starter-3RM1
- SiePortal, see www.siemens.com/product?3RM1
- Online configurator, see www.siemens.com/sirius/configurators

3SK safety relays for protecting the 3RM1 motor starters:

- Homepage, see www.siemens.com/safety-relays
- SiePortal, see www.siemens.com/product?3SK

TIA Selection Tool Cloud (TST Cloud), see www.siemens.com/tstcloud/?node=MotorStarter3RM1

Decision support for motor start – Starting and operating three-phase asynchronous motors efficiently, see www.siemens.com/motorstart-guide

SiePortal topic page with information on the planning and operating phase, see https://support.industry.siemens.com/cs/ww/en/view/109792664

SIRIUS 3RM1 motor starters are compact devices, 22.5 mm wide, combining a large number of functions in a single enclosure. They consist of combinations of relay contacts, power semiconductors (hybrid technology), and an electronic overload relay for operational switching of three-phase motors up to 3 kW (at 400 V) and resistive loads up to 10 A at AC voltages up to 500 V.

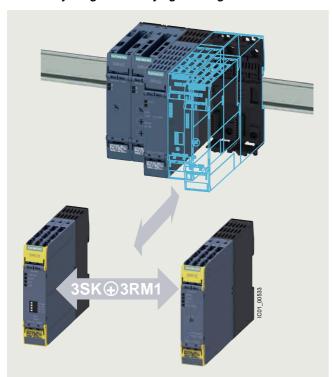
The 3RM1 motor starters with overload protection with wide setting range are available as direct-on-line starters and reversing starters and as versions with safety-related shutdown up to SIL 3 and PL e.



Video: SIRIUS 3RM1 motor starter - Compact, economical, simple

SIRIUS 3RM1 motor starters

Seamlessly integrated safety right through to the main circuit



Problem-free integration of functional safety into the main circuit through the simple combination of 3RM1 and 3SK devices

Functional safety in the main circuit needs to be both simple and

The unique compatibility of hybrid 3RM1 fail-safe motor starters and 3SK safety relays means that integrated functional safety right through to the main circuit is no longer a problem.

Their compact design allows the motor starters to be installed to the right of the safety relay in a simple manner, just like an output expansion. The wiring of the safety-related signals to the relay can be performed simply, quickly and in an error-free manner using the device connector.

The ergonomically designed enclosure with removable terminals and terminal labeling in the hinged cover allows for the cables to be conveniently diagonally mounted from the front. Either screw or spring-loaded terminals with push-in technology are available.

Highlights

- Fail-safe disconnection of motors up to 3 kW
- Problem-free combination of fail-safe motor starters and safety relays
- End-to-end system, simple setup using device connectors
- Ergonomic enclosure

Note:

SIRIUS 3SK safety relays, see page 11/13.

Online configurator



Online configurator

An online configurator with numerous functions is available for SIRIUS 3RM1 motor starters

(see www.siemens.com/sirius/configurators)

- Create individual motor starters or a complex motor starter group
- Individual selection options, such as direct or reversing starting, spring-loaded or screw terminals, as well as motor current and control voltage
- Graphic representation of the design during configuration
- Automatic calculation of the matching motor starter protector/circuit breaker (for group configuration)

Ordering notes for multi-unit packaging

SIRIUS 3RM1 motor starters can also be ordered in practical, environment-friendly multi-unit packaging on request.

Multi-unit packaging with order code X90

When ordering products in multi-unit packaging, "-Z" must be added to the article number of the product concerned and the order code "X90" must be specified in addition.

Ordering example:

3RM1201-2AA04-Z X90;

Order quantity 12 units \rightarrow Delivery of one pack containing 12 units

For more information, see page 16/7.

SIRIUS 3RM1 motor starters

Article number scheme

Product versions		Article number	
Product function	Direct-on-line starters Failsafe direct-on-line starters	3RM10 0 AA -	□ 4 □ 4 With ATEX certification and safety-related shutdown
	Reversing starters	3RM12 0 🗆 – 🗆 AA 🗆	· ·
	Failsafe reversing starters	3RM13 0 □ - □ AA □	□ 4 With ATEX certification and safety-related shutdown
Wide setting range for electronic overload release	0.1 0.5 A 0.4 2.0 A 1.6 7.0 A (10 A) ¹⁾	1 2 7	For motor standard output 0 0.12 kW ²⁾ For motor standard output 0.09 0.75 kW ²⁾ For motor standard output 0.55 3 kW ²⁾
Connection method	Screw terminals Spring-loaded terminals (push-in) Mixed connection method	1 2 3	Spring-loaded terminals (push-in)
Rated control supply voltage $U_{\rm S}$	24 V DC 110 230 V AC, 110 V DC	0	0 1
Example		3RM13 0 1 - 2 AA 0	0 4

¹⁾ Operation of resistive loads with up to 10 A.

Note:

The article number scheme shows an overview of product versions for better understanding of the logic behind the article numbers.

For your orders, please use the article numbers quoted in the selection and ordering data.

Benefits

- Less space required in the control cabinet (20 to 80%) thanks to high functional density, which also means reduced wiring and testing
- Greater endurance and reduced heat losses thanks to hybrid technology
- Lower costs for stock keeping and configuration as a result of the wide setting range of the electronic overload release (up to 1:5)
- Fast wiring without tools for rigid conductors or conductors equipped with end sleeves thanks to spring-loaded terminals (push-in)
- Safety-related shutdown according to SIL 3 and PL e by shutting down the control supply voltage without additional devices in the main circuit
- The motor starters can be ideally combined with 3SK safety relays for safety-related shutdown (see page 11/13)
- Motor status feedback to the higher-level control system in the case of 3RM10 and 3RM12 motor starters in the 24 V DC version

- Virtually error-free wiring on the mains connection side and reduction in short-circuit protective devices by means of 3RM19 infeed system
- ATEX certification of the overload protection of the 3RM1 Failsafe motor starters: "Increased safety" type of protection EEx e according to ATEX Directive 2014/34/EU
- The 3RM1 motor starters can be used with highly efficient IE3 and IE4 motors. In this regard, please observe the information on dimensioning and configuring, see Application Manual.

For more information, see page 1/8.

Standards and approvals

- IEC/EN 60947-4-2
- UL 60947-4-2
- CSA C22.2 No. 60947-4-2
- ATEX
- IEC 61508: SIL 3
- IEC 62061: SIL 3
- ISO 13849-1: PL e
- · CCC approval for China

²⁾ Standard three-phase motor, basis 4-pole at 400 V AC; the actual starting and rated data of the motor to be protected must be considered when selecting the units.

SIRIUS 3RM1 motor starters

Technical specifications

More information	
SiePortal, see www.siemens.com/product?3RM1	FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/16311/faq
Equipment Manual, see https://support.industry.siemens.com/cs/ww/en/view/66295730	

Article number			3RM1
General technical specifications			
Dimensions (W x H x D)		mm	22.5 x 100 x 141.6
Ambient temperature • During operation • During storage • During transport		°°°°°°°°°°°°°°°°°°°°°°°°°°°°°°°°°°°°°°	-25 +60 -40 +70 -40 +70
Installation altitude at height above sea leve	el, maximum	m	4 000 (derating, see manual)
Shock resistance			6 g/11 ms
Vibration resistance			1 6 Hz, 15 mm; 20 m/s ² , 500 Hz
Degree of protection IP on the front	According to IEC 60529		IP20
Touch protection on the front	According to IEC 60529		Finger-safe for vertical touching from the front
Mounting position	001.00		Vertical, horizontal, standing (consider derating)

Article number		3RM1.01	3RM1.02	3RM1.07
Main circuit				
Operational voltage, rated value, maximum	V	500		
Operating frequency	Hz	50/60		
Operational current at AC-53a at 400 V at an ambient temperature of 40 °C	Α	0.5	2	7
Minimum load [%]	%	20		
Adjustable current response value of the inverse-time delayed overload release	А	0.1 0.5	0.4 2	1.6 7

Article number		3RM1.0AA04	3RM1.0AA14
Control circuit			
Type of voltage of the control supply voltage		DC	AC/DC
Control supply voltage • At DC	\/	24	110
• At AC at 50 Hz	V		110 230
Frequency of the control supply voltage	Hz		50/60

Туре		3RM1.01AA.4	3RM1.03AA.4	3RM1.02AA.4	
Connections/terminals		l			
Type of electrical connection for main circuit (1 or 2 conductors can be connected)		Screw termin	als	○ Spring-loaded□ terminals(push-in)	
Connectable conductor cross-section for main contacts Solid Finely stranded	mm²	1 x (0.5 4), 2 x (0	.5 2.5)	1 x (0.5 4)	
- With end sleeve - Without end sleeve	mm² mm²	1 x (0.5 4), 2 x (0.5 1.5)		1 x (0.5 2.5) 1 x (0.5 4)	
Type of electrical connection for auxiliary and control circuits (1 or 2 conductors can be connected)		Screw terminals	Spring-load (push-in)	led terminals	
Type of connectable conductor cross-sections for auxiliary contacts • Solid	mm²	1 x (0.5 2.5), 2 x (1.0 1.5)	1 x (0.5 1.5), 2	x (0.5 1.5)	
Finely strandedWith end sleeve	mm²	1 x (0.5 2.5), 2 x (0.5 1)	1 x (0.5 1.0), 2	x (0.5 1.0)	
- Without end sleeve	mm²	` ′	1 x (0.5 1.5), 2	x (0.5 1.5)	
Type of connectable conductor cross-sections for AWG cables • For main contacts		1 x (20 12), 2 x (2	20 14)	1 x (20 12)	
For auxiliary contacts		1 x (20 14), 2 x (18 16)	1 x (20 16), 2 x	(20 16)	

SIRIUS 3RM1 motor starters

Accessories

More information

Equipment Manual, see

https://support.industry.siemens.com/cs/ww/en/view/66295730

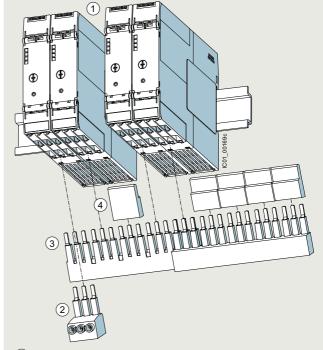
3-phase infeed system (3RM19 3-phase busbar system)

The system permits an easy, time-saving and safe means of feeding two or more 3RM1 motor starters. It can be used only with motor starters with screw terminals and in combination with 8US1716-0RK00 adapters for mounting rails in the main circuit.

The maximum summation current must not exceed 25 A. The primary infeed is connected via a 3-phase infeed terminal.

The busbars are available in three lengths, for two, three or five motor starters. More than five devices can be connected by clamping the connection tags of a second busbar underneath, rotated 180°.

The 3-phase busbars have touch protection but empty connection tags must be fitted with covers.



- (1) Four 3RM1 motor starters on DIN rail with one free slot
- (2) 3RM1920-1AA 3-phase infeed terminal
- (3) Two 3RM1910-1DA 3-phase busbars rotated through 180° for the connection of up to nine motor starters
- (4) Covers for three 3RM1910-6AA connection tags respectively for unused slots

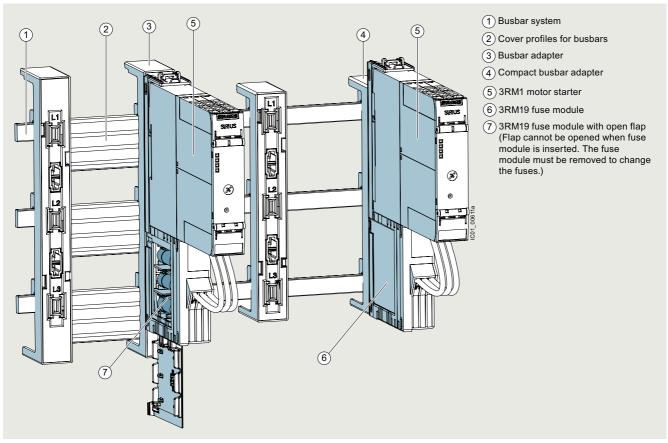
3RM19 infeed system with 3-phase infeed terminal: In the above example, two 3-phase busbars (5-pole busbars) rotated 180° allow up to nine 3RM1 motor starters to be connected. Contact with the unused connection tags in free slots is prevented safely by the covers.

SIRIUS 3RM1 motor starters

Fuse module for the use of 3RM1 motor starters on 8US busbar systems and mounting rails

The fuse module permits the very compact construction of a load feeder with a maximum width of 22.5 mm. The 3RM1 motor starter in combination with the integrated fuses for short-circuit protection can therefore be used on 8US busbar systems. Thanks to the range of different adapters, the fuse module can be used in all 60 mm busbar systems and also in compact busbar systems and on mounting rails. The interface to the adapter also permits a simple and secure replacement of the load feeder.

The fuse module can be combined with all 3RM1 motor starters. The easily replaceable fuses protect the motor starter, the connected motor and the cables.

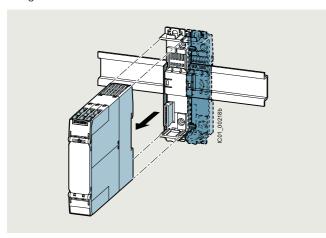


By means of the fuse module, 3RM1 motor starters can be used in busbar systems and 8US compact busbar systems, as well as on mounting rails

SIRIUS 3RM1 motor starters

Device connectors for the control circuit

The device connectors for 3RM1 motor starters (24 V DC control supply voltage only) reduce the outlay for cabling by looping through the control supply voltage. The device connectors can be snapped onto a DIN rail or fixed to a level mounting panel using screws.



Device connector with 3RM1 motor starter

Using the device connectors exclusively for feeding in the control supply voltage

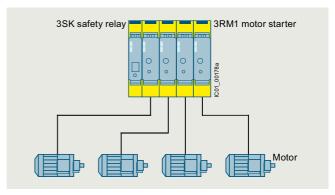
By using device connectors, a maximum of five motor starters can be supplied with 24 V DC control supply voltage. This requires the control supply voltage to be applied to the A1 and A2 terminals of only one motor starter.

Device daisy chain connectors can be used for gaps between two motor starters. Device termination connectors terminate a group.

Using the device connectors for safe group shutdown

In combination with the 3RM11 and 3RM13 fail-safe motor starters, the device connector can also be used for safety-related shutdown. For this application, groups of no more than five fail-safe motor starters can be connected using a device connector, and the group must be terminated with a termination connector. Removing the control voltage supply from the first motor starter will safely shut down the whole group.

Safe group shutdown can be implemented particularly easily in conjunction with 3SK safety relays. In this case, up to five motor starters can be directly connected to 3SK safety relays via the device connector and then safely shut down (see page 11/13).



Ideal connection: Combination of four SIRIUS 3RM1 Failsafe motor starters with SIRIUS 3SK safety relays

Electromechanical switching devices in series with hybrid motor starters

Switching an inductive load - in particular of motors < 1 kW with high inductance - with an electromechanical switching device (e.g. contactor) can cause high and steep voltage edges.

The resulting faults/damage can be prevented by first disconnecting with the hybrid motor starter or by using EMC suppression modules:

- 3RT2916-1P.. EMC suppression modules for direct mounting on the contactor, see page 3/119
- For motor suppression modules that are fitted in the main circuit, see page 8/93

Note:

For more information, see

https://support.industry.siemens.com/cs/ww/en/view/109758696.

SIRIUS 3RM1 motor starters | IE3/IE4 ready

Selection and ordering data

More information									
SiePortal, see www.sie	mens.com/produc	ct?3RM1							
Multi-unit packaging, see page 16/7.	Operating power for three- phase motor at 400 V ¹⁾	Adjustable current response value of the inverse-time delayed overload release	Control voltage at DC	supply at AC at 50 Hz	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	P
	kW	A	V	V 12					
Direct-on-line star		,	·						
hunte	0 0.12	0.1 0.5	24		3RM1001-□AA04		1	1 unit	41
	0.09 0.75	0.4 2	24		3RM1002-□AA04		1	1 unit	41
	0.55 3	1.6 7	24		3RM1007-□AA04		1	1 unit	41
	0 0.12	0.1 0.5	110	110 230	3RM1001-□AA14		1	1 unit	411
	0.09 0.75	0.4 2	110	110 230	3RM1002-□AA14		1	1 unit	411
	0.55 3	1.6 7	110	110 230	3RM1007-□AA14		1	1 unit	411
STATE OF THE PARTY									
3RM1001-1AA04									
Reversing starters	;								
fram?	0 0.12	0.1 0.5	24		3RM1201-□AA04		1	1 unit	41[
444	0.09 0.75	0.4 2	24		3RM1202-□AA04		1	1 unit	411
	0.55 3	1.6 7	24		3RM1207-□AA04		1	1 unit	41
	0 0.12	0.1 0.5	110	110 230	3RM1201-□AA14		1	1 unit	411
	0.09 0.75	0.4 2	110	110 230	3RM1202-□AA14		1	1 unit	411
ene	0.55 3	1.6 7	110	110 230	3RM1207-□AA14		1	1 unit	411
3RM1201-1AA04	Para atautaus								
Failsafe direct-on-		0.1 0.5	0.4		ODM4404 FAA04			4	441
inni inni	0 0.12	0.1 0.5	24		3RM1101-□AA04		1	1 unit	411
	0.09 0.75 0.55 3	0.4 2 1.6 7	24 24		3RM1102-□AA04 3RM1107-□AA04		1 1	1 unit 1 unit	411
2005	0.55 3	0.1 0.5	110	 110 230	3RM1107-□AA04 3RM1101-□AA14		1	1 unit	41I 41I
	0.09 0.75	0.4 2	110	110 230	3RM1101-□AA14		1	1 unit	411
*	0.55 3	1.6 7	110	110 230	3RM1107-□AA14		1	1 unit	411
3RM1101-1AA04									
Failsafe reversing									
man .	0 0.12	0.1 0.5	24		3RM1301-□AA04		1	1 unit	41[
1999	0.09 0.75	0.4 2	24		3RM1302-□AA04		1	1 unit	41[
	0.55 3	1.6 7	24		3RM1307-□AA04		1	1 unit	41[
	0 0.12	0.1 0.5	110	110 230	3RM1301-□AA14		1	1 unit	41[
	0.09 0.75	0.4 2	110	110 230	3RM1302-□AA14		1	1 unit	41[
	0.55 3	1.6 7	110	110 230	3RM1307-□AA14		1	1 unit	41[
3RM1301-1AA04									
Type of electrical cor	nection								

- Spring-loaded terminals (push-in) for main circuit, spring-loaded terminals (push-in) for control circuit
- \bullet Screw terminals for main circuit, spring-loaded terminals (push-in) for control circuit

¹⁾ The actual starting and rated data of the motor to be protected must be considered when selecting the units.

SIRIUS 3RM1 motor starters

			SONIVITI		ur toro
	Product designation	Article No. Price per PU	PU (UNIT, SET, M)	PS*	PG
3-phase infeed systems	for 3RM1 with screw terminals				
111	3-phase infeed terminal	3RM1920-1AA	1	1 unit	41D
3RM1920-1AA	For 3-phase busbars				
	3-phase busbars				
	For 2 motor starters	3RM1910-1AA	1	1 unit	41D
3RM1910-1AA	For 3 motor starters	3RM1910-1BA	1	1 unit	41D
OFFINION AFIA	• For 3 motor starters	Shwiisio-iba	, 	Tanit	410
3RM1910-1BA	For 5 motor starters	3RM1910-1DA	1	1 unit	41D
	VIOLO STATES	Shwii Sio-i DA	, 	Tunit	410
3RM1910-1DA	Covers	3RM1910-6AA	1	10 units	41D
20041010 600	For 3 connection tags of the 3-phase busbars	GIIIII I GAA	,	TO UTILIS	410
3RM1910-6AA Fuse modules for 3RM1	for use on busbars or mounting rails				
fuse modules for or mirr	Fuse module with 3NW6007-1 fuse	3RM1932-1AB	1	1 unit	41D
	Fuse module without fuse ¹⁾	3RM1930-1AA	1	1 unit	41D
3RM1932-1AB					
Adapters					
	Adapter for 60 mm busbar systems 22.5 mm x 200 mm x 41.5 mm	8US1216-0AS00	1	1 unit	140
ម្ចា ទី ម្ចា	Note: The adapter can be used on busbars with a width of 12 mm, 15 mm, 20 mm, 25 mm or 30 mm and a thickness of 5 mm or 10 mm.				
iii					
8US1216-0AS00					
	Adapter for 60 mm compact busbar systems 22.5 mm x 160 mm x 41.5 mm	8US1616-0AK02	1	1 unit	140
103	Note:				
	The adapter can be used on busbars with a width of 12 mm and a thickness of 5 mm or 10 mm.				
ii ?					
8US1616-0AK02	and and Equipment Mazzial		l		

¹⁾ For details of alternative fuses, see Equipment Manual.

SIRIUS 3RM1 motor starters

	B 1 1 1 1 1 1 1	A C I AI	D :	DLI	DO*	
	Product designation	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
				SLI, IVI)		
Adapters		_				
6) 6) 8US1716-ORK00	Adapter for 35 mm DIN mounting rails 22.5 mm x 185 mm x 23.5 mm	8US1716-0RK00		1	1 unit	140
Cover profiles ¹⁾²⁾						
Cover profiles	Cover profiles for busbars			ı		
	12 mm x 5 mm x 1 000 mm	8US1922-2CA00		1	10 units	140
	40 mm or 60 mm center-to-center busbar	2001022 201100			10 011110	
	clearance depending on busbar system					
8US1922-2CA00						
	15 mm x 5 mm x 1 000 mm 20 mm x 5 mm x 1 000 mm 25 mm x 5 mm x 1 000 mm 30 mm x 5 mm x 1 000 mm 40 mm or 60 mm center-to-center busbar	8US1922-2AA00		1	10 units	140
8US1922-2AA00	clearance depending on busbar system					
	12 mm x 10 mm x 1 000 mm 15 mm x 10 mm x 1 000 mm 20 mm x 10 mm x 1 000 mm 25 mm x 10 mm x 1 000 mm 30 mm x 10 mm x 1 000 mm 60 mm center-to-center busbar clearance	8US1922-2BA00		1	10 units	140
8US1922-2BA00						
Device connectors						
3ZY1212-2EA00	Device connector For 3RM1 motor starters, 24 V DC, 22.5 mm	3ZY1212-2EA00		1	1 unit	41L
	Device daisy chain connector For 3RM1 motor starters 24 V DC, 22.5 mm For gaps without motor starters in assemblies	3ZY1212-2AB00		1	1 unit	41L
3ZY1212-2AB00						
	Device termination connector For 3RM1 motor starters, 24 V DC, 22.5 mm	3ZY1212-2FA00		1	1 unit	41L
3ZY1212-2FA00						

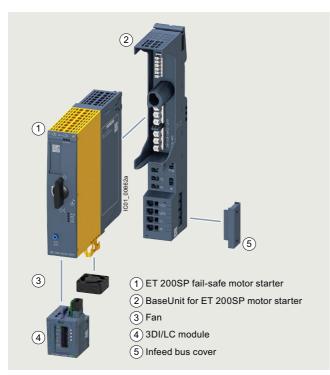
The cover profiles for busbars can be used for maintaining minimum spacing between the load feeders.
 For further accessories for the configuration of a busbar system, see Catalog LV 10.

SIRIUS 3RM1 motor starters

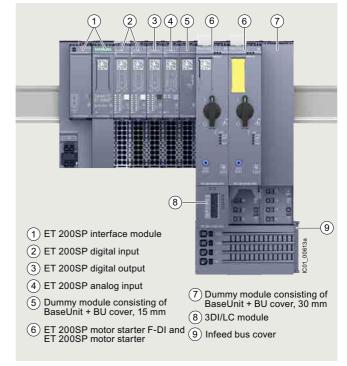
	Draduat designation	Article No.	Price	PU	PS*	PG
	Product designation	Article No.	per PU	(UNIT, SET, M)	P3	PG
				SEI, M)		
Removable termina	als					
47	Terminals for main circuit, 2-pole	0				
		Screw terminals	<u>+</u>			
	 Version with screw terminals, up to max. 1 x 4 mm² or 2 x 2.5 mm² 	3ZY1122-1BA00		1	6 units	41L
		Spring-loaded terminals	#			
1 m	Version with spring-loaded terminals (push-in),	(push-in) 3ZY1122-2BA00	Ш	1	6 units	41L
3ZY1122-1BA00	up to max. 1 x 4 mm² or 2 x 1.5 mm² (both in one end sleeve)	3211122-2DA00		'	o unito	416
	Terminals for control circuit, 3-pole					
57		Screw terminals	(1)			
	Version with screw terminals,	3ZY1131-1BA00		1	6 units	41L
	up to max. 2 x 1.5 mm ² or 1 x 2.5 mm ²	Caring loaded terminals	~~			
•		Spring-loaded terminals (push-in)	$\stackrel{\infty}{\square}$			
	 Version with spring-loaded terminals (push-in), up to max. 2 x 1.5 mm² 	3ZY1131-2BA00		1	6 units	41L
3ZY1131-1BA00	<u> </u>					
Further accessorie	S Push-in lugs for wall mounting	3ZY1311-0AA00		- 1	10 units	41L
	2 lugs per device are required	3211311-UAAUU		'	10 units	41L
3ZY1311-0AA00	Sealable covers, 22.5 mm	3ZY1321-2AA00		1	5 units	41L
	For simple protection against unauthorized access	3211321-2AA00		'	3 urilis	41L
100						
3ZY1321-2AA00						
62	Coding pins for removable terminals For mechanical coding of the terminals	3ZY1440-1AA00		1	12 units	41L
	To meentained coding of the terminals					
3ZY1440-1AA00						
SIEMENS	Hinged covers					
3005	Replacement cover, without terminal labeling, 22.5 mm wide					
	• Titanium gray	3ZY1450-1AB00		1	5 units	41L
	• Yellow	3ZY1450-1BB00		1	5 units	41L
3ZY1450-1AB00						
111	Motor suppression modules	0DV4044 CEA00		_	4	400
	Square Round	3RK1911-6EA00 3RK1911-6EB00		1	1 unit 1 unit	42D 42D
		0				.25
11						
3RK1911-6EA00	Commissions	Omina I. I. I.				
	Screwdriver For all SIRIUS devices with spring-loaded terminals	Spring-loaded terminals	$\stackrel{\circ}{\mathbb{H}}$			
5	Length approx. 200 mm, 3.0 mm x 0.5 mm,	3RA2908-1A		1	1 unit	41B
00000 11	titanium gray/black,					
3RA2908-1A	partially insulated					

ET 200SP motor starters

Overview



Motor starter, BaseUnit, fan and 3DI/LC control module



3RK1308 motor starter in the ET 200SP I/O system

More information

Homepage, see www.siemens.com/sirius-motor-starter-et200sp

SiePortal, see www.siemens.com/product?3RK1308

TIA Selection Tool, see www.siemens.com/TST

Decision support for motor start – Starting and operating three-phase asynchronous motors efficiently, see www.siemens.com/motorstart-guide

SiePortal topic page with information on the planning and operating phase, see https://support.industry.siemens.com/cs/ww/en/view/109792664

Further components in the ET 200SP I/O system:

Catalog ST 70

• Homepage, see www.siemens.com/et200sp

ET 200SP motor starters

ET 200SP is a scalable and extremely flexible modular I/O system with degree of protection IP20.

As I/O modules, the ET 200SP motor starters are an integral part of this I/O system. They are switching and protection devices for 1- and 3-phase loads and are available as direct-on-line or reversing starters.



Video: SIMATIC ET 200SP motor starter – Flexible, powerful, space-saving

Basic functionality

All versions of the ET 200SP motor starter feature the following functionality:

- Fully pre-wired motor starters for switching and protecting any AC loads up to 5.5 kW from 48 V AC to 500 V AC
- Disconnection possible via fail-safe motor starters up to SIL 3 and PL e Cat. 4
- With self-assembling 32 A power bus, i.e. the load voltage is only fed in once for a group of motor starters

- All supply voltages connected only once, i.e. when modules are added, they are automatically connected to the next module
- Hot swapping is permissible
- Digital inputs can optionally be used via a 3DI/LC module
- Control of the motor starter from the control system and of the diagnostics status via the cyclic process image
- Diagnostics-capable for active monitoring of the switching and protection functions
- The signal states in the process image of the motor starter provide information about protective devices (short circuit or overload), the switching states of the motor starter, and system faults.

Starter kit

The 3RK1908-1SK00 starter kit is a favorably priced complete package for switching and monitoring motors in the ET 200SP system, see page 8/102.

It contains

- A 3RK1308-0BC00-0CP0 reversing starter (0.9 to 3 A)
- A 3RK1908-0AP00-0AP0 BaseUnit with 500 V and 24 V AC/DC infeed
- An EMC distance module (comprising 6ES7193-6BP00-0BA0 BaseUnit plus 6ES7133-6CV15-1AM0 BU cover 15 mm)

ET 200SP motor starters

Use of fan

For motor starters with a 12 A rated current, the 3RW4928-8VB00 fan is included in the scope of supply.

This fan can also be ordered as an option for motor starters with lower rated currents, if the boundary conditions demand this. For information on the ambient conditions for the use of motor starters, see chapter "Product features" in the Equipment Manual.

Designing interference-free motor starters

For interference-free operation of the ET 200SP station according to IEC 60947-4-2 standard, use a dummy module before the first motor starter. The dummy module consists of the 6ES7193-6BP00-0BA0 or 6ES7193-6BP00-0DA0 BaseUnit and the 6ES7133-6CV15-1AM0 BU cover 15 mm.

The 15 mm BU cover protects the plug contacts of the BaseUnit against dirt.

Electromechanical switching devices in series with hybrid motor starters

Switching an inductive load - in particular of motors <1 kW with high inductance - with an electromechanical switching device (e.g. contactor) can cause high and steep voltage edges.

The resulting faults/damage can be prevented by first disconnecting with the hybrid motor starter or by using EMC suppression modules:

- 3RT2916-1P. EMC suppression modules for direct mounting on the contactor, see page 3/119
- For motor suppression modules that are fitted in the main circuit, see page 8/102

Note:

For more information, see https://support.industry.siemens.com/cs/ww/en/view/109758696.

3DI/LC control module

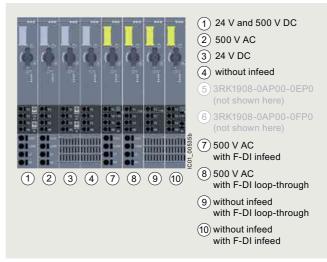


3DI/LC control module

This is a digital input module with three inputs for local motor starter functions such as "manual local operation", "implementation of fast inputs" or "end position disconnection". For a list of all the functions permitted by the 3DI/LC module, see chapter "Functions" in the Equipment Manual.

The module is plugged into the front of the motor starter from which it is supplied with a 24 V DC operational voltage.

BaseUnits for motor starters



View of the BaseUnit infeeds for the motor starters

BaseUnits are components used for mounting the ET 200SP I/O modules.

The self-assembling voltage buses integrated into the BaseUnits reduce wiring outlay to the single infeed (both of auxiliary and load voltage).

All modules following on the right are automatically supplied upon plugging the BaseUnits together, if BaseUnits are inserted with a loop-through.

The rugged design and keyed connection technology enables use in harsh industrial conditions.

The BaseUnits are available with various infeeds for the motor starters.

ET 200SP motor starters

Article number schemes

Product versions		Article number	
Motor starters		3RK1308 - 0 □ □ 0 0 - 0 C P 0	
Product function	Direct-on-line starters	Α	For motor standard output 0.09 5.5 kW ¹⁾
	Reversing starters	В	For motor standard output 0.09 5.5 kW ¹⁾
	Fail-safe direct-on-line starters	C	For motor standard output 0.09 5.5 kW ¹⁾
	Fail-safe reversing starters	D	For motor standard output 0.09 5.5 kW ¹⁾
Current range	0.1 0.4 A	Α	Maximum current-carrying capacity when starting 4 A
	0.3 1 A	В	Maximum current-carrying capacity when starting 10 A
	0.9 3 A	C	Maximum current-carrying capacity when starting 30 A
	2.8 9 A	D	Maximum current-carrying capacity when starting 90 A
	4 12 A	E	Including fan (3RW4928-8VB00), maximum current-carrying capacity when starting 100 A
Example		3RK1308 - 0 A D 0 0 - 0 C P 0	

¹⁾ For standard motors: Three-phase asynchronous motors, 1-phase or 3-phase; 1-phase AC motors; 1-phase asynchronous motors, at 400 V AC and 500 V AC; the actual starting and rated data of the motor to be protected must be considered when selecting the units.

Product versions		Article number		
BaseUnit		3RK1908 - 0 A P 0 0 - 0 □	P 0	
BU infeed	24 V DC and 500 V AC	Α		
	24 V DC	В		
	500 V AC	С		
	Without infeed	D		
	500 V AC	G		With F-DI infeed
	500 V AC	н		With F-DI loop-through
	Without infeed	J		With F-DI loop-through
	Without infeed	K		With F-DI infeed
Example		3RK1908 - 0 A P 0 0 - 0 A	P 0	

Note:

The article number schemes show an overview of product versions for better understanding of the logic behind the article numbers.

For your orders, please use the article numbers quoted in the selection and ordering data.

Benefits

The ET 200SP motor starters offer a number of advantages:

- Fully integrated into the ET 200SP I/O system (including TIA Selection Tool and TIA Portal)
- High degree of flexibility when it comes to safety applications via SIMATIC F-CPU or 3SK safety relays up to SIL 3 and PL e Cat. 4.
- Simple, integrated current value transmission
- Extensive parameterization by means of TIA Portal
- Increase of plant availability through fast replacement of units (easy mounting and plug-in technology)
- Greater endurance and reduced heat losses thanks to hybrid technology
- Less space required in the control cabinet (20 to 80%) thanks to high functional density (direct-on-line and reversing starters in same width)
- Extensive diagnostics and information for preventive maintenance
- · Configurable inputs via 3DI/LC control module
- Less wiring and testing required as a result of integrating several functions into a single device
- Lower overheads for stock keeping and configuration as a result of the wide setting range of the electronic overload release (up to 1:3)
- Technology has lower inherent power losses than speedcontrolled drive systems, so that less cooling (and smaller footprint) are possible

 The ET 200SP motor starters can be used with highly efficient IE3 and IE4 motors, see Application Manual.
 Take the current characteristics of the connected motor and motor starter into account when dimensioning.
 In addition to the rated current, the maximum permissible current range of the motor starter and the ratio of the rated current to the starting current of the motor are relevant.
 For more information, see page 1/8.

Standards and approvals

- IEC/EN 60947-4-2
- UL 60947-4-2
- CSA
- ATEX
- IEC 62061: SIL 3
- ISO 13849-1: PL e
- · CCC approval for China

ET 200SP motor starters

Application

The ET 200SP motor starters are suitable for the following applications:

- · Switching and monitoring of
 - 3-phase motors with overload and short-circuit protection (e.g. 400 V asynchronous motors for secondary drives in conveyor systems)
 - 1-phase motors with overload and short-circuit protection (e.g. 230 V motors for pump applications)
 - Resistive loads by means of current value and diagnostics via the maintenance function (e.g. for heaters)
- Plant monitoring and energy management in conveyor systems:
 Drive belt monitoring and blocking monitoring are possible by
 means of the phase asymmetry and residual current detection
 during current measurement, for example.
- Track switching and lifting table control in conveyor systems: Track switches can be implemented by means of the quick stop function and lifting table controls by means of the "immediate end position disconnection" function without any laborious programming.
- Safe isolation of the drive from main power supply: The isolating functions according to IEC 60947-1 offer protection against inadvertent activation during plant maintenance.

Motor starters in the process industry

For the ET 200SP motor starters, special 3RK1908-0AP00-0.H0 BaseUnits are available that enable the devices to also be used in the ET 200SP HA I/O system. This is typically used in process engineering applications.

For more information, see https://mall.industry.siemens.com/mall/ww/en/Catalog/Products/10398144?tree=CatalogTree.

Technical specifications

More information SiePortal, see www.siemens.com/product?3RK1308 Equipment Manual, see https://support.industry.siemens.com/cs/ww/en/ps/21800/faq Equipment Manual, see https://support.industry.siemens.com/cs/ww/en/view/109479973

ET 200SP motor starters

Article number		3RK1308- 0.A00-0CP0	3RK1308- 0.B00-0CP0	3RK1308- 0.C00-0CP0	3RK1308- 0.D00-0CP0	3RK1308- 0.E00-0CP0
Product category		Motor starters				
General technical specifications						
Width x height x depth	mm	30 x 142 x 150				
Design of the switching contact		Hybrid				
Design of the motor protection		Electronic				
Installation altitude at height above sea level, maximum	m	4 000 (derating, se	ee manual)			
Mounting position		Vertical, horizonta	l (observe derating	g)		
Type of mounting		Can be plugged in	nto BaseUnit			
Ambient temperatureDuring operationDuring transportDuring storage	°C °C °C	-25 +60 -40 +70 -40 +70				
Relative humidity during operation	%	10 95				
Vibration resistance		15 mm up to 6 Hz	; 2 g up to 500 Hz			
Shock resistance		6 g/11 ms				
Degree of protection IP on the front according to IEC 60529		IP20				
Touch protection on the front according to IEC 60529		Finger-safe				
Type of coordination		1				
Electrical specifications						
Supply voltage at DC rated value	V	24				
Operating power for AC-53a at 400 V rated value	kW	0.12	0.25	1.1	4	5.5
Operating frequency, rated value	Hz	50 60				
Ultimate short-circuit current breaking capacity (I _{cu}) • at 400 V rated value • at 500 V rated value	kA kA	55 55				
Adjustable current response value of the inverse-time delayed overload release	А	0.1 0.4	0.3 1	0.9 3	2.8 9	4 12
Max. current-carrying capacity on starting	А	4	10	30	90	100
Max. permissible voltage for protective separation between main and auxiliary circuit	V	500				
Insulation voltage, rated value	٧	500				
Trip class		CLASS OFF/5/10	can be set			

ET 200SP motor starters

BaseUnits for motor starters

Article number	3RK1908-0AP00-0AP0	3RK1908-0AP00-0BP0	3RK1908-0AP00-0CP0	3RK1908-0AP00-0DP0
Article number	3HK 1900-0AF00-0AF0	SHK 1900-UAF00-UBF0	3RK1908-0AP00-0CP0 3RK1908-0AP00-0GP0 3RK1908-0AP00-0HP0	3RK1908-0AP00-0JP0 3RK1908-0AP00-0KP0
Product designation	BaseUnit			
General technical specifications				
Width x height x depth mm	30 x 215 x 75			
T W				
Ambient temperature				
 During operation During transport C 	-25 +60 -40 +70			
• During transport • During storage • C	-40 +70 -40 +70			
Degree of protection IP on the front according to IEC 60529	IP20			
Touch protection	Finger-safe			
on the front according to IEC 60529	Tiligor dalo			
Connections/terminals				
Type of connectable conductor cross-sections				
At the inputs for supply voltage Solid Finely stranded with end sleeve Finely stranded without end sleeve Solid for AWG cables	1 x 0.5 2.5 mm ² 1 x 0.5 2.5 mm ² 1 x 0.5 2.5 mm ² 1 x 20 12		_ 	
• For infeed				
SolidFinely stranded with	1 x 1 6 mm ² 1 x 1 6 mm ²		1 x 1 6 mm ² 1 x 1 6 mm ²	
end sleeve				
 Finely stranded without end sleeve 	1 x 1 6 mm ²		1 x 1 6 mm ²	
- For AWG cables	1 x 18 10		1 x 18 10	
For load-side outgoing feeder Solid Finely stranded with end sleeve Finely stranded without end sleeve For AWG cables	1 x 0.5 2.5 mm ² 1 x 0.5 2.5 mm ² 1 x 0.5 2.5 mm ² 1 x 20 12			
Type of electrical connection for auxiliary	Spring-loaded terminals (pu	sh-in)		
and control circuits				
Miscellaneous	01 11 1			
Type of screwdriver tip	Slotted	0.5		
Size of screwdriver tip	Standard screwdriver 0.6 mi	11 X 3.5 MM		

ET 200SP motor starters

3DI/LC control module

Article number		3RK1908-1AA00-0BP0
Product designation		3DI/LC control module
General technical specifications		
Width x height x depth	mm	30 x 54.5 x 42.3
Product version		Accessories
Number of digital inputs		4
Installation altitude at height above sea level, maximum	m	2 000
Mounting position		Vertical, horizontal, flat
Type of mounting		Can be plugged onto motor starter
Ambient temperatureDuring operationDuring transportDuring storage	°C °C °C	-25 +60 -40 +70 -40 +70
Connections/terminals		
Connectable conductor cross-section for auxiliary contacts • Solid or stranded • Finely stranded with end sleeve • Finely stranded without end sleeve	mm² mm² mm²	0.2 1.5 0.25 1.5 0.2 1.5
AWG number as coded connectable conductor cross-section for auxiliary contacts		24 16
Type of electrical connection for auxiliary and control circuits		Spring-loaded terminals (push-in)
Electrical specifications		
Type of voltage of the control supply voltage		DC
Control supply voltage at DC rated value	٧	20.4 28.8
Miscellaneous		
Type of screwdriver tip		Slotted
Size of screwdriver tip		Standard screwdriver 0.6 mm x 3.5 mm

ET 200SP motor starters IE3/IE4 ready

Selection and orderi	ng data						
	Adjustable current response value of the inverse-time delayed overload release	Max. current-carrying capacity on starting	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	A	A					
Motor starters							
	Direct-on-line starters						
	0.1 0.4 0.3 1 0.9 3 2.8 9 4 12	4 10 30 90 100	3RK1308-0AA00-0CP0 3RK1308-0AB00-0CP0 3RK1308-0AC00-0CP0 3RK1308-0AD00-0CP0 3RK1308-0AE00-0CP0		1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	42D 42D 42D 42D 42D
3RK1308-0AB00-0CP0							
	Reversing starters						
	0.1 0.4 0.3 1 0.9 3 2.8 9 4 12	4 10 30 90 100	3RK1308-0BA00-0CP0 3RK1308-0BB00-0CP0 3RK1308-0BC00-0CP0 3RK1308-0BD00-0CP0 3RK1308-0BE00-0CP0		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	42D 42D 42D 42D 42D
3RK1308-0BB00-0CP0							
0111(1000 02200 001 0	Fail-safe direct-on-line s	starters					
	0.1 0.4 0.3 1 0.9 3 2.8 9 4 12	4 10 30 90 100	3RK1308-0CA00-0CP0 3RK1308-0CB00-0CP0 3RK1308-0CC00-0CP0 3RK1308-0CD00-0CP0 3RK1308-0CE00-0CP0		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	42D 42D 42D 42D 42D
3RK1308-0CE00-0CP0							
	Fail-safe reversing start		2DK1200 0D400 00D2			4	400
	0.1 0.4 0.3 1 0.9 3 2.8 9 4 12	4 10 30 90 100	3RK1308-0DA00-0CP0 3RK1308-0DB00-0CP0 3RK1308-0DC00-0CP0 3RK1308-0DD00-0CP0 3RK1308-0DE00-0CP0		1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	42D 42D 42D 42D 42D



					ET	200SP r	notor sta	arters
	Product version	Operationa voltage of the AC infeed	Supply voltage of the DC infeed	Push-in terminals Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		V	V					
BaseUnits ¹⁾								
pen A	For motor starters							
	 With AC/DC infeed 	500	24	3RK1908-0AP00-0AP0		1	1 unit	42D
52	 With DC infeed 		24	3RK1908-0AP00-0BP0		1	1 unit	42D
4	 With AC infeed 	500		3RK1908-0AP00-0CP0		1	1 unit	42D
E 11	Without infeed			3RK1908-0AP00-0DP0		1	1 unit	42D
	For fail-safe motor st							
	 With AC infeed, with F-DI infeed 	500		3RK1908-0AP00-0GP0		1	1 unit	42D
3RK1908-0AP00-0AP0	 With AC infeed, with F-DI loop-through 	500		3RK1908-0AP00-0HP0		1	1 unit	42D
	 Without AC/DC infeed, with F-DI loop-through 			3RK1908-0AP00-0JP0		1	1 unit	42D
	 Without AC/DC infeed, with F-DI infeed 			3RK1908-0AP00-0KP0		1	1 unit	42D
 The voltage is looped-th BaseUnits without infeed 		infeed to subse	quent					_
	Product version	Supply voltage at DC rated value	Loop through the potential group from the left	Push-in terminals Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		V						
BaseUnits								
	For dummy modules							
	 Dark, looping through the potential group 	24	Yes	6ES7193-6BP00-0BA0		1	1 unit	255
	Light, opening a new potential group	24	No	6ES7193-6BP00-0DA0		1	1 unit	255
6ES7193-6BP00-0BA0								
	Control supply voltage at DC rated value	Product function	n	Push-in terminals	<u>~</u>	PU (UNIT,	PS*	PG
		local control	ligital inputs configurable	Article No.	Price per PU	SET, M)		
	V							
3DI/LC control modul	les							
3RK1908-1AA00-0BP0	20.4 28.8	Yes Y	⁄es	3RK1908-1AA00-0BP0		1	1 unit	42D
-								

ET 200SP motor starters

	Product designation	Product version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Accessories					OL1, WI)		
	BU covers 15 mm	for BaseUnits Type A0 or A1	6ES7133-6CV15-1AM0		1	5 units	255
6ES7133-6CV15-1AM0	BU cover 30 mm	For protection of	3RK1908-1CA00-0BP0		1	1 unit	42D
	BU COVER 30 IIIIII	empty slots, 30 mm	SHK 1900-1CAUU-UDFU		1	i unit	42D
3RK1908-1CA00-0BP0	Infood bug sover	For ET 200CD	2PV1000 1DA00 2PP0		-	1 unit	420
3RK1908-1DA00-2BP0	Infeed bus cover (1 bag containing 10 covers)	For ET 200SP	3RK1908-1DA00-2BP0		1	1 unit	42D
1	Additional mounting base unit	Mechanical, for ET 200SP	3RK1908-1EA00-1BP0		1	1 unit	42D
3RK1908-1EA00-1BP0	(1 bag containing 5 additional mounting units)	IOI ET 2003F					
3RW4928-8VB00	Fan	Can be used for 3RK1308	3RW4928-8VB00		1	1 unit	42G
0.117.1020 0.7200	Motor suppression mod	dules					
3RK1911-6EA00	• Square		3RK1911-6EA00		1	1 unit	42D
	• Round		3RK1911-6EB00		1	1 unit	42D
3RK1911-6EB00	Starter kit	Consists of	3RK1908-1SK00		1	1 unit	42D
3RK1908-1SK00		RIK1308-0BC00-0CP0 reversing starter (0.9 3 A), 3RK1908-0AP00-0AP0 BaseUnit with 500 V and 24 V AC/DC infeed, and EMC distance module (consisting of 6ES7193-6BP00-0BA0 BaseUnit plus 6ES7133-6CV15-1AM0 BU cover 15 mm)			·	, driit	

Motor starters for use in the field, high degree of protection





	Price groups
	PG 241, 250, 368, 41J, 42C, 42D, 5K1, 5K2
9/2	Introduction
	ET 200pro motor starters
9/3	General data
9/8	Standard motor starters
9/9	High Feature motor starters
9/10	ET 200pro isolator modules
	ET 200pro Safety motor starters Solution PROFIsafe
9/11	- Safety modules PROFIsafe
9/13	Accessories for ET 200pro motor
	starters
	Software
9/18	Motor Starter ES
	SIRIUS M200D motor starters
9/19	General data
	M200D motor starters for AS-Interface
9/21	General data
9/25	M200D Basic motor starters
9/26	M200D Standard motor starters
	M200D motor starters for PROFIBUS/PROFINET
9/27	General data
9/33	Communications modules, motor starter modules
	Software
9/34	Motor Starter ES
	Accessories
9/35	For all M200D motor starters
9/40	For M200D motor starters for AS-Interface
9/42	For M200D motor starters for PROFIBUS
9/43	For M200D motor starters for PROFINET

Motor starters for use in the field, high degree of protection

Introduction

Overview

Flexible and cost-efficient distributed starter solutions

Be it their high degree of protection, compact design or integrated multifunctionality – our motor starters and soft starters for use in the field are ideal for realizing distributed drive solutions. The modular concepts, distributed power supply and integrated safety technology of our portfolio for a high degree of protection consistently supports current trends in drive technology.

Decision support for motor start – Starting and operating three-phase asynchronous motors efficiently



Decision support tool for motor start

This tool guides you to the optimum individual drive solution via a short query about the application.

Based on this solution approach, you will then be directed to the right product configurator for selecting the appropriate products, see

www.siemens.com/motorstart-guide.





3RK1304 3RK1315

3HK1304	3RK1315		
		Туре	Page
ET 200pro motor starters			
Motor starters in the SIMATIC ET 200pro I/O s	ystem up to 5.5 kW		
Standard motor starters		3RK1304	9/8
High Feature motor starters		3RK1304	9/9
ET 200pro isolator modules	With switch disconnector function for safe disconnection	3RK1304	9/10
Safety modules PROFIsafe	F-Switch PROFIsafe	6ES7148	9/11
	• 400 V disconnecting module	3RK1304	9/11
Accessories for ET 200pro motor starters	 Incoming power supply, power loop-through connection on the field device, motor cable, power bus with power terminal connectors 	3RK19	9/13
ET 200pro – interface modules	 For communication with PROFIBUS, PROFINET and IWLAN 	6ES71	ST 70
ET 200pro – CPUs	Standard CPUs, fail-safe CPUs	6ES71	ST 70
ET 200pro – I/O modules	 Digital/analog expansion modules, fail-safe expansion modules, power modules, ET 200pro pneumatic interfaces 	6ES71	ST 70
ET 200pro PS	Stabilized power supplies	6ES7148	ST 70
ET 200pro FC-2 frequency converters		6SL35	D 31.2
ET 200pro add-on products	Modules for EtherNet/IP	ZNX:EIP	ST 70
SIRIUS M200D motor starters			
Distributed motor starters up to 5.5 kW			
M200D AS-i Basic motor starters		3RK1315	9/25
M200D AS-i Standard motor starters		3RK1325	9/26
M200D communications modules for PROFIBUS		3RK1305	9/33
M200D communications modules for PROFINET		3RK1335	9/33
M200D motor starter modules		3RK1395	9/33
Accessories	• Incoming power supply, motor cable, power bus with power terminal connector	s 3RK1911	9/37
	Motor control with I/O communication	3RK1902	9/39
	Motor control with AS-i communication	3RK1902	9/40
	Motor control with PROFIBUS	3RK1902	9/42
	Motor control with PROFINET	3RK1902	9/43

Motor starters for use in the field, high degree of protection ET 200pro motor starters

General data

Overview

ET 200pro motor starters in ET 200pro I/O system

SIMATIC ET 200pro is the modular I/O system with high degree of protection IP65/IP66/IP67 for cabinet-free use near the machine. The ET 200pro motor starters with the high degree of protection IP65 are an integral part of ET 200pro.



ET 200pro motor starter: Isolator module. Standard starter and High Feature starter mounted on a wide module rack

ET 200pro motor starters (see pages 9/8 and 9/9)

- Only two versions up to 5.5 kW
- All settings can be configured via bus
- Comprehensive diagnostic messages
- Support for PROFlenergy
- Overload can be acknowledged by Remote RESET
- Current asymmetry monitoring
- Stall protection
- · EMERGENCY START function on overload
- · Current value transmission by bus
- · Current limit monitoring
- Full support of acyclic services
- Direct-on-line or reversing starters
- Power bus connection can be plugged in using Han Q4/2 plug-in connectors
- Motor feeder with Han Q8/0 connector
- Conductor cross-sections up to 6 x 4 mm²
- 25 A per segment (power looped through using jumper plug)
- In the Standard and High Feature versions (with 4 DI on-board)
- · Electromechanical switching and electronic switching
- · Electronic starter for direct activation or with integrated soft starter function
- Supplied with 400 V AC brake contact as an option
- Temperature sensor can be connected (Thermoclick or PTC type A)
- Provision of the motor current in PROFlenergy format to higher-level systems, motor current shutdown in dead times using PROFlenergy

More information

Homepage, see www.siemens.com/sirius-motor-starter-et200pro SiePortal, see www.siemens.com/product?ET200pro

Decision support for motor start - Starting and operating three-phase asynchronous motors efficiently, see www.siemens.com/motorstart-guide

Further components in the ET 200pro distributed I/O system:

- Interface modules, central processing units, I/O modules, ET 200pro PS, see Catalog ST 70
 • ET 200pro FC-2 frequency converters, see Catalog D 31.2

ET 200pro isolator modules (see page 9/10)

The isolator module with switch disconnector function is used for safe disconnection of the 400 V operational voltage during repair work in the plant and provides an integrated group fusing function (i.e. additional group short-circuit protection for all subsequently supplied motor starters).

Depending on the power distribution concept, all stations can be equipped with an isolator module as an option.

Safety applications

Safety Solution PROFIsafe (see page 9/11)

With the Safety modules PROFIsafe

- F-Switch and
- 400 V disconnecting module

with an appropriate connection, safety levels SIL 3 (according to IEC 62061) or PL e (according to ISO 13849-1) can also be reached.

Functionality

With the ET 200pro motor starters, any AC loads can be protected and switched.

The ET 200pro motor starters are available with mechanical as well as electronic contacts.

The ET 200pro electromechanical starters are offered as directon-line starters (DSe) and reversing starters (RSe) in Standard and High Feature versions. There are device versions with or without control for externally supplied brakes with 400 V AC.

Compared with the Standard motor starters, the High Feature mechanical motor starter also has:

- Four digital inputs
- Advanced parameterization options

The ET 200pro electronic starters are offered as direct-on-line starters (sDSSte/sDSte) and reversing starters (sRSSte/sRSte) in the High Feature version.

Compared with the High Feature mechanical motor starters, the High Feature electronic motor starter also has:

- Soft starting and smooth ramp-down function
- Deactivated soft start function as an electronic starter for applications with a high switching frequency
- Advanced parameterization options

Motor starters for use in the field, high degree of protection

ET 200pro motor starters

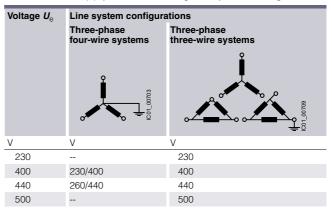
General data

As a result of the protection concept with solid-state overload evaluation and the use of SIRIUS switching devices, size S00, additional advantages are achieved with the Standard and High Feature motor starters – advantages that soon make themselves positively felt particularly in manufacturing processes with high plant stoppage costs:

- Plant configuration is made easier and flexibility is increased by the fine modular structure with ET 200pro. When using the ET 200pro motor starters, the bill of materials per load feeder is reduced to two main items: the bus module and the motor starter. This makes the ET 200pro ideal for modular machine concepts or solutions for conveyor systems and in machinetool construction.
- Expansions are easily possible through the subsequent adding of modules. The innovative plug-in technology also does away with the wiring needed up to now. Through the hot swapping function (disconnection and connection during operation), a motor starter can be replaced within seconds if necessary, without having to shut down the ET 200pro station and with it the process in the plant. The motor starters are therefore recommendable in particular for applications with special demands on availability. Storage costs are also optimized by the low level of variance (two units up to 5.5 kW).
- With four locally acting inputs available on the High Feature motor starter, autonomous special functions can be implemented that operate independently of the bus and the higher-level control system, e.g. as a quick stop on gate valve controls or limit position disconnectors. In parallel with this, the states of these inputs are signaled to the control system.

Voltage data

The specifications for 3-phase systems according to IEC 60947-4-1 apply for the following line system configurations:



-- Not specified

Article number schemes

Product versions		Article number	•				
Motor starters		3RK1304 - 5		6 □ 0	- 🗆	AA]
Setting range	0.15 2.0 A		K				
	1.5 12 A		L				
Product function	Direct-on-line starters DSe			4	4		Standard
	Reversing starters RSe			4	5		Standard
	Direct-on-line starters DSe			4	2		High Feature
	Reversing starters RSe			4	3		High Feature
	Direct-on-line starters sDSSte/sDSte			7	2		High Feature
	Reversing starters sDSSte/sDSte			7	3		High Feature
Inputs/outputs	Without brake output					0	
	With brake output					3	400 V AC, with High Feature + 4 inputs
Example		3RK1304 - 5	K S	3 4 0	- 4	A A 0	

Product versions		Article number		
Modules		3RK1304 - 0 H S 0 0 -	□ A A 0	
Product function	Isolator modules		6	
	400 V disconnecting modules		8	Safety modules PROFIsafe
Example		3RK1304 - 0 H S 0 0 -	6 A A 0	

Note:

The article number schemes show an overview of product versions for better understanding of the logic behind the article numbers.

For your orders, please use the article numbers quoted in the selection and ordering data.

Motor starters for use in the field, high degree of protection ET 200pro motor starters

General data

Туре	Standard motor starters	High Feature motor s	starters
Technology designation ¹⁾	DSe, RSe	DSe, RSe	sDSSte, sDSte, sRSSte, sRSte
Device functions (firmware features)			
Configurable rated operational current	✓		
Integrated short-circuit protection	✓		
Configurable current limit values		✓ 2 limit values	
Configurable response in case of current limit violation		1	
Zero current monitoring	✓		
Configurable response in case of zero current violation	✓		
Configurable current asymmetry limit %	Fixed limit value $(30 \times I_e)$	✓ 30 60 × I _e	
Configurable response in case of asymmetry limit violation	✓		
Motor blocking monitoring		✓	
Configurable blocking current limit %		✓ 150 1 000 x I _e	
Configurable blocking time limit s		√ 15	
Current value transmission	/		
Group warning diagnostics		✓ Configurable	
Group diagnostics	✓ Configurable	<u> </u>	
EMERGENCY START	✓		
Digital inputs		✓ 4 inputs	
Configurable input signal		✓ Latching/non-latchir	ng
Configurable input levelConfigurable input signal delayms		✓ NC/NO contacts ✓ 10 80	
 Configurable input signal delay Configurable input signal extension ms		✓ 0 200	
Configurable input control actions		✓ 12 different actions	
Brake output (400 V AC)	✓ Order option		
Configurable brake enabling delay s	√ -2.5 +2.5		
Configurable holding time of the brake during stopping s	√ 0 25		
Configurable startup type			✓
Configurable ramp-down time			✓
Configurable starting voltage			✓
Configurable stopping voltage			1
Local device interface	✓		
Firmware update	✓ By specialists		
Thermal motor model	✓		
Configurable trip class	CLASS 10 fixed	✓ CLASS 5, 10, 15, 20)
Configurable response in case of overload of thermal motor model		✓ 3 possible states	
Advance warning limit for motor heating %		✓ Configurable 0 95	5
Advance warning limit time-related trip reserve s		✓ Configurable 0 50	00
Configurable recovery time min		√ 1 30	
Configurable protection against voltage failure	Permanently integrated	✓	
Reversing start function	✓ Order option		
Configurable interlock time for reversing starters	150 ms fixed	√ 0 60 s	
Integrated logbook functions	✓ 3 device logbooks		
Integrated statistics data memory	✓		
Configurable response in case of CPU/master stop	✓		
PROFlenergy profile support Disconnection of the motor current during dead times Measured motor current values	<i>'</i>		
Device indications • Group fault • Switching state • Device status • Digital inputs	SF LED (red) STATE LED (red, yello DEVICE LED (red, ye		

✓ Function available

-- Function not available

1) DS RS DSS .. RSS .. Direct-on-line starters
Reversing starters
Direct-on-line soft starters
Reversing soft starters
Electronic motor protection

e te Full motor protection (thermal + electronic) Electronic switching with semiconductor. s

Motor starters for use in the field, high degree of protection

ET 200pro motor starters

General data

Benefits

ET 200pro motor starters provide the following advantages:

- High flexibility thanks to a modular and compact design
- Low level of variance among all motor starter versions (two devices up to 5.5 kW)
- Extensive parameterization using STEP 7 HW Config
- Increase of plant availability through fast replacement of units (easy mounting and plug-in technology)
- Extensive diagnostics and information for preventive maintenance
- Configurable inputs for local control functions (High Feature)
- Cabinet-free design thanks to high degree of protection IP65

Application

The SIMATIC ET 200pro motor starters are ideal for the use of several spatially concentrated distributed drive solutions in which several motors, or digital or analog sensors and actuators are addressed from a distributed station. They are perfectly suited for protecting and switching any AC loads.

Application areas

The SIMATIC ET 200pro motor starters are suitable for numerous sectors of industry, e.g. machinery and plant engineering or conveying applications.

Use of ET 200pro motor starters in conjunction with IE3 and IE4 motors

Note:

For the use of ET 200pro motor starters in conjunction with highly efficient IE3 and IE4 motors, please observe the information on dimensioning and configuring; see Application Manual.

For more information, see page 1/8.

Motor starters for use in the field, high degree of protection ET 200pro motor starters

General data

Technical specifications

More information					
Equipment Manual, see https://support.industry.siemens.com/cs/ww/en/view/22332388	3	Notes on security: System networking requires suitable protective measures (including network segmentation for IT security) in order to ensure safe plant operation or more information on the subject of Industrial Security, see www.siemens.com/industrialsecurity.			
Туре		Standard motor starters Mechanical switching without inputs	High Feature motor start Mechanical switching with inputs	ers Electronic switching with inputs and soft starter function	
Technology designation ¹⁾		DSe, RSe	DSe, RSe	sDSSte, sDSte, sRSSte, sRSte	
Mechanics and environment Motor starters or modules that can be connected to ET 200pro With width of 110 mm		max. 8		,	
Mounting dimensions (W x H x D) • Direct-on-line starters and reversing starters	mm	110 x 230 x 150		110 x 230 x 160	
Permissible ambient temperature • During operation • During storage	°C	-25 +55, from +40 with c	derating		
Permissible mounting position		Vertical, horizontal			
Vibration resistance according to IEC 60068-2-6	g	2			
Shock resistance according to IEC 60068-2-27	<i>g</i> /ms	Half-sine 15/11			
Degree of protection		IP65			
Pollution degree		3, IEC 60664 (IEC 61131)			
Electrical specifications Power consumption at 24 V DC					
From auxiliary circuit L+/M (U1)	mA	Approx. 40			
From auxiliary circuit A1/A2 (U2)	mA	Approx. 200			
Rated operational current I _e for power bus	A	25			
Rated operational voltage U _e ■ Approval according to EN 60947-1, Annex N ■ Approval according to CSA and UL	V AC V AC V AC	400 (50/60 Hz) Up to 400 (50/60 Hz) Up to 600 (50/60 Hz)		Up to 400 (50/60 Hz) Up to 480 (50/60 Hz)	
Approval DIN VDE 0106, Part 101 CSA and UL approval	V V	Up to 400 Up to 600		Up to 480 Up to 480	
Conductor cross-sections • Incoming power supply	mm ²	Max. 6 x 4			
Touch protection		Finger-safe			
Rated impulse withstand voltage $U_{\rm imp}$	kV	6			
Rated insulation voltage U _i	V	400			
Rated operational current I _e for starters					
 AC-1, AC-2, AC-3, AC-3e at 40 °C At 400 V At 500 V 	A A	0.15 2.0/1.5 12.0 0.15 2.0/1.5 9.0		0.15 2.0/1.5 12.0 ²⁾	
• AC-4 at 40 °C - At 400 V	А	0.15 2.0/1.5 4.0			
Rated short-circuit breaking capacity	kA	100 at 400 V			
Type of coordination according to IEC 60947-4-1		1			
Power of three-phase motors at 400 V	kW	Max. 5.5		Max. 5.5/4 ³⁾	
Utilization categories		AC-1, AC-3, AC-3e, AC-4		AC-53a ⁴⁾ (max. 9 A with deactivated soft start function up to CLASS 10)	
Protective separation between main and auxiliary circuits	V	400, according to EN 6094	17-1, Annex N		
Endurance of contactor • Mechanical	Operating	30 million			
Electrical	cycles Operating cycles	Up to 10 million; dependin (see manual)	g on the current loading		
Permissible switching frequency	·	(loading, motor starting time,	and relative ON period	
Operating times for 0.85 1.1 x U _e • Closing delay • Opening delay	ms ms	11 50 5 45		 	
1) DS Direct-on-line starters RS Reversing starters DSS Direct-on-line soft starters RSS Reversing soft starters e Electronic motor protection te Full motor protection (thermal + electronic) s Electronic switching with semiconductor.		2) If the soft starter cor operational current is	ntrol function is deactivated, s reduced to 9 A up to CLA on as electronic starter max.	the permissible rated SS 10.	

Motor starters for use in the field, high degree of protection

ET 200pro motor starters

Standard motor starters IE3/IE4 ready AC

Overview

The functionality, device functions, and technical specifications of the Standard motor starter are described in "ET 200pro motor starters, General data" (see page 9/3 onwards).

Selection and ordering data

Version		rice	PU	PS*	PG
	per	PU	(UNIT,		
		5	SET, M)		

Standard motor starters, mechanical Motor protection: thermal model



DSe Standard

rmal model				
Direct-on-line starters DSe ¹⁾				
Without brake outputWith brake output 400 V AC	3RK1304-5□S40-4AA0 3RK1304-5□S40-4AA3	1 1	1 unit 1 unit	42D 42D
Reversing starters RSe ¹⁾				
Without brake outputWith brake output 400 V AC	3RK1304-5□S40-5AA0 3RK1304-5□S40-5AA3	1 1	1 unit 1 unit	42D 42D
Setting range Rated operational current	Add. p	rice		
• 0.15 2.0 A • 1.5 12.0 A	K No	one ✓		

✓ = Additional price

¹⁾ Only function when used together with the backplane bus module and the wide module rack. The backplane bus module and the wide module rack must be ordered separately (see "Accessories for ET 200pro motor starters", page 9/17).

Motor starters for use in the field, high degree of protection ET 200pro motor starters

IE3/IE4 ready **High Feature motor starters**

Overview

The functionality, device functions, and technical specifications of the High Feature motor starter are described in "ET 200pro motor starters, General data" (see page 9/3 onwards).

Version

The High Feature motor starter differs from the Standard motor starter in having more parameters and four integrated, freely-configurable digital inputs.

Price

per PU

Add. price

Add. price

None

None

(UNIT.

PS*

1 unit

1 unit

1 unit

1 unit

1 unit

1 unit

PG

42D

42D

42D

42D

42D

42D

Selection and ordering data

			SÉT, M)		
	or starters, mechanical thermal model				
104	Direct-on-line starters DSe ¹⁾				
	Without brake output and with 4 inputsWith brake output 400 V AC and 4 inputs	3RK1304-5□S40-2AA0 3RK1304-5□S40-2AA3	1 1	1 unit 1 unit	42D 42D
	Reversing starters RSe ¹⁾				

Article No.

3RK1304-5□S40-3AA0 3RK1304-5□S40-3AA3

3RK1304-5□S70-2AA0 3RK1304-5□S70-2AA3

3RK1304-5□S70-3AA0 3RK1304-5□S70-3AA3



High Fea Motor pro

RSe High Feature

• Without brake output and with 4 inputs With brake output 400 V AC and 4 inputs

Setting range Rated operational current

• 0.15 ... 2.0 A

• 1.5 ... 12.0 A

High Feature motor starters²⁾, electronic Full motor protection, comprising thermal motor protection and thermistor motor protection



sRSSte High Feature

Direct-on-line starters sDSSte/sDSte¹⁾²⁾

Without brake output and with 4 inputsWith brake output 400 V AC and 4 inputs

Reversing starters sRSSte/sRSte¹⁾²⁾

• Without brake output and with 4 inputs • With brake output 400 V AC and 4 inputs

Setting range Rated operational current

• 0.15 ... 2.0 A • 1.5 ... 12.0 A

✓ = Additional price

- 1) Only function when used together with the backplane bus module and the wide module rack. The backplane bus module and the wide module rack must be ordered separately (see "Accessories for ET 200pro motor starters", page 9/17).
- 2) The electronic motor starters can be used not only as electronic motor starters with a high level of switching frequency but also as fully fledged soft starters for soft starting and stopping. The changeover from motor starter to soft starter takes place through reparameterization in HW Config. Depending on the setting, this results in the following current ranges:
 - Parameterization as electronic motor starter: 0.15 to 2 A and 1.5 to 9 A (4 kW).
 - Parameterization as soft starter: 0.15 to 2 A and 1.5 to 12 A (5.5 kW).

Motor starters for use in the field, high degree of protection

ET 200pro motor starters

ET 200pro isolator modules IE3/IE4 ready

Overview

The isolator module with integrated group fusing function (i.e. additional group short-circuit protection for all subsequently supplied motor starters) and switch disconnector function is used for safe disconnection of the 400 V operational voltage during repair work in the plant.

Depending on the power distribution concept, all stations can be equipped with an isolator module as an option.

The following properties apply to the isolator module:

- Increase of plant availability through fast replacement of units (easy mounting and plug-in technology)
- Cabinet-free design thanks to high degree of protection IP65

Technical specifications

	Isolator modules	Т
ng mm	110 x 230 x 170	
°C	-25 +55 -40 +70	
	Any	
g	2	
<i>g</i> /ms	Half-sine 15/11	
mA	Approx. 20 	
А	25	
V	400	
V	Up to 500 Up to 600	
mm ²	Max. 6 x 4	
	g mm °C °C g g/ms MA A V V V	g mm 110 x 230 x 170 °C -25 +55 °C -40 +70 Any g 2 g/ms Half-sine 15/11 mA Approx. 20 A 25 V 400 V Up to 500 V Up to 600

Туре		Isolator modules
Degree of protection		IP65
Touch protection		Finger-safe
Pollution degree		3, IEC 60664 (IEC 61131)
Rated impulse withstand voltage $U_{\rm imp}$	kV	6
Rated insulation voltage U_i	V	400
Rated operational current I_e for starters		
• AC-1/2/3 at 40 °C - At 400 V - At 500 V	A A	25 25
Rated short-circuit breaking capacity	kA	50 at 400 V
Type of coordination according to IEC 60947-4-1		2
Protective separation between main and auxiliary circuits	V	400, according to DIN VDE 0106, Part 101
Device functions • Group diagnostics		Yes, configurable
Device indications • Group fault		SF LED (red)

Selection and ordering data

Version	Article No.	Price	PU	PS*	PG
		per PU	(UNIT,		
			SET, M)		

ET 200pro isolator modules, mechanical

Isolator module¹⁾

Rated operational current 25 A

3RK1304-0HS00-6AA0

1 unit

42D

3RK1304-0HS00-6AA0

¹⁾ Only function when used together with the related 110 mm backplane bus module and the wide module rack. The backplane bus module and the wide module rack must be ordered separately (see page 9/17).

Motor starters for use in the field, high degree of protection ET 200pro motor starters

ET 200pro Safety motor starters Solution PROFIsafe > Safety modules PROFIsafe

Overview

Safety Solution PROFIsafe

With the Safety modules PROFIsafe

- F-Switch and
- 400 V disconnecting module

with an appropriate connection, safety levels SIL 3 (according to IEC 62061) or PL e (according to ISO 13849-1) can be reached.

F-Switch PROFIsafe

Fail-safe digital inputs/outputs in degrees of protection IP65 to IP67 for cabinet-free use near the machine.

Fail-safe digital inputs

- For the fail-safe reading in of sensor information (1-/2-channel)
- Including integrated discrepancy evaluation for 2v2 signals
- Internal sensor supplies (incl. testing) available

Fail-safe digital outputs

• Three fail-safe PP-switching outputs for safe switching of the backplane busbars

The F-Switch is certified up to SIL 3/PL e and has detailed diagnostics. It supports PROFIsafe in PROFIBUS configurations as well as in PROFINET configurations.

Note:

Safety characteristics, see page 16/9.

Functionality

The F-Switch PROFIsafe is a fail-safe solid-state module for PROFIsafe safety applications. It has two fail-safe inputs and outputs for safe switching of the 24 V supply over backplane busbars. In combination with the 400 V disconnecting module, fail-safe shutdown of ET 200pro motor starters is possible in PROFIsafe applications up to SIL 3/PL e.

400 V disconnecting module

The 400 V disconnecting module enables the safe disconnection of an operational voltage of 400 V up to SIL 3/PL e. For operation in a Safety PROFIsafe application it functions only in combination with the F-Switch.

Functionality

The 400 V disconnecting module can be used together with the F-Switch for PROFIsafe safety applications. It contains two contactors connected in series for safety-related disconnection of the main circuit. The auxiliary circuit supply of the device is provided via a safety power rail in the backplane bus module. The 400 V disconnecting module can be used in conjunction with the F-Switch for safety applications up to SIL 3/PL e.

Technical specifications		
Туре		400 V disconnecting module
General data		
Mounting dimensions (W x H x D) • Direct-on-line starters and reversing starters	mm	110 x 230 x 150
Permissible ambient temperature		
During operationDuring storage	°C	-25 +55 -40 +70
Permissible mounting position		Any
Vibration resistance according to IEC 60068-2-6	g	2
Shock resistance according to IEC 60068-2-27	g/ms	Half-sine 15/11
Power consumption	9,	Train office Top 1.
From auxiliary circuit L+/M (U1)	mA	Approx. 20
From auxiliary circuit A1/A2 (U2)		
Rated operational current I _e for power bus	Α	25
Rated operational voltage U _e	V	400 (50/60 Hz)
Approval DIN VDE 0106, Part 101	V	Up to 500
CSA and UL approval	V	Up to 600
Conductor cross-sections Incoming power supply	${\rm mm}^2$	Max. 6 x 4
Degree of protection		IP65
Touch protection		Finger-safe
Pollution degree		3, IEC 60664 (IEC 61131)
Rated impulse withstand voltage U _{imp}	kV	6
Rated insulation voltage U _i	V	400
Rated operational current I _e for starters		
• AC-1/2/3 at 40 °C		
- At 400 V	A	25 25
- At 500 V Rated short-circuit breaking capacity	A kA	50 at 400 V
Type of coordination according to IEC 60947-4-1	N/A	2
Protective separation between main and auxiliary circuits	V	400,
		according to DIN VDE 0106, Part 101
 Operating times for 0.85 1.1 x U_e Closing delay Opening delay 	ms ms	25 100 7 10
Device functions • Group diagnostics		Yes, configurable
Device indications • Group fault		SF LED (red)

Motor starters for use in the field, high degree of protection

ET 200pro motor starters

ET 200pro Safety motor starters Solution PROFIsafe > Safety modules PROFIsafe | IE3/IE4 ready

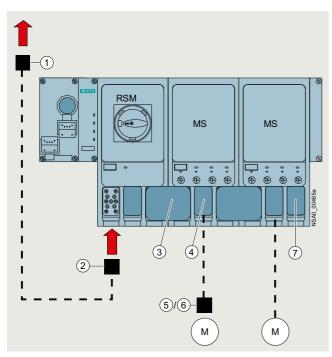
Selection and ordering data Version Article No. Price PS* PG per PU (UNIT SÈT, M) Safety modules PROFIsafe 400 V disconnecting module¹⁾²⁾ Rated operational current 25 A 3RK1304-0HS00-8AA0 1 unit 42D 3RK1304-0HS00-8AA0 F-Switch PROFIsafe 24 V DC, including bus module 6ES7148-4FS00-0AB0 241 1 unit Note: Connection module must be ordered separately. 6ES7148-1FS00-0AB0 Connection module for F-Switch 6ES7194-4DA00-0AA0 241 1 unit

¹⁾ The 400 V disconnecting module functions only when used together with the F-Switch PROFIsafe.

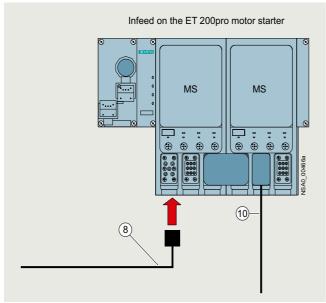
²⁾ The 400 V disconnecting module functions only when used together with the backplane bus module and the wide module rack. The backplane bus module and the wide module rack must be ordered separately (see "Accessories for ET 200pro motor starters", page 9/17).

Accessories for ET 200pro motor starters

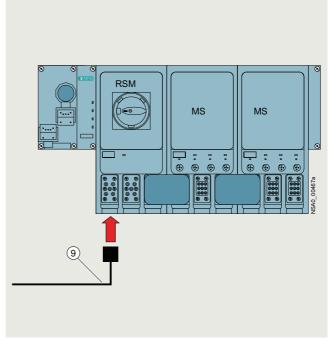
Overview



Basic design of an ET 200 pro version with (from the left) connection module for IM, interface module for communication (IM), RSM isolator module, two ET 200 pro motor starters (MS), and connections for energy



Infeed on the ET 200pro motor starter



Infeed on the RSM isolator module

Legend:

- ① Power feeder plug (see page 9/15)
- ② Power connection plug (see page 9/15)
- 3 Power jumper plug (see page 9/15)
- (4) Motor connection plug (see page 9/15)
- (5) Motor plug (see page 9/15)
- (6) Motor plug with EMC suppressor circuit (see page 9/15)
- Power loop-through plug (see page 9/15)
- 8 Power connecting cable (see page 9/15)
- (9) Power connecting cable for isolator module (see page 9/15)
- n Motor cable (see page 9/16)

ET 200pro motor starters

Accessories for ET 200pro motor starters

Power bus

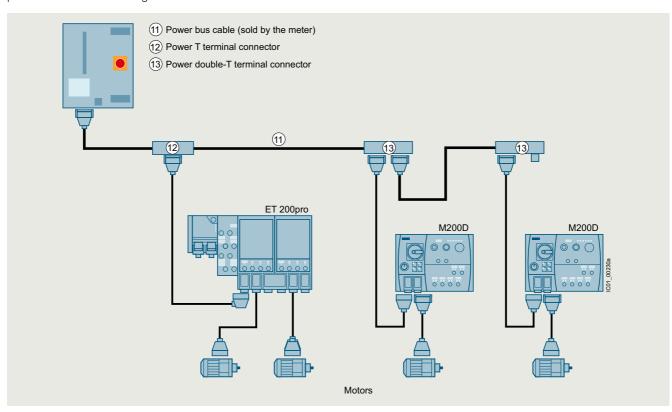
The power supply to the field devices (ET 200pro motor starters, M200D motor starters) is provided via the power bus, in which the power T terminal connectors or power double-T terminal connectors are connected by power bus cables.

Feeders

From the terminal connectors, spur lines with Han Q4/2 plugs lead to the field devices, from which the motors are supplied with power via motor connecting cables.

Interruption-free thanks to power terminal connectors

In finger-safe connection technology the power T terminal connectors and power double-T terminal connectors connect the components of a feeder to the power bus. They ensure interruption-free operation, i.e. the power bus is not interrupted when the components are unplugged.



Power supply to the motors via the power bus with power T and double-T terminal connectors linked by power bus cables, spur lines to the field devices (motor starters), and power loop-through connections to the motors via motor connecting cables

Motor control via PROFIBUS

The interface modules (IM) for PROFIBUS can be combined with two different connection modules for connecting PROFIBUS DP and the power supply:

- Direct connection with cable gland
- M12, 7/8" connection
 - with M12 connecting cable and M12 plugs for data transmission with PROFIBUS DP
 - with 7/8" connecting cable and 7/8" plugs for the power supply

For connection modules with the relevant accessories, see "Accessories for ET 200pro interface modules" in Catalog ST 70 or SiePortal.

Motor control via PROFINET

For connection modules with the relevant accessories, see "Accessories for ET 200pro interface modules" in Catalog ST 70 or SiePortal.

Accessories for ET 200pro motor starters

Selection and ordering	g data				
	Version	Article No. Price per PU		PS*	PG
Incoming power supply	y				
	Power feeder plugs Connector set for incoming power supply, e.g. for connecting to T terminal connectors, comprising a coupling enclosure, straight outgoing feeder (with bracket), pin insert for Han Q4/2, incl. screw gland 5 male contacts, 2.5 mm² 5 male contacts, 4 mm²	3RK1911-2BS60 3RK1911-2BS20	1 1	1 unit 1 unit	42D 42D
	5 male contacts, 6 mm² Power connection plugs Connector set for incoming power supply for connection to ET 200pro motor starters/ET 200pro isolator modules, comprising a cable-end connector hood, angled outgoing feeder, female contact insert for Han Q4/2, incl. screw gland	3RK1911-2BS40	1	1 unit	42D
	 5 female contacts, 2.5 mm² 5 female contacts, 4 mm² 5 female contacts, 6 mm² 	3RK1911-2BE50 3RK1911-2BE10 3RK1911-2BE30	1 1 1	1 unit 1 unit 1 unit	42D 42D 42D
	(8) Power connecting cables, assembled at one end Power connecting cable for ET 200pro motor starters, open at one end, for Han Q4/2, angled, 4 x 4 mm ²	00//044 00040			100
	• Length 1.5 m • Length 5.0 m	3RK1911-0DB13 3RK1911-0DB33	1 1	1 unit 1 unit	42D 42D
	(3) Power connecting cables for isolator module, assembled at one end Power connecting cable for ET 200pro isolator modules, open at one end, for Han Q4/2, angled, insert turned at isolator module end, 4 x 4 mm ²	00/4044 00540			400
	Length 1.5 mLength 5.0 m	3RK1911-0DF13 3RK1911-0DF33	1 1	1 unit 1 unit	42D 42D
Power loop-through or		ODI/4000 ODO00		4 9	400
	③ Power jumper plug ⑦ Power loop-through plugs Connector set for power loop-through for connection to ET 200pro motor starters/ET 200pro isolator modules, comprising a cable-end connector hood, angled outgoing feeder, pin insert for Han Q4/2, incl. screw gland	3RK1922-2BQ00	1	1 unit	42D
	 4 male contacts, 2.5 mm² 4 male contacts, 4 mm² 	3RK1911-2BF50 3RK1911-2BF10	1	1 unit 1 unit	42D 42D
Motor cables	Motor connection plugs Connector set for motor cable for connection to ET 200pro motor starters, comprising a cable-end connector hood, angled outgoing feeder, pin insert for Han Q8/0, incl. screw gland				
	 8 male contacts, 1.5 mm² 6 male contacts, 2.5 mm² 	3RK1902-0CE00 3RK1902-0CC00	1	1 unit 1 unit	42D 42D
	(5) Motor plugs Connector set for motor cable for connection to motors, comprising a cable-end connector hood, straight outgoing feeder, female contact insert for Han 10e, incl. neutral bridge, incl. screw gland				
	 7 female contacts, 1.5 mm² 7 female contacts, 2.5 mm² 	3RK1911-2BM21 3RK1911-2BM22	1 1	1 set 1 set	42D 42D
	(§) Motor plugs with EMC suppressor circuit Connector set for motor cable for connection to motors, comprising a cable-end connector hood, straight outgoing feeder, female contact insert for Han 10e with EMC suppressor circuit, incl. neutral bridge, incl. screw gland				
	 7 female contacts, 1.5 mm² 7 female contacts, 2.5 mm² 	3RK1911-2BL21 3RK1911-2BL22	1 1	1 set 1 set	42D 42D

ET 200pro motor starters

Accessories for ET 200pro motor starters

	Version	Article No. Price		PS*	PG
		per PU	(UNIT, SET, M)		
Motor cables (continue	ed)				
	Motor cables, assembled at one end Open at one end, Han Q8, angled, length 5 m				
	• For motor without brake, for ET 200pro, 4 x 1.5 mm ²	3RK1911-0EB31	1	1 unit	42D
	• For motor with brake for ET 200pro, 6 x 1.5 mm ²	3RK1911-0ED31	1	1 unit	42D
	 For motor without brake, with thermistor, for ET 200pro, 6 x 1.5 mm² 	3RK1911-0EF31	1	1 unit	42D
	 For motor with brake and thermistor for ET 200pro, 8 x 1.5 mm² 	3RK1911-0EG31	1	1 unit	42D
Power bus			_		
	Power T terminal connectors For 400 V AC, for connection of feeders (e.g. motor starters) by means of standard round cable at any point of the power bus, by insulation displacement connection, used with preassembled bus segments				
	• 2.5 mm ² /4 mm ² • 4 mm ² /6 mm ²	3RK1911-2BF01 3RK1911-2BF02	1	1 unit 1 unit	42D 42D
	® Power double-T terminal connector For 400 V AC, for connection of feeders (e.g. motor starters) by means of standard round cable at any point of the power bus, by insulation displacement connection, used with preassembled bus segments, connection of two motor starters possible 4 mm²/6 mm² 	3RK1911-2BG02	1	1 unit	42D
	Sealing set (comprising 2 seals) For power T/power double-T terminal connectors				
	For power cables with Ø 10 13 mm For power cables with Ø 13 16 mm For power cables with Ø 16 19 mm For power cables with Ø 19 22 mm Blanking plugs	3RK1911-5BA00 3RK1911-5BA10 3RK1911-5BA20 3RK1911-5BA30 3RK1911-5BA50	1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	42D 42D 42D 42D 42D
Further accessories for	or power connections				
3BK1902-0CW00	Crimping tool For pins/sockets, 4 mm ² and 6 mm ²	3RK1902-0CW00	1	1 unit	42D
G: IIX1302-00 VV00	Dismantling tools • For male and female contacts for 9-pole Han Q4/2 inserts • For male and female contacts for 9-pole Han Q8 inserts	3RK1902-0AB00 3RK1902-0AJ00	1 1	1 unit 1 unit	42D 42D
	Sealing caps For 9-pole power sockets • 1 unit per pack • 10 units per pack	3RK1902-0CK00 3RK1902-0CJ00	1	1 unit 10 units	42D 42D



3RK1902-0CK00

Accessories for ET 200pro motor starters

	Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Further accessorie	es					
	Module racks, wide ¹⁾ • Length 500 mm • Length 1 000 mm • Length 2 000 mm	6ES7194-4GB00-0AA0 6ES7194-4GB60-0AA0 6ES7194-4GB20-0AA0		1 1 1	1 unit 1 unit 1 unit	250 250 250
	Module racks, wide, compact ¹⁾ • Length 500 mm • Length 1 000 mm • Length 2 000 mm	6ES7194-4GD00-0AA0 6ES7194-4GD10-0AA0 6ES7194-4GD20-0AA0		1 1 1	1 unit 1 unit 1 unit	250 250 250
	Backplane bus module 110 mm ²⁾	3RK1922-2BA00		1	1 unit	42D
THE REAL PROPERTY OF THE PARTY	Handheld device For ET 200pro motor starters (or for M200D motor starters) for local operation Notes:	3RK1922-3BA00		1	1 unit	42D
	 The motor-starter-specific serial interface cables must be ordered separately. 					
	 The RS 232 interface cable 3RK1922-2BP00 is used for the MS ET 200pro. 					
3RK1922-3BA00	RS 232 interface cable Serial data connection between ET 200pro (or M200D) motor starters and the RS 232 interface of a PC/PG/laptop (with the Motor Starter ES software) or the handheld device 3RK1922-3BA00	3RK1922-2BP00		1	1 unit	42D
	USB interface cable, 2.5 m Serial data connection between ET 200pro (or M200D) motor starters and the USB interface of a PC/PG/laptop (with the Motor Starter ES software)	6SL3555-0PA00-2AA0		1	1 unit	368
	M12 sealing caps For sealing unused M12 input or output sockets (one set contains ten sealing caps)	3RK1901-1KA00		100	10 units	42C
3RK1901-1KA00	Motor suppression modules RC element for installation in motor terminal box					
	Angled design	3RK1911-6EA00		1	1 unit	42D
3RK1911-6EA00	D	001/1011 05000			4 0	400
	• Round design	3RK1911-6EB00		1	1 unit	42D
3RK1911-6EB00						

¹⁾ The wide module rack can accommodate all ET 200pro motor starters and any optional modules (isolator module, 400 V disconnecting module).

For more connection technology products, see https://support.industry.siemens.com/cs/ww/en/view/65355810.

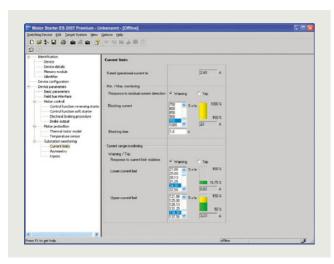
²⁾ The backplane bus module is a prerequisite for operation of ET 200pro motor starters and optional modules.

ET 200pro motor starters

Software

Motor Starter ES

Overview



Motor Starter ES for parameterization, monitoring, diagnostics and testing of motor starters $\,$

More information

SiePortal, see www.siemens.com/product?3ZS1

Technical specifications and system requirements, see https://support.industry.siemens.com/cs/ww/en/ps/16713/td

Motor Starter ES is used for the commissioning, parameterization, diagnostics, documentation and preventive maintenance of SIMATIC ET 200S, ET 200pro, ECOFAST and M200D motor starters

The software program is available in three versions which differ in their user-friendliness, scope of functions and price.

For detailed information on the Motor Starter ES software, see page 14/11.

General data

Overview



SIRIUS M200D AS-i Basic motor starter with manual local operation

The intelligent and highly flexible SIRIUS M200D motor starters for distributed installation start, monitor and protect motors and loads up to 5.5 kW.

The M200D motor starters are available in four versions:

M200D AS-i Basic	M200D AS-i Standard	M200D PROFIBUS	M200D PROFINET			
Motor control with AS-i communication	on	PROFIBUS	PROFINET			
Mechanical or elec	ctronic switching					
✓	✓	✓	✓			
Electronic switching with soft starter functionality						
	✓	✓	✓			

- ✓ Function available
- -- Function not available

Voltage data

The specifications for 3-phase systems according to IEC 60947-4-1 apply for the following line system configurations:

Voltage $\textit{U}_{\rm e}$	Line system configur	rations
	Three-phase four-wire systems	Three-phase three-wire systems
	= 001-00703	Egypt John Barrier Control of the Co
V	V	V
230		230
400	230/400	400
440	260/440	440
500		500
N1 1 'C'		

-- Not specified

More information

Homepage, see www.siemens.com/sirius-motor-starter-m200d SiePortal, see www.siemens.com/product?M200D

Decision support for motor start – Starting and operating three-phase asynchronous motors efficiently, see www.siemens.com/motorstart-guide TIA Selection Tool Cloud (TST Cloud), see www.siemens.com/tstcloud/?node=MS_M200D

Basic functionality

The versions of the M200D motor starter are equipped with the following properties and functions:

- Available as direct-on-line and reversing starters in a rugged design
- Electromechanical or electronic switching version
- Low variance only two device versions up to 5.5 kW thanks to wide range setting
- All versions have the same enclosure size.
- Degree of protection IP65
- Quick and fail-safe wiring of system and motor cables using ISO 23570 plug-in connector technology (Q4/2 and Q8/0)
- Robust and widely used M12 connection method for digital inputs and outputs
- Integrated feeder connector monitoring
- Full motor protection through overload protection and a temperature sensor (PTC, TC)
- Short-circuit and overload protection integrated
- Integrated repair switch lockable with three locks (multi-level service)
- Uniform wiring to the SINAMICS G115D and SINAMICS G120D frequency converters and to the ET 200pro distributed I/O system
- Extensive diagnostics concept using LEDs
- Optionally available integrated manual local control with key-operated switch (ordering option)
- Optionally available brake actuation with voltages from 180 V DC (no rectifier needed in motor) or 230/400 V AC (ordering options)

General data

Article number scheme

Product versions		Article number				
Motor starters		3RK13 □ 5 -	6 🗆 S 🗆 1	- 🗆 A 🗆		
Туре	AS-i Basic AS-i Standard PROFIBUS/PROFINET	1 2 9		# #	١	
Setting range for rated operational current I_A	0.15 2 A 1.5 9 A 1.5 12 A		K N L			
Starter version	Electromechanical starters Electronic starters		4 7			With integrated contactor With thyristors
Product function	Direct-on-line starters Reversing starters Direct-on-line starters Reversing starters			0 1 2 3		With manual local operation With manual local operation
Brake actuation	None 230/400 V AC 180 V DC				0 3 5	
Example		3RK13 1 5 -	6 K S 4 1	- 3 A A	0	

Note:

The article number scheme shows an overview of product versions for better understanding of the logic behind the article numbers.

For your orders, please use the article numbers quoted in the selection and ordering data.

Benefits

M200D motor starters provide the following advantages for customers:

- High plant availability through plug-in capability of the main circuit, communication and I/Os – relevant for installing and replacing devices
- Cabinet-free construction and near-motor installation thanks to the high degree of protection IP65
- The motor starters record the actual current flow for the configurable electronic motor overload protection. Reliable messages concerning the overshooting or undershooting of setpoint values ensure comprehensive motor protection. All motor protection functions can be defined by simple parameterization.
- Low stock levels and low order costs thanks to a wide setting range for the electronic motor protection of 1:10 (only two device versions up to 5.5 kW)
- The integrated wide range for the current enables a single device to cover numerous standard motors of different sizes.

- Comprehensive offering of accessories, including ready-assembled cables
- The M200D motor starters can be installed with a few manual steps. The integrated plug-in technology enables far lower wiring outlay:
- Preassembled cables can be plugged directly onto the motor starter module.
- Easy and user-friendly installation because all versions have the same enclosure dimensions.
- Fast and user-friendly commissioning using optional manual local operation
- Increase of process speed through integrated functions such as "Quick Stop" and "Disable Quick Stop", e.g. at points and crossings
- Optional manual local control with momentary-contact and latching operation for easier commissioning and easier servicing

Application

The high degree of protection IP65 makes the M200D motor starters suitable in particular for use on extensive conveying systems such as are found in mail sorting centers, airports, automotive factories and the packing industry.

For simple drive tasks, particularly in conveyor applications, the new SINAMICS G115D frequency converter series with a performance range from 0.37 kW to 7.5 kW and degree of protection IP65 is the ideal partner for the M200D motor starters.

SINAMICS G115D converters allow for continuous speed control of three-phase asynchronous motors and comply with the requirements of conveyor technology applications with frequency control (for more information, see Catalog D 31.2).

Use of SIRIUS M200D motor starters in conjunction with IE3 and IE4 motors

Note

For the use of SIRIUS M200D motor starters in conjunction with highly efficient IE3 and IE4 motors, please observe the information on dimensioning and configuring, see Application Manual.

For more information, see page 1/8.

M200D motor starters for AS-Interface

General data

Overview

For motor control using AS-Interface there are the following M200D motor starter versions: SIRIUS M200D AS-i Basic and SIRIUS M200D AS-i Standard (basic functionality, see page 9/19 "SIRIUS M200D motor starters" → "General data" → "Overview").

SIRIUS M200D AS-i Basic

Functionality

Easy and fast on-site commissioning through parameterization of local setting knobs (DIP switches) and rotary coding switches for adjusting the rated operational current. The rotary coding switch has an OFF position for deactivating the overload protection with the help of the thermal motor model when using a temperature sensor.

Communications

- AS-i communication with A/B addressing according to Spec V2.1
- The AS-i bus is connected cost-effectively using an M12 connection on the device. Of the four digital inputs, two are contained in the process image and can therefore be used in the PLC program. The other two inputs are locally effective and permanently assigned with functions.
- The LEDs can provide comprehensive diagnostics of the device on the spot. In addition to diagnostics using the PAE process image, the device can create up to 15 different diagnostic messages per slave. The message with the highest priority can be read out through the AS-i communication. This is yet another new development which distinguishes the M200D AS-i Basic motor starter from the rest of the market and adds innovative technology, maximum availability and transparency to the system.

SIRIUS M200D AS-i Standard

The intelligent and highly flexible M200D AS-i Standard motor starter in A/B technology starts and protects motors and loads up to 5.5 kW. It is available in direct-on-line or reversing starter versions, in a mechanical version and also a solid-state version (the latter with soft start function).

The M200D AS-i Standard motor starter is the most functional member of the SIRIUS motor starter family in the high degree of protection IP65 for AS-i communication. Consistency with other products of the SIRIUS M200D motor starter range and with the frequency converter and ET 200pro I/O system is assured.

Functionality

- AS-i communication with A/B addressing according to Spec 3.0
- · Solid-state version also with soft start function
- AS-i slave profile 7AE/7A5 with process image 6E/4A
- Full TIA integration: All digital inputs and outputs exist in the cyclic process image and are visible via AS-i, providing maximum flexibility and best adaptability to the application.
- Additionally expanded diagnostics using data record through AS-i bus
- Complete plant monitoring using statistics data record and current value monitoring by means of data records
- Parameterization through AS-i bus with the help of data records or an expanded process image from the user program
- Control of the motor starter using a command data record from the user program
- Flexible assignment of the digital inputs and outputs with all available assignable input actions
- Parameterization using Motor Starter ES at the local interface (ordering option for commissioning software)
- Diagnostics with the help of Motor Starter ES (ordering option for commissioning software)

Mounting and installation

The M200D motor starters can be installed with a few manual steps. The integrated plug-in technology enables far lower wiring outlay. Connecting cables can be plugged directly onto the motor starter module. Swapping of the connecting wires and malfunctions within the plant are prevented by preassembled cables. The AS-i bus is connected cost-effectively using an M12 connection on the device. All versions have identical enclosure dimensions for easier system design and conversion.

Parameterization and configuration

The particularly robust M200D AS-i Standard motor starter is characterized by numerous functions which can be flexibly parameterized. It enables highly flexible parameterization through the AS-i bus using data records from the user program as well as user-friendly local parameterization using the Motor Starter ES commissioning software through the local point-to-point interface.

Functions can be flexibly assigned to the digital inputs and outputs, adapting them to all possible conveyor applications. All motor protection functions, limit values and reactions can be defined by parameterization. The AS-i Standard is unique. In its 6E/4A process image the motor starter sends all four digital inputs and the digital output via the process image to the PLC in cyclic mode. System configuration and system documentation are facilitated not least by a number of CAX data.

Operation

The new generation of motor starters is characterized by its advanced functionality, maximum flexibility and extremely high degree of automation.

All digital inputs and outputs exist in the cyclic process image. All limit values for monitoring functions and their reactions are configurable and therefore adaptable to the application. The motor starters record the actual current flow. Evaluating the current of the configurable electronic overload protection increases the availability of the drives, as do reliable messages concerning the overshooting or undershooting of setpoint values.

Diagnostics and preventive maintenance

The M200D sets new standards for diagnostics. In addition to diagnostics using the PAE process image and diagnostics by "parameter echo" (up to 15 different diagnostic messages per slave can be read out via AS-i communication), the possibility of reading out diagnostic data records is unique on the market.

The AS-i Standard is recommended in particular for expansive and highly automated system components because the possibility of monitoring devices and systems with data records (statistical data, measured values and device diagnostics) provides an in-depth view of the plant from the control room, guaranteeing the monitoring process and increasing plant availability.

Preventive maintenance can be carried out with the integrated maintenance timer and plant downtimes prevented as a result in advance.

Local control of a drive is possible using the ordering option with integrated manual local operation. This is yet another new development which distinguishes the M200D AS-i Standard motor starter from the rest of the market and adds innovative technology, maximum availability and transparency to the plant.

SIRIUS M200D motor starters M200D motor starters for AS-Interface

General data





SIRIUS M200D	SIRIUS M200D
AS-i Basic	AS-i Standard

	AS-i Basic	AS-i Standard
Device functions (firmware features)		
Slave on the bus		
Fieldbus	✓ AS-i	
Slave type	✓ A/B according to Spec 2.1	✓ A/B according to Spec 3.0
Profile	✓ 7.A.E	✓ 7.A.E & 7.A.5
Number of assigned AS-i addresses on the bus	√ 1	√ 2
Number of stations per AS-i master	✓ Max. 62 devices	✓ Max. 31 devices
AS-i master profile	✓ M3 and higher	✓ M4 and higher
Parameter assignment		
DIP switches	✓	
Potentiometer for rated operational current		
Motor Starter ES		✓
Data records through AS-i		✓
Diagnostics		
Diagnostics through parameter channel	✓	
Acyclic through data records		✓
Expanded process image PAE 4 bytes		✓
Process image		
Process image	✓ 4E/3A	✓ 6E/4A
Data channels		
Local optical interface (manual local)	✓	
AS-i bus	✓	
Motor Starter ES through local interface		✓
Motor Starter ES through bus	-	
Data records ¹⁾ (acyclic)		
Parameter assignment		✓
Diagnostics		✓
Measured values		✓
Statistics		✓
Commands		✓
Inputs		
Number	✓ 4	
Of these in the process image	✓ 2 through AS-i	✓ 4 through AS-i
Input action	✓ For permanently assigned functions, see manual	✓ Configurable: flexible
Quick stop	✓ Permanent function: latching, edge-triggered	✓ Configurable function: latching (edge-triggered), non-latching (level-triggered)
Outputs		
Number	✓ 1	
Output action	✓ Permanent function: assigned with group fault	✓ Configurable: For function, see manual
Brake output		
180 V DC/230/400 V AC/without	✓	
Motor protection		
Overload protection	✓ Electronic, wide range 1:10	
Short-circuit protection	✓	
Full motor protection	✓	
Temperature sensor	✓ Configurable using DIP switches: PTC or Thermoclick or deactivated	✓ Configurable via Motor Starter ES, data record: PTC or Thermoclick or deactivated

- ✓ Function available
- -- Function not available
- 1) The data records are a reduced selection compared with PROFIBUS/PROFINET.

SIRIUS M200D motor starters M200D motor starters for AS-Interface

General data





SIRIUS M200D	SIRIUS M200L
AS-i Basic	AS-i Standard

	A3-I Dasic	A3-i Statiuaru
Device functions (firmware features) (conf	inued)	
Device function		
Repair switch	✓	
Current limit monitoring bottom		✓ Configurable
Current limit monitoring top		✓ Configurable
Residual current detection	\checkmark Permanent function: disconnection, less than 18.75% of the rated operational current $I_{\rm e}$	✓ Configurable
Blocking current	✓ Permanent function: starting up of the motor: Tripping limit up to 800% of the rated operational current I _e for 10 s	✓ Configurable I
	Active operation: Threshold for tripping "blocking current" up to 400% of the rated operational current $I_{\rm e}$	9
Asymmetry	✓ Permanent function: up to 30% of the rated operational current I _e (only mechanical MS)	✓ Configurable
Load type	✓ Permanent function: 3-phase	✓ Configurable: 1-phase and 3-phase
Shutdown class	✓ Configurable using DIP switches: CLASS 10/deactivated	Configurable via Motor Starter ES, data record: CLASS 5, 10, 15, 20
Protection against voltage failure	✓	✓ Configurable: activated/deactivated
Soft starter control function		
Soft start function		✓ Only solid-state version
Bypass function		✓ Only solid-state version

- ✓ Function available
- -- Function not available

Application

The M200D AS-i Standard is particularly suitable for highly automated applications in conveyor systems requiring devices and systems to be monitored to prevent or limit plant downtime. The option of parameterizing the functions of the motor starter or its interfaces also creates the prerequisite for fine-adjustment to the function of the motor starter in the application and hence provides for extreme flexibility.

Use of M200D motor starters in conjunction with IE3 and IE4 motors

Note:

For the use of SIRIUS M200D motor starters in conjunction with highly efficient IE3 and IE4 motors, please observe the information on dimensioning and configuring, see Application Manual

For more information, see page 1/8.

Technical specifications

More information

Manuals for SIRIUS M200D:

 AS-i Basic, see https://support.industry.siemens.com/cs/ww/en/view/35016496

 AS-i Standard, see https://support.industry.siemens.com/cs/ww/en/view/38722160
 FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/16324/faq Notes on security:

In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial security concept. Siemens products and solutions represent only one component of such a concept.

For more information on the subject of Industrial Security, see www.siemens.com/industrialsecurity.

SIRIUS M200D motor starters M200D motor starters for AS-Interface

General data

Туре		M200D motor starte	ers		
		AS-i Basic electromechanical switching	AS-i Basic electronic switching	AS-i Standard electromechanical switching	AS-i Standard electronic switching
Technology designation ¹⁾		DSte/RSte	sDSte/sRSte	DSte/RSte	sDSSte/sRSSte
Mechanics and environment		004045450			
Mounting dimensions (W x H x D)	mm	294 x 215 x 159			
Permissible ambient temperature • During operation • During storage	°C	-25 +55 -40 +70			
Weight	g	2 880/3 130	3 220/3 420	2 880/3 130	3 220/3 420
Permissible mounting position		Vertical, horizontal, I	ying		
Vibration resistance according to IEC 60068-2-6	g	2			
Shock resistance • According to IEC 60068-2-27 • Without in the pains the	g/ms	12/11 half-sine			
Without influencing the contact position	<i>g</i> /ms	9.8/5 or 5.9/10			
Degree of protection according to IEC 529		IP65			
Installation altitude Up to 1 000 m Up to 2 000 m		No derating 1% per 100 m			
Cooling		Convection			
Protection class IEC 536 (DIN VDE 0106-1)		1			
Electrical specifications					
Control circuit		•			
Operational voltage U_{AS-i}	V DC	26.5 31.6			
Supply voltage U _{aux}	V DC	20.4 28.8			
Power consumption from AS-i (incl. 200 mA sensor supply) mA	< 300			
Current consumption from U_{aux} (without digital output) • Max.	mA	155	15 (direct-on-line)/	155	15 (direct-on-line)/
• Typ.	mA	75	175 (reversing) 10 (direct-on-line)/ 75 (reversing)	75	175 (reversing) 10 (direct-on-line)/ 75 (reversing)
Main circuit			. (9,		3 (3 2 2 3)
Maximum power of three-phase motors at 400 V AC	kW	5.5	4	5.5	5.5
Rated operational voltage U _e • Approval according to IEC 60947-1 • Approval according to UL and CSA • Rated operational current range • Rated operational current range for soft starting • Rated operational current range for direct-on-line starting	V AC V AC A A A	400 (50/60 Hz) 600 (50/60 Hz) 0.15 2/1.5 12 	480 (50/60 Hz) 0.15 2/1.5 9	600 (50/60 Hz) 0.15 2/1.5 12	480 (50/60 Hz) 0.15 2/1.5 12 0.15 2/1.5 9
Rated operational current I _e for starters at 400 V AC • 400 V at AC-1, AC-3 and AC-3e • 500 V at AC-1, AC-3 and AC-3e • 400 V at AC-4 • 400 V at AC-53a	A A A	12 9 4 	 9	12 9 4 	 12 for soft starting 9 for direct-on-line starting
Mechanical endurance of contactor	Oper- ating cycles	30 million		30 million	
Trip class	,	CLASS 10		CLASS 5, 10, 15, 20	
Type of coordination according to IEC 60947-4-1		1 (2 for device version 2A)	1	1 (2 for device version 2A)	1
Permissible switching frequency		see manual		see manual	
Rated ultimate short-circuit breaking capacity $I_{\mathbf{q}}$ • At 400 V AC • At 500 V AC	kA kA	50 50 ²⁾	20 ²⁾	50	20 ²⁾
Short-circuit protection • At $I_{\text{emax}} = 2 \text{ A}$ • At $I_{\text{emax}} = 9/12 \text{ A}$		Integrated, $2 \times 3 I_e$ = Integrated, $2 \times 3 I_e$ =			
Brake actuation (option)					
Operational voltage	V	230/400 AC or 180 [OC		
Uninterrupted current	Α	< 0.5 at 230/400 V A < 0.8 at 180 V DC			
Short-circuit protection 1) DS — Direct on line starters		Yes, 1 A melting fuse	9		

¹⁾ DS Direct-on-line starters

RS ... Reversing starters
RS ... Pirect-on-line soft starters
RSS .. Reversing soft starters
RSS .. Reversing soft starters
te Full motor protection (thermal + electronic)
s Electronic switching with semiconductor.

²⁾ Only systems with grounded neutral point permitted.

SIRIUS M200D motor starters

M200D motor starters for AS-Interface

IE3/IE4 ready M200D Basic motor starters

Selection and ordering data



M200D AS-i Basic without manual local operation



M200D AS-i Basic with manual local operation

Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Electromechanical starters (with integrated contactor)	_				
	3RK1315-6□S41-□AA		1	1 unit	42D
Rated operational current setting range/A		Add. price			
• 0.15 2	ĸ	None			
• 1.5 12	L	/			
Direct-on-line starters/reversing starters					
Direct-on-line starters	0	None			
Reversing starters	1	√			
Direct-on-line starters with manual local operation	2	✓			
Reversing starters with manual local operation	3	✓			
Brake actuation					
Without brake actuation		0 None			
Brake actuation (230/400 V AC)		3 ✓			
Brake actuation (180 V DC)		5			
Electronic starters (with thyristors)					
	3RK1315-6□S71-□AA	. 🗆	1	1 unit	42D
Rated operational current setting range/A		Add. price			
• 0.15 2	κ	None			
• 1.5 9	N	√			
Direct-on-line starters/reversing starters					
Direct-on-line starters	o	None			
Reversing starters	1	✓			
Direct-on-line starters with manual local operation	2	1			

• Reversing starters with manual local operation

• Brake actuation (230/400 V AC) • Brake actuation (180 V DC) ✓ = Additional price

Brake actuation • Without brake actuation

None

SIRIUS M200D motor starters M200D motor starters for AS-Interface

M200D Standard motor starters IE3/IE4 ready

Selection and ordering data



• Direct-on-line starters · Reversing starters

• Brake actuation (230/400 V AC) • Brake actuation (180 V DC) ✓ = Additional price

Brake actuation • Without brake actuation

• Direct-on-line starters with manual local operation • Reversing starters with manual local operation

M200D AS-i Standard without manual local operation



M200D AS-i Standard with manual local operation

Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Electromechanical starters (with integrated contactor)					
	3RK1325-6□S41-□AA□		1	1 unit	42D
Rated operational current setting range/A • 0.15 2 • 1.5 12 Direct-on-line starters/reversing starters • Direct-on-line starters	K	Add. price None None			
Reversing starters	0				
Direct-on-line starters with manual local operation	2	· /			
Reversing starters with manual local operation	3	/			
Brake actuation					
Without brake actuation	0	None			
Brake actuation (230/400 V AC)	3	✓			
Brake actuation (180 V DC)	5	✓			
Electronic starters (with thyristors)					
	3RK1325-6□S71-□AA□		1	1 unit	42D
Rated operational current setting range/A • 0.15 2 • 1.5 12 Direct-on-line starters/reversing starters	K L	Add. price None			

None

SIRIUS M200D motor starters

M200D motor starters for PROFIBUS/PROFINET

General data

Overview

The intelligent, highly flexible M200D PROFIBUS/PROFINET motor starters are the most functional motor starters of the SIRIUS motor starter family in the high degree of protection IP65 for PROFIBUS/PROFINET communication.

They start and protect motors and loads up to 5.5 kW. Direct-on-line and reversing starter versions are available in a mechanical version and also a solid-state version (the latter with soft start function).

The particularly robust M200D PROFIBUS/PROFINET motor starters are characterized by numerous functions which can be flexibly parameterized. Their modular design comprises a motor starter module and a communications module.

The M200D PROFINET motor starters enable parameterization integrated in TIA through PROFINET from STEP 7 – in the familiar, user-friendly manner with the look and feel of PROFIBUS.

Functionality

- For basic functionality, see page 9/19 "SIRIUS M200D motor starters" → "General data" → "Overview"
- · Solid-state version also with soft start function
- Robust and widely used M12 connection method for the digital inputs and outputs and the PROFIBUS/PROFINET bus connection
- All four digital inputs and two digital outputs exist in the cyclic process image. This provides complete transparency of the process on the control level
- Full TIA integration: All digital inputs and outputs exist in the cyclic process image and are visible via the bus, providing maximum flexibility and excellent adaptability to the application
- Flexible assignment of the digital inputs and outputs with all available assignable input actions
- Extensive diagnostics concept using LEDs and through the bus with the TIA-compatible mechanisms
- Expanded diagnostics using data records
- Complete plant monitoring using statistics data record and current value monitoring by means of data records
- Parameterization through PROFIBUS/PROFINET bus with the help of data records from the user program
- Control of the motor starter using a command data record from the user program
- Removable modular control unit quicker device replacement and therefore lower costs when device outages occur – since existing wiring is on the control unit and only one device needs to be replaced
- Parameterization in STEP 7 HW Config via Motor Starter ES (ordering option for commissioning software)
- Commissioning and diagnostics with the help of Motor Starter ES (ordering option for commissioning software)
- Trace function through Motor Starter ES for optimized commissioning and tracking of process and device values

Only with PROFINET:

- Just one bus system from the MES level to the devices no gateways
- More stations on the bus and possible configuration of flexible bus structures
- Automatic re-parameterization in case of device replacement thanks to proximity detection
- Wireless integration of plant segments in difficult environments using WLAN
- Easier expansion of the system thanks to a higher number of stations on the bus and elimination of terminating resistors



M200D motor starter module for PROFIBUS/PROFINET (without communications module)



M200D communications module for PROFIBUS



M200D communications module for PROFINET

Motor starters for use in the field, high degree of protection SIRIUS M200D motor starters M200D motor starters for PROFIBUS/PROFINET

General data

Mounting and installation

The M200D PROFIBUS/PROFINET motor starter is comprised of the communications module and the motor starter module. Only the motor starter module has to be replaced therefore when replacing devices. This saves time and money. The communications module remains as an active station on the bus and all other system components continue running. This prevents downtimes.

The integrated plug-in technology enables far lower wiring outlay: Connecting cables can be plugged directly onto the motor starter module. The PROFINET bus is connected cost-effectively using an M12 connection on the device. All versions have identical enclosure dimensions for easier system design and conversion.

Parameterization and configuration

All motor protection functions, limit values and reactions can be defined by parameterization.

The user has several user-friendly options for the parameterization. In addition to parameterization directly from STEP 7, which also permits automatic re-parameterization in case of device replacement, it is possible to use the user-friendly Motor Starter ES commissioning software. By connecting a programming device directly to PROFIBUS/PROFINET and the Motor Starter ES commissioning software, the devices can also be conveniently programmed from a central point through the bus. Also, parameters can be changed during operation from the user program using the data record mechanism so that the function of the motor starter is adapted to the process when required. With the help of a PC and the Motor Starter ES software it is also possible to perform the parameterization through the local point-to-point interface on-site.

Functions can be flexibly assigned to the digital inputs and outputs, adapting them to all possible conveyor applications. All digital inputs and outputs exist in the cyclic process image. All limit values for monitoring functions and their reactions are configurable and therefore adaptable to the application. Consistency with other products of the SIRIUS M200D motor starter range and with the frequency converter and ET 200pro I/O system is assured.

Only with M200D PROFINET motor starters

Thanks to the integrated proximity detection, the device name does not need to be issued manually when a device is replaced. The name is issued automatically by the neighboring devices which note the "names" of the devices in their proximity. No additional commissioning measures are required therefore when replacing a device.

The new motor starter generation is characterized by high functionality, maximum flexibility and the highest level of automation. PROFINET is especially recommended for large-scale and highly automated system components, since the possibility of monitoring the devices or systems with data records (statistical data, measured values and device diagnostics) ensures a broader insight into the plant by the control room, and hence increases the availability of the plant sustainably.

Operation

The motor starters record the actual current flow. Evaluating the current of the configurable electronic overload protection increases the availability of the drives, as do reliable signals concerning the overshooting or undershooting of setpoint values.

Diagnostics and preventive maintenance

Diagnostics is provided through numerous mechanisms – and can be used as the customer prefers.

The motor starter is TIA diagnostics-capable, which means that when a fault is identified, a diagnostic interrupt is distributed, which invokes the diagnostics-OB with a SIMATIC control. The fault can be evaluated as usual in the user program.

The M200D motor starter offers a large variety of diagnostics data through data records. Its functionality is without equal on the market. There are extensive options for reading out data from the motor starter for monitoring devices, systems or processes.

The motor starter is equipped internally with three logbooks for device faults, motor starter trips and events that are issued with a time stamp. These logbooks can be read out of the motor starter at any time in the form of data records and provide the plant operator with plenty of information about the state of his plant and process which he can use to carry out improvements.

With the slave pointer and statistical data functions it is possible to read out, for example, the maximum internal current values or the number of motor starter connection operations for plant monitoring purposes. This allows deviations in the process to be monitored, but also optimum initial commissioning to take place. The user can draw conclusions about the actual load conditions of the devices in his process and on this basis can optimize his plant maintenance intervals.

The device diagnostics data record contains details of all the states of the motor starter, the device configuration and the communication status as a basis for central monitoring of devices and systems.

With installation and maintenance functions (I&M), information (I&M) on modules employed and data (I&M) specified by the user during configuration, such as location designations, are stored in the motor starter. I&M functions are used for troubleshooting faults and localizing changes in hardware in a plant or checking the system configuration. Reordering a device is particularly easy as the result.

The integrated maintenance timer can be used to implement preventive maintenance and avoid plant downtimes through look-ahead servicing.

Another new addition is the TRACE integrated into the Motor Starter ES software. It can be used to record measured values as a function of time following a trigger event. This enables process flows to be recorded and their timing optimized.

Local control of a drive is possible using the ordering option with integrated manual operation. This is yet another new development which distinguishes the M200D PROFIBUS/PROFINET motor starter from the rest of the market and adds innovative technology, maximum availability and transparency to the system.

M200D PROFINET motor starters with PROFlenergy

Increasing energy prices, far-reaching ecological problems worldwide and the threat of climate change make it necessary for you to be more conscious about your use of energy.

Active and effective energy management is possible with PROFlenergy.

PROFlenergy is a manufacturer-independent profile on PROFINET, which can be used by all manufacturers, has been standardized by PNO¹⁾ and supports switching off electrical devices during dead times and measuring the energy flow.

1) In the PNO (PROFIBUS Nutzerorganisation e. V. – PROFIBUS User Organization), manufacturers and users have come together to agree on the PROFIBUS and PROFINET standardized communication technologies.

SIRIUS M200D motor starters

M200D motor starters for PROFIBUS/PROFINET

General data

Switching off during dead times

PROFlenergy supports the targeted switching-off of loads during dead time.

These can be planned short breaks of a few minutes (such as lunch breaks), longer dead times (such as nights) or unplanned dead times. Energy is always saved when no power is required.

Measuring and visualizing the energy flow as a basis of energy management

The objective of energy management is to optimize the use of energy in a company – from the purchasing of energy through to the consumption of energy – economically and ecologically.

Analyses of energy consumption over time can be used to control energy flows, avoid energy peaks, improve ratings and thus save costs.

PROFlenergy enables consumption data to be read off from the devices in a unified form. This is recorded during operation and can be displayed on a control panel, for example, or transferred to overlying energy management software packages. This ensures that the measured variables are in a uniform manufacturer-independent form and structure that is available to the user for further processing. These PROFlenergy functions thus provide the basis for active load and energy management during operation.

PROFlenergy in the M200D PROFINET motor starter

SIRIUS M200D

The M200D PROFINET motor starter supports the "switching during dead times" and "measured current values" functions of the motor current using PROFlenergy. These are called commands, because they trigger a reaction in the M200D motor starter.





	PROFIBUS	PROFINET
Device functions (firmware features)		
Slave on the bus		
Fieldbus	✓ PROFIBUS to M12	✓ PROFINET to M12
Adjustable number of stations	✓ 1 125	 1 128 with CPU 315, CPU 317 1 1 256 with CPU 319
Parameter assignment		
DIP switches	✓ For address setting and terminating resistor	
Motor Starter ES	✓ Through bus, optical interface	
PROFIBUS/PROFINET data records	✓	
From STEP 7/HW Config	✓	
Diagnostics		
Acyclic through data records	✓	
Diagnostic interrupt	✓	
Process image		
Process image	✓ 2 bytes PAE/2 bytes PAA	
Data channels		
Local optical interface (manual local)	✓	
Using Motor Starter ES through local interface	✓	
Using Motor Starter ES through bus	✓	
Data records (acyclic)		
Parameter assignment	✓ Using DS 131 (DS = data record)	
Diagnostics	✓ Device-specific DS 92	
Measured values	✓ Measured values DS 94	
Statistics	✓ Statistical data DS 95	
Commands	✓ Using DS 93	
Slave pointer	✓ Slave pointer DS 96	
Logbook	✓ Using Motor Starter ES and data records: device	ce faults DS 72, tripping operation DS 73, events DS 75
Device identification	✓ Using DS 100	
I&M data	✓ Using DS 231 234	✓ Using data records 0xAFF0 0xAFF3
Inputs		
Number	✓ 4	
Of these in the process image	✓ 4	
Input action	✓ Configurable: For flexibly assignable action, se	e manual

✓ Configurable: latching, non-latching

✓ Function available

Quick stop

-- Function not available

SIRIUS M200D motor starters M200D motor starters for PROFIBUS/PROFINET

General data





SIRIUS M200D

SIRIUS M200D

PROFIBUS	PROFINET
ued)	
/ 2	
/ 2	
Configurable: For flexibly assignable action, see	manual
/	
/ Electronic, wide range 1:10	
/	
/	
 Configurable via Motor Starter ES, data record: P 	TC or Thermoclick or deactivated
/	
/ Configurable	
/ Configurable	
Configurable: tripping, warning	
/ Configurable	
/ Configurable	
Configurable: 1-phase and 3-phase	
 Configurable via Motor Starter ES, data record: C 	CLASS 5, 10, 15, 20
Configurable: activated/deactivated	
-	3
<u>-</u>	3
/	
Only solid-state version	
	ved) ved ved ved ved ved ved ved

- ✓ Function available
- -- Function not available

Benefits

M200D PROFINET motor starters with PROFlenergy

Both standards and laws are making environmental protection and energy management increasingly important, as is the desire to cut energy costs in production facilities and thus ensure a sustainable competitive advantage. It is thus an objective within the industry to save energy and actively reduce CO_2 emissions. By the careful use of valuable resources, the manufacturer-independent PROFlenergy profile on PROFINET can make an active contribution to environmental protection.

Application

M200D PROFIBUS/PROFINET motor starters are particularly suitable for highly automated conveyor applications fully integrated in TIA that meet all needs with regard to the monitoring of devices and systems, as well as preventive maintenance.

Adaptability of the motor starter functions and maximum flexibility of the device enable a broad range of application without any limits. The PROFINET-specific expansions are the best assurance of a future-proof investment.

SIRIUS M200D motor starters

M200D motor starters for PROFIBUS/PROFINET

General data

Technical specifications

More information	
Equipment Manual for M200D PROFIBUS/Phttps://support.industry.siemens.com/cs/ww	

FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/16325/faq

In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial security concept. Siemens products and solutions represent only one component of such a concept.

For more information on the subject of Industrial Security, see www.siemens.com/industrialsecurity.

		www.siemens.com/industria	aloodanty.
Туре		M200D PROFIBUS/PROFINET motor	r starter modules
		Electromechanical switching	Electronic switching
Technology designation ¹⁾		DSte/RSte	sDSSte/sRSSte
Mechanics and environment			
Mounting dimensions (W x H x D)			
Without communications module	mm	294 x 215 x 159	
With communications module	mm	295 x 215 x 163	
Permissible ambient temperature	°C	-25 + 55	
During operationDuring storage	°C	-40 +70	
Weight	g	2 820/3 080	3 160/3 360
Permissible mounting position	<u> </u>	Vertical, horizontal, lying	
Vibration resistance according to IEC 60068-2-6	g	2	
Shock resistance			
According to IEC 60068-2-27	<i>g</i> /ms	12/11 half-sine	
Without influencing the contact position	<i>g</i> /ms	9.8/5 or 5.9/10	
Degree of protection according to IEC 529		IP65	
Installation altitude		NI I C	
Up to 1 000 mUp to 2 000 m		No derating 1% per 100 m	
·		Convection	
Protection class IEC 536 (DIN VDE 0106-1)		1	
Electrical specifications		1	
Main circuit			
Maximum power of three-phase motors at 400 V AC	kW	5.5	
·	KVV	5.5	
Rated operational voltage <i>U</i> _e • Approval according to EN 60947-1	V AC	400 (50/60 Hz)	
Approval according to UL and CSA	V AC	600 (50/60 Hz)	480 (50/60 Hz)
Rated operational current range	Α	0.15` 2/1.5 12	` ·
Rated operational current range for soft starting	A		0.15 2/1.5 12
Rated operational current range for direct-on-line starting	Α		0.15 2/1.5 9
Rated operational current I _e for starters at 400 V AC • 400 V at AC-1, AC-3 and AC-3e	Α	12	
• 500 V at AC-1, AC-3 and AC-3e	A	9	
• 400 V at AC-4	Α	4	
• 400 V at AC-53a	Α		12 for soft starting, 9 for direct-on-line starting
Mechanical endurance of contactor	Oper-	30 million	
	ating		
Trip class	cycles	CLASS 5, 10, 15, 20	
Permissible switching frequency		see manual	
Rated ultimate short-circuit breaking capacity I_{α}		300 manuar	
At 400 V AC	kA	50	
• At 500 V AC	kA	50	20 ²⁾
Short-circuit protection			
• At $I_{\text{emax}} = 2 \text{ A}$		Integrated, $2 \times 13 I_e = 26 A$	
• At $I_{\text{emax}} = 9/12 \text{ A}$		Integrated, $2 \times 13 I_e = 208 A$	

• At $I_{\text{emax}} = 2 \text{ A}$ • At $I_{\text{emax}} = 9/12 \text{ A}$

1) DS Direct-on-line starters

RS ... Reversing starters
RS ... Pricet-on-line soft starters
RSS .. Reversing soft starters
RSS .. Reversing soft starters
te Full motor protection (thermal + electronic)
s Electronic switching with semiconductor.

Siemens IC 10 · 2024

²⁾ Only systems with grounded neutral point permitted.

SIRIUS M200D motor starters M200D motor starters for PROFIBUS/PROFINET

General data

		Mains voltage					
		380 V AC	400 V AC	440 V AC	480 V AC	500 V AC	
Brake voltage with brake actuation 180 V DC ¹⁾							
Operational voltage	V	230/400 AC or 1	230/400 AC or 180 DC				
Uninterrupted current	А	< 0.5 at 230/400	< 0.5 at 230/400 V AC, < 0.8 at 180 V DC				
Short-circuit protection		Yes, 1 A melting	fuse				
Rectified brake voltage	V DC	171	180	198	216	225	
Recommended brake coil voltage for Siemens motors	V DC	170 200	170 200	184 218	184 218		

¹⁾ Integrated brake actuation supplies DC power supply for the brake.

Туре		M200D communications modules	
		For PROFIBUS	For PROFINET
Mechanics and environment			
Mounting dimensions (W x H x D)	mm	174 x 139 x 40	
Permissible ambient temperature • During operation • During storage	°C °C	-25 +55 -40 +70	
Weight	g	300	
Permissible mounting position		Vertical, horizontal, lying	
Vibration resistance according to IEC 60068-2-6	g	2	
Shock resistance • According to IEC 60068-2-27 • Without influencing the contact position	g/ms g/ms	12/11 half-sine 9.8/5 or 5.9/10	
Degree of protection according to IEC 529		IP65	
Installation altitude • Up to 1 000 m • Up to 2 000 m		No derating 1% per 100 m	
Cooling		Convection	
Protection class IEC 536 (DIN VDE 0106-1)		1	
Electrical specifications			

Control circuit

Operational voltage

• U_{DC24V-NS} • V DC 20.4 ... 28.8 • U_{DC24V-S} V DC 20.4 ... 28.8

Power consumption from

SIRIUS M200D motor starters

M200D motor starters for PROFIBUS/PROFINET

AC-3e

Communications modules, motor starter modules

Selection and ordering data



M200D motor starter module PROFIBUS/PROFINET (without communications module)



M200D motor starter PROFIBUS



M200D motor starter PROFINET

		_			
Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
M200D communications modules for PROFIBUS	_				
Communications module for PROFIBUS M12 connection for communication, 7/8" for 24 V power supply	3RK1305-0AS01-0AA0		1	1 unit	420
M200D communications modules for PROFINET					
Communications module for PROFINET M12 connection for communication, 7/8" for 24 V power supply	3RK1335-0AS01-0AA0		1	1 unit	42D
M200D PROFIBUS/PROFINET motor starter modules					
Electromechanical starters (with integrated contactor)					
	3RK1395-6□S41-□AD□		1	1 unit	42D
Rated operational current setting range/A		Add. price			
• 0.15 2	κ	None			
• 1.5 12	L	✓			
Direct-on-line starters/reversing starters					
Direct-on-line starters	o	None			
Reversing starters	1	✓			
Direct-on-line starters with manual local operation	2	✓			
Reversing starters with manual local operation	3	✓			
Brake actuation					
Without brake actuation	0	None			
Brake actuation (230/400 V AC)	3	✓			
Brake actuation (180 V DC)	5	✓			
Electronic starters (with thyristors)	·				
	3RK1395-6□S71-□AD□		1	1 unit	42D
Rated operational current setting range/A		Add. price			

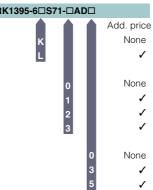
- 0.15 ... 2
- 1.5 ... 12

Direct-on-line starters/reversing starters

- Direct-on-line starters
- Reversing starters
- Direct-on-line starters with manual local operation
- Reversing starters with manual local operation

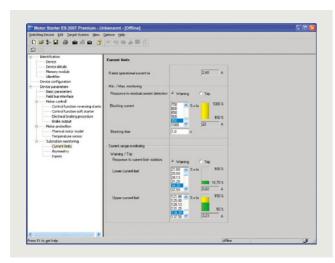
Brake actuation

- Without brake actuation
- Brake actuation (230/400 V AC)
- Brake actuation (180 V DC)
- ✓ = Additional price



Motor Starter ES

Overview



Motor Starter ES for parameterization, monitoring, diagnostics and testing of motor starters $\,$

More information

SiePortal, see www.siemens.com/product?3ZS1

Technical specifications and system requirements, see https://support.industry.siemens.com/cs/ww/en/ps/16713/td

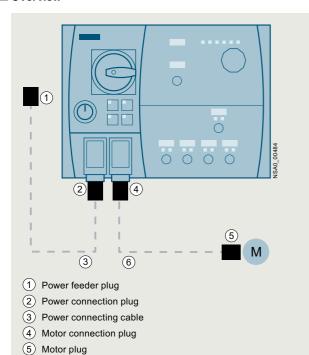
Motor Starter ES is used for the commissioning, parameterization, diagnostics, documentation and preventive maintenance of SIMATIC ET 200S, ET 200pro, ECOFAST and M200D motor starters

The software program is available in three versions which differ in their user-friendliness, scope of functions and price.

For detailed information on the Motor Starter ES software, see page 14/11.

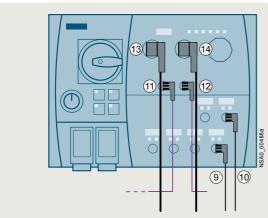
For all M200D motor starters

Overview



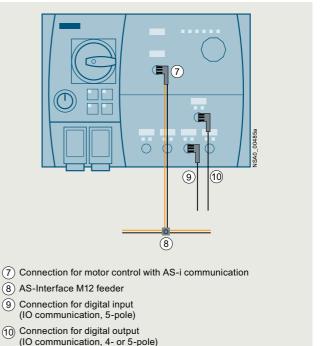
Power and motor connection on the M200D motor starter (in this example: M200D for AS-i)

Motor cable

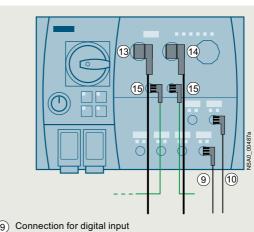


- Connection for digital input (IO communication, 5-pole)
- Connection for digital output (IO communication, 4- or 5-pole)
- (11) PROFIBUS connection (input)
- (12) PROFIBUS connection (loop)
- Connection for 24 V supply (infeed)
- Connection for 24 V supply (loop)

Communication link using PROFIBUS and digital inputs and outputs



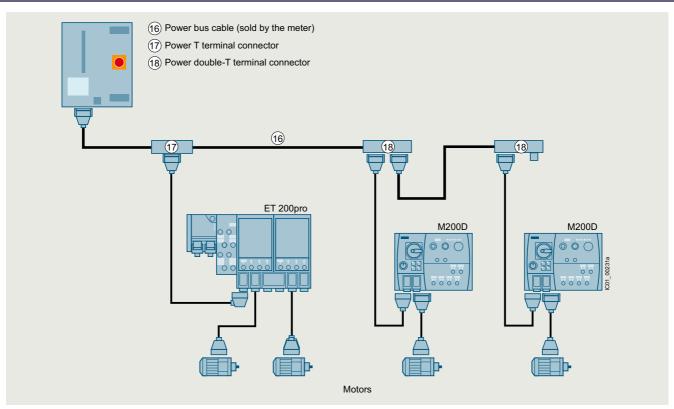
Communication link using AS-Interface and digital inputs and outputs



- (IO communication, 5-pole)
- Connection for digital output (IO communication, 4- or 5-pole)
- (13) Connection for 24 V supply (infeed)
- (14) Connection for 24 V supply (loop)
- Connection with PROFINET (input on the left, loop on the right)

Communication link using PROFINET and digital inputs and outputs

For all M200D motor starters



Power supply to the motors via the power bus with power T and double-T terminal connectors linked by power bus cables, spur lines to the field devices (motor starters), and power loop-through connections to the motors via motor connecting cables

Power bus

The power supply to the field devices (ET 200pro motor starters, M200D motor starters) is provided via the power bus, in which the power T terminal connectors or power double-T terminal connectors are connected by power bus cables.

Feeders

From the terminal connectors, spur lines with Han Q4/2 plugs lead to the field devices, from which the motors are supplied with power via motor connecting cables.

Interruption-free thanks to power terminal connectors

In finger-safe connection technology the power T terminal connectors and power double-T terminal connectors connect the components of a feeder to the power bus. They ensure interruption-free operation, i.e. the power bus is not interrupted when the components are unplugged.

For all M200D motor starters

Selection and ordering data

The accessories listed below represent a basic selection sorted by:

- Accessories for all M200D motor starters
- Accessories for M200D motor starters for AS-Interface
- Accessories for M200D motor starters for PROFIBUS
- Accessories for M200D motor starters for PROFINET

	SE MOISE STATE OF THE THE THE				
	Version	Article No. Price per Pl		PS*	PG
Mountable accessories	3				
	M200D protective brackets	3RK1911-3BA00	1	1 unit	42D
Incoming power supply	y				
	Power feeder plugs Connector set for incoming power supply, e.g. for connecting to T terminal connectors, comprising a coupling enclosure, straight outgoing feeder (with bracket), pin insert for Han Q4/2, incl. screw gland 5 male contacts, 2.5 mm² 5 male contacts, 4 mm² 5 male contacts, 6 mm²	3RK1911-2BS60 3RK1911-2BS20 3RK1911-2BS40	1 1 1	1 unit 1 unit 1 unit	42D 42D 42D
	Power connection plugs Connector set for incoming power supply for connection to M200D motor starters, comprising a cable-end connector hood, angled outgoing feeder, female contact insert for Han Q4/2, incl. screw gland • 5 female contacts, 2.5 mm², 2 female contacts, 0.5 mm² • 5 female contacts, 4 mm², 2 female contacts, 0.5 mm² • 5 female contacts, 0.5 mm² • 5 female contacts, 0.5 mm² • 5 female contacts, 0.5 mm² • 5 female contacts, 0.5 mm²	3RK1911-2BE50 3RK1911-2BE10 3RK1911-2BE30	1 1 1	1 unit 1 unit 1 unit	42D 42D 42D
	① + ③ Power connecting cables Assembled at one end with "N" and jumper pin 11 and 12 for plug monitoring, with Han Q4/2, angled; open at one end; 5 x 4 mm²				100
	• Length 1.5 m	3RK1911-0DC13	1	1 unit	42D
Matanashlas	Length 5.0 m	3RK1911-0DC33	1	1 unit	42D
Motor cables	Motor connection plugs Connector set for motor cable for connection to M200D motor starters, comprising a cable-end connector hood, angled outgoing feeder, pin insert for Han Q8/0, incl. screw gland 8 male contacts, 1.5 mm ² 6 male contacts, 2.5 mm ²	3RK1902-0CE00 3RK1902-0CC00	1	1 unit 1 unit	42D 42D
	(§) Motor plugs Connector set for motor cable for connection to motors, comprising a cable-end connector hood, straight outgoing feeder, female contact insert for Han 10e, incl. neutral bridge, incl. screw gland • 7 female contacts, 1.5 mm ² • 7 female contacts, 2.5 mm ²	3RK1911-2BM21 3RK1911-2BM22	1 1	1 set 1 set	42D 42D
	 (4) + (6) Motor cables, assembled at one end For connection to M200D motor starters, Han Q8/0, angled, length 5 m Motor cables for motor without brake, 4 x 1.5 mm² Motor cables for motor without brake with thermistor, 	3RK1911-0EB31 3RK1911-0EF31	1	1 unit 1 unit	42D 42D
	• Motor cables for motor with brake actuation.	3RK1911-0ED31	1	1 unit	42D
	brake voltage 400 V AC or 180 V DC, 6 x 1.5 mm ² • Motor cables for motor with brake actuation,	3RK1911-0EG31	1	1 unit	42D
	brake voltage 400 V AC or 180 V DC and thermistor, 8 x 1.5 mm ²				
	 Motor cables for motor with brake actuation, brake voltage 230 V AC, 6 x 1.5 mm² 	3RK1911-0EH31	1	1 unit	42D
	 Motor cables for motor with brake actuation, brake voltage 230 V AC and thermistor, 8 x 1.5 mm² 	3RK1911-0EE31	1	1 unit	42D

Accessories

For all M200D motor starters

	Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Power bus						
	Power T terminal connectors For 400 V AC, for connection of feeders (e.g. motor starters) by means of standard round cable at any point of the power bus, by insulation displacement connection, used with preassembled bus segments					
	 2.5 mm²/4 mm² 4 mm²/6 mm² 	3RK1911-2BF01 3RK1911-2BF02		1 1	1 unit 1 unit	42D 42D
	® Power double-T terminal connector For 400 V AC, for connection of feeders (e.g. motor starters) by means of standard round cable at any point of the power bus, by insulation displacement connection, used with preassembled bus segments, connection of two motor starters possible			<u> </u>	· Giii	
	• 4 mm²/6 mm²	3RK1911-2BG02		1	1 unit	42D
	Sealing set (comprising 2 seals) For power T/power double-T terminal connectors					
	 For power cables with Ø 10 13 mm Ø 13 16 mm Ø 16 19 mm Ø 19 22 mm 	3RK1911-5BA00 3RK1911-5BA10 3RK1911-5BA20 3RK1911-5BA30		1 1 1 1	1 unit 1 unit 1 unit 1 unit	42D 42D 42D 42D
	Blanking plugs	3RK1911-5BA50		1	1 unit	42D
Further accessories	for power connections					
3RK1902-0CW00	Crimping tool for pins/sockets 4 mm ² and 6 mm ²	3RK1902-0CW00		1	1 unit	42D
0	Dismantling tools • For male and female contacts for 9-pole Han Q4/2 inserts	3RK1902-0AB00		1	1 unit	42D
	• For male and female contacts for 9-pole Han Q8 inserts	3RK1902-0AJ00		1	1 unit	42D
	Sealing caps For 9-pole power sockets					
	1 unit per pack 10 units per pack	3RK1902-0CK00 3RK1902-0CJ00		1	1 unit 10 units	42D 42D
3RK 1902-0CK00						

For all M200D motor starters

			i oi aii	IVIZOOD	וווטנטו או	arters
	Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Motor control with I/O	communication					
3RK1902-4BA00-5AA0	M12 plug, straight Screw fixing, 5-pole screw terminals, max. 0.75 mm ² , A-coded, max. 4 A	3RK1902-4BA00-5AA0		1	1 unit	42D
3RK1902-4DA00-5AA0	M12 plug, angled Screw fixing, 5-pole screw terminals, max. 0.75 mm², A-coded, max. 4 A	3RK1902-4DA00-5AA0		1	1 unit	42D
3RK1902-4H5AA0	(9), (10) Control cables, assembled at one end M12 plug, angled, screw fixing, 5-pole, 5 x 0.34 mm ² , A-coded, black PUR sheath, max. 4 A • Cable length 1.5 m • Cable length 5 m • Cable length 10 m	3RK1902-4HB15-5AA0 3RK1902-4HB50-5AA0 3RK1902-4HC01-5AA0		1 1 1	1 unit 1 unit 1 unit	42D 42D 42D
3RK1902-4PB15-3AA0	Control cable, assembled at both ends Straight M12 plug, straight M12 socket, screw fixing, 3-pole, 3 x 0.34 mm², A-coded, black PUR sheath, max. 4 A • Cable length 1.5 m	3RK1902-4PB15-3AA0		1	1 unit	42D
Further accessories						
	Handheld device For M200D motor starters (or for ET 200pro motor starters) for local operation. The motor starter-specific serial interface cables must be ordered separately. The RS 232 interface cable 3RK1922-2BP00 is used for the MS M200D.	3RK1922-3BA00		1	1 unit	42D
3RK1922-3BA00	RS 232 interface cable Serial data connection between M200D (or ET 200pro) motor starters and the RS232 interface of a PC/PG/laptop (with the Motor Starter ES software) or the handheld device 3RK1922-3BA00	3RK1922-2BP00		1	1 unit	42D
	USB interface cable, 2.5 m Serial data connection between M200D (or ET 200pro) motor starters and the USB interface of a PC/PG/laptop (with the Motor Starter ES software).	6SL3555-0PA00-2AA0		1	1 unit	368
3RK1901-1KA00	M12 sealing caps For sealing unused M12 input or output sockets and M12 sockets for PROFIBUS and PROFINET communications modules (one set contains ten sealing caps)	3RK1901-1KA00		100	10 units	42C
3SU1950-0FB80-0AA0	RONIS SB30 key Spare key for M200D for "manual local operation" ordering option	3SU1950-0FB80-0AA0		1	1 unit	41J

For more connection technology products, see https://support.industry.siemens.com/cs/ww/en/view/65355810.

Accessories

For M200D motor starters for AS-Interface

Selection and ordering data

Version Article No. Price PU PS*					
per PU (UNIT, SET, M)	Version	Article No.	(UNIT,	PS*	PG

3RK1902-4GB50-4AA0

3RK1902-4CA00-4AA0

1 unit

1 unit

42D

42D

Motor control with AS-i communication



3RK1902-4GB50-4AA0



3RK1902-4CA00-4AA0









3RK1901-1MN00



3RX90..-0AA00

M12 socket, angled, screw fixing, 4-pole, 4 x 0.34 mm ² , A-coded, black PUR sheath, max. 4 A
Cable length 5 m

(7) M12 socket, angled
For screw fixing, 4-pole screw terminals,
max. 0.75 mm ² ,
A-coded, max. 4 A

 $\ensuremath{\, igle \,}$ Control cable, assembled at one end

(8)	AS-Inte	erface	M12	feeders

For flat cable	For	Cable length	Cable end in feeder				
AS-i/U _{aux}	M12 socket		Not available	3RK1901-2NR20	1	1 unit	42C
	M12 cable box	1 m	Not available	3RK1901-2NR21	1	1 unit	42C
		2 m	Not available	3RK1901-2NR22	1	1 unit	42C
Cable and to	rminatore			3PK1901-1MN00	1	10 unite	120

Oubic cita terminators	
For sealing of open cable ends (AS-Interface shap	ed
cable) in IP67	

AS-Interface	shaped cable:	s, see also page 2/76
Motorial	Color	Quantity

		, a pa.g, -				
Material	Color	Quantity				
Rubber	Yellow (AS-	100 m roll	3RX9010-0AA00	1	1 unit	42C
TPE special version according to UL Class 2	Interface)	1 km drum	3RX9012-0AA00	1	1 unit	42C
	Black	100 m roll	3RX9020-0AA00	1	1 unit	42C
	(24 V DC)	1 km drum	3RX9022-0AA00	1	1 unit	42C
TPE	Yellow (AS-	100 m roll	3RX9013-0AA00	1	1 unit	42C
	Interface)	1 km drum	3RX9014-0AA00	1	1 unit	42C
	Black	100 m roll	3RX9023-0AA00	1	1 unit	42C
	(24 V DC)	1 km drum	3RX9024-0AA00	1	1 unit	42C
version	Yellow (AS- Interface)	100 m roll	3RX9017-0AA00	1	1 unit	42C
	Black (24 V DC)	100 m roll	3RX9027-0AA00	1	1 unit	42C
PUR	Yellow (AS-	100 m roll	3RX9015-0AA00	1	1 unit	42C
	Interface)	1 km drum	3RX9016-0AA00	1	1 unit	42C
	Black	100 m roll	3RX9025-0AA00	1	1 unit	42C
TPE TPE special version according to UL Class 2 PUR	(24 V DC)	1 km drum	3RX9026-0AA00	1	1 unit	42C

For M200D motor starters for AS-Interface

	Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Further accessories						
3RK1904-2AB02	AS-Interface addressing unit V3.0 For AS-Interface modules and sensors and actuators with integrated AS-Interface according to AS-i specification V3.0 For setting the AS-i address of standard slaves, and slaves with extended addressing mode (A/B slaves) With input/output test function and many other commissioning functions Battery operation with four type AA batteries (IEC LR6, NEDA 15) Scope of supply: Addressing unit with four batteries Addressing cable, with M12 plug to addressing plug (hollow plug), length 1.5 m	3RK1904-2AB02		1	1 unit	42C
	M12 addressing cable to M12	3RK1902-4PB15-3AA0		1	1 unit	42D
	 Standard M12 cable for addressing slaves with M12 connection, e.g. K60R modules 					
3RK1902-4PB15-3AA0	When using the current version of the 3RK1904-2AB01 addressing unit					
	• 1.5 m					
Equipment Manuals						
	SIRIUS motor starter M200D AS-Interface Basic, see https://support.industry.siemens.com/cs/ww/en/view/35016496					
	SIRIUS motor starter M200D AS-Interface Standard, see https://support.industry.siemens.com/cs/ww/en/view/38722160					

Accessories

For M200D motor starters for PROFIBUS

	Version	Article No.	Price per PU	PU (UNIT,	PS*	PG
			ро о	SET, M)		
Motor control with F	PROFIBUS	_				
	M12 plugs, angled For screw fixing, 5-pole screw terminal, max. 0.75 mm ² , B-coded, no terminating resistor					
	• (f) 5 female contacts	3RK1902-1DA00		1	1 unit	42D
3RK1902-1DA00						
	® 5 male contacts	3RK1902-1BA00		1	1 unit	42D
3RK1902-1BA00						
	Control cables, assembled at one end M12, screw fixing, angled, B-coded, no terminating resistor					
3RK1902-1G.	• (1) 5 female contacts, 3 m	3RK1902-1GB30		1	1 unit	42D
	• (1) 5 female contacts, 5 m	3RK1902-1GB50		1	1 unit	42D
	• (1) 5 female contacts, 10 m	3RK1902-1GC10		1	1 unit	42D
3RK1902-1N.	(1) (2) Control cables, assembled at both ends M12, screw fixing, angled, 5-pole plug/socket connectors, B-coded, no terminating resistor 3.0 m 5.0 m 10.0 m	3RK1902-1NB30 3RK1902-1NB50 3RK1902-1NC10		1 1 1	1 unit 1 unit 1 unit	42D 42D 42D
Further accessories		311K1902-114C10		'	1 dilit	420
	PROFIBUS trailing cable Max. acceleration 4 m/s ² , at least 3 000 000 bending cycles, bending radius at least 60 mm, 2-core, shielded, sold by the meter, minimum order quantity 20 m, maximum order quantity 1 000 m	6XV1830-3EH10		1	1 M	5K2
	PROFIBUS FC Food bus cable With PE outer sheath for operation in the food and beverage industry, 2-core, shielded, sold by the meter, minimum order quantity 20 m, maximum order quantity 1 000 m	6XV1830-0GH10		1	1 M	5K2
	PROFIBUS FC Robust bus cable With PUR outer sheath for operation in environments exposed to chemicals and mechanical loads, 2-core, shielded, sold by the meter, minimum order quantity 20 m, maximum order quantity 1 000 m	6XV1830-0JH10		1	1 M	5K2
	Power cable 5-core, 5 x 1.5 mm ² , trailing, sold by the meter, minimum order quantity 20 m, maximum order quantity 1 000 m	6XV1830-8AH10		1	1 M	5K2
Connection for 24 V	power supply of the M200D PROFIBUS/PROFINET					

SIRIUS motor starter M200D PROFIBUS/PROFINET, see https://support.industry.siemens.com/cs/ww/en/view/38823402

For M200D motor starters for PROFINET

		A .: 1				_
	Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PC
Motor control with PR	OFINET					
	(§) M12 plug, angled For screw fixing, 4-pole screw terminal, max. 0.75 mm², angled, D-coded • 4 male contacts	3RK1902-2DA00		1	1 unit	420
3RK1902-2H.	 © Control cables, assembled at one end M12 for screw fixing, angled, 4-pole, D-coded 4 male contacts, 3 m 4 male contacts, 5 m 	3RK1902-2HB30 3RK1902-2HB50		1 1	1 unit 1 unit	42E 42E
MINTS02-211.	4 male contacts, 10 m Control cables, assembled at both ends M12 for screw fixing, angled at both ends, 4-pole, D-coded, male contacts at both ends	3RK1902-2HC10		1	1 unit	420
3RK1902-2N.	• 3 m • 5 m • 10 m	3RK1902-2NB30 3RK1902-2NB50 3RK1902-2NC10		1 1 1	1 unit 1 unit 1 unit	420 420 420
Further accessories	PROFINET IE FC TP standard cable GP 2 x 2 Sold by the meter	6XV1840-2AH10		1	1 M	5K
	PROFINET IE FC TP trailing cable 2 x 2 Sold by the meter	6XV1840-3AH10		1	1 M	5K
	PROFINET IE FC TP trailing cable GP 2 x 2 Sold by the meter	6XV1870-2D		1	1 M	5K2
	PROFINET IE FC TP torsion cable 2 x 2 Sold by the meter	6XV1870-2F		1	1 M	5K2
	PROFINET IE FC TP marine cable, 4-core Sold by the meter	6XV1840-4AH10		1	1 M	5K1
	Power cable 5-core, 5 x 1.5 mm ² , trailing, sold by the meter, minimum order quantity 20 m, maximum order quantity 1 000 m	6XV1830-8AH10		1	1 M	5K2
	Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PC
Connection for 24 V p	ower supply of the M200D PROFIBUS/PROFINET					
	Plugs On M200D, 7/8" for screw fixing, angled, screw terminal, 1.5 mm ²					405
2PK1002 3DA00	® 5 female contacts	3RK1902-3DA00		1	1 unit	420
3RK1902-3DA00	• (ii) 5 male contacts	3RK1902-3BA00		1	1 unit	42[
RK1902-3BA00						
\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	 ® Supply lines, assembled at one end 7/8° for screw fixing, angled, 1.5 mm² 5 female contacts, 3 m 5 female contacts, 5 m 5 female contacts, 10 m 	3RK1902-3GB30 3RK1902-3GB50 3RK1902-3GC10		1 1 1	1 unit 1 unit 1 unit	42[42[42[
BRK1902-3N.	 ® 4 Supply lines, assembled at both ends 7/8°, for screw fixing, angled at both ends, 5-pole plug/socket connectors, 1.5 mm² 3 m 5 m 10 m 	3RK1902-3NB30 3RK1902-3NB50 3RK1902-3NC10		1 1 1	1 unit 1 unit 1 unit	42[42[42[
	· · · · · · · · · · · · · · · · · · ·				10 units	250

SIRIUS motor starter M200D PROFIBUS/PROFINET, see https://support.industry.siemens.com/cs/ww/en/view/38823402

Notes

DC load monitoring

10

Monitoring and control devices





	Price groups		SIRIUS 3UG45, 3UG46 monitoring
	PG 41B, 41E, 41F, 41H, 41L, 42F, 42J	/==	relays for stand-alone installation
10/2	Introduction	10/77	General data
10/2		10/79	Voltage monitoring
	SIMOCODE 3UF motor management	10/82	Current monitoring
	and control devices	10/84	Power factor and active current
	SIMOCODE pro 3UF7 motor		monitoring
10/5	management and control devices	10/07	Residual current monitoring
10/5	General data	10/87 10/89	Residual current monitoring relays3UL23 residual-current transformers
10/12	Basic units NEW	10/69	Insulation monitoring
10/15	Expansion modules NEW	10/90	Level monitoring
10/17	Fail-safe expansion modules	10/94	Speed monitoring
10/18	Accessories		Accessories
	3UF18 current transformers for overload protection	10/100	SIRIUS 3UG48 monitoring relays
10/21	Basic units and accessories		for stand-alone installation for IO-Link
10/21		10/101	
10/22	LOGO! logic modules	10/104	Voltage monitoring
	Relays		Current monitoring
	Timing relays	10/110	Power factor and active current
10/23	General data		monitoring
10/24	SIRIUS 3RP25 timing relays,		Residual current monitoring
	17.5 mm and 22.5 mm		- Residual current monitoring relays
10/36	SIRIUS 3RP20 timing relays, 45 mm	10/89	- 3UL23 residual-current transformers
10/42	7PV15 timing relays, 17.5 mm		Speed monitoring
3/100	SIRIUS 3RA28 solid-state time-delay	10/120	Accessories SIRIUS 3RS2 temperature monitoring
	auxiliary switches for mounting on 3RT2 contactors and 3RH2 contactor relays		relays
3/105	SIRIUS 3RA28 function modules for	10/121	General data
3/103	mounting on 3RT2 contactors and		Basic units
	3RH2 contactor relays	10/130	Accessories
3/101	SIRIUS 3RT19 timing relays for		SIRIUS 3RN2 thermistor motor
	mounting on 3RT1 contactors		protection
	SIRIUS 3RR21, 3RR22 monitoring	10/131	
10/17	relays for mounting on 3RT2 contactors	10/138	
10/47	Current and active current monitoring SIRIUS 3RR24 monitoring relays for	10/139	Accessories
	mounting on 3RT2 contactors for		Coupling relays and signal converters
	IO-Link	5/1	Coupling relays
10/55	Current and active current monitoring	3/139	3TG10 power relays/miniature
	SIRIUS 3UG5 monitoring relays		contactors
		10/140	SIRIUS 3RS70 signal converters
	for stand-alone installation		
10/62	Line monitoring NEW	_	

Monitoring and control devices

Introduction

Overview



Туре	SIMOCODE pro C	SIMOCODE pro V PROFINET General Performance	SIMOCODE pro S General Performance	SIMOCODE pro V High Performance PROFIBUS/PROFINET Modbus RTU/EtherNet/IP	Page
SIMOCODE pro 3UF7 motor mana	gement and control	devices			
Basic units	✓	✓	✓	✓	10/12
Current measuring modules	✓	✓	✓	✓	10/13
Current/voltage measuring modules				✓	10/13
Operator panels	/	✓	✓	✓	10/14
Operator panels with display				✓	10/14
Expansion modules		✓	✓	✓	10/15
Fail-safe expansion modules				✓	10/17
Current transformers	/	✓	✓	✓	10/21
SIMOCODE ES (TIA Portal)	✓	✓	✓	✓	14/13
SIMOCODE pro block library for SIMATIC PCS 7	✓	✓	✓	✓	14/16

- ✓ Available
- -- Not available







Type	3RP25	3RP20	7PV15	
Timing relays				
Enclosures				
 17.5 mm industry and household equipment installation 	✓		✓	
• 22.5 mm industry	✓			
• 45 mm industry		✓		
Monofunction	✓	✓	✓	
Multifunction	1	✓	✓	
Combination voltage	✓	✓	✓	
Wide voltage range	1	✓	✓	
Application				
 Control systems and mechanical engineering 	✓	✓	✓	
• Infrastructure			✓	
Page	10/24	10/36	10/42	

- ✓ Corresponds to or available
- -- Does not correspond to or not available

Monitoring and control devices

Introduction



- ✓ Available
- Not available















Туре	3UG5816	3UG4832	3RR24	3UG4822	3UG4841	3UG4825 with 3UL23	3UG4851	Page
Monitoring relays for IO-Link								
Line monitoring	✓							10/62
Voltage monitoring		1						10/104
Current monitoring			✓	✓				10/55, 10/107
Power factor and active current monitoring			1		1			10/55, 10/110
Residual current monitoring						1		10/114
Speed monitoring							1	10/117

- ✓ Available
- Not available











			Milita Maarina				
Туре	3RS2	3RN2	3RS70	Page			
Temperature monitoring relays							
Temperature monitoring	✓			10/121			
Temperature monitoring relays for IO-Link							
Temperature monitoring for IO-Link	✓			10/121			
Thermistor motor protection							
Thermistor motor protection		✓		10/131			
Signal converters							
Single-range converters			✓	10/140			
Multi-range converters			✓	10/140			
Universal converters			✓	10/140			

- ✓ Available
- -- Not available

Monitoring and control devices

Introduction

Connection methods

The monitoring and control devices are available with screw or spring-loaded terminals.

SIRIUS 3RP25 timing relays, SIRIUS 3UG5 line monitoring relays, 3UG458 insulation monitoring relays, SIRIUS 3RS2 temperature monitoring relays, SIRIUS 3RN2 thermistor motor protection and SIRIUS 3RS70 signal converters are available with screw terminals or spring-loaded terminals (push-in).



Screw terminals



Spring-loaded terminals, spring-loaded terminals (nush-in)

The connection method is indicated in the corresponding tables by the respective symbol shown on orange backgrounds.

"Increased safety" type of protection EEx e/d according to ATEX Directive 2014/34/EU

The communication-capable, modularly designed SIMOCODE pro motor management system (SIRIUS Motor Management and Control Devices) protects motors of types of protection EEx e and EEx d in hazardous areas.

The SIRIUS 3RN2 thermistor motor protection relay protects motors with types of protection EEx e and EEx d in hazardous areas.

ATEX approval for operation in hazardous areas

The SIRIUS SIMOCODE pro 3UF7 motor management system is certified for the protection of motors in hazardous areas according to

- ATEX Ex I (M2); equipment group I, category M2 (mining)
- ATEX Ex II (2) GD; equipment group II, category 2 in area GD

The SIRIUS 3RN2011, 3RN2012-...30, 3RN2013 and 3RN2023 thermistor motor protection relays for PTC sensors are certified according to ATEX Ex II (2) G and D for environments with explosive gas or dust loads.

Ordering notes for multi-unit packaging

SIMOCODE pro S, SIRIUS 3RP25 timing relays, SIRIUS 3RS2 temperature monitoring relays and SIRIUS 3RN2 thermistor motor protection can also be ordered in practical and environmentally friendly multi-unit packaging on request.

Multi-unit packaging with order code X90

When ordering products in multi-unit packaging, the Article No. of the product concerned must be supplemented with "-Z" and, in addition, the order code "X90" must be specified.

Ordering examples:

- 3RP2505-1AB30-Z X90; Order quantity 16 items → Delivery of one pack containing 16 items
- 3RP2505-1BB30-Z X90;
 Order quantity 12 items → Delivery of one pack containing 12 items

For more information, see page 16/7.

SIMOCODE 3UF motor management and control devices SIMOCODE pro 3UF7 motor management and control devices

General data

Overview



SIMOCODE pro S and SIMOCODE pro V

More information

Homepage, see www.siemens.com/sirius-simocode SiePortal, see www.siemens.com/product?3UF7

- TIA Selection Tool Cloud (TST Cloud)
- For SIMOCODE pro S, see
- www.siemens.com/tstcloud/?node=SimocodeProS
- For SIMOCODE pro V, see
- www.siemens.com/tstcloud/?node=SimocodeProV

SIMOCODE pro is a flexible, modular motor management system for motors with constant speeds in the low-voltage performance range. It optimizes the connection between I&C and motor feeder, increases plant availability and allows significant savings to be made for installation, commissioning, operation and preventive maintenance of a system.

SIMOCODE pro offers, for example:

- Multifunctional, electronic full motor protection that is independent of the automation system
- Integrated control functions instead of hardware for the motor control
- Detailed operating, service and diagnostics data
- Open communication via PROFIBUS DP, PROFINET/OPC UA, Modbus RTU or EtherNet/IP
- Safety relay function for the fail-safe disconnection of motors up to SIL 3 according to IEC 61508, IEC 62061 or PL e according to ISO 13849-1
- Device versions with protective coating on printed circuit board
- SIMOCODE ES is the software package for SIMOCODE pro parameterization, startup and diagnostics, see page 14/13.

Device series

Basic Performance with SIMOCODE pro C

The compact system for direct-on-line and reversing starters or for controlling a motor starter protector.

General Performance with SIMOCODE pro S or SIMOCODE pro V PN GP

The smart system for direct-on-line, reversing, and star-delta (wye-delta) starters or for controlling a motor starter protector or soft starter. Its expandability with an expansion module/multifunction module provides comprehensive input/output project data volume, precise ground-fault detection via the 3UL23 residual-current transformers and temperature measurement.

High Performance with SIMOCODE pro V

The variable system with all control functions and with the possibility of expanding the inputs, outputs and functions of the system at will using expansion modules.

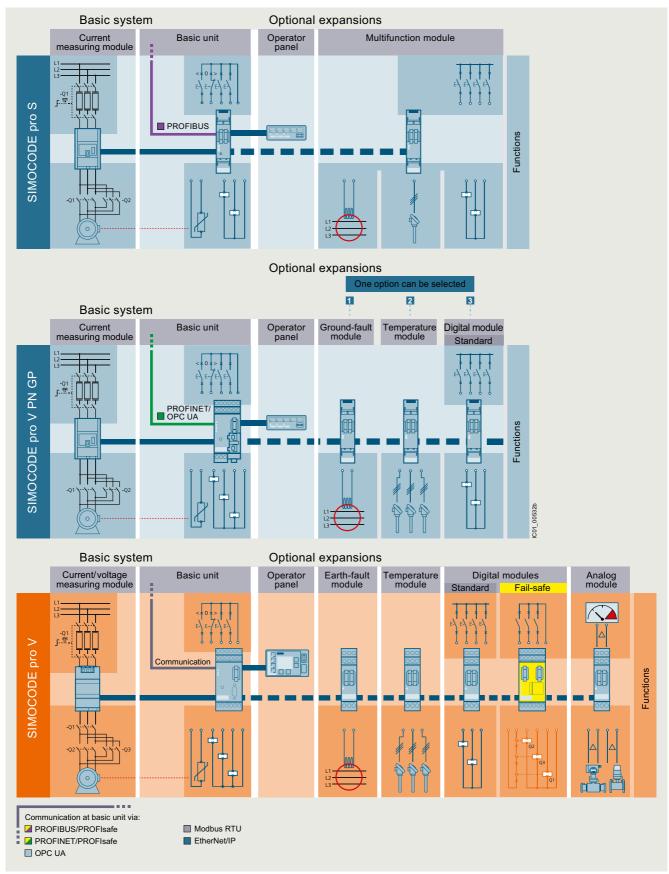
	PROFINET IO/OPC UA	ETHERNET/IP	PROFIBUS	MODBUS RTU
Current/voltage measuring module Operator panel with display Max. 5/7 expansion modules Safety Extended control functions (e.g. positioner, pole-changing starter)	SIMOCODE pro V PN	SIMOCODE pro V EIP	SIMOCODE pro V PB	SIMOCODE pro V MR
Current measuring module Operator panel 1 expansion module Basic control functions (e.g. direct-on-line/reversing start)	SIMOCODE pro V PN GP		SIMOCODE pro S	icor_00648b General Performance

Device series

Siemens IC 10 · 2024

SIMOCODE 3UF motor management and control devices SIMOCODE pro 3UF7 motor management and control devices

General data



System structure

SIMOCODE 3UF motor management and control devices SIMOCODE pro 3UF7 motor management and control devices

General data

Expansion possibilities	SIMOCODE pro C Basic Performance	•	SIMOCODE pro V General Performance	SIMOCODE pro V High Performance	
	PROFIBUS	PROFIBUS	PROFINET GP	PROFIBUS/ Modbus RTU	PROFINET/ EtherNet/IP
Operator panels	✓	✓	✓	✓	✓
Operator panels with display				✓	✓
Current measuring modules	✓	✓	✓	✓	✓
Current/voltage measuring modules				✓	✓
Expansion modules:					
Digital modules			1 ²⁾	2	2
• Fail-safe digital modules ¹⁾				1	1
Analog modules				1	2
Ground-fault modules			1	1	1
Temperature modules			1	1	2
Multifunction modules		1			

- ✓ Available
- -- Not available

1) The fail-safe digital module can be used instead of one of the two digital modules.

Per feeder each system always comprises one basic unit and one separate current measuring module. The two modules are connected together electrically through the system interface with a connecting cable and can be mounted mechanically connected as a unit (one behind the other) or separately (side by side). The motor current to be monitored is decisive only for the choice of the current measuring module.

An operator panel for mounting in the control cabinet door is optionally connectable through a second system interface on the basic unit. Both the current measuring module and the operator panel are electrically supplied by the basic unit through the connecting cable. More inputs, outputs and functions can be

added to the SIMOCODE pro V and SIMOCODE pro S by means of optional expansion modules, thus supplementing the inputs and outputs already existing on the basic unit. With the DM-F Local and DM-F PROFIsafe fail-safe digital modules it is also possible to integrate the fail-safe disconnection of motors in the SIMOCODE pro V motor management system.

All modules are connected by connecting cables. The connecting cables are available in various lengths. The maximum distance between the modules (e.g. between the basic unit and the current measuring module) must not exceed 2.5 m. The total length of all the connecting cables per system interface of the basic unit may be up to 3 m.

Article number scheme

Product versions		Article	number			
SIMOCODE pro motor management system		3UF7	000-1) -	
Type of unit/module	e.g. 0 = basic unit					
Functional version of the module	e.g. 20 = SIMOCODE pro S					
Connection type of the current transformer	e.g. A = through-hole technology					
Voltage version	e.g. B = 24 V DC					
Enclosure color	e.g. 1 = titanium gray					
Versions	With protective coating on printed circuit board					0 A X 0
Example		3UF7	0 2 0 - 1	ABO) 1 -	0 A X 0

Note:

The article number scheme shows an overview of product versions for better understanding of the logic behind the article numbers.

For your orders, please use the article numbers quoted in the selection and ordering data.

²⁾ Only monostable version can be used.

SIMOCODE 3UF motor management and control devices SIMOCODE pro 3UF7 motor management and control devices

General data

Benefits

General customer benefits

- Integrating the whole motor feeder into the process control by means of PROFIBUS DP, PROFINET/OPC UA, Modbus RTU or EtherNet/IP significantly reduces the wiring between the motor feeder and the PLC
- Decentralization of the automated processes by means of configurable control and monitoring functions in the feeder saves resources in the automation system and ensures full functionality and protection of the feeder even if the I&C or bus system fails
- The acquisition and monitoring of operating, service and diagnostics data in the feeder and process control system increases plant availability as well as preventive maintenance and service-friendliness
- The high degree of modularity allows users to perfectly implement their plant-specific requirements for each motor feeder
- The SIMOCODE pro system offers functionally graded and space-saving solutions for each customer application
- The replacement of the control circuit hardware with integrated control functions decreases the number of hardware components and wiring required and in this way limits stock keeping costs and potential wiring errors
- The use of electronic full motor protection permits better utilization of the motors and ensures long-term stability of the tripping characteristic and reliable tripping even after years of service
- Thanks to the precision of the current, voltage, power and energy measurements (especially those acquired by the 2nd-generation current/voltage measuring modules), costs can be internally allocated with a high degree of accuracy
- Device versions with protective coating on printed circuit board

Multifunctional, electronic full motor protection for rated motor currents up to 820 A

SIMOCODE pro offers comprehensive protection of the motor feeder by means of a combination of different, multi-step and delayable protection and monitoring functions:

- Inverse-time delayed electronic overload protection (CLASS 5E to 40E)
- Thermistor motor protection
- Phase failure/asymmetry protection
- Stall protection
- · Monitoring of adjustable limit values for the motor current
- Voltage and power monitoring
- Monitoring of the power factor (motor idling/load shedding)
- · Ground-fault monitoring
- Temperature monitoring, e.g. via Pt100/Pt1000
- Monitoring of operating hours, downtime and number of starts, etc.

Recording of measurement curves

SIMOCODE pro can record measurement curves and therefore is able, for example, to present the progression of motor current during motor startup.

Flexible motor control implemented with integrated control functions (instead of comprehensive hardware interlocks)

Many predefined motor control functions have already been integrated into SIMOCODE pro, including all necessary logic operations and interlocks:

- Overload relays
- · Direct-on-line and reversing starters
- Star-delta (wye-delta) starters (also with direction reversal)
- Two speeds, motors with separate windings (pole-changing starter); also with direction reversal
- Two speeds, motors with separate Dahlander windings (also with direction reversal)
- Positioner actuation
- Solenoid valve actuation
- Actuation of a motor starter protector
- · Soft starter actuation (also with direction reversal)

These control functions are predefined in SIMOCODE pro and can be freely assigned to the inputs and outputs of the device (including the PROFIBUS/PROFINET process image).

These predefined control functions can also be flexibly adapted to each customized configuration of a motor feeder by means of freely configurable logic modules (truth tables, counters, timers, edge evaluation, etc.) and with the help of standard functions (power failure monitoring, emergency start, external faults, etc.), without additional auxiliary relays being necessary in the control circuit.

SIMOCODE pro makes a lot of additional hardware and wiring in the control circuit unnecessary, which results in a high level of standardization of the motor feeder in terms of its design and circuit diagrams.

SIMOCODE 3UF motor management and control devices SIMOCODE pro 3UF7 motor management and control devices

General data

Detailed operating, service and diagnostics data

SIMOCODE pro makes different operating, service and diagnostics data available and helps to detect potential faults at an early stage and to avert them by means of preventive measures. In the event of a malfunction, a fault can be diagnosed, localized and rectified very quickly – there are no or very short downtimes.

Operating data

- Motor switching state derived from the current flow in the main circuit
- · All phase currents
- All phase voltages and phase-to-phase voltages
- · Active power, apparent power and power factor
- Phase asymmetry and phase sequence
- · Ground-fault current
- Frequency
- Time to trip
- Motor temperature
- Remaining cooling time etc.

Service data

- · Motor operating hours
- Motor stop times
- Number of motor starts
- Number of overload trips
- Interval for compulsory testing of the enabling circuits
- Energy consumed
- · Internal comments stored in the device etc.

Diagnostics data

- Numerous detailed early warning and fault messages
- Internal device fault logging with time stamp
- Time stamping of freely selectable status, alarm or fault messages etc.

Easy operation and diagnostics

Operator panel

The operator panel is used to control the motor feeder and can replace all conventional pushbuttons and indicator lights to save space. It makes SIMOCODE pro or the feeder directly operable in the control cabinet. It features all the status LEDs available on the basic unit and externalizes the system interface, e.g. for simple parameterization or diagnostics on a PC/PG.

Operator panel with display

As an alternative to the 3UF720 standard operator panel for SIMOCODE pro V, a 3UF721 operator panel with display is also available. This can additionally indicate current measured values, operating and diagnostics data or status information of the motor feeder at the control cabinet. The pushbuttons of the operator panel can be used to control the motor. Furthermore, it is possible to set parameters such as rated motor current, limit values, etc. directly via the operator panel with display (with SIMOCODE pro V PROFIBUS as of E15, SIMOCODE pro V Modbus RTU as of E03 and with all SIMOCODE pro V PROFINET and EtherNet/IP).

Communication

SIMOCODE pro has either an integrated PROFIBUS DP or Modbus RTU interface (SUB-D or terminal connection) or a PROFINET or EtherNet/IP interface (2 x RJ45).

Fail-safe disconnection through PROFIBUS or PROFINET with the PROFIsafe profile is also possible in conjunction with a fail-safe controller (F-CPU) and the DM-F PROFIsafe fail-safe digital module.

SIMOCODE pro PROFIBUS

SIMOCODE pro PROFIBUS supports, for example:

- Cyclic services (DPV0) and acyclic services (DPV1)
- Extensive diagnostics and hardware interrupts
- Time stamp with high timing precision (SIMATIC S7) for SIMOCODE pro V
- DPV1 communication after the Y-Link

SIMOCODE pro PROFINET

SIMOCODE pro PROFINET supports, for example:

- Line and ring bus topology (for 2-port devices with an integrated switch)
- Media redundancy via MRP protocol (for 2-port devices with an integrated switch)
- Operating, service and diagnostics data via standard web browser
- OPC UA server for open communication with visualization and I&C systems
- NTP-synchronized time
- Interval function and measured values for energy management via PROFlenergy
- Module exchange without PC/memory module through proximity detection
- Extensive diagnostics and maintenance alarms

System redundancy with SIMOCODE pro PROFINET

All SIMOCODE PROFINET devices support the system redundancy mechanisms of PROFINET IO and therefore can be operated directly on fault-tolerant systems such as SIMATIC S7-400 H. As such, SIMOCODE pro can provide decisive added value also for the field level of plants in which plant availability and control system redundancy are priorities.

SIMOCODE pro Modbus RTU

SIMOCODE pro Modbus RTU supports, for example:

- Communication at 1 200/2 400/4 800/9 600/19 200 or 57 600 baud
- Access to freely configurable process image via Modbus RTU
- Access to all operating, service and diagnostics data via Modbus RTU

SIMOCODE pro EtherNet/IP

SIMOCODE pro EtherNet/IP supports, for example:

- Line and ring bus topology thanks to an integrated switch
- Ring structures via Device Level Ring (DLR) protocol
- Operating, service and diagnostics data via standard web browser
- NTP-synchronized time
- Parameter assignment via SIMOCODE ES V14 or higher via local device interface and Ethernet

SIMOCODE 3UF motor management and control devices SIMOCODE pro 3UF7 motor management and control devices

General data

Notes on security

In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial security concept. Siemens products and solutions represent only one component of such a concept.

For more information about the subject of Industrial Security, see www.siemens.com/industrialsecurity.

Autonomous operation

An essential feature of SIMOCODE pro is the autonomous execution of all protection and control functions, even when communication to the I&C system is interrupted. This means that even in the event of bus system or automation system failure, full functionality of the feeder is ensured or a specific behavior can be parameterized in case of such a fault, e.g. targeted shutdown of the feeder or execution of particular parameterized control mechanisms (such as reversal of the direction of rotation).

Advantages from integrated energy management



As an integrated option for the TIA Portal, the SIMATIC Energy Suite couples energy management with automation efficiently, making energy consumption at your production facility transparent.

Thanks to the simplified configuration of energy-measuring components, e.g. SIMOCODE pro V, configuration effort is also clearly reduced.

Thanks to end-to-end connection with higher-level energy management systems or cloud-based services, you can seamlessly expand the recorded energy data to create a cross-site energy management system.

The advantages at a glance:

- Automatic generation of energy management data
- · Integration into TIA Portal and into automation
- Simple configuration

For more information, see page 1/3 or www.siemens.com/energysuite.

Application

SIMOCODE pro is often used for automated processes where plant downtimes are very expensive (e.g. chemical, oil/gas, water/wastewater, steel or cement industries) and where it is important to prevent plant downtimes through detailed operating, service and diagnostics data or to localize faults very quickly when they occur.

SIMOCODE pro is modular and space-saving and suited especially for operation in motor control centers (MCCs) in the process industry and for power plant technology.

- Protection and control of motors in hazardous areas for types of protection EEx e/d according to ATEX Directive 2014/34/EU
 - With heavy starting (paper, cement, metal and water industries)
 - In high-availability plants (chemical, oil, raw material processing industries, power plants)
- Dry-running protection of centrifugal pumps based on active power monitoring for type of protection Ex b

Suitable for use in harsh ambient conditions

Versions with protective coating on the printed circuit board according to IPC-A-610 are available for use in environments that are exposed to dust, condensation, rapid temperature changes and corrosion. These are intended for applications in rail systems, agriculture, mining, woodworking, etc.

Note:

Other device versions with protective coating on the printed circuit board are available on request.

Use of SIMOCODE pro 3UF7 with IE3 and IE4 motors

Note:

When using the SIMOCODE pro 3UF7 in conjunction with highly efficient IE3 and IE4 motors, please observe the information on dimensioning and configuring, see Application Manual.

For more information, see page 1/8.

Safety technology for SIMOCODE pro

The safe disconnection of motors in the process industry is becoming increasingly important as the result of new and revised standards and requirements in the safety technology field.

With the DM-F Local and DM-F PROFIsafe fail-safe expansion modules it is easy to integrate functions for fail-safe disconnection into the SIMOCODE pro V motor management system while retaining service-proven concepts. The strict separation of safety functions and operational functions proves particularly advantageous for planning, configuring and construction. Seamless integration into the motor management system leads to greater transparency for diagnostics and during operation of the system.

Suitable components for this purpose are the DM-F Local and DM-F PROFIsafe fail-safe expansion modules, depending on the requirements:

- The DM-F Local fail-safe digital module for when direct assignment between a fail-safe hardware shutdown signal and a motor feeder is required, or
- The DM-F PROFIsafe fail-safe digital module for when a fail-safe controller (F-CPU) creates the signal for disconnection and transmits it in a fail-safe manner through PROFIBUS/PROFIsafe or PROFINET/PROFIsafe to the motor management system

SIMOCODE 3UF motor management and control devices SIMOCODE pro 3UF7 motor management and control devices

General data

Dry-running protection of centrifugal pumps with SIMOCODE pro in hazardous areas



Video: Dry-running protection redefined with SIMOCODE pro

With special versions of the current/voltage measuring modules, SIMOCODE pro enables dry-running protection of centrifugal pumps through active power monitoring and motor switch-off. This applies to centrifugal pumps with progressive flow characteristics, which are also suitable for pumping flammable media and are also installed in hazardous areas. If the active power, and thus the flow rate, falls below a minimum value, the motor – and thus the centrifugal pump – is switched off. When determining the limit values to be monitored, the user is supported by a menu-guided teach-in process in the engineering software.

Technical specifications

More information

Technical specifications, see https://support.industry.siemens.com/cs/ww/en/ps/16337/td

Manual Collection "SIMOCODE pro", see https://support.industry.siemens.com/cs/ww/en/view/109743951

System Manual for SIMOCODE pro fail-safe digital modules, see https://support.industry.siemens.com/cs/ww/en/view/50564852

Application Manual for controls with IE3 and IE4 motors, see https://support.industry.siemens.com/cs/ww/en/view/94770820

Digital Configuration Manual for load feeders, see https://imp.siemens.com/digital-engineering-manual/dem

Configuration Manual for load feeders, see https://support.industry.siemens.com/cs/ww/en/view/39714188

More information

Configuration instructions

When using an operator panel with display, please note that the type and number of expansion modules that can be connected are limited for the use of a SIMOCODE pro V PROFIBUS basic unit (with product version lower than E15) or SIMOCODE pro V Modbus RTU (with product version lower than E03), see

- TIA Selection Tool
- SIMOCODE pro Manual Collection

Protective separation

All circuits in SIMOCODE pro are safely isolated from each other according to IEC 60947-1. That is, they are designed with doubled clearance and creepage distances. In the event of a fault, therefore, no parasitic voltages can be formed in neighboring circuits. The notes of the test report No. A0258 must be complied with.

Types of protection EEx e and EEx d

The overload protection and the thermistor motor protection of the SIMOCODE pro system comply with the requirements for overload protection of explosion-proof motors of the type of protection:

- EEx d "Flameproof enclosure", e.g. according to IEC 60079-1
- EEx e "Increased safety", e.g. according to IEC 60079-7

When using SIMOCODE pro devices with a 24 V DC control voltage, electrical separation must be ensured using a battery or a safety transformer according to IEC 61558-2-6. EC type-examination certificate: BVS 06 ATEX F 001 Test report: BVS PP 05.2029 EC.

Type of protection Ex b

The function for dry-running protection of centrifugal pumps in hazardous areas complies with the requirements of the following type of protection:

 Ex b "Control of ignition source", ignition protection system b1, e.g. according to EN 80079-37

SIMOCODE pro is registered for the dry-running protection of centrifugal pumps by means of active power monitoring according to both ATEX and IEC Ex.

SIMOCODE 3UF motor management and control devices SIMOCODE pro 3UF7 motor management and control devices

Basic units IE3/IE4 ready

Selection and ordering data

SIMOCODE pro PROFIBUS

Multi-unit packaging for SIMOCODE pro S, see page 16/7.

Version	Screw terminals		PU (UNIT,	PS*	PG
	Article No.	Price per PU	SET, M)		

3UF7000-1AB00-0



3UF7020-1AU01-0

001	1000	17 (00)
100		



3UF7010-1AB00-0

SIMOCODE pro	C

PROFIBUS DP interface, 12 Mbps, RS 485 4 I/3 O freely configurable, input for thermistor connection, monostable relay outputs

Rated control supply voltage Us:

• 24 V DO	
• 110 240 V AC/DC	
• 110 240 V AC/DC,	

NFW with protective coating on printed circuit board

3UF7000-1AB00-0 42.1 1 unit 3UF7000-1AU00-0 42J 1 unit 3UF7000-1AU00-0AX0 42J 1 unit

SIMOCODE pro S

PROFIBUS DP interface, 1.5 Mbps, RS 485 4 I/2 O freely configurable, input for thermistor connection, monostable relay outputs, can be expanded by a multifunction module

Note: The connecting cable to the current measuring module must be at least 15 cm.

Rated control supply voltage U_s :

• 110 240 V AC/DC
• 110 240 V AC/DC,
with protoctive coating on r

with protective coating on printed circuit board

NEW

NEW

3UF7020-1AB01-0 3UF7020-1AU01-0 3UF7020-1AU01-0AX0

1 unit 1 unit

SIMOCODE pro V

24 V DC

PROFIBUS DP interface, 12 Mbps, RS 485 4 l/3 O freely configurable, input for thermistor connection, monostable relay outputs, can be expanded by expansion

Rated control supply voltage Us:

• 24 V DC • 110 ... 240 V AC/DC

• 110 ... 240 V AC/DC with protective coating on printed circuit board

3UF7010-1AB00-0 3UF7010-1AU00-0 3UF7010-1AU00-0AX0 1 unit 1 unit 1 unit

1 unit

42J

42.1

42.1

42J

42J

42J

42J

42J

42J

42J

SIMOCODE pro PROFINET



3UF7011-1AB00-1

SIMOCODE pro V PROFINET GP

ETHERNET/PROFINET IO, OPC UA server and web server, 100 Mbps, PROFINET system redundancy, 4 I/3 O freely configurable, input for thermistor connection, monostable relay outputs, can be expanded by expansion module web server in German/English/Chinese/Russian

2 x connection to bus through RJ45

Media Redundancy Protocol

Rated control supply voltage Us: • 24 V DC

• 110 ... 240 V AC/DC 1 x connection to bus through RJ45 Rated control supply voltage Us

• 24 V DC • 110 ... 240 V AC/DC 3UF7011-1AB00-1 3UF7011-1AU00-1

3UF7011-1AB00-2 1 unit 3UF7011-1AU00-2 1 unit



3UF7011-1AB00-0

SIMOCODE pro V PROFINET ETHERNET/PROFINET IO,

OPC UA server and web server, 100 Mbps 2 x connection to bus through RJ45, PROFINET system redundancy, media redundancy protocol, 4 I/3 O freely configurable, input for thermistor connection, monostable relay outputs, can be expanded by expansion modules, web server in German/English/Chinese/Russian

Rated control supply voltage U_s :

• 24 V DC

• 110 ... 240 V AC/DC

3UF7011-1AB00-0 3UF7011-1AU00-0

1 unit 1 unit

1 unit

1 unit

42J 42J

SIMOCODE 3UF motor management and control devices SIMOCODE pro 3UF7 motor management and control devices

				IE3/IE4	3/IE4 ready		Basic units	
	Version	Current setting	Width	Screw terminals	(1)	PU	PS*	PG
				Autiala Na	Price	(UNIT, SET, M)		
		Α	mm	Article No.	per PU	- , ,		
SIMOCODE pro Mod	bus RTU							
41147	SIMOCODE pro V Modbus R	TU						
00000	Modbus RTU interface, 57.6 K 4 I/3 O freely configurable, input for thermistor connection monostable relay outputs, can be expanded by expansic Rated control supply voltage & 24 V DC	n, on modules		3UF7012-1AB00-0		1	1 unit	42J
999999	• 110 240 V AC/DC			3UF7012-1AU00-0		1	1 unit	42J
3UF7012-1A.00-0								
SIMOCODE pro Ethe	erNet/IP							
	SIMOCODE pro V EtherNet/II	P						
00000	EtherNet/IP interface, web ser 2 x connection to bus through DLR media redundancy, 4 I/3 O freely configurable, input for thermistor connection monostable relay outputs, can be expanded by expansic web server in German/English Rated control supply voltage &	RJ45, n, on modules, /Chinese/Russiar	n					
3UF7013-1AB00-0	• 24 V DC	∕s·		3UF7013-1AB00-0		1	1 unit	42J
001.7010 17.1200 0	• 110 240 V AC/DC			3UF7013-1AU00-0		1	1 unit	42J
SIMOCODE pro curr	ent or current/voltage meas	suring module	es					
3.0	Current measuring modules	-						
THE STATE OF THE S	 Straight-through transformers Busbar connection¹⁾ 	0.3 3 2.4 25 10 100 20 200 20 200 63 630	45 45 55 120 120 145	3UF7100-1AA00-0 3UF7101-1AA00-0 3UF7102-1AA00-0 3UF7103-1AA00-0 3UF7103-1BA00-0 3UF7104-1BA00-0		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	42J 42J 42J 42J 42J 42J
3UF7103-1AA00-0	and							
	2 nd -generation current/voltage for SIMOCODE pro V ²) Voltage measuring up to 690 measured values with increase power, power factor and frequestions of the straight-through transformers	/, ed accuracy, ency monitoring	45 45 55	3UF7110-1AA01-0 3UF7111-1AA01-0 3UF7112-1AA01-0		1 1 1	1 unit 1 unit 1 unit	42J 42J 42J
		20 200	120	3UF7112-1AA01-0 3UF7113-1AA01-0		1	1 unit 1 unit	42J 42J
3UF7110-1AA01-0	 Busbar connection¹⁾ 	20 200	120	3UF7113-1BA01-0		1	1 unit	42J
	Current/voltage measuring n protection of centrifugal pun	63 630 nodules for dry-	145 running s areas ²)3)4)	3UF7114-1BA01-0		1	1 unit	42J
SIMONS SHOWED STATE OF THE STAT	Straight-through transformers		45 45 55 120	3UF7120-1AA01-0 3UF7121-1AA01-0 3UF7122-1AA01-0 3UF7123-1AA01-0		1 1 1 1	1 unit 1 unit 1 unit 1 unit	42J 42J 42J 42J
3UF7123-1AA01-0	Busbar connection ¹⁾	20 200 63 630	120 145	3UF7123-1BA01-0 3UF7124-1BA01-0		1 1	1 unit 1 unit	42J 42J

One terminal parts kit 3RT1955-4PA00 or 3RT1966-4PA00 (see page 10/20) is included in the scope of supply for connection to a contactor.

Note:

Other device versions with protective coating on the printed circuit board are available on request.

²⁾ When installing the basic unit on a current/voltage measuring module, the connecting cable must be at least 15 cm long.

³⁾ The current/voltage measuring modules for dry-running protection require SIMOCODE pro V PROFIBUS basic units as of product version E16, SIMOCODE pro V PROFINET as of product version E13 or SIMOCODE pro V EtherNet/IP as of product version E04.

⁴⁾ When using an operator panel with display with the current/voltage measuring modules for dry-running protection, an operator panel with display as of product version E03 is required.

SIMOCODE 3UF motor management and control devices SIMOCODE pro 3UF7 motor management and control devices

Basic units IE3/IE4 ready

	Version	Screw terminals	(1)	PU (UNIT,	PS*	PG
			Price er PU	SET, M)		
SIMOCODE pro opera	itor panels					
	Operator panel					
3UF7200-1AA01-0	Installation in control cabinet door or front plate, for plugging into all SIMOCODE pro basic units, ten LEDs for status indication and freely assignable buttons for controlling the motor, titanium gray	3UF7200-1AA01-0		1	1 unit	42J
	Operator panel with display for SIMOCODE pro V					
MOCCOU PIC	Installation in control cabinet door or front plate, for plugging into SIMOCODE pro V, seven LEDs for status indication and freely assignable buttons for controlling the motor, multilingual display, e.g. for indication of measured values, status information or fault messages, titanium gray	3UF7210-1AA01-0		4	1 unit	42J
3UF7210-1AA01-0	 English/German/French/Spanish/Portuguese/ Italian/Polish/Finnish 	30F7210-1AA01-0		ı	i ufiit	42J

SIMOCODE 3UF motor management and control devices SIMOCODE pro 3UF7 motor management and control devices

Expansion modules

Selection and ordering data

Selection and orde	9						
	Version		Screw terminals		PU (UNIT,	PS*	PG
			Article No.	Price per PU	SET, M)		
Expansion module	s for SIMOCODE	pro V		po o			
	and number of it module has two one system inter to the system into a connecting cafurther expansic connected. The provided by the Notes: The SIMOCODE with the 3UF730	0-1A.00-0 monostable digital module,					
	Digital module						
966 9//// 966	binary inputs ar circuits of the di power supply.	nd relay outputs to the basic unit. The input gital modules are supplied from an external					
No. of the second	Relay outputs						
000	Monostable	24 V DC	3UF7300-1AB00-0		1	1 unit	42J
3UF7300-1AB00-0		110 240 V AC/DC	3UF7300-1AU00-0		1	1 unit	42J
		110 240 V AC/DC, with protective coating on printed circuit board	3UF7300-1AU00-0AX0		1	1 unit	42J
	Bistable	24 V DC	3UF7310-1AB00-0		1	1 unit	42J
		110 240 V AC/DC	3UF7310-1AU00-0		1	1 unit	42J
	Analog module						
			3UF7400-1AA00-0		1	1 unit	42J
	0/4 20 mÄ sig connected per p	gnals, max. one analog module can be oro V PB/MB RTU basic unit and max. two					
3UF7400-1AA00-0							
PUNT	Ground-fault m	DDE pro V PN GP basic unit can be used 7300-1A.00-0 monostable digital module, 1-1AA00-0 ground-fault module, 2-1AA00-0 ground-fault module, 2-1AA00-0 ground-fault module, 2-1AA00-0 ground-fault module, 2-1AA00-0 ground-fault module, 3-1AA00-0 ground-fault module, 3-1AA00-0 ground-fault module, 3-1AA00-0 ground-fault module, 3-1AA00-0 ground-fault modules can be used to add additional as and relay outputs to the basic unit. The input a digital modules can be connected is 1-1AA00-0 ground-fault modules are supplied from an external year of the fault of the fa	42J				
6 6 6 6 6 6 6 6 6	transformers an where precise of	d ground-fault modules is used in cases letection of the ground-fault current is	3017310-14400-0		'	i uiiit	420
000	the precise fault	current as a measured value, and to ectable warning and trip limits in a wide					
3UF7510-1AA00-0	transformer, up connected						
	Note: For correspondi see page 10/89						
111 (199)	Temperature m	odule					
666 666	units, up to an a can be evaluate	dditional three analog temperature sensors ed using a temperature module.	3UF7700-1AA00-0		1	1 unit	42J
000	Three inputs for sensors, up to o per pro V PB/ME	connecting up to three analog temperature ne temperature module can be connected					
21157700 14400 0							

^{*} You can order this quantity or a multiple thereof. Illustrations are approximate

3UF7700-1AA00-0

• 24 V DC

• 110 ... 240 V AC/DC

SIMOCODE 3UF motor management and control devices SIMOCODE pro 3UF7 motor management and control devices

Expansion modules

Multi-unit packaging, Version PU PS* PG **Screw terminals** see page 16/7. (UNIT, SÈT, M) Article No. Price per PU Expansion modules for SIMOCODE pro S With SIMOCODE pro S, it is possible to expand the type and number of inputs and outputs. The expansion module has two system interfaces on the front. Through the one system interface the expansion module is connected to the system interface of the SIMOCODE pro S using a connecting cable; through the second system interface, the operator panel can be connected. The power supply for the expansion module is provided by the connecting cable through the basic unit. Note: Please order connecting cable separately, see page 10/18. Multifunction modules The multifunction module is the expansion module of the SIMOCODE pro S device series with the following • Digital module function with four digital inputs and two monostable relay outputs Ground-fault module function with an input for the connection of a 3UL23 residual-current transformer with freely selectable warning and trip limits in a wide zone of 30 mA ... 40 A • Temperature module function with an input for connecting 3UF7600-1AU01-0 an analog temperature sensor Pt100, Pt1000, KTY83, KTY84, or NTC Max. one multifunction module can be connected per pro S basic unit Input voltage of the digital inputs:

3UF7600-1AB01-0

3UF7600-1AU01-0

42J

42J

1 unit

1 unit

SIMOCODE 3UF motor management and control devices SIMOCODE pro 3UF7 motor management and control devices

Fail-safe expansion modules

Selection and ord	lering data					
	Version	Screw terminals	+	PU (UNIT,	PS*	PG
		Article No.	Price per PU	SÈT, M)		
Fail-safe expansion	on modules for SIMOCODE pro V					
	Thanks to the fail-safe expansion modules, SIMOCODE pro V can be expanded with the function of a safety relay for the fail-safe disconnection of motors. A maximum of one fail-safe digital module can be connected; it can be used instead of a digital module.					
	The fail-safe expansion modules are equipped likewise with two system interfaces on the front for making the connection to other system components. Unlike other expansion modules, power is supplied to the modules through a separate terminal connection.					
	Note:					
	Please order connecting cable separately, see page 10/18.					
	DM-F Local fail-safe digital modules					
ccccc	For fail-safe disconnection using a hardware signal					
1 I	Two relay enabling circuits, joint switching; two relay outputs, common potential disconnected fail-safe; inputs for sensor circuit, start signal, cascading and feedback circuit, safety function adjustable using DIP switches					
Moves Days In	Rated control supply voltage U_s :					
	• 24 V DC	3UF7320-1AB00-0		1	1 unit	42J
3UF7320-1AB00-0	• 110 240 V AC/DC	3UF7320-1AU00-0		1	1 unit	42J
301 7320-1AB00-0	DM-F PROFIsafe fail-safe digital modules ¹⁾					
200000	For fail-safe disconnection using PROFIBUS/PROFIsafe or PROFINET/PROFIsafe					
DIMENSI DA PROPUNCIO	Two relay enabling circuits, joint switching; two relay outputs, common potential disconnected fail-safe; one input for feedback circuit; three binary standard inputs					
	Rated control supply voltage U_s :					
	• 24 V DC	3UF7330-1AB00-0		1	1 unit	42J
ceecee	• 110 240 V AC/DC	3UF7330-1AU00-0		1	1 unit	42J

¹⁾ Cannot be used in conjunction with SIMOCODE pro V for Modbus RTU or EtherNet/IP communication.

3UF7330-1AB00-0

SIMOCODE 3UF motor management and control devices SIMOCODE pro 3UF7 motor management and control devices

Accessories

Selection and orde	ering data					
	Version	Article No	o. Price per PU	PU (UNIT, SET, M)	PS*	PG
Connecting cables	s (essential accessory)					
	In different lengths for connecting basic measuring module, current/voltage mea operator panel or expansion modules					
	Version Len	gth				
3UF7932-0AA00-0	Flat 0.02 0.1 0.15 0.3 0.5	m 3UF7931- m 3UF7934- m 3UF7935-	-0AA00-0 -0AA00-0 -0AA00-0	1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	42J 42J 42J 42J 42J
	Round 0.5 1.0 2.5	m 3UF7937 -	-0BA00-0	1 1 1	1 unit 1 unit 1 unit	42J 42J 42J
PC cables and ada	pters					
3UF7941-0AA00-0	USB PC cable For connecting to the USB interface of a for communication with SIMOCODE prointerface		-0AA00-0	1	1 unit	42J
	USB/serial adapter	3UF7946	-0AA00-0	1	1 unit	42J
	For connecting an RS 232 PC cable to the of a PC	ne USB interface				
Memory modules						
STATE OF THE PROPERTY OF THE P	Enable transmission to a new system, e. is replaced, without the need for addition knowledge of the device.	g. when a device al aids or detailed				
Hard Street	Memory module for SIMOCODE pro C	3UF7900-	-0AA01-0	1	1 unit	42J
3UF7901-0AA01-0	For saving the complete parameterization a SIMOCODE pro C system, titanium gra					
	Memory module for SIMOCODE pro S	•	-0AA01-0	1	1 unit	42J
	For saving the complete parameterization a SIMOCODE pro system, titanium gray	n of				
Interface covers						
3RA6936-0B	For system interface, titanium gray	3RA6936	-0B	1	5 units	42F
Addressing plugs						-
	For assigning the PROFIBUS or Modbus without using a PC/PG to SIMOCODE prosystem interface		-0AA00-0	1	1 unit	42J
3UF7910-0AA00-0						

SIMOCODE 3UF motor management and control devices SIMOCODE pro 3UF7 motor management and control devices

\CC		

					511		
	Version		Article No.	Price per PU	PU (UNIT,	PS*	PG
					SET, M)		
Accessories for moto	or control centers						
	With the draw-out technology ofter	used in motor control					
	centers it is possible to integrate a initialization module in the switchb	oard on a permanent					
	basis. Feeder-related parameter a then be permanently assigned to t						
	Initialization module		3UF7902-0AA00-0		1	1 unit	42J
3UF7902-0AA00-0	For automatic parameterization of	SIMOCODE pro S and					
	SIMOCODE pro V basic units Y connecting cables						
	For use in conjunction with the initi	alization module:					
	connects the basic unit, current m current/voltage measuring module module	easuring module or					
	System interface length	Open cable end					
	0.1 m	1.0 m	3UF7931-0CA00-0		1	1 unit	42J
	0.5 m	1.0 m	3UF7932-0CA00-0		1	1 unit	42J
Bus connection term	1.0 m	1.0 m	3UF7937-0CA00-0		1	1 unit	42J
	For shield support and strain relief on a SIMOCODE pro S	of the PROFIBUS cable	3UF7960-0AA00-0		1	1 unit	42J
4							
3UF7960-0AA00-0							
Door adapters							40.1
	For external connection of the syst a control cabinet, for example	em interface from	3UF7920-0AA00-0		1	1 unit	42J
3UF7920-0AA00-0	r nanal						
Adapters for operato	The adapter enables the smaller 3	UE7200 operator panel	3UF7922-0AA00-0		1	1 unit	42J
	from SIMOCODE pro to be used in which previously, e.g. after a chan 3UF52 operator panel from SIMOC used, degree of protection IP54	n a front panel cutout in ge of system, a larger	0017322 SANG 0		,	T dille	720
21157022 04 400 0							
3UF7922-0AA00-0 Labeling strips							
	• For pushbuttons of the 3UF720 of	pperator panel	3UF7925-0AA00-0		100	400 units	42J
TO THE SERVICE	For pushbuttons of the 3UF721 country alice along the strength of the sufficient to the sufficien	pperator panel	3UF7925-0AA01-0		100	600 units	42J
100 100 100 100 100 100 100 100 100 100	with displayFor LEDs of the 3UF720 operato	r nanel	3UF7925-0AA02-0		100	1200 units	42J
SOURCE - STATE	TO ELECTION OF THE OPERATOR	, pario	001 7020 GAROL 0		100	1200 urillo	120
3UF7925-0AA02-0							
Push-in lugs							
	For screw fixing, e.g. on mounting	plate,					
	2 units required per deviceCan be used for 3UF71.0, 3UF71	1 1 and 3UF71 2	3RV2928-0B		100	10 units	41E
	 Can be used for 3UF700, 3UF70 		3RP1903		1	10 units	41H
П	and 3UF77						
3RV2928-0B	 Can be used for 3UF7020, 3UF7 	600	3ZY1311-0AA00		1	10 units	41L

SIMOCODE 3UF motor management and control devices SIMOCODE pro 3UF7 motor management and control devices

Accessories

	Version	Article No.	Price per PU	PU (UNIT,	PS*	PG
			porro	SET, M)		
Terminal covers	Oscara for early have and harden connections			ı		
	Covers for cable lug and busbar connections • Length 100 mm, can be used for 3UF71.3-1BA00	3RT1956-4EA1		1	1 unit	41B
	• Length 120 mm, can be used for 3UF71.3-1BA00 • Length 120 mm, can be used for 3UF71.4-1BA00	3RT1966-4EA1		1	1 unit 1 unit	41B 41B
	Covers for box terminals	31111900-4EA1		'	1 driit	410
	• Length 25 mm, can be used for 3UF71.3-1BA00	3RT1956-4EA2		1	1 unit	41B
Generally 1	 Length 30 mm, can be used for 3UF71.4-1BA00 	3RT1966-4EA2		1	1 unit	41B
3RT1956-4EA1	Covers for screw terminals					
	Between contactor and current measuring module or current/voltage measuring module for direct mounting					
	• Can be used for 3UF71.3-1BA00	3RT1956-4EA3		1	1 unit	41B
3RT1956-4EA2	• Can be used for 3UF71.4-1BA00	3RT1966-4EA3		1	1 unit	41B
Terminal parts kits						
	Can be used for current and/or current/voltage measuring modules with DIN-rail connection, complete for one contactor					
	M 8 x 25	3RT1955-4PA00		1	1 unit	41B
	• M 10 x 30	3RT1966-4PA00		1	1 unit	41B
Box terminal blocks		CHITOGO HI ACC		·	1 dille	
	For round and ribbon cables					
	 Up to 70 mm², can be used for 3UF71.3-1BA00 	3RT1955-4G		1	1 unit	41B
	 Up to 120 mm², can be used for 3UF71.3-1BA00 	3RT1956-4G		1	1 unit	41B
3RT1956-4G	 Up to 240 mm², can be used for 3UF71.4-1BA00 	3RT1966-4G		1	1 unit	41B
Bus termination mo	odules					
AMIN	With separate control supply voltage for bus termination					
000000	following the last unit on the bus line					
•••••	Supply voltage:	01154000 41/400			4	40.1
A B -W W	• 115/230 V AC • 24 V DC	3UF1900-1KA00 3UF1900-1KB00		1	1 unit 1 unit	42J 42J
ON THE REAL PROPERTY.	• 24 V DO	30F1900-1KD00		'	i uiiit	420
C € 3LF1900-1CADD						
00000						
3UF1900-1KA00						
Software						
	SIMOCODE ES (TIA Portal)					
SEMENS Certificate of License	Software for configuring, commissioning, operating and					
	diagnosing SIMOCODE pro based on the TIA Portal, see page 14/13.					
	ooo pago . ,, .c.					
Military Military Military						
Software						
3Z\$1322						
	SIMOCODE pro block library for SIMATIC PCS 7					
	The PCS 7 block library can be used for simple and easy					
a No Safavara Palivary	integration of SIMOCODE pro into the SIMATIC PCS 7 process control system, see page 14/16.					
Online Software Delivery	process control system, see page 14/10.					
AND COMPANY						
A CONNECTOR						
3ZS1632-1XE04-0YA0						

SIMOCODE 3UF motor management and control devices 3UF18 current transformers for overload protection

Basic units and accessories

Overview

More information

Homepage, see www.siemens.com/sirius SiePortal, see www.siemens.com/product?3UF18 The 3UF18 current transformers are protection transformers and are used for actuating overload relays. Protection transformers are designed to ensure proportional current transfer up to a multiple of the primary rated current. The 3UF18 current transformers convert the maximum current of the corresponding operating range into the standard signal of 1 A secondary.

Selection and ordering data

	Type of mounting	Operating range	Screw terminals	(1)	PU (UNIT,	PS*	PG
		A	Article No.	Price per PU	SET, M)		
For mounting on contactor	ors and stand-alone installa	tion					
3UF1868	Screw fixing	205 820	3UF1868-3GA00		1	1 unit	42J

Accessories

	For contactor type	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Terminal covers						
	For transformer/contactor combinations and stand-alone installation for 3UF1868-3GA00 transformer	3TX7696-0A		1	1 unit	41B
	Note: One cover required per connection side.					

LOGO! logic modules

Overview





More information

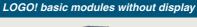
Homepage, see www.siemens.com/LOGO SiePortal, see www.siemens.com/product?logo LOGO!, see Catalog ST 70

- The compact, user-friendly, and low-cost solution for simple
- · Compact, user-friendly, can be used universally without accessories
- All in one: The display and operator panel are integrated
- 36 different functions can be linked at a press of a button or with PC software; up to 130 times in total
- LOGO! 8: 38/43 different functions can be linked at a press of a button or with PC software; up to 200/400 times in total
- Functions can be changed simply with the press of a button. No complicated rewiring

LOGO! logic modules

LOGO! basic modules with display







LOGO! expansion modules



The space-saving basic versions

The cost-optimized basic versions

Digital and analog inputs/outputs for connection to LOGO!

LOGO! CMK2000 communications modules



LOGO! CSM unmanaged



LOGO! CMR (wireless communication)



For integration of LOGO! 8 in KNX installations

line, tree or star topologies

For connecting to Industrial Ethernet in

signaling system

For configuring a low-cost remote

LOGO!Power



LOGO!Contact switching modules



For switching resistive loads and motors directly

LOGO! software



The user-friendly software for switching program generation

Application

boards

The LOGO! logic module is the user-friendly, low-cost solution for simple control tasks.

LOGO! is universally applicable, e.g.:

The flat power supply for distribution

- Building installation and wiring (lighting, shutters, awnings, doors, access control, barriers, ventilation systems, etc.)
- Control cabinet installation
- Machine and device construction (pumps, small presses, compressors, hydraulic lifts, conveyors, etc.)
- Special controls for conservatories and greenhouses
- Signal preprocessing for other controllers

LOGO! Modular logic modules can be expanded easily for each application.

Marine approvals:

American Bureau of Shipping, Bureau Veritas, Det Norske Veritas, Germanischer Lloyd, Lloyd's Register of Shipping, Polski Rejestr Statków, etc.

General data

Overview



7PV15, SIRIUS 3RP25 and SIRIUS 3RP20 timing relays

More information

Homepage, see www.siemens.com/sirius-timing-relays SiePortal, see www.siemens.com/product?3RP

Electronic timing relays are used in control, starting, and protective circuits for all switching operations involving time delays.

Their fully developed concept and space-saving, compact design make the SIRIUS 3RP timing relays ideal timer modules for control cabinet, switchgear and control manufacturers in the industry.

With their narrow design, the 7PV15 timing relays are ideal in particular for use in heating, ventilation and air-conditioning systems and in compressors. All 7PV15 timing relays in this enclosure version are suitable for snap-on mounting on TH 35 DIN rails according to IEC 60175. The enclosure complies with DIN 43880.

The SIRIUS 3RA28 function modules enable the assembly of starters and contactor assemblies for direct-on-line and star-delta (wye-delta) starting. They include the key control functions required for the particular feeder, e.g. timing and electrical interlocking function. The function modules that function as timing relays are mounted quickly and simply on SIRIUS contactors – without any great wiring effort.

The SIRIUS 3RA28 solid-state time-delay auxiliary switches which can be mounted on contactors are designed for contactor coil voltages in the range from 24 to 240 V AC/DC (wide voltage range). Auxiliary switches for control and alarm signals are used specially for switching the smallest signals for electronics applications. They are used, for example, for allowing a pump or fan to run on, or for the delayed activation of a gate drive.

Simply by being plugged in place, the SIRIUS 3RT19 timing relays enable different functionalities required for the assembly of starters to be realized in the feeder. At the same time the timing relays for mounting on contactors reduce the wiring work required within the feeder and save space in the control cabinet.

Device series

SIRIUS timing relays for DIN-rail mounting

- SIRIUS 3RP25 timing relays, 17.5 mm and 22.5 mm, see page 10/24
- SIRIUS 3RP20 timing relays, 45 mm, see page 10/36
- 7PV15 timing relays, 17.5 mm, see page 10/42

SIRIUS timing relays for mounting on contactors

- SIRIUS 3RA28 solid-state time-delay auxiliary switches for mounting on 3RT2 contactors and 3RH2 contactor relays, see page 3/100
- SIRIUS 3RA28 function modules for mounting on 3RT2 contactors and 3RH2 contactor relays, see page 3/105
- SIRIUS 3RT19 timing relays for mounting on 3RT1 contactors, see page 3/101

Benefits

- The right design for every application
- Clear-cut basic range with five basic units in the case of the 7PV15 timing relays, and up to seven basic units in the case of the 3RP timing relays
- Considerable logistical advantages thanks to versions with wide voltage and wide time range
- No tools required for assembly or disassembly on DIN rails
- Cadmium-free relay contacts
- Recyclable, halogen-free enclosure
- Optimum price/performance ratio

- · Versions with logical separation
- Low variance: One design for distribution boards and for control cabinets
- Compliance with EMC requirements for buildings
- Environmentally friendly laser inscription instead of printing containing solvents
- Versions as snap-on modules for reducing wiring and saving space in the control cabinet
- Device versions with protective coating on printed circuit board
- Versions with screw terminals or alternatively with springloaded terminals

Application

Timing relays with ON-delay

- Interference pulse suppression (gating of interference pulses)
- Gradual startup of motors so as not to overload the power supply

Timing relays with OFF-delay

- · Generation of overtravel functions following removal of voltage
- Gradual, delayed shutdown, e.g. of motors or fans, to allow a plant to be shut down selectively

Clock-pulse relay

· Flashing, asymmetrical

Star-delta (wye-delta) timing relays

 Switching over motors from wye to delta with a dead interval of 50 ms to prevent phase-to-phase short circuits

Multifunctional timing relays

- Maximum flexibility, with a device for every application
- Available with relay and semiconductor output
- Versions for railway applications for more exacting requirements (e.g. temperature range, vibration/shock resistance and EMC)

Watchdog function

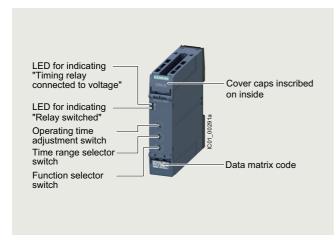
· Monitoring of cyclic events

Relays

Timing relays

SIRIUS 3RP25 timing relays, 17.5 mm and 22.5 mm

Overview



SIRIUS 3RP25 timing relay

More information

Homepage, see www.siemens.com/sirius-timing-relays SiePortal, see www.siemens.com/product?3RP25

TIA Selection Tool Cloud (TST Cloud), see www.siemens.com/tstcloud/?node=SIRIUSRelais

Conversion tool, see www.siemens.com/conversion-tool Simulator, see

https://support.industry.siemens.com/cs/ww/en/view/103556391



Video: What are the benefits of SIRIUS 3RP25 timing relays?

Electronic timing relays for general use in control systems and mechanical engineering with:

- 1 or 2 CO, 1 NO (semiconductor) or 3 NO
- Monofunction or multifunction
- Combination voltage or wide voltage range
- Single or selectable time ranges
- Switch position indication and voltage indication by LED
- Device versions with protective coating on printed circuit board

Article number scheme

Product versions	Article number					
Timing relays		3RP25 □ □	- 0) - 0000	l
Product function/	Multifunction	0 5				7 time ranges 0.05 s 100 h
time ranges	ON-delay	1 1				1 time range 0.5 10 s
		1 2				1 time range 1 3 s
		1 3				1 time range 5 100 s
		2 5				7 time ranges 0.05 s 100 h
		2 7				4 time ranges 0.05 s 240 s
	OFF-delay with control signal	3 5				7 time ranges 0.05 s 100 h
	OFF-delay without control signal, non-volatile, passing make contact	4 0				7 time ranges 0.05 s 600 s
	Clock-pulse relay, flashing, asymmetrical	5 5				7 time ranges 0.05 s 100 h
	Star-delta (wye-delta) function with coasting function (idling)	6 0				Star delta (wye-delta) 1 20 s, idling time (coasting time) 600 s
	Star-delta (wye-delta) function	7 4				1 time range 1 20 s
		7 6				1 time range 3 60 s
Connection type	Screw terminals		1			
	Spring-loaded terminals (push-in)		2			
Contacts	1 CO			Α		
	2 CO			В		
	Semiconductors (transistor NPN)			С		
	Semiconductors (thyristor), two-wire			E		
	1 NO + 1 NO (SD)			N		
	2 CO force-guided			R		
	3 NO			S		
Control supply voltage	24 V AC/DC			В 3		
	200 240 V/380 440 V AC			M 2		
	400 440 V AC			T 2		
	12 240 V AC/DC or 24 240 V AC/DC (3RP2505RW30)			W 3		
Versions	With protective coating on printed circuit board				0 A X 0	
Example		3RP25 0 5	- 1	A B 3 ()	

Note:

The article number scheme shows an overview of product versions for better understanding of the logic behind the article numbers.

For your orders, please use the article numbers quoted in the selection and ordering data.

SIRIUS 3RP25 timing relays, 17.5 mm and 22.5 mm

3RP2505 multifunctional timing relays

Two setting options for implementing the multifunctions (A-M):



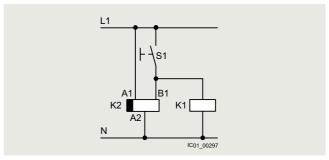
- ① Determination of 13 functions by the setting A to M, with 1 CO, 1 NO, 2 CO that switch in parallel.
- (2) Extended function variance by selecting the time range and determining, whether 2 CO switch in parallel or whether 1 CO switches with delay + 1 CO switches instantaneously (1 CO + 1 CO)

With a set of foil labels the timing relay can be legibly marked with the functions which can be selected on the timing relay. This is supplied together with the multifunctional timing relay.

The same potential must be applied to terminals A. and B.

Note:

The activation of loads parallel to the start input is permissible when using AC/DC control voltage.



Diagram

Setting the functions on the device

The functions of the 3RP2505 multifunctional timing relays can be set by means of the function selector switch. Whether both CO contacts are switched in parallel or one CO contact with a delay and one instantaneously and the choice of time range are set by means of the time range selector switch. The exact operating time can be adjusted with the operating time switch.

Overview of functions

dentifica- ion letter	13 functions	27 functions
on letter	1 CO contact (1 CO), 1 NO contact (1 NO) semiconductor, 2 CO contacts switched in parallel (2 CO) or 2 CO contacts force-guided and switched in parallel with delay (2 CO)	13 functions (A - M) 2 CO contacts switched in parallel (2 CO) + 13 functions (A - M) 1 delayed CO contact + 1 instantaneous CO contact (1 CO + 1 CO) and star-delta (wye-delta) function
L	ON-delay	ON-delay and instantaneous contact
	OFF-delay with control signal	OFF-delay with control signal and instantaneous contact
	ON-delay/OFF-delay with control signal	ON-delay/OFF-delay with control signal and instantaneous contact
1	Flashing, symmetrical, starting with interval	Flashing, symmetrical, starting with interval and instantaneous contact
	Passing make contact, interval relay	Passing make contact, interval relay and instantaneous contact
:	Retriggerable interval relay with deactivated control signal (passing break contact with control signal)	Retriggerable interval relay with deactivated control signal (passing break contact with control signal) and instantaneous contact
à	Passing make contact, with control signal, not retriggerable (pulse-forming with control signal)	Passing make contact, with control signal, not retriggerable, (pulse-forming with control signal) and instantaneous contact
l	Additive ON-delay, instantaneous OFF with control signal	Additive ON-delay, instantaneous OFF with control signal and instantaneous contact
	Additive ON-delay with control signal	Additive ON-delay with control signal and instantaneous contact
l	Flashing, symmetrical, starting with pulse	Flashing, symmetrical, starting with pulse and instantaneous contact
(Pulse-delayed (fixed pulse (at 1 s) and settable pulse delay)	Pulse-delayed (fixed pulse (at 1 s) and settable pulse delay) and instantaneous contact
	Pulse-delayed with control signal (fixed pulse (at 1 s) and settable pulse delay)	Pulse-delayed with control signal (fixed pulse (at 1 s) and settable pulse delay) and instantaneous contact
Л	Retriggerable interval relay with activated control signal (watchdog)	Retriggerable interval relay with activated control signal and instantaneous contact (watchdog)
-		Star-delta (wye-delta) function

Relays

Timing relays

SIRIUS 3RP25 timing relays, 17.5 mm and 22.5 mm

Simulator



The 3RP25 simulator visualizes different time functions in the 3RP25 timing relay. Any fault scenario can be simulated.

The tool is available free of charge, see https://support.industry.siemens.com/cs/ww/en/view/103556391.

3RP25 simulator

Benefits

- Easy stock-keeping and logistics thanks to low variance of devices
- Reduced space requirement in the control cabinet thanks to versions in width 17.5 mm and 22 mm
- Consistent in all functions due to wide voltage range from 12 to 240 V AC/DC
- Up to 27 functions according to IEC 61812 in the multifunctional timing relay with wide voltage range
- Multifunctional timing relay with semiconductor output for high switching frequencies, bounce-free and wear-free switching
- Device versions with protective coating on printed circuit board

Standards and approvals

- IEC 60721-3-3 "Classification of environmental conditions"
- IEC 61812-1/DIN VDE 0435 Part 2021 "Specified time relays for industrial use"
- IEC 61000-6-2, IEC 61000-6-3 and IEC 61000-6-4 "Electromagnetic compatibility"
- IEC 60947-5-1 "Low-voltage switchgear and controlgear Electromechanical control circuit devices"

Application

Timing relays are used in control, starting, and protective circuits for all switching operations involving time delays. They guarantee a high level of functionality and a high repeat accuracy of timer settings.

Enclosure version

All timing relays are suitable for snap-on mounting on TH 35 DIN rails according to IEC 60715 or for screw fixing.

Suitable for use in harsh ambient conditions

Versions with protective coating on the printed circuit board according to IPC-A-610 are available for use in environments that are exposed to dust, condensation, rapid temperature changes and corrosion. These are intended for applications in rail systems, agriculture, mining, woodworking, etc.

Note:

Other device versions with protective coating on the printed circuit board are available on request.

Technical specifications

More information

Technical specifications, see https://support.industry.siemens.com/cs/ww/en/ps/16354/td Equipment Manual, see

https://support.industry.siemens.com/cs/ww/en/view/103532830

Internal circuit diagrams, see CAx Download Manager https://support.industry.siemens.com/my/ww/en/CAxOnline#CAxOnline FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/16354/faq

Article number	3RP2505A, 3RP2505C, 3RP251., 3RP2525A, 3RP2527, 3RP253., 3RP255.	3RP2505B, 3RP2505R, 3RP2525B, 3RP254., 3RP256., 3RP257.
Dimensions (W x H x D)	17.5 x 100 x 90	22.5 x 100 x 90

SIRIUS 3RP25 timing relays, 17.5 mm and 22.5 mm

Article number		3RP25AB30, 3RP25AW30, 3RP25BB30, 3RP25BW30, 3RP25NW30, 3RP25RW30 3RP25SW30	3RP25AW3 3RP25BW3 3RP25RW3	30-0AX0,	3RP25l 3RP25l		3RP25CW30		3RP25EW30
General technical specification	S								
Insulation voltage for overvoltage category III according to IEC 60664 for pollution degree 3, rated value	V	300	300		500		300		
Ambient temperature During operation During storage	°C °C	-25 +60 -40 +85							
Protective coating on printed circuit board		No	Yes; according	g to IPC-A-610	No		No		No
Switching capacity current with inductive load	Α	0.01 3	0.01 3		0.01 3		0.01 1		0.01 0.6
Operational current of the auxiliary contacts • At AC-15 - At 24 V - At 250 V - At 400 V • At DC-12 - At 24 V - At 250 V - At 250 V - At 250 V • At DC-13 - At 24 V - At 125 V - At 250 V • At DC-13 - At 250 V Thermal current Mechanical endurance (operating cycles) Electrical endurance (operating cycles) for AC-15 at 230 V typical	A A A A A A A A A A A A A A A A A A A	3 3 3 1 0.2 0.1 5 10 000 000 100 000 3RP25AB30, 3RP2540-AW30, 3RP2540-AW30, 3RP2540-BW30	3 3 1 0.2 0.1 5	3RP2505BT 3RP257NM		3RP250 3RP251 3RP252 3RP255 3RP250 3RP252	5AW3Ó,	3RP	 0.6 100 000 2505RW30, 2505RW30-0AX0
General technical specification	s								
Operating range factor of the control supply voltage, rated value • At AC									
- At 50 Hz - At 60 Hz • At DC		0.85 1.1 0.85 1.1 0.85 1.1		0.85 1.1 0.85 1.1 		0.8 1. 0.8 1. 0.8 1.	1	0.7.	1.1 1.1 1.1
Article number		3RP2510			3RP25	520			
Type of electrical connection for auxiliary and control circuits		Screw termin	als				ded terminals (push	-in)
Design of thread of terminal screw		M3							
Tightening torque	Nm	0.6 0.8							
Type of connectable conductor cross-sections • Solid • Finely stranded with end sleeve		1 x (0.5 4 mm ²), 2 1 x (0.5 4 mm ²), 2				5 4 mm 5 2.5 m			
For AWG cables Solid Stranded		1 x (20 12), 2 x (2 1 x (20 12), 2 x (2	20 14)	,	m²) 1 x (0.5 2.5 1 x (20 12) 1 x (20 12)		2)		

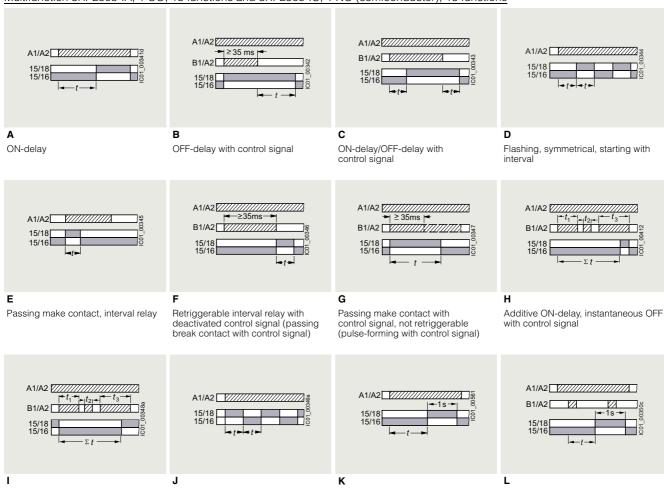
Relays

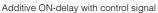
Timing relays

SIRIUS 3RP25 timing relays, 17.5 mm and 22.5 mm

3RP25 function diagrams

Multifunction 3RP2505-.A, 1 CO, 13 functions and 3RP2505-.C, 1 NO (semiconductor), 13 functions









Pulse-delayed with control signal (fixed pulse (at 1 s) and settable pulse delay)



М

Retriggerable interval relay with activated control signal (watchdog)

Legend

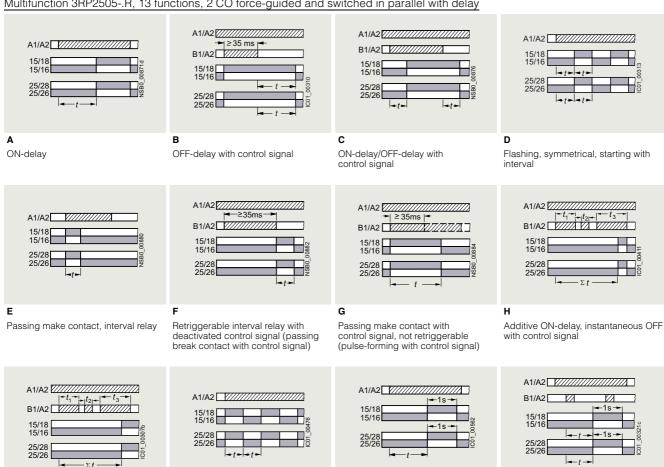
A ... M Identification letters

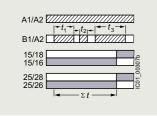
Contact closed

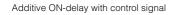
Contact open

SIRIUS 3RP25 timing relays, 17.5 mm and 22.5 mm

Multifunction 3RP2505-.R, 13 functions, 2 CO force-guided and switched in parallel with delay

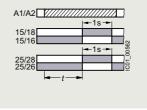




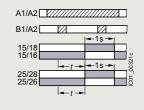




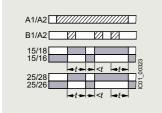
Flashing, symmetrical, starting with



Pulse-delayed (fixed pulse at 1 s and settable pulse delay)



Pulse-delayed with control signal (fixed pulse at 1 s and settable pulse delay)



Retriggerable interval relay with activated control signal (watchdog)

Legend

- A ... M Identification letters
- Contact closed
- Contact open

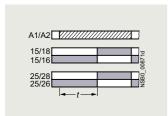
Relays

Timing relays

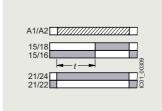
SIRIUS 3RP25 timing relays, 17.5 mm and 22.5 mm

Multifunction 3RP2505-.B, 27 functions, 2 CO

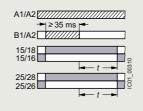
2 CO switched in parallel



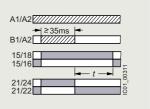
1 delayed CO contact + 1 instantaneous CO contact



2 CO switched in parallel



1 delayed CO contact + 1 instantaneous CO contact



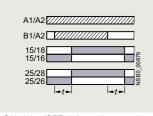
ON-delay ON-delay and instantaneous contact

OFF-delay with control signal

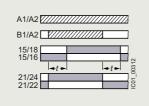
OFF-delay with control signal and instantanéous contact

С

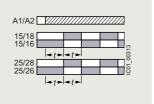
2 CO switched in parallel



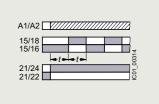
1 delayed CO contact + 1 instantaneous CO contact



2 CO switched in parallel



1 delayed CO contact + 1 instantaneous CO contact



ON-delay/OFF-delay with control signal

ON-delay/OFF-delay with control signal and instantaneous contact Flashing, symmetrical, starting with interval

Flashing, symmetrical, starting with interval and instantaneous contact

Ε

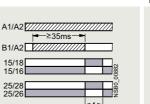
2 CO switched in parallel

A1/A2

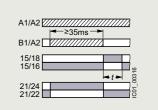


21/22

2 CO switched in parallel



1 delayed CO contact + 1 instantaneous CO contact



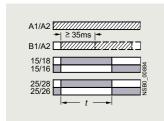
Passing make contact, interval relay

Passing make contact, interval relay and instantaneous contact

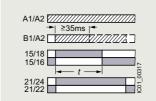
Retriggerable interval relay with deactivated control signal (passing break contact with control signal)

Retriggerable interval relay with deactivated control signal (passing break contact with control signal) and instantaneous contact

2 CO switched in parallel

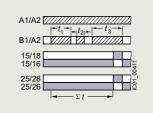


Passing make contact with control signal, not retriggerable (pulse-forming with control signal) 1 delayed CO contact + 1 instantaneous CO contact



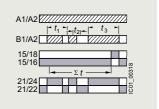
Passing make contact with control signal, not retriggerable (pulse-forming with control signal) and instantaneous contact

2 CO switched in parallel



Additive ON-delay, instantaneous OFF with control signal

1 delayed CO contact + 1 instantaneous CO contact



Additive ON-delay, instantaneous OFF with control signal and instantaneous

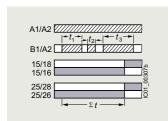
- A ... H Identification letters
- ZZZ Timing relay energized
- Contact closed
- Contact open

SIRIUS 3RP25 timing relays, 17.5 mm and 22.5 mm

Multifunction 3RP2505-.B, 27 functions, 2 CO (continued)

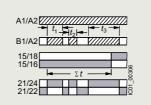
- 1

2 CO switched in parallel



Additive ON-delay with control signal

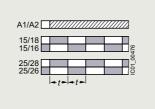
1 delayed CO contact + 1 instantaneous CO contact



Additive ON-delay with control signal and instantaneous contact

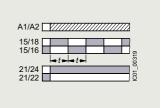
J

2 CO switched in parallel



Flashing, symmetrical, starting with

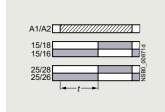
1 delayed CO contact + 1 instantaneous CO contact



Flashing, symmetrical, starting with pulse and instantaneous contact

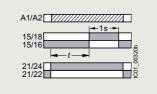
Κ

2 CO switched in parallel



Pulse-delayed (fixed pulse at 1 s and settable pulse delay)

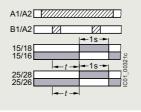
1 delayed CO contact + 1 instantaneous CO contact



Pulse-delayed (fixed pulse at 1 s and settable pulse delay) and instantaneous contact

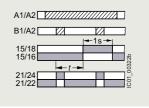
L

2 CO switched in parallel



Pulse-delayed with control signal (fixed pulse at 1 s and settable pulse delay)

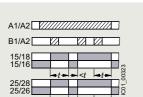
1 delayed CO contact + 1 instantaneous CO contact



Pulse-delayed with control signal (fixed pulse at 1 s and settable pulse delay) and instantaneous contact

M

2 CO switched in parallel



Retriggerable interval relay with activated control signal (watchdog)

1 delayed CO contact + 1 instantaneous CO contact

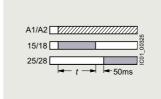


Retriggerable interval relay with activated control signal and instantaneous contact (watchdog)

 $Y\Delta$

2 CO contacts switched in parallel or 1 delayed CO contact +

1 instantaneous CO contact



Star-delta (wye-delta) function

Legend

I ... M Identification letters

Timing relay energized

Contact closed

Contact open

Relays

Timing relays

SIRIUS 3RP25 timing relays, 17.5 mm and 22.5 mm

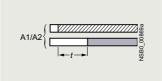
Monofunctions 3RP251. to 3RP257.1)



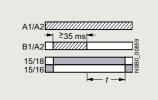
3RP251.-.AW30, 1 CO, ON-delay



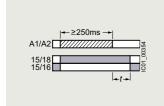
3RP2525-..W30, 2 CO, ON-delay



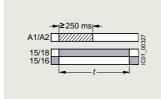
3RP2527-.EW30, 1 NO (semiconductor), ON-delay



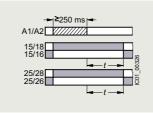
3RP2535-.AW30, 1 CO, OFF-delay with control signal



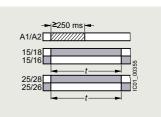
3RP2540-.A.30, 1 CO, OFF-delay



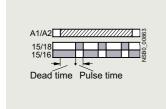
3RP2540-.A.30, 1 CO, positive passing make contact (O)1)



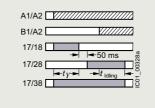
3RP2540-.B.30, 2 CO, OFF-delay (N)¹⁾



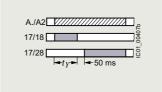
3RP2540-.B.30, 2 CO, positive passing make contact (O)1)



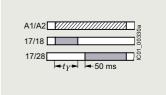
3RP2555-.AW30, 1 CO, flashing, asymmetrical, starting with interval (clock-pulse relay)



3RP2560-.SW30, 3 NO, star-delta (wye-delta) function with coasting function (idling)



3RP257.-.NM20, 2 NO, star-delta (wye-delta) function



3RP257.-.NW30, 2 NO, star-delta (wye-delta) function

<u>Lege</u>nd

- ZZZ Timing relay energized
- Contact closed
- Contact open

Function N = OFF-delay
Function O = Positive passing make contact.

^{1) 3}RP2540 has a double function:

SIRIUS 3RP25 timing relays, 17.5 mm and 22.5 mm

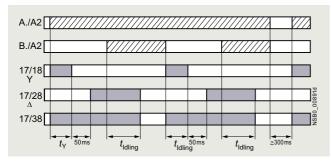
Possibilities of operation of the 3RP2560-.SW30 timing relay

Operation 1: Start contact B./A2 is open when control supply voltage A./A2 is applied

The control supply voltage is applied to A./A2 and there is no control signal on B./A2. This starts the YA timing. The idling time (coasting time) is started by applying a control signal to B./A2. When the set time $t_{\rm Idling}$ (30 to 600 s) has elapsed, the output relays (17/38 and 17/28) are reset. If the control signal on B./A2 is switched off (minimum OFF period 270 ms), a new timing is started.

Note:

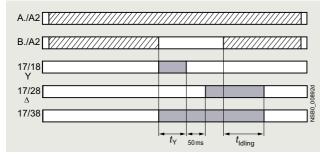
Observe response time (dead time) of 400 ms on energizing control supply voltage until contacts 17/18 and 17/38 close.



Operation 1

Operation 2: Start contact B./A2 is closed when control supply voltage A./A2 is applied.

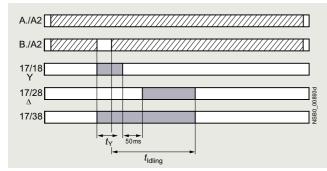
If the control signal B./A2 is already present when the control supply voltage A./A2 is applied, **no** timing is started. The timing is only started when the control signal B./A2 is switched off.



Operation 2

Operation 3: Start contact B./A2 closes while star time is running

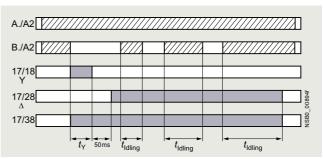
If the control signal B./A2 is applied again during the star time, the idling time starts and the timing is terminated normally.



Operation 3

Operation 4: Start contact B./A2 opens while delta time is running and is applied again

If the control signal on B./A2 is applied and switched off again during the delta time, although the idling time has not yet elapsed, the idling time (coasting time) is reset to zero. If the control signal is re-applied to B./A2, the idling time is restarted.



Operation 4

Legend

Timing relay energized

Contact closed

☐ Contact open

 $t_Y =$ Star time 1 to 20 s

 t_{Idling} = Idling time (coasting time) 30 to 600 s

Note:

The following applies to all operations: The pressure switch controls the timing via B./A2.

Application example based on standard operation (operation 1): For example, use of 3RP2560 for compressor control

Frequent starting of compressors strains the network, the machine, and the increased costs for the operator. The new timing relay prevents frequent starting at times when there is high demand for compressed air. A special control circuit prevents the compressor from being switched off immediately when the required air pressure in the tank has been reached. Instead, the valve in the intake tube is closed and the compressor runs in "Idling" mode, i.e. in no-load operation for a specific time which can be set from 30 to 600 s.

If the pressure falls within this time, the motor does not have to be restarted again, but can return to rated load operation from no-load operation.

If the pressure does not fall within this idling time, the motor is switched off.

The pressure switch controls the timing via B./A2.

The control supply voltage is applied to A./A2 and the start contact B./A2 is open, i.e. there is no control signal on B./A2 when the control supply voltage is applied. The pressure switch signals "too little pressure in system" and starts the timing by way of terminal B./A2. The compressor is started, enters Υ_Δ operation, and fills the pressure tank.

When the pressure switch signals "sufficient pressure", the control signal B./A2 is applied, the idling time (coasting time) is started, and the compressor enters no-load operation for the set period of time from 30 to 600 s. The compressor is then switched off. The compressor is only restarted if the pressure switch responds again (low pressure).

Relays

Timing relays

SIRIUS 3RP25 timing relays, 17.5 mm and 22.5 mm

Selection and ordering data

Multi-unit packaging, page 16/7.













3RP2525-2AW30

3RP2540-2AW30

3RP2555-2AW30

		3RP25	05-2AB3	30	3RP2505-2BB3	30	3RP2525-2	2AW30	3RP2	2540-2AW30	3RP2555-	2AW30	3RP2576-	2NW30
NO constant	ber of contacts n- De- layed switch- h- ing	contac Instan- tane-	De- layed switch-	con- ductor output	Adjustable time	at 50/60 Hz AC	oly voltage	Protective coating on printed circuit board		Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
						V	V							
13 f	unction	s												
0	0	0	1	No	0.05 s 100 h	24 12 240	24 12 240	No No Yes		3RP2505-□AB30 3RP2505-□AW30 3RP2505-2AW30-0AX0		1 1 1	1 unit 1 unit 1 unit	41H 41H 41H
0	1	0	0	Yes	0.05 s 100 h	12 240	12 240	No		3RP2505-□CW30		1	1 unit	41H
13 f	unction	s, suita	ible foi	r railwa	y applications	3								
0	0	0	21)	No	0.05 s 100 h	24 240	24 240	No Yes		3RP2505-□RW30 3RP2505-2RW30-0AX0		1 1	1 unit 1 unit	41H 41H
27 f	unction 0	S 0	2 ²⁾	No	0.05 s 100 h	24 400 440 12 240	24 12 240	No No No Yes		3RP2505-□BB30 3RP2505-□BT20 3RP2505-□BW30 3RP2505-2BW30-0AX0		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41H 41H 41H 41H
ON-	delay													
0	0	0	1	No	0.5 10 s 1 30 s 5 100 s 0.05 s 100 h	12 240 12 240 12 240 12 240	12 240 12 240 12 240 12 240	No No		3RP2511-□AW30 3RP2512-□AW30 3RP2513-□AW30 3RP2525-□AW30		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41H 41H 41H 41H
0	0	0	2	No	0.05 s 100 h	24 12 240	24 12 240	No No		3RP2525-□BB30 3RP2525-□BW30		1 1	1 unit 1 unit	41H 41H
0	1	0	0	Yes	0.05 s 240 s	12 240	12 240	No		3RP2527-□EW30		1	1 unit	41H
OFF	-delay ι	with co	ntrol s	ignal										
0	0	0	1	No	0.05 s 100 h	12 240	12 240	No		3RP2535-□AW30		1	1 unit	41H
OFF	-delay v	vithout	contro	ol signa	al, non-volatile	e, passing r	nake con	tact						
0	0	0	1 ⁴⁾	No	0.05 s 600 s		24 12 240	No		3RP2540-□AB30 3RP2540-□AW30		1 1	1 unit 1 unit	41H 41H
0	0	0	24)	No	0.05 s 600 s	24 12 240	24 12 240	No No		3RP2540-□BB30 3RP2540-□BW30		1 1	1 unit 1 unit	41H 41H
Clo	ck-pulse	e relay,	flashii	ng, asy	mmetrical									
0	0	0	1	No	0.05 s 100 h	12 240	12 240	No		3RP2555-□AW30		1	1 unit	41H
Star	-delta (wye-de	lta) fur	nction v	vith coasting	function (ic	lling)							
1	2	0	0	No	1 20 s	12 240	12 240	No		3RP2560-□SW30		1	1 unit	41H
Star	-delta (v	wye-de	lta) fur	nction								•		
1	1	0	0	No	1 20 s	380 440 ³⁾ 12 240	 12 240	No No		3RP2574-□NM20 3RP2574-□NW30		1 1	1 unit 1 unit	41H 41H
1	1	0	0	No	3 60 s	380 440 ³⁾ 12 240	 12 240	No No		3RP2576-□NM20 3RP2576-□NW30		1 1	1 unit 1 unit	41H 41H

Type of electrical connection

- Screw terminals
- Spring-loaded terminals (push-in)
- 1) Force-guided contacts.
- ²⁾ Optionally 1 CO delayed + 1 CO instantaneous.
- 3) With 3RP2574-.NM20 and 3RP2576-.NM20, connection of 200 to 240 V AC, 50/60 Hz control voltage is also possible.
- 4) Setting of output contacts in as-supplied state not defined (bistable relay). Application of the control supply voltage once results in contact changeover to the correct setting.

Notes:

Accessories, see page 10/35.

In the case of 3RP2505, the functions can be adjusted by means of function selector switches on the device. With a set of foil labels the timing relay can be legibly marked with the functions which can be selected on the timing relay. This is included in the scope of supply. The same potential must be applied to terminals A. and B. For functions, see the overview of functions on page 10/25.

Other device versions with protective coating on the printed circuit board are available on request.

SIRIUS 3RP25 timing relays, 17.5 mm and 22.5 mm

Accessories

More information

You can find information on configuring and dimensioning the accessories in the Equipment Manual, see
https://support.industry.siemens.com/cs/ww/en/view/103532830

	Version	Article No.	Price	PU	PS*	PG
			per PU	(UNIT, SET, M)		
				0=1,,		
Terminals for SIR	IUS devices in the industrial DIN-rail enclosure					
	Removable terminals	Screw terminals	(1)			
			•			
	 2-pole, up to 1 x 4 mm² or 2 x 2.5 mm² 	3ZY1122-1BA00		1	6 units	41L
3						
3ZY1122-1BA00						
		Spring-loaded terminals (push-in)	$\stackrel{\circ}{\square}$			
	• 2-pole, up to 1 x 4 mm ² or 2 x 1.5 mm ²	3ZY1122-2BA00		1	6 units	41L
	(in shared end sleeve)	OZTTIZZ ZBAGO		•	o armo	
3ZY1122-2BA00						
Accessories for e	nclosures					
_1	Sealing covers					
	• 17.5 mm	3ZY1321-1AA00		1	5 units	41L
	• 22.5 mm	3ZY1321-2AA00		1	5 units	41L
3ZY1321-2AA00						
	Push-in lugs	3ZY1311-0AA00		1	10 units	41L
	For wall mounting					
3ZY1311-0AA00						
42	Coding pins	3ZY1440-1AA00		1	12 units	41L
	For removable terminals of SIRIUS devices in the industrial DIN-rail enclosure;					
	enable the mechanical coding of terminals					
3ZY1440-1AA00						
SHARE	Hinged covers Replacement cover, without terminal labeling, titanium gray					
1 7	• 17.5 mm wide	3ZY1450-1AA00		1	5 units	41L
	• 22.5 mm wide	3ZY1450-1AB00		1	5 units	41L
3ZY1450-1AB00						
Blank labels						
	Unit labeling plates ¹⁾ For SIRIUS devices					
	• 10 mm x 7 mm, titanium gray	3RT2900-1SB10		100	816 units	41B
	• 20 mm x 7 mm, titanium gray	3RT2900-1SB20			340 units	41B
<u>■</u> ■■■ <u>§</u>						
3RT2900-1SB20	spring-loaded terminals					
Tools for opening	Screwdriver	Spring-loaded	~			
	For all SIRIUS devices with spring-loaded terminals	terminals (push-in)	$\stackrel{\infty}{\square}$			
5	Longth approx, 200 mm	3RA2908-1A		1	1 unit	41B
	Length approx. 200 mm, 3.0 mm x 0.5 mm,	3NA2900-1A		ı	ı uriil	410
3RA2908-1A	titanium gray/black,					
	partially insulated					

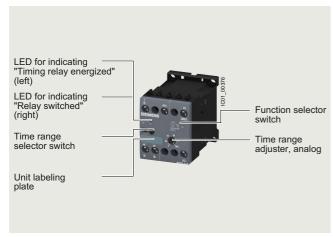
PC labeling system for individual inscription of unit labeling plates available from: murrplastik Systemtechnik GmbH, see page 16/18.

Relays

Timing relays

SIRIUS 3RP20 timing relays, 45 mm

Overview



SIRIUS 3RP20 timing relay

SIRIUS 3RP20 electronic timing relays for use in control systems and mechanical engineering with:

- 1 or 2 CO contacts
- Multifunction or monofunction
- · Wide voltage range or combination voltage
- Single or selectable time ranges
- · Switch position indication and voltage indication by LED

Standards

The timing relays comply with:

- IEC 60721-3-3 "Classification of environmental conditions"
- IEC 61812-1 "Specified time relays for industrial use"
- IEC 61000-6-2 and IEC 61000-6-4 "Electromagnetic compatibility"
- IEC 60947-5-1 "Low-voltage switchgear and controlgear Electromechanical control circuit devices"
- IEC 60947-1, Annex N "Protective separation"

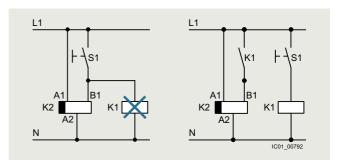
Multifunction

The functions of the 3RP2005 multifunctional timing relays can be set by means of the function selector switch. The timing relay can be set clearly and unmistakably using insert labels for various functions. The corresponding labels can be ordered as an accessory. The same potential must be applied to terminals A. and B.

For functions, see 3RP2901 label set, page 10/41.

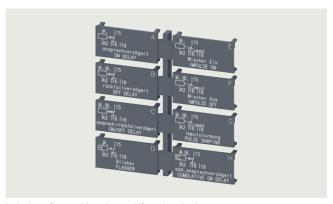
Note:

The activation of loads parallel to the start input is not permissible when using AC control voltage.



Diagrams

Accessories



Label set for marking the multifunctional relay

Article number scheme

Product versions		Article number	
SIRIUS timing relays,	45 mm enclosure	3RP20 🗆 🗆 – 🗆 🗆 3 0	
Product function/	Multifunction	0 5 15 time ran	ges 0.05 s 100 h
time ranges	ON-delay	2 5 15 time ran	iges 0.05 s 100 h
Connection type	Screw terminals	1	
	Spring-loaded terminals	2	
Contacts	1 CO	Α	
	2 CO	В	
Control supply voltage	24 V AC/DC / 100 127 V AC	Q Combination	on voltage
	24 V AC/DC / 200 240 V AC	P Combination	on voltage
	24 240 V AC/DC	W Wide voltag	ge range
Example		3RP20 0 5 - 1 A P 3 0	

Note:

The article number scheme shows an overview of product versions for better understanding of the logic behind the article numbers.

For your orders, please use the article numbers quoted in the selection and ordering data.

SIRIUS 3RP20 timing relays, 45 mm

Benefits

- Suitable for 3RT miniature contactors
- Uniform design
- Ideal for small distance between DIN rails and/or for low mounting depth, e.g. in control boxes
- Labels are used on the multifunctional timing relay to document the function that has been set

Application

Timing relays are used in control, starting, and protective circuits for all switching operations involving time delays. They guarantee a high level of functionality and a high repeat accuracy of timer settings.

Technical specifications

More information		
Technical specifications, see https://support.industry.siemens.com/cs/ww/en/ps/16356/td	Internal circuit diagrams, see CAx Download Manager https://support.industry.siemens.com/my/ww/en/CAxOnline#CAxOnline	
Operating Instructions, see https://support.industry.siemens.com/cs/ww/en/view/11647144	FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/16356/faq	

Thips://support.industry.sichiens.com/cs/ww/cn/view/1104/11		
Туре		3RP2005, 3RP2025
Dimensions (W x H x D)	mm	45 x 57 x 73
Rated insulation voltage Pollution degree 3 Overvoltage category III	VAC	300
Permissible ambient temperature • During operation • During storage	°C °C	-25 +60 -40 +85
Operating range of excitation ¹⁾		0.85 1.1 x $U_{\rm g}$ at AC; 0.8 1.25 x $U_{\rm g}$ at DC; 0.95 1.05 times the rated frequency
Mechanical endurance	Operating cycles	10×10^6
Electrical endurance at $I_{\rm e}$	Operating cycles	1 x 10 ⁵
Connection type		Screw terminals
 Terminal screw Solid Finely stranded with end sleeve Stranded AWG cables Tightening torque 	mm ² mm ² AWG AWG Nm	M3 (for standard screwdriver, size 2 and Pozidriv 2) 2 x (0.5 1.5) ²), 2 x (0.75 2.5) ²) 2 x (0.5 1.5) ²), 2 x (0.75 2.5) ²) 2 x (0.5 1.5) ²), 2 x (0.75 2.5) ²) 2 x (0.5 1.5) ²), 2 x (0.75 2.5) ²) 2 x (18 14) 0.8 1.2
Connection type		Spring-loaded terminals
 Solid Finely stranded with end sleeve Finely stranded without end sleeve AWG cables, solid or stranded Max. outer diameter of the conductor insulation 	mm ² mm ² mm ² AWG mm	2 x (0.25 2.5) 2 x (0.25 1.5) 2 x (0.25 2.5) 2 x (24 14) 3.6

¹⁾ If nothing else is stated.

²⁾ If two different conductor cross-sections are connected to one clamping point, both cross-sections must lie in one of the ranges specified.

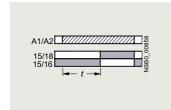
Relays

Timing relays

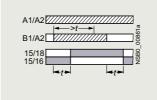
SIRIUS 3RP20 timing relays, 45 mm

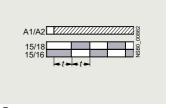
3RP20 function diagrams and 3RP2901 label set

1 CO contact



A1/A2 235 ms ← 235 ms ← 6580 15/18 15/16 14 - t →

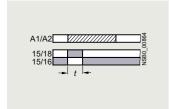




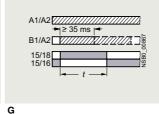
A 3RP2005-.A, 3RP2025 ON-delay B¹⁾
3RP2005-.A
OFF-delay with control signal

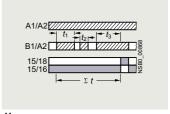
C3RP2005-.A
ON-delay and OFF-delay
with control signal ($t = t_{on} = t_{off}$)

3RP2005-.A Flashing, starting with interval (pulse/interval 1:1)









3RP2005-.A Passing make contact 3RP2005-.A Passing break contact with control signal 3RP2005-.A
Pulse-forming with control signal
(pulse generation at the output does
not depend on duration of energizing)

3RP2005-.A Additive ON-delay with control signal

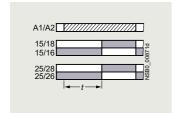
Legend

Е

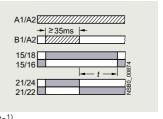
- A ... H Identification letters for 3RP2005
- ZZZ Timing relay energized
- Contact closed
- Contact open
- 1) A new control signal at terminal B, after the operating time has started, resets the operating time to zero (retriggerable).

SIRIUS 3RP20 timing relays, 45 mm

2 CO contacts



15/18 15/18 15/16 21/24 21/22



A 3RP2005-.B ON-delay

A• 3RP2005-.B ON-delay and instantaneous contact

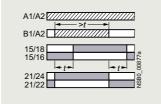
3RP2005-.B OFF-delay with control signal

B●¹)

3RP2005-.B

OFF-delay with control signal and instantaneous contact









C 3RP2005-.B ON-delay and OFF-delay with control signal ($t = t_{on} = t_{off}$)

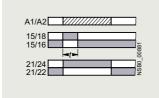
3RP2005-.B ON-delay and OFF-delay with control signal and instantaneous contact ($t = t_{on} = t_{off}$)

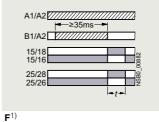
C•

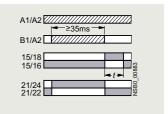
3RP2005-.B Flashing, starting with interval (pulse/interval 1:1)







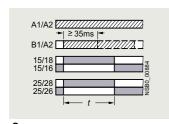


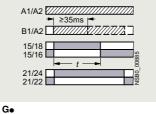


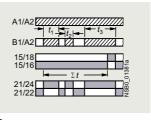
E 3RP2005-.B Passing make contact E•
3RP2005-.B
Passing make contact and instantaneous contact

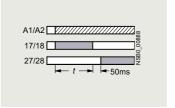
3RP2005-.B Passing break contact with control signal

F•1)
3RP2005-.B
Passing break contact with control signal and instantaneous contact









3RP2005-.B Pulse-forming with control signal (pulse generation at the output does not depend on duration of energizing) 3RP2005-.B Pulse-forming with control signal and instantaneous contact (pulse generation at the output does not depend on duration of energizing) 3RP2005-.B Additive ON-delay with control signal and instantaneous contact

3RP2005-.B Star-delta (wye-delta) function

Legend

- A ... H Identification letters for 3RP2005
- instantaneous contact
- Iming relay energized
- Contact closed
- Contact open
- A new control signal at terminal B, after the operating time has started, resets the operating time to zero (retriggerable).

Relays

Timing relays

SIRIUS 3RP20 timing relays, 45 mm

Selection and ordering data

PU (UNIT, SET, M) = 1 = 1 unit =41H









3111 2003-1A1 30			3111 2003-104430
	Version	Time range t	Rated control supply voltage U _s

50/60 Hz AC	DC
-------------	----

Article No.

3RP2005-1AQ30

3RP2005-1AP30

3RP2005-1BW30

Screw terminals

Price per PU

Spring-loaded

3RP2005-2AQ30

3RP2005-2AP30

3RP2005-2BW30

terminals

rticle No.	Price
	per PU

8

3RP2005 timing	elays, multifunction,	, 15 time	ranges

The functions can be adjusted by means of rotary switches. The 3RP2505 timing relay can be set clearly and unmistakably using insert labels for various functions. The corresponding labels can be ordered as an accessory. The same potential must be applied to terminals A. and B. For functions, see 3RP2901 label set, page 10/41

٧

With LED and 1 CO contact ¹⁾ , 8 functions	0.05 1 s 0.15 3 s 0.5 10 s	24/100 127 24/200 240	24 24
With LED and 2 CO contacts, 16 functions	1.5 30 s 0.05 1 min 5 100 s 0.15 3 min 0.5 10 min 1.5 30 min 0.05 1 h 5 100 min 0.15 3 h 0.5 10 h 1.5 30 h 5 100 h	24 240 ³⁾	24 240 ⁴⁾

24/200 ... 240

3RP2025 timing	relays, O	N-delay,	15 time	ranges
With LED and	0.05 1		24/100	

1 CO contact ¹⁾	0.15 3 s
	0.5 10 s
	1.5 30 s
	0.05 1 min
	5 100 s
	0.15 3 min
	0.5 10 mir
	1.5 30 mir
	0.05 1 h
	5 100 min
	0.15 3 h
	0.5 10 h
	1.5 30 h
	5 100 h
	∞ ²⁾

3RP2025-1AQ30 3RP2025-1AP30

3RP2025-2AQ30 3RP2025-2AP30

Accessories, see page 10/41.

- 1) Units with protective separation.
- 2) With ∞ switch position no timing. For test purposes (ON/OFF function) on site. Relay is constantly on when activated, or relay remains constantly off when activated. Depending on which function is set.
- $^{3)}$ Operating range 0.8 to 1.1 x $U_{\rm S}.$
- $^{4)}$ Operating range 0.7 to 1.1 x $U_{\rm S}.$

Monitoring and control devices Relays Timing relays

SIRIUS 3RP20 timing relays, 45 mm

5 units

5 units

41H

41H

Accessories

Version	Function	Identifi- cation	Article No.	Price per PU	PU (UNIT,	PS*	PG
		letter		·	SET, M)		

3RP2901-0A

3RP2901-0B

3RT2900-1SB20

Label sets for 3RP20

Accessories for 3RP20 (not included in the scope of supply). The label set can be used to label timing relays with the set function



functions

(1 unit)

with 16

functions

3RP2901-0A

in English and German. 1 label set • ON-delay devices • OFF-delay with control signal В with 1 CO with 8

С

For

devices

with 2 CO

control signal • Flashing, starting with interval D · Passing make contact Ε • Passing break contact with

• ON-delay and OFF-delay with

control signal · Pulse-forming with control signal G Additive ON-delay with control signal

1 label set • ON-delay

Α • OFF-delay with control signal В ON-delay and OFF-delay with control signal С

• Flashing, starting with interval D Passing make contact F Passing break contact with F control signal • Pulse-forming with control signal G

• ON-delay and instantaneous contact • OFF-delay with control signal

and instantaneous contact • ON-delay and OFF-delay with control signal and instantaneous contact

• Flashing, starting with interval, and instantaneous contact Passing make contact and F●

instantaneous contact · Passing break contact with control signal and instantaneous

• Pulse-forming with control signal G• and instantaneous contact • Additive ON-delay with control H• signal and instantaneous

• Star-delta (wye-delta) function

contact

Unit labeling plates1)

• 20 mm x 7 mm, titanium gray

For SIRIUS devices

For 3RP20

Blank labels

3RP2901-0B

PC labeling system for individual inscription of unit labeling plates available from: murrplastik Systemtechnik GmbH,

see page 16/18.

100 340 units

41B

Relays

Timing relays

7PV15 timing relays, 17.5 mm

Overview



7PV15 timing relay

Electronic timing relays for general use in control systems, mechanical engineering and infrastructure with:

- 1 or 2 CO contacts
- Multifunction or monofunction
- Wide voltage range or combination voltage
- Single or selectable time ranges
- Switch position indication and voltage indication by LED

Standards

The timing relays comply with:

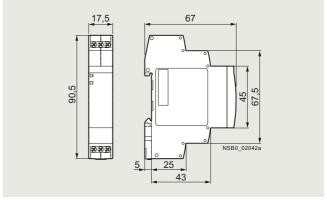
- IEC 60721-3-3 "Classification of environmental conditions"
- IEC 61812-1 "Specified time relays for industrial use"
- IEC 61000-6-2 and IEC 61000-6-4 "Electromagnetic compatibility"
- IEC 60947-5-1 "Low-voltage switchgear and controlgear Electromechanical control circuit devices"
- DIN 43880 "Built-in equipment for electrical installations; overall dimensions and related mounting dimensions"

Multifunction

The functions of the 7PV1508-1A multifunctional timing relay can be set by means of rotary switches. The identification letters A to G are printed on the front alongside the rotary selector switch of the unit. The related function can be found in the form of a bar graph on the side of the device.

Enclosure version

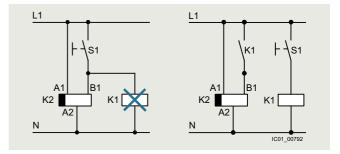
All timing relays are suitable for snap-on mounting onto TH 35 DIN rails according to IEC 60715. The enclosure complies with DIN 43880, 1 MW.



Dimensions

Note:

The activation of loads parallel to the start input is not permissible when using AC control voltage.



Diagrams

Monitoring and control devices Relays Timing relays

7PV15 timing relays, 17.5 mm

Article number scheme

Product versions		Article number	
Timing relays in indus	strial enclosure, 17.5 mm	7PV15 □ □ − 1 □ □ 3	0
Product function/	Multifunction	0 8	7 time ranges 0.05 s 100 h
time ranges	ON-delay	1 1	1 time range 0.05 1 s
		1 2	1 time range 0.5 10 s
		1 3	1 time range 5 100 s
		1 8	7 time ranges 0.05 s 100 h
	OFF-delay with control signal	3 8	7 time ranges 0.05 s 100 h
	OFF-delay without control signal	4 0	7 time ranges 0.05 s 100 s
	Clock-pulse relay	5 8	7 time ranges 0.05 s 100 h
	Star-delta (wye-delta) function	7 8	7 time ranges 0.05 s 100 h
Contacts	e.g. A = 1 CO		
Control supply voltage	e.g. W = 12 240 V AC/DC		Combination voltage
Example		7PV15 0 8 - 1 A W 3	0

Example Note:

The article number scheme shows an overview of product versions for better understanding of the logic behind the article numbers.

For your orders, please use the article numbers quoted in the selection and ordering data.

Benefits

- Wide voltage range 12 to 240 V AC/DC
- High switching capacity, e.g. AC-15 at 230 V, 3 A
- Combination voltage, e.g. 24 V AC/DC and 200 to 240 V AC
- Changes to the time range during operation
- Changes to the function in the de-energized state
- · High level of functionality and a high repeat accuracy of timer settings
- Integrated surge suppressor
- Function charts printed on the side of the device for reliable device adjustment

Application

Timing relays are used in control, starting and protective circuits for all switching operations involving time delays, e.g. in functional buildings, airports, building industry, etc.

Technical specifications

More information		
Technical specifications, see https://support.industry.siemens.com/cs/ww/en/ps/16358/td		Operating Instructions and internal circuit diagrams, see https://support.industry.siemens.com/cs/ww/en/view/35210295
TIA Selection Tool Cloud (TST Cloud), see www.siemens.com/tstcloud/?node=SIRIUSRelais		
Туре		7PV15
Rated insulation voltage Pollution degree 2, overvoltage category III	V AC	300
Permissible ambient temperature • During operation	°C	-25 + 55
During storage	°C	-40 +70
Operating range of excitation ¹⁾		0.85 1.1 x U _s
Rated operational current I _e • AC-15 at 24 240 V, 50 Hz • DC-13 at	А	3
- 24 V - 125 V	A A	1 0.2
Uninterrupted thermal current I _{th}	Α	5
Mechanical endurance	Operating cycles	1 x 10 ⁷
Electrical endurance at I_e	Operating cycles	1 x 10 ⁵
Connection type		Screw terminals
 Terminal screw Solid Finely stranded with end sleeve Finely stranded without end sleeve AWG cables, solid or stranded Tightening torque 	mm ² mm ² mm ² AWG Nm	M3 (for standard screwdriver, size 2 and Pozidriv 2) 1 × (0.2 2.5) 1 × (0.25 1.5) 1 × (0.2 1.5) 1 × (2.4 1.4) 0.4 0.5

¹⁾ If nothing else is stated.

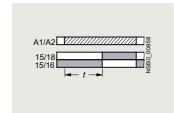
Relays

Timing relays

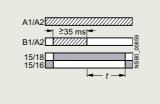
7PV15 timing relays, 17.5 mm

7PV15 function diagrams

1 CO contact

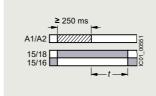


A7PV1508-1A, 7PV1511, 7PV1512, 7PV1513, 7PV1518
ON-delay



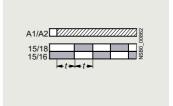
B¹⁾ 7PV1508-1A, 7PV1538

OFF-delay with control signal



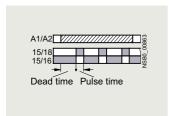
7PV1540

OFF-delay without control signal

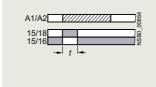


7PV1508-1A

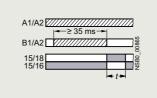
Flashing, starting with interval (pulse/interval 1:1)



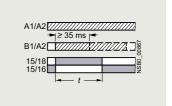
7PV1558 Clock-pulse, starting with interval (dead time, pulse time, and time setting ranges each separately adjustable)



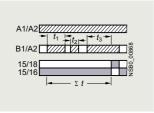
7PV1508-1A Passing make contact



7PV1508-1A Passing break contact with control signal



PUISe-forming with control signal (pulse generation at the output does not depend on duration of energizing)



G

7PV1508-1A Additive ON-delay with control signal

Legend

A ... G Identification letters for 7PV1508

Z Timing relay energized

Contact closed

Contact open

1) A new control signal at terminal B, after the operating time has started, resets the operating time to zero (retriggerable).

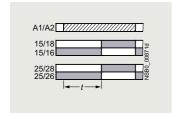
Note:

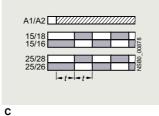
With the 7PV1508-1A multifunctional timing relay the identification letters A to G are printed on the front alongside the rotary selector switch of the unit. The related function can be found in the form of a bar graph on the side of the device.

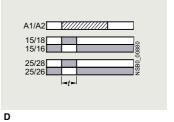
Monitoring and control devices Relays Timing relays

7PV15 timing relays, 17.5 mm

2 CO contacts





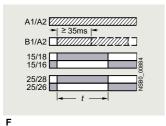


7PV1508-1B ON-delay

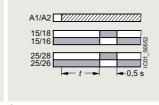
B1)
7PV1508-1B
OFF-delay with control signal

7PV1508-1B Flashing, starting with interval (pulse/interval 1:1)

7PV1508-1B Passing make contact



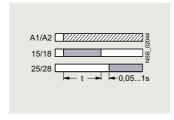




7PV1508-1B Pulse-forming with control signal (pulse generation at the output does not depend on duration of energizing) 7PV1508-1B ON-delay and OFF-delay with control signal

7PV1508-1B Fixed pulse after ON-delay

2 NO contacts



7PV1578 Star-delta (wye-delta) function²⁾

Legend

A ... D, F, H, I Identification letters for 7PV1508

- Timing relay energized
- Contact closed
- Contact open
- A new control signal at terminal B, after the operating time has started, resets the operating time to zero (retriggerable).
- 2) With 7PV1578 the contacts 16 and 26 are not needed for the star-delta (wye-delta) function.

Note:

With the 7PV1508-1B multifunctional timing relay the identification letters A to D, F, H, I are printed on the front alongside the rotary selector switch of the unit. The related function can be found in the form of a bar graph on the side of the device.

Relays

Timing relays

7PV15 timing relays, 17.5 mm

Selection and ordering data















/	۲	V	15	Uč	5-	ľ	١V

7PV1508-1AW30	7PV1512-1AP30	7PV1518-1AW30	7PV1	538-1AW30	7PV1540-1	AW30	7PV1558-1AW	30 7P	√1578-1BV	V30
Version	Time range adjustable to switch to		control su	pply voltage U _s	Screv	v terminals	(1)	PU (UNIT, SET, M)	PS*	PG
		50/60 V	Hz AC	DC V	Article	e No.	Price per PU			
7PV1508 timing r	elays, multifunctio	n, 7 time ranges								
The functions can be	adjusted by means of	rotary switches. The	same pot	ential must be a	pplied to ter	minals A. an	d B.			
With LED and 1 CO contact, 7 functions	0.05 1 s 0.5 10 s 5 100 s	12	240	12 240	7PV1	508-1AW30		1	1 unit	41H
With LED and 2 CO contacts, 7 functions	30 s 10 n 3 min 1 h 30 min 10 5 100 h	12	240	12 240	7PV1	508-1BW30		1	1 unit	41H
7PV151. timing re	elays, ON-delay, 1 t	ime range								
With LED and	0.05 1 s		0 240	24	7PV1	511-1AP30		1	1 unit	41H
1 CO contact	0.5 10 s		0 127 0 240	24 24		512-1AQ30 512-1AP30		1 1	1 unit 1 unit	41H 41H
	5 100 s		0 127	24 24		513-1AQ30		1 1	1 unit	41H
7PV1518 timing r	elays, ON-delay, 7		0 240	24	7941	513-1AP30		- 1	1 unit	41H
With LED and 1 CO contact	0.05 1 s 0.5 10 s 5 100 s 30 s 10 n 3 min 1 h 30 min 10 5 100 h	12 nin O h		12 240	7PV1	518-1AW30		1	1 unit	41H
	elays, OFF-delay, v									
With LED and 1 CO contact	0.05 1 s 0.5 10 s 5 100 s 30 s 10 n 3 min 1 h 30 min 10 5 100 h) h		12 240	7PV1	538-1AW30		1	1 unit	41H
	elays, OFF-delay, v		-	-						
With LED and 1 CO contact ¹⁾	0.05 1 s 0.15 3 s 0.3 6 s 0.5 10 s 1.5 30 s 3 60 s 5 100 s	12		12 240	7PV1	540-1AW30		1	1 unit	41H
	elays, clock-pulse			10 010	==>//	//				
With LED and 1 CO contact	0.05 1 s 0.5 10 s 5 100 s 30 s 10 n 3 min 1 h 30 min 10 5 100 h) h		12 240	7PV1	558-1AW30		1	1 unit	41H
	elays, star-delta (w	•	•							
With LED and 2 NO contacts, dead interval 0.05 1 s adjustable	0.05 1 s 0.5 10 s 5 100 s 30 s 10 n 3 min 1 h 30 min 10 5 100 h		240	12 240	7PV1	578-1BW30		1	1 unit	41H

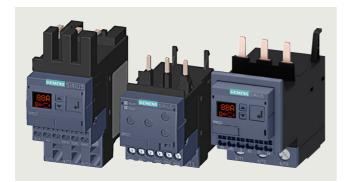
¹⁾ Setting of output contacts in as-supplied state not defined (bistable relay). Application of the control supply voltage once results in contact changeover to the correct setting.

Relays

SIRIUS 3RR21, 3RR22 monitoring relays for mounting on 3RT2 contactors

Current and active current monitoring

Overview



SIRIUS 3RR2242, 3RR2142, 3RR2243 current monitoring relays

More information

Homepage, see www.siemens.com/sirius-monitoring-relays SiePortal, see www.siemens.com/product?3RR21



Video: SIRIUS 3RR2 current monitoring relays

The SIRIUS 3RR2 current monitoring relays are suitable for load monitoring of motors or other loads. In 2 or 3 phases they monitor the rms value of AC currents for overshooting or undershooting of set threshold values.

Whereas apparent current monitoring is used above all in connection with the rated torque or in case of overload, the active current monitoring option can be used to observe and evaluate the load factor over a motor's entire torque range.

The 3RR2 current monitoring relays can be integrated directly in the feeder by mounting on the 3RT2 contactor; separate wiring of the main circuit is therefore superfluous. No separate transformers are required.

For a line-oriented configuration or simultaneous use of an overload relay, terminal supports for stand-alone installation are available for separate DIN-rail mounting.

Versions

Basic versions

The basic versions with 2-phase apparent current monitoring, a CO contact output and analog adjustability provide a high level of monitoring reliability especially in the rated and overload range.

Standard versions

The standard versions monitor the current in 3 phases with selectable active current monitoring. They have additional diagnostics options such as residual current monitoring and phase sequence monitoring, and they are also suitable for monitoring motors below the rated torque. These devices have an additional independent semiconductor output, an actual value indicator, and are digitally adjustable.

Both versions are available optionally with screw or springloaded terminals, in each case for sizes S00 and S0. With versions of size S2, the main conducting paths always have screw terminals; the control current side can have screw or spring-loaded terminals.

Note:

In addition to the features of the standard versions, the 3RR24 monitoring relays for mounting on 3RT2 contactors for IO-Link also offer the possibility of transmitting the measured values and diagnostics data to a controller via an IO-Link. Furthermore, the devices can be parameterized on the devices themselves or via IO-Link.

For more information, see page 10/55 onwards.

3RR21 and 3RR22 overview table





			_	
Features		3RR21	3RR22	Benefits
General data				
Sizes Dimensions in mm (W x H x D) • Screw terminals • Spring-loaded terminals	W	S00, S0, S2 S00: 45 x 79 x 80, S0: 45 x 87 x 91, S2: 55 x 99 x 112 S00: 45 x 90 x 80, S0: 45 x 109 x 92, S2: 55 x 99 x 112	S00, S0, S2 S00: 45 x 79 x 80, S0: 45 x 87 x 91, S2: 55 x 99 x 112 S00: 45 x 90 x 80, S0: 45 x 109 x 92, S2: 55 x 99 x 112	 Are coordinated with the dimensions, connections and technical characteristics of the other devices in the SIRIUS modular system (contactors, soft starters, etc.) Permit the mounting of slim-line and compact load feeders in widths of 45 mm (S00 and S0) and 55 mm (S2) Simplify configuration
Current range		S00: 1.6 16 A S0: 4 40 A S2: 8 80 A	S00: 1.6 16 A S0: 4 40 A S2: 8 80 A	 Is adapted to the other devices in the SIRIUS modular system Just a single version per size with a wide setting range enables easy configuration
Permissible ambient tem	perature			
During operation		-25 +60 °C	-25 +60 °C	 Suitable for applications in the control cabinet, worldwide

Relays

SIRIUS 3RR21, 3RR22 monitoring relays for mounting on 3RT2 contactors

Current and active current monitoring





Features	3RR21	3RR22	Benefits
Monitoring functions			
Current overshoot	(2-phase)	(3-phase)	Provides optimum inverse-time delayed protection of loads against excessive temperature rises due to overload Enables detection of filter blockages or pumping against closed gate valves Enables drawing conclusions about wear, poor lubrication or other maintenance-relevant phenomena
Current undershoot	(2-phase)	(3-phase)	 Enables detection of underload due to a slipping or torn belt Guarantees protection of pumps against dry running Facilitates monitoring of the functions of resistive loads such as heaters Permits energy savings through monitoring of no-load operation
Apparent current monitoring	✓	✓ (Selectable)	 Precision current monitoring especially in a motor's rated and upper torque range
Active current monitoring		✓ (Selectable)	 Optimum current monitoring over a motor's entire torque range through the patented combination of power factor and apparent current monitoring
Range monitoring	✓ (2-phase)	✓ (3-phase)	 Simultaneous monitoring of current overshoot and undershoot with a single device
Phase failure, open circuit	(2-phase)	✓ (3-phase)	 Minimizes heating of three-phase motors during phase failure through immediate disconnection Prevents operation of hoisting equipment with half the load carrying capacity
Phase sequence monitoring		✓ (Selectable)	 Prevents starting of motors, pumps or compressors in the wrong direction of rotation
Internal ground-fault detection (residual current monitoring)	-	✓ (Selectable)	 Provides optimum protection of loads against high-resistance ground faults due to moisture, condensed water, damage to the insulation material, etc. Eliminates the need for additional special equipment and thus space in the control cabinet Reduces wiring overhead and costs
Blocking current monitoring		✓ (Selectable)	Minimizes heating of three-phase motors when blocked during operation through immediate disconnection Minimizes mechanical loading of the system by acting as an electronic shear pin
Features			
RESET function	/	✓	 Allows manual or automatic resetting of the relay Resetting directly on the device or by switching the control supply voltage off and on (Remote RESET)
ON-delay time	0 60 s	0 99 s	Enables motor starting without evaluation of the starting current Can be used for monitoring motors with lengthy startup
Tripping delay time	0 30 s	0 30 s	 Permits brief threshold value violations during operation Prevents frequent warnings and disconnections with currents near the threshold values
Operating and indicating elements	LEDs and rotary potentiometers	Displays and buttons	 For setting the threshold values and delay times and for fast and targeted diagnostics For selectable functions Displays for permanent display of measured values
Integrated contacts	1 CO contact	1 CO contact, 1 semiconductor output	 Enable disconnection of the system or process when there is an irregularity Can be used to output signals

- ✓ Available
- -- Not available

Relays

SIRIUS 3RR21, 3RR22 monitoring relays for mounting on 3RT2 contactors

Current and active current monitoring





Features	3RR21	3RR22	Benefits
Design of load feeders			
Short-circuit strength up to 100 kA at 690 V (in conjunction with the corresponding fuses or the corresponding motor starter protector)	/	✓	 Provides optimum protection of the loads and operating personnel in the event of short circuits due to insulation faults or faulty switching operations
Electrical and mechanical matching to 3RT2 contactors	/	✓	Simplifies configuration Reduces wiring overhead and costs Enables stand-alone installation as well as space-saving direct mounting
Spring-loaded terminals for main circuit (with S00, S0) and auxiliary circuits	(Optional)	(Optional)	Enable fast connectionsPermit vibration-resistant connectionsEnable maintenance-free connections
Other features			
Suitable for 1-phase and 3-phase loads	✓	/	Enables the monitoring of 1-phase systems through parallel infeed at the contactor or looping the current through the three phase connections
Wide setting ranges	✓	✓	 Reduce the number of versions Minimize the configuration overhead and costs Minimize storage overhead, storage costs, tied-up capital
Wide-voltage supply range	(Optional)	(Optional)	 Reduces the number of versions Minimizes the configuring outlay and costs Minimizes storage overhead, storage costs, tied-up capital

✓ Available

Possible combinations of 3RR21/3RR22 monitoring relays with 3RT2 contactors

Monitoring relays	Current range	Contactors (type, size, operating power)		
		3RT201	3RT202	3RT203
		S00	S0	S2
Туре	A	3/4/5.5/7.5 kW	5.5/7.5/11/15/18.5 kW	18.5/22/30/37 kW
3RR2.41				
3RR2141	1.6 16	✓	With stand-alone installation support	With stand-alone installation support
3RR2241	1.6 16	/	With stand-alone installation support	With stand-alone installation support
3RR2.42				
3RR2142	4 40	With stand-alone installation support	✓	With stand-alone installation support
3RR2242	4 40	With stand-alone installation support	✓	With stand-alone installation support
3RR2.43				
3RR2143	8 80	With stand-alone installation support	With stand-alone installation support	✓
3RR2243	8 80	With stand-alone installation support	With stand-alone installation support	✓

✓ Available

Relays

SIRIUS 3RR21, 3RR22 monitoring relays for mounting on 3RT2 contactors

Current and active current monitoring

Article number scheme

Product versions		Article number
Monitoring relays		3RR2 🗆 4 🗆 – 🗆 🗆 3 0
Type of setting	Analogically adjustable, 2-phase	1
	Digitally adjustable, 3-phase	2
Size	S00	1
	S0	2
	S2	3
Connection type	Screw terminals	1
	Spring-loaded terminals Size S00, S0 Size S2	2 3
Number and type of	1 CO contact	Α
outputs	1 CO contact + 1 semiconductor	F
Rated control supply	24 V AC/DC	A
voltage	24 240 V AC/DC	W
Example		3RR2 1 4 1 - 1 A A 3 0

Note:

The article number scheme shows an overview of product versions for better understanding of the logic behind the article numbers.

For your orders, please use the article numbers quoted in the selection and ordering data.

Benefits

- Can be mounted directly on 3RT2 contactors and 3RA23 reversing contactor assemblies, in other words, there is no need for additional wiring in the main circuit
- Optimally coordinated with the technical characteristics of the 3RT2 contactors
- No separate current transformer required
- · Versions with wide voltage supply range
- Variably adjustable to overshoot, undershoot or range monitoring
- Freely configurable delay times and RESET response

- Display of actual value and status messages
- · All versions with removable control current terminals
- All versions with screw terminals or spring-loaded terminals
- Simple determination of the threshold values through direct reference to actually measured values for setpoint loading
- Range monitoring and selectable active current measurement mean that only one device for monitoring a motor is required along the entire torque curve
- In addition to current monitoring it is also possible to monitor for broken cables, phase failure, phase sequence, residual current and motor blocking

Application

- Monitoring for current overshoot and undershoot
- Monitoring of broken conductors
- Monitoring of no-load operation and load shedding, e.g. in the event of a torn V-belt or no-load operation of a pump
- Monitoring of overload, e.g. on conveyor belts or cranes due to an excessive load
- Monitoring the functionality of electrical loads such as heaters
- Monitoring of wrong phase sequence on mobile equipment such as compressors or cranes
- Monitoring of high-resistance short circuits or ground faults, e.g. caused by damaged insulation or moisture

Relays

SIRIUS 3RR21, 3RR22 monitoring relays for mounting on 3RT2 contactors

Current and active current monitoring

Technical specifications

More information

Technical specifications, see

https://support.industry.siemens.com/cs/ww/en/ps/16205/td

Digital Configuration Manual for load feeders, see

https://imp.siemens.com/digital-engineering-manual/dem

Configuration Manual for load feeders, see

https://support.industry.siemens.com/cs/ww/en/view/39714188

System Manual for modular system, see

https://support.industry.siemens.com/cs/ww/en/view/60311318

Equipment Manual, see

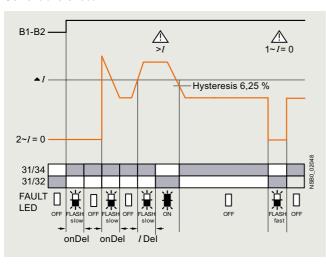
https://support.industry.siemens.com/cs/ww/en/view/54397927

FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/16205/faq

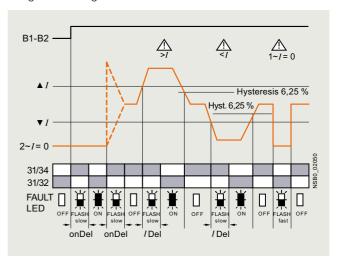
Function diagrams of 3RR214.-.A.30 Basic versions, analogically adjustable

Closed-circuit principle upon application of the control supply voltage

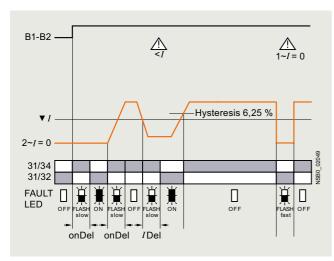
Current overshoot



Range monitoring



Current undershoot



Relays

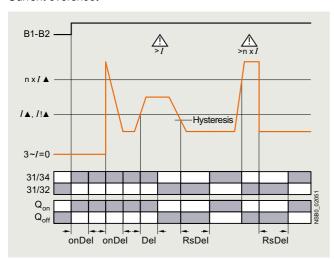
SIRIUS 3RR21, 3RR22 monitoring relays for mounting on 3RT2 contactors

Current and active current monitoring

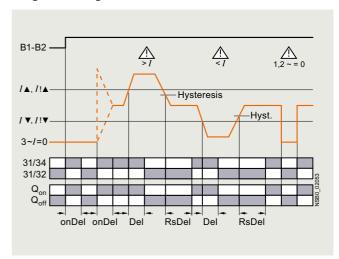
Function diagrams of 3RR224.-.F.30 standard versions, digitally adjustable

With the closed-circuit principle selected upon application of the control supply voltage

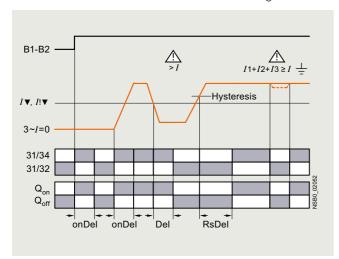
Current overshoot



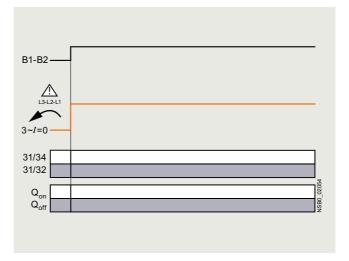
Range monitoring



Current undershoot with residual current monitoring



Phase sequence monitoring



Relays

SIRIUS 3RR21, 3RR22 monitoring relays for mounting on 3RT2 contactors

Current and active current monitoring

Selection and ordering data













3RR2141-1AW30

3RR2142-1AW30

3RR2241-1FW30

3RR2242-2FW30

3RR2141-2AA30

3RR2243-3FW30

3HH21	41-1AW30 3R	R2142-1AW30	3RR2241-1FW30	3RR2242-2FW3	30 3RR2141	-2AA30	3RR2	243-3FW3	J
Size	Measuring range	Hysteresis	Supply voltage U _S		Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	Α	Α	V						
Basic	versions		V						
AnaloClose1 CO2-phaAppaON-d	ogically adjustable ad-circuit principle contact ase current monitoring irent current monitoring lelay 0 60 s ing delay 0 30 s								
S00	1.6 16	6.25% of threshold value	24 AC/DC 24 240 AC/DC		3RR2141-□AA30 3RR2141-□AW30		1 1	1 unit 1 unit	41H 41H
S0	4 40	6.25% of threshold value	24 AC/DC 24 240 AC/DC		3RR2142-□AA30 3RR2142-□AW30		1 1	1 unit 1 unit	41H 41H
S2	8 80	6.25% of threshold value	24 AC/DC 24 240 AC/DC		3RR2143-□AA30 3RR2143-□AW30		1 1	1 unit 1 unit	41H 41H
Stand	lard versions								
 LC di Open 1 CO 3-pha Active Phase Resice Block Reclo ON-d Sepa 	n-circuit or closed-circuit, 1 semiconductor outpasse current monitoring ecurrent or apparent of esequence monitoring that current monitoring current monitoring delay time 0 30 elay 0 99 s	out 'current monitoring	S						
S00	1.6 16	0.1 3	24 AC/DC 24 240 AC/DC		3RR2241-□FA30 3RR2241-□FW30		1 1	1 unit 1 unit	41H 41H
S0	4 40	0.1 8	24 AC/DC 24 240 AC/DC		3RR2242-□FA30 3RR2242-□FW30		1 1	1 unit 1 unit	41H 41H
S2	8 80	0.2 16	24 AC/DC 24 240 AC/DC		3RR2243-□FA30 3RR2243-□FW30		1 1	1 unit 1 unit	41H 41H

Type of electrical connection

- Screw terminals
- Spring-loaded terminals size S00, S0
- Spring-loaded terminals size S2



Relays

SIRIUS 3RR21, 3RR22 monitoring relays for mounting on 3RT2 contactors

Current and active current monitoring

Accessories								
	Use	Version	Size	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Terminal supports	for stand-	-alone installation ¹⁾						
M15/125/3		For separate mounting of the overload rel or monitoring relays; screw fixing and sna mounting on TH 35 standard mounting ra according to IEC 60715	ıp-on	Screw terminals	+			
212		Screw terminals	\$00 \$0 \$2	3RU2916-3AA01 3RU2926-3AA01 3RU2936-3AA01		1 1 1	1 unit 1 unit 1 unit	41F 41F 41F
3RU2916-3AA01 3RU2936-3AA01								
				Spring-loaded terminals	8			
		Spring-loaded terminals	\$00 \$0	3RU2916-3AC01 3RU2926-3AC01		1 1	1 unit 1 unit	41F 41F
3RU2926-3AC01 Sealable covers								
. Te	For 3RR21, 3RR22	Sealable covers For securing against unintentional or unatadjustment of settings	uthorized	3RR2940		1	5 units	41H
3RR2940								
Blank labels	For 3RR21, 3RR22	Unit labeling plates ²⁾ For SIRIUS devices • 20 mm x 7 mm, titanium gray		3RT2900-1SB20		100	340 units	41B
Tools for opening	spring-loa For auxil-	ded terminals Screwdriver		Spring-loaded	~			
	iary circuit	For all SIRIUS devices with spring-loaded	l terminals	terminals	<u> </u>			
3RA2908-1A	tions	Length approx. 200 mm, 3.0 mm x 0.5 mm, titanium gray/black, partially insulated		3RA2908-1A		1	1 unit	41B

¹⁾ The accessories are exactly the same as the accessories for the 3RU2 thermal overload relay and the 3RB3 electronic overload relay, see page 7/104 onwards.

PC labeling system for individual inscription of unit labeling plates available from: murrplastik Systemtechnik GmbH, see page 16/18.

Relays

SIRIUS 3RR24 monitoring relays for mounting on 3RT2 contactors for IO-Link

Current and active current monitoring

Overview



SIRIUS 3RR2441, 3RR2442 and 3RR2443 current monitoring relays

More information

Homepage, see www.siemens.com/sirius-monitoring-relays SiePortal, see www.siemens.com/product?3RR24



Video: SIRIUS 3RR2 current monitoring relays

The SIRIUS 3RR24 current monitoring relays for IO-Link are suitable for the load monitoring of motors or other loads. In 3 phases they monitor the rms value of AC currents for overshooting or undershooting of set threshold values.

Whereas apparent current monitoring is used above all in connection with the rated torque or in case of overload, the active current monitoring option, which is also selectable, can be used to observe and evaluate the load factor over a motor's entire torque range.

The 3RR24 current monitoring relays for IO-Link can be integrated directly in the feeder by mounting on the 3RT2 contactor; separate wiring of the main circuit is therefore superfluous. No separate transformers are required.

For a line-oriented configuration or simultaneous use of an overload relay, terminal supports for stand-alone installation are available for separate DIN-rail mounting.

The SIRIUS 3RR24 current monitoring relays for IO-Link also offer many other options based upon the monitoring functions of the conventional SIRIUS 3RR2 monitoring relays:

- Measured value transmission to a controller, including resolution and unit, may be configurable as to which value is cyclically transmitted
- Transmission of alarm flags to a controller
- Full diagnostics capability by inquiry as to the cause of the fault in the diagnostics data record
- Remote parameterization is also possible, in addition to or instead of local parameterization

- Rapid parameterization of the same devices by duplication of the parameterization in the controller
- Parameter transmission through upload to a controller by IO-Link call or via parameter server (if IO-Link master with IO-Link specification V1.1 or higher is used)
- Consistent central data storage in the event of parameter change locally or via a controller
- Automatic reparameterizing when devices are exchanged
- · Blocking of local parameterization via IO-Link possible
- Faults are saved in a configurable and non-volatile fashion to prevent an automatic startup after voltage failure and to make sure diagnostics data are not lost
- Integration into the automation level provides the option of parameterizing the monitoring relays at any time via a display unit, or displaying the measured values in a control room or locally at the machine/control cabinet.

Even without communication via IO-Link the devices continue to function fully autonomously:

- Parameterization can take place locally at the device, independently of a controller.
- In the event of failure or before the controller becomes available the monitoring relays work as long as the control supply voltage (24 V DC) is present.
- If the monitoring relays are operated without the controller, the 3RR24 monitoring relays for IO-Link have, thanks to the integrated SIO mode, an additional semiconductor output, which switches when the adjustable warning threshold is exceeded.

Thanks to the combination of autonomous monitoring relay function and integrated IO-Link communication, redundant sensors and/or analog signal converters – which previously took over the transmission of measured values to a controller, leading to considerable extra cost and wiring overhead – are no longer needed.

Because the output relays are still present, the monitoring relays increase the functional reliability of the system, since only the controller can fulfill the control tasks if the current measured values are available, whereas the output relays can also be used for the disconnection of the system if limit values that cannot be reached during operation are exceeded.

For more information on the IO-Link communications system, see page 2/88 onwards.

Notes on security

In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial security concept. Siemens products and solutions represent only one component of such a concept.

For more information about the subject of Industrial Security, see www.siemens.com/industrialsecurity.

Relays

SIRIUS 3RR24 monitoring relays for mounting on 3RT2 contactors for IO-Link

Current and active current monitoring

3RR24 overview table



Features	3RR24	Benefits
General data		
Sizes Dimensions in mm (W x H x D) • Screw terminals • Spring-loaded terminals	S00, S0, S2 S00: 45 × 79 × 80, S0: 45 × 87 × 91, S2: 55 × 99 × 112 S00: 45 × 90 × 80,	 Are coordinated with the dimensions, connections and technical characteristics of the other devices in the SIRIUS modular system (contactors, soft starters, etc.) Permit the mounting of slim-line and compact load feeders in widths of 45 mm (S00 and S0) and 55 mm (S2) Simplify configuration
	S0: 45 x 109 x 92, S2: 55 x 99 x 112	
Current range	S00: 1.6 16 A S0: 4 40 A S2: 8 80 A	 Is adapted to the other devices in the SIRIUS modular system Just a single version per size with a wide setting range enables easy configuration
Permissible ambient temperature During operation	-25 +60 °C	Suitable for applications in the control cabinet, worldwide
Monitoring functions	_	
Current overshoot	(3-phase)	 Provides optimum inverse-time delayed protection of loads against excessive temperature rises due to overload Enables detection of filter blockages or pumping against closed gate valves Enables drawing conclusions about wear, poor lubrication or other maintenance-relevant phenomena
Current undershoot	(3-phase)	 Enables detection of underload due to a slipping or torn belt Guarantees protection of pumps against dry running Facilitates monitoring of the functions of resistive loads such as heaters Permits energy savings through monitoring of no-load operation
Apparent current monitoring	✓ (Selectable)	 Precision current monitoring especially in a motor's rated and upper torque range
Active current monitoring	✓ (Selectable)	 Optimum current monitoring over a motor's entire torque range through the patented combination of power factor and apparent current monitoring
Range monitoring	✓ (3-phase)	Simultaneous monitoring of current overshoot and undershoot with a single device
Phase failure, open circuit	(3-phase)	 Minimizes heating of three-phase motors during phase failure through immediate disconnection Prevents operation of hoisting equipment with half the load carrying capacity
Phase sequence monitoring	✓ (Selectable)	 Prevents starting of motors, pumps or compressors in the wrong direction of rotation
Internal ground-fault detection (residual current monitoring)	(Selectable)	 Provides optimum protection of loads against high-resistance ground faults due to moisture, condensed water, damage to the insulation material, etc. Eliminates the need for additional special equipment Saves space in the control cabinet Reduces wiring overhead and costs
Blocking current monitoring	✓ (Selectable)	 Minimizes heating of three-phase motors when blocked during operation through immediate disconnection Minimizes mechanical loading of the system by acting as an electronic shear pin
Operating hours counter	/	 Gives the time during which there was a measurable current in at least 2 conducting paths As an indicator for upcoming preventive maintenance or replacement of machine and system components
Operating cycles counter	/	 Is incremented by 1 each time a breaking operation is detected, in other words a transition from 3-phase current flow to no measurable current flow As an indicator for upcoming preventive maintenance or replacement of contact blocks

✓ Available

Relays

SIRIUS 3RR24 monitoring relays for mounting on 3RT2 contactors for IO-Link

Current and active current monitoring



Features	3RR24	Benefits
Features		
RESET function	/	Allows manual or automatic resetting of the relay Resetting directly on the device, by switching the control supply voltage off and on or via IO-Link (Remote RESET)
ON-delay time	0 999.9 s	Enables motor starting without evaluation of the starting current Can be used for monitoring motors with lengthy startup
Tripping delay time	0 999.9 s	 Permits brief threshold value violations during operation Prevents frequent warnings and disconnections with currents near the threshold values
Operating and indicating elements	Displays and buttons	 For setting the threshold values and delay times For selectable functions For quick and selective diagnostics Displays for permanent display of measured values
Integrated contacts	1 CO contact, 1 semiconductor output (in SIO mode)	Enable disconnection of the system or process when there is an irregularity Can be used to output signals
Design of load feeders		
Short-circuit strength up to 100 kA at 690 V (in conjunction with the corresponding fuses or the corresponding motor starter protector)	✓	Provides optimum protection of the loads and operating personnel in the event of short circuits due to insulation faults or faulty switching operations
Electrical and mechanical matching to 3RT2 contactors	✓	 Simplifies configuration Reduces wiring overhead and costs Enables stand-alone installation as well as space-saving direct mounting
Spring-loaded terminals for main circuit (with S00, S0) and auxiliary circuits	✓ (Optional)	Enable fast connectionsPermit vibration-resistant connectionsEnable maintenance-free connections
Other features		
Suitable for 1-phase and 3-phase loads	✓	 Enables the monitoring of 1-phase systems through parallel infeed at the contactor or looping the current through the three phase connections
Wide setting ranges	✓	 Reduce the number of versions Minimize the configuration overhead and costs Minimize storage overhead, storage costs, tied-up capital
Power supply	24 V DC	 Direct via IO-Link master or via an external auxiliary voltage independent of the IO-Link Minimizes the configuring outlay and costs

✓ Available

Possible ways of combining the 3RR24 monitoring relay with the 3RT2 contactor for IO-Link

Monitoring relays	Current range	Contactors (type, size, operating power)						
		3RT201	3RT203					
		S00	S0	S2				
Туре	A	3/4/5.5/7.5 kW	5.5/7.5/11/15/18.5 kW	18.5/22/30/37 kW				
3RR2441	1.6 16	✓	With stand-alone installation support	With stand-alone installation support				
3RR2442	4 40	With stand-alone installation support	✓	With stand-alone installation support				
3RR2443	8 80	With stand-alone installation support	With stand-alone installation support	✓				

✓ Available

Notes:

Devices required for communication via IO-Link:

- Any controller that supports IO-Link (e.g. ET 200SP with CPU or S7-1200), see Catalog ST 70.
 IO-Link master (e.g. CM 4xIO-Link for SIMATIC ET 200SP, see page 2/99 or SM 1278 for S7-1200, see page 2/98).

Each monitoring relay requires an IO-Link channel.

Relays

SIRIUS 3RR24 monitoring relays for mounting on 3RT2 contactors for IO-Link

Current and active current monitoring

Article number scheme

Product versions		Article number
3RR24 monitoring r	elay, digitally adjustable with IO-Link	3RR2 4 4 □ - □ A A 4 0
Size	S00	1
	SO	2
	S2	3
Connection type	Screw terminals	1
	Spring-loaded terminals Size S00, S0 Size S2	2 3
Example		3RR2 4 4 1 - 1 A A 4 0

Note:

The article number scheme shows an overview of product versions for better understanding of the logic behind the article numbers

For your orders, please use the article numbers quoted in the selection and ordering data.

Benefits

- Can be mounted directly on 3RT2 contactors and 3RA23 reversing contactor assemblies, in other words, there is no need for additional wiring in the main circuit
- Optimally coordinated with the technical characteristics of the 3RT2 contactors
- No separate current transformer required
- Variably adjustable to overshoot, undershoot or range monitoring
- · Freely configurable delay times and RESET response
- Display of actual value and status messages
- · All versions with removable control current terminals
- · All versions with screw or spring-loaded terminals
- Simple determination of the threshold values through direct reference to actually measured values for setpoint loading
- Range monitoring and selectable active current measurement mean that only one device for monitoring a motor is required along the entire torque curve.

- In addition to current monitoring it is also possible to monitor for current asymmetry, broken cables, phase failure, phase sequence, residual current and motor blocking.
- Integrated counter for operating cycles and operating hours to support requirements-based preventive maintenance of the monitored machine or application
- Simple cyclical transmission of the current measured values, relay switching states and events to a controller
- Remote parameterization
- Automatic reparameterizing when devices are exchanged
- Simple duplication of identical or similar parameterizations
- · Reduction of control current wiring
- Elimination of testing costs and wiring errors
- Reduction of configuration work
- Integration in TIA means clear diagnostics if a fault occurs
- Cost saving and space saving in control cabinet due to the elimination of AI and IO modules as well as analog signal converters and duplicated sensors

Application

- · Monitoring for current overshoot and undershoot
- Monitoring of broken conductors
- Monitoring of no-load operation and load shedding, e.g. in the event of a torn V-belt or no-load operation of a pump
- Monitoring of overload, e.g. on pumps due to a dirty filter system
- Monitoring the functionality of electrical loads such as heaters
- Monitoring of wrong phase sequence on mobile equipment such as compressors or cranes
- Monitoring of high-resistance short circuits or ground faults, e.g. caused by damaged insulation or moisture

The use of SIRIUS monitoring relays for IO-Link is particularly recommended for machines and plants in which these relays, in addition to their monitoring function, are to be connected to the automation level for the rapid, simple and fault-free provision of the current measured values and/or for remote parameterization.

The monitoring relays can either relieve the controller of monitoring tasks or, as a second monitoring entity in parallel to and independent of the controller, increase the reliability in the process or in the system. In addition, the elimination of Al and IO modules allows the width of the controller to be reduced despite significantly expanded functionality.

Relays

SIRIUS 3RR24 monitoring relays for mounting on 3RT2 contactors for IO-Link

Current and active current monitoring

Technical specifications

More information

Technical specifications, see

https://support.industry.siemens.com/cs/ww/en/ps/16206/td

Digital Configuration Manual for load feeders, see

https://imp.siemens.com/digital-engineering-manual/dem

Configuration Manual for load feeders, see https://support.industry.siemens.com/cs/ww/en/view/39714188

System Manual for modular system, see

https://support.industry.siemens.com/cs/ww/en/view/60311318

Equipment Manual, see

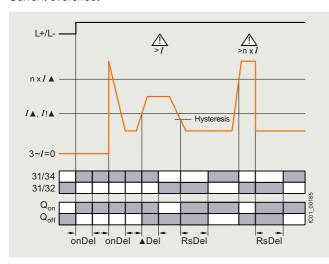
https://support.industry.siemens.com/cs/ww/en/view/54375430

FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/16206/faq

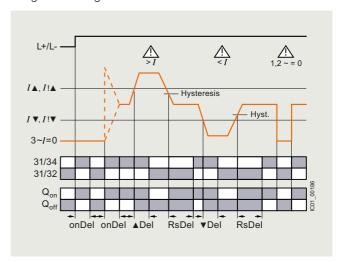
Function diagrams of 3RR24 for IO-Link, digitally adjustable

With the closed-circuit principle selected upon application of the control supply voltage

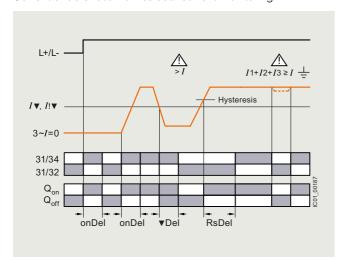
Current overshoot



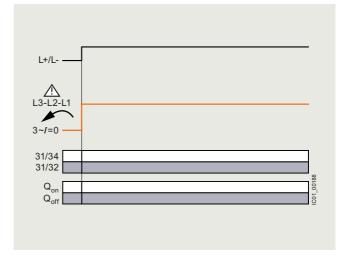
Range monitoring



Current undershoot with residual current monitoring



Phase sequence monitoring



Relays

SIRIUS 3RR24 monitoring relays for mounting on 3RT2 contactors for IO-Link

Current and active current monitoring

Selection and ordering data

SIRIUS 3RR24 current monitoring relays for IO-Link













	3RF	244	1-1	ΑA	۹40
--	-----	-----	-----	----	-----

3RR2442-1AA40

3RR2441-2AA40

3RR2442-2AA40

3RR2443-1AA40

3-1AA40 3NN2443-ZAF

Size	Measuring range	Hysteresis	Supply voltage U _S	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	А	Α	V					
LC dis Open- 1 CO 1 semi 3-phas Active Currer Phase Residu Blockii Opera Reclos ON-de Trippir Separa	conductor output (in S se current monitoring current or apparent cut asymmetry monitoring sequence monitoring ual current monitoring ual current monitoring ing current monitoring ting hours counter ting cycles counter sing delay time 0 300 (lay 0 999.9 s at esettings for warning r Manual RESET	IO mode) urrent monitoring g o min g and alarm thresi						
S00	1.6 16	0.1 3	24 DC	3RR2441-□AA40		1	1 unit	41H
S0	4 40	0.1 8	24 DC	3RR2442-□AA40		1	1 unit	41H
S2	8 80	0.2 16	24 DC	3RR2443-□AA40		1	1 unit	41H

Type of electrical connection

- Screw terminals
- Spring-loaded terminals size S00, S0
- Spring-loaded terminals size S2



Relays

SIRIUS 3RR24 monitoring relays for mounting on 3RT2 contactors for IO-Link

Current and active current monitoring

Accessories								
	Use	Version	Size	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Terminal supports	for stand	-alone installation ¹⁾						
1413/25/45		For separate mounting of the overload re or monitoring relays; screw fixing and so mounting on TH 35 standard mounting re to IEC 60715	ap-on	Screw terminals	+			
222		Screw terminals	S00 S0 S2	3RU2916-3AA01 3RU2926-3AA01 3RU2936-3AA01		1 1 1	1 unit 1 unit 1 unit	41F 41F 41F
3RU2916-3AA01 3RU2936-3AA01								
				Spring-loaded terminals	<u> </u>			
		Spring-loaded terminals	\$00 \$0	3RU2916-3AC01 3RU2926-3AC01		1 1	1 unit 1 unit	41F 41F
3RU2926-3AC01								
Sealable covers	For 3RR24	Sealable covers For securing against unintentional or una adjustment of settings	authorized	3RR2940		1	5 units	41H
3RR2940								
Blank labels	For 3RR24	Unit labeling plates ²⁾ For SIRIUS devices • 20 mm x 7 mm, titanium gray		3RT2900-1SB20		100 ;	340 units	41B
3RT2900-1SB20 Tools for opening	spring_les	eded terminals						
Tools for opening	For auxiliary circuit connec-	Screwdriver For all SIRIUS devices with spring-loade	d terminals	Spring-loaded terminals			4 "	440
3RA2908-1A	tions	Length approx. 200 mm, 3.0 mm x 0.5 mm, titanium gray/black, partially insulated		3RA2908-1A		1	1 unit	41B

¹⁾ The accessories are exactly the same as the accessories for the 3RU2 thermal overload relay and the 3RB3 electronic overload relay, see from page 7/104 onwards.

PC labeling system for individual inscription of unit labeling plates available from: murrplastik Systemtechnik GmbH, see page 16/18.

Relavs

SIRIUS 3UG5 monitoring relays for stand-alone installation

Line monitoring NEW

Overview



SIRIUS 3UG5 line monitoring relays

More information

Homepage, see www.siemens.com/sirius-monitoring-relays

SiePortal, see www.siemens.com/product?3UG5

TIA Selection Tool Cloud (TST Cloud), see www.siemens.com/tstcloud/?node=SIRIUSRelais

Conversion tool, see www.siemens.com/conversion-tool

Electronic line monitoring relays provide maximum protection for mobile machines and plants or for unstable networks. Network and voltage faults can thus be detected early and rectified before far greater damage ensues.

The device family comprises devices with fixed or analogically adjustable functions and digitally adjustable devices that can be parameterized using an intuitive LC display. The 3UG5816 device is available as a version for IO-Link.

Application	Line me	nitoring	rolay			
Аррисации	3UG5 511	3UG5 512	3UG5 514	3UG5 616	3UG5 618	3UG5 816
Phase sequence	1					
Phase failure		1				
Phase asymmetry		✓ (fixed)	1			
Undervoltage			1			
Overvoltage				1		
Frequency				1		
N conductor failure				1		
Correction of the direction of rotation					1	
SIL 1/PL c		1			1	
IO-Link						1

✓ Available

-- Not available

Depending on the version, the relays monitor phase sequence, phase failure with and without N conductor monitoring, phase asymmetry, frequency, undervoltage or overvoltage.

Phase asymmetry is evaluated as the difference between the greatest and the smallest phase voltage relative to the greatest phase voltage. Undervoltage or overvoltage exists when at least one phase voltage deviates by 20% from the set rated line voltage or the directly set limit values are overshot or undershot. The rms value of the voltage is measured.

With the SIRIUS 3UG5618 line monitoring relay, a wrong direction of rotation can be corrected automatically.

The 3UG5512 and 3UG5618 devices are also available as versions with safety certification up to SIL 1/PL c according to IEC 61508/62061 or ISO 13849.

Note:

The SIRIUS 3UG5 line monitoring relays supersede the 3UG4 predecessor completely.

Devices with fixed function or analogically adjustable devices



SIRIUS 3UG5512 and 3UG5514 relays

The 3UG5511 and 3UG5512 devices have a fixed function. The 3UG5514 relays can be parameterized using a potentiometer.

Digitally adjustable devices



SIRIUS 3UG5616 relays

Using the display, the SIRIUS 3UG5616 and 3UG5618 relays can be simply and intuitively parameterized via a menu and four buttons.

Relays

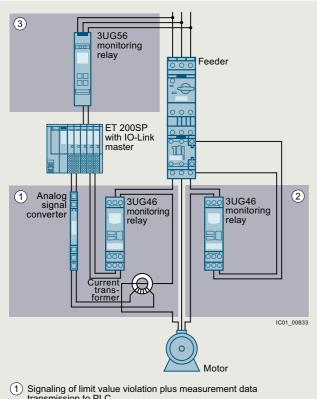
SIRIUS 3UG5 monitoring relays for stand-alone installation

Line monitoring

Digitally adjustable devices for IO-Link



SIRIUS 3UG5816 relay for IO-Link



- transmission to PLC
- (2) Autonomous operation without PLC
- (3) Signaling of limit value violation to PLC

Use of conventional monitoring relays

Notes:

Devices required for communication via IO-Link:

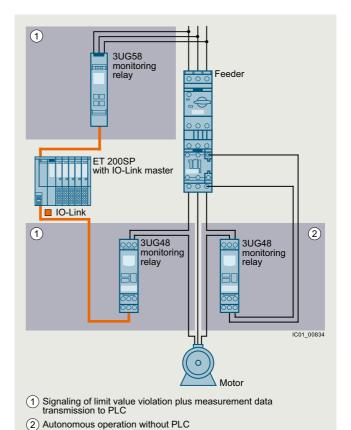
- Any controller that supports IO-Link (e.g. ET 200SP with CPU or S7-1200), see Catalog ST 70.
- IO-Link master (e.g. CM 4xIO-Link for SIMATIC ET 200SP, see page 2/99 or SM 1278 for S7-1200, see page 2/98).

Each monitoring relay requires an IO-Link channel.

The 3UG5816 relays for IO-Link feature an IO-Link communications interface in addition to a display. They contain all functions of the 3UG5616 digital device.

Note:

The IO-Link devices can be reset on the display or via IO-Link.



Monitoring relays for IO-Link

Notes on security

In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement - and continuously maintain – a holistic, state-of-the-art industrial security concept. Siemens products and solutions represent only one component of such a concept.

For more information about the subject of Industrial Security, see www.siemens.com/industrialsecurity.

Relays

SIRIUS 3UG5 monitoring relays for stand-alone installation

Line monitoring **NEW**

Article number scheme

Product versions		Article number
Monitoring relays		3UG5 🗆 🗆 🗕 – 🗆 🗆 🗆 0
Type of setting	e.g. 5 = analogically adjustable	
Functions	e.g. 14 = phase sequence, phase failure, phase asymmetry, undervoltage	
Connection type	Screw terminals	1
	Spring-loaded terminals (push-in)	2
Contacts	e.g. B = 2 CO contacts	
Supply voltage	e.g. R2 = 160 690 V AC	
Example		3UG5 5 1 4 - 1 B R 2 0

Note:

The article number scheme shows an overview of product versions for better understanding of the logic behind the article numbers.

For your orders, please use the article numbers quoted in the selection and ordering data.

Benefits

- Can be used without auxiliary voltage in any network from 160 to 690 V AC worldwide thanks to wide voltage range
- Variably adjustable to overshoot, undershoot or range monitoring
- Freely configurable delay times and RESET response
- Width 22.5 mm
- Reduced stock keeping and logistics thanks to heavily reduced device variance
- Permanent display of actual value and power system fault type in case of digital versions
- Automatic correction of the direction of rotation by distinguishing between power system faults and wrong phase sequence
- Devices with frequency monitoring
- Devices with safety certification according to SIL 1/PL c
- Communication via IO-Link with SIRIUS 3UG5816 relay and display and transmission of actual value and power system fault type to controller
- · All versions with removable terminals
- All versions with screw or spring-loaded terminals (push-in)

Application

The relays are used above all for mobile equipment, e.g. air conditioning compressors, refrigerating containers, building site compressors and cranes.

Function	Application
Phase sequence	Direction of rotation of the drive
Phase failure	A fuse has tripped
	Failure of the control supply voltage
	Broken cable
Phase asymmetry	Overheating of the motor due to asymmetrical voltage
	Detection of asymmetrically loaded networks
Undervoltage	Increased current on a motor with corresponding overheating
	Unintentional resetting of a device
	Network collapse, particularly with battery power
Overvoltage	Protection of a plant against destruction due to overvoltage
Frequency	Ensuring power quality
	Deviation of speed affecting cycle times

Relays

SIRIUS 3UG5 monitoring relays for stand-alone installation



NEW Line monitoring

Technical specifications

More information									
Technical specifications, see https://support.industry.siemens.com/cs/ww/en/ps/29651 Equipment Manual and internal circuit diagrams, see https://support.industry.siemens.com/cs/ww/en/view/109)	FAQs, see	https://supp	port.industry	y.siemens.co	om/cs/ww/ei	n/ps/29651/f	aq
Туре		3UG5511- .AR20, 3UG5512- .AR20	.BR20,	3UG5512- .AR21	3UG5512- .BR21	3UG5514- .BR20	3UG5616- .CR20, 3UG5618- .CR20	3UG5618- .CR21	3UG5816- .AA40
General technical specifications									
Dimensions (W x H x D)	mm	22.5 x 100	x 90						
Ambient temperature	00	05 .00							
During operationDuring storage	°C	-25 +60 -40 +85							
During transport	°Č	-40 +85							
Degree of protection IP		IP20							
Mounting position		Any							
Installation altitude at height above sea level, maximum	m	2 000							
Electrical endurance (operating cycles) for AC-15 at 230 V typical		100 000							
Mechanical endurance (operating cycles), typical		10 000							
Adjustable ON-delay time	0						0.1 20		
On startingOn upper or lower limit violation	S S					0.1 20	0.1 30 0.1 30		
Performance Level (PL) according to ISO 13849-1				PL c				PL c	
Safety Integrity Level (SIL) according to IEC 61508				SIL 1				SIL 1	
Vibration resistance according to IEC 60068-2-6	Hz;	10 55;		OIL 1				OIL I	
Shock resistance according to IEC 60068-2-27	mm g/ms	0.35 Half-sine w	ave 15/11						
Electromagnetic compatibility	9/1113			D-6-2/IEC 61	1000-6-4				
Electrical separation between input and output		Yes	1/120 0 1000	J-0-2/ILO 0	1000-0-4				
Type of electrical separation		Electrical s	eparation						Protective separation
Electromagnetic interference emission according to IEC 60947-1		Class A							
IO-Link protocol supported		No							Yes
Measuring circuit									
Number of CO contacts for auxiliary contacts		1	2	1	2				1
Control circuit									
Current-carrying capacity of the output relay • At AC-15 at 50/60 Hz at 250 V • At DC-13 - At 24 V	A A	3							
- At 125 V	Α	0.2							
- At 250 V	A	0.1							
Thermal current of the non-solid-state contact blocks, maximum	A	5							
Insulation voltage for overvoltage category III according to IEC 60664 for pollution degree 3	V	690							
Impulse withstand voltage, rated value	kV	6							
Control supply voltage • At AC									
- At 50 Hz	V	200 690							
At 60 HzAt DC, rated value	V V	200 690							 24
Operating range factor of the control supply voltage, rated value at AC	v								<u>_</u>
• At 60 Hz		0.85 1.1 0.85 1.1							
Measurable voltage at AC	V	160 760							
Supply voltage frequency, rated value	Hz	15 70							
Adjustable open-/closed-circuit principle		No 70					Yes		
Contact reliability of the auxiliary contacts			et failure no	100 million	(17 V, 5 mA	1)	100		
Contact foliability of the duxillary contacts		one contac	i idiidie pei	100 111111011	(17 V, 0111)	')			

Relays

SIRIUS 3UG5 monitoring relays for stand-alone installation

Line monitoring **NEW**

Туре		3UG5511 3UG5611 3UG5811	3UG5512 3UG5612 3UG5812
Type of electrical connection		Screw terminals	○ Spring-loaded terminals□ (push-in)
Tightening torque	Nm	0.6 0.8	
Type of connectable conductor cross-sections Solid Finely stranded Without end sleeves With end sleeves For AWG cables	mm ² mm ² mm ²	1 x (0.5 4), 2 x (0.5 2.5) 1 x (0.5 4), 2 x (0.5 2.5)	1 x (0.5 4) 1 x (0.5 4) 1 x (0.5 2.5)
- Solid - Stranded	AWG AWG	1 x (20 12), 2 x (20 14)	1 x (20 12) 1 x (20 12)

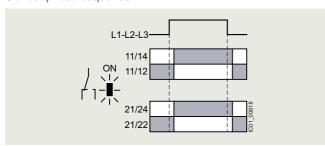
3UG5511 monitoring relays

The 3UG5511 phase sequence relay monitors the phase sequence in a 3-phase network. No adjustments are required for operation. The device has an internal power supply and works using the closed-circuit principle. If the phase sequence at the terminals L1-L2-L3 is correct, the output relay picks up after the corresponding response time and the green LED is lit. If the phase sequence is wrong, the output relay remains in its rest position.

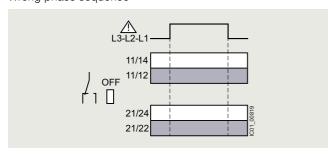
Note:

When one phase fails, connected loads (motor windings, lamps, transformers, coils, etc.) create a feedback voltage at the terminal of the failed phase due to the network coupling. Since the 3UG5511 relays are not resistant to voltage feedback, such a phase failure is not detected. If this is required, the 3UG5512 monitoring relay must be used.

Correct phase sequence



Wrong phase sequence



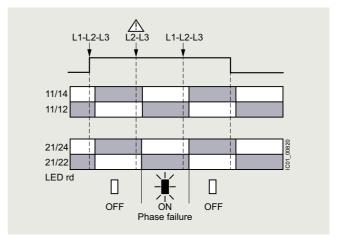
3UG5512 monitoring relays

The 3UG5512 line monitoring relay monitors 3-phase networks with regard to phase sequence, phase failure and phase asymmetry of 10%. Thanks to a special measuring method, a phase failure is reliably detected in spite of the wide voltage range from 160 to 690 V AC and feedback through the load of up to 90%. The device has an internal power supply and works using the closed-circuit principle. No adjustments are required. If the mains voltage is switched on, the green LED will light up. If the phase sequence at terminals L1-L2-L3 is correct and there is no phase asymmetry, the output relay is energized. If the phase sequence is wrong or if there is phase asymmetry, the red LED flashes and the output relay remains in its rest position. If a phase fails, the red LED is permanently lit and the output relay drops. The device is also available as a version with SIL 1/PL c certification.

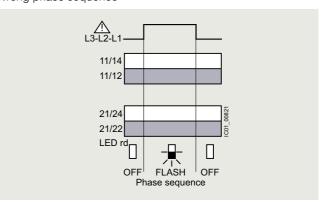
Note:

The red LED is a fault diagnostic indicator and does not show the current relay status. The 3UG5512 monitoring relay is suitable for line frequencies from 15 to 70 Hz.

Phase failure



Wrong phase sequence



Relavs

SIRIUS 3UG5 monitoring relays for stand-alone installation

NEW

Line monitoring

3UG5514 monitoring relays

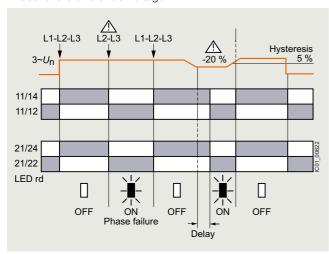
The 3UG5514 line monitoring relay monitors 3-phase networks with regard to phase sequence, phase failure, phase asymmetry and undervoltage of 20%. The device has an internal power supply and works using the closed-circuit principle.

The hysteresis is 5%. The integrated ON-delay time is adjustable from 0.1 to 20 s and responds to undervoltage. If the direction of rotation is incorrect, the device switches off immediately. Thanks to a special measuring method, a phase failure is reliably detected in spite of the wide voltage range from 160 to 690 V AC and feedback through the load of up to 80%. If the mains voltage is switched on, the green LED will light up. If the phase sequence at the terminals L1-L2-L3 is correct, the output relay picks up. If the phase sequence is wrong, the red LED flashes and the output relay remains in its rest position. If a phase fails, the red LED is permanently lit and the output relay drops.

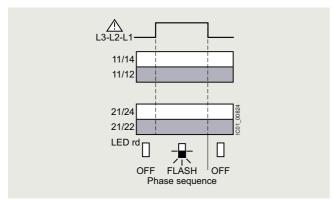
Note:

The red LED is a fault diagnostic indicator and does not show the current relay status. The 3UG5514 monitoring relay is suitable for line frequencies from 15 to 70 Hz.

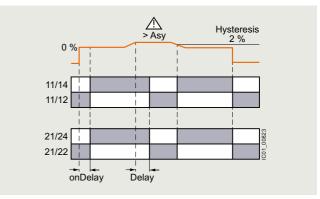
Phase failure and undervoltage



Wrong phase sequence



Phase asymmetry



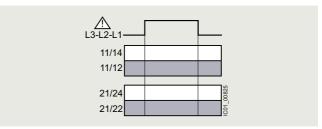
3UG5616 monitoring relays

The 3UG5616 line monitoring relay has a wide voltage range input and an internal power supply. The device is equipped with a display and is parameterized using four buttons. The 3UG5616 device monitors 3-phase networks for phase failure, undervoltage, overvoltage, frequency, and phase sequence. The hysteresis is adjustable from 0.1 to 300 V. In addition the device has two separately adjustable delay times for overshooting and undershooting limits. If the direction of rotation is incorrect, the device switches off immediately. Thanks to a special measuring method, a phase failure is reliably detected in spite of the wide voltage range from 160 to 690 V AC and feedback through the load of up to 80%.

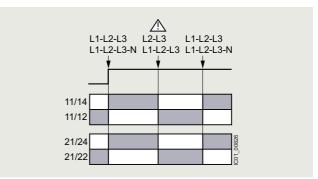
The 3UG5616 monitoring relay can be operated on the basis of either the open-circuit or closed-circuit principle and with Manual or Auto RESET.

With the closed-circuit principle selected

Wrong phase sequence



Phase failure

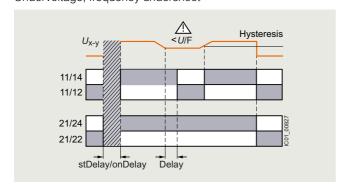


Relays

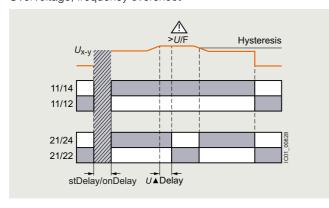
SIRIUS 3UG5 monitoring relays for stand-alone installation

Line monitoring **NEW**

Undervoltage, frequency undershoot



Overvoltage, frequency overshoot



3UG5816 monitoring relays

The 3UG5816 line monitoring relays have a wide voltage range input and are supplied with power through IO-Link or from an external 24 V DC source.

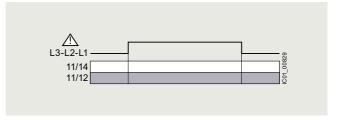
The device is equipped with a display and is parameterized using four buttons. The 3UG5816 monitoring relay monitors a 3-phase network for phase sequence, phase failure, phase asymmetry, frequency, undervoltage and overvoltage. The hysteresis is adjustable from 0.1 to 300 V.

In addition the device has two separately adjustable delay times for overshooting and undershooting limits. If the direction of rotation is incorrect or a phase fails, the device switches off immediately. Thanks to a special measuring method, a phase failure is reliably detected in spite of the wide voltage range from and potentially high feedback through the load.

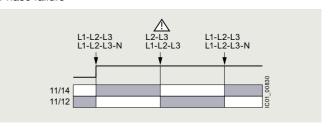
The 3UG5816 monitoring relays can be operated based on either the open-circuit or closed-circuit principle and with Manual or Auto RESET.

With the closed-circuit principle selected

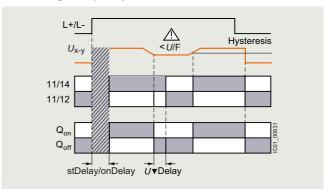
Wrong phase sequence



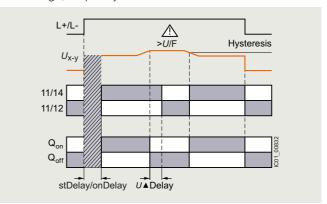
Phase failure



Undervoltage, frequency undershoot



Overvoltage, frequency overshoot



Relays

SIRIUS 3UG5 monitoring relays for stand-alone installation

NEW

Line monitoring

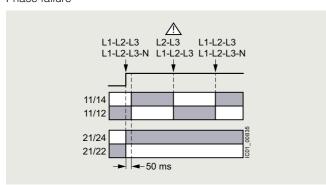
3UG5618 monitoring relays

The 3UG5618 line monitoring relay has an internal power supply and can automatically correct a wrong direction of rotation. Thanks to a special measuring method, a phase failure is reliably detected in spite of the wide voltage range from 160 to 690 V AC and feedback through the load of up to 80%. The device is equipped with a display and is parameterized using three buttons. It monitors 3-phase networks for phase sequence, phase failure, phase asymmetry, frequency, undervoltage and overvoltage. The hysteresis is adjustable from 0.1 to 300 V. In addition the device has two separately adjustable delay times for overshooting and undershooting limits. The monitoring relay can be operated on the basis of either the open-circuit or closed-circuit principle and with Manual or Auto RESET.

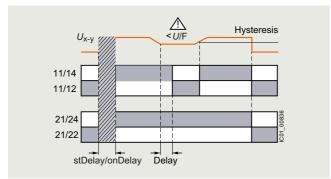
One of the changeover contacts is used for warning or disconnection in the event of power system faults (voltage, frequency, asymmetry), the other one responds only to a wrong phase sequence. In conjunction with a contactor reversing assembly it is thus possible to change the direction of rotation automatically. The device is also available as a version with SIL 1/PL c certification.

With the closed-circuit principle selected

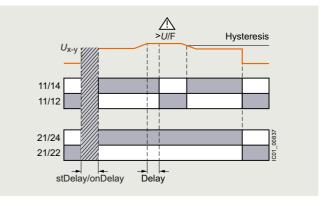
Phase failure



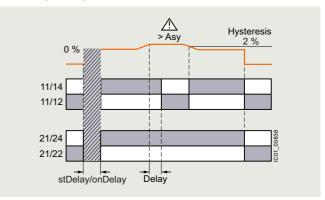
Undervoltage, frequency undershoot



Overvoltage, frequency overshoot



Phase asymmetry



Relays

SIRIUS 3UG5 monitoring relays for stand-alone installation

Line monitoring **NEW**

Selection and ordering data

PU (UNIT, SET, M) = 1 PS* = 1 unit PG = 41H







3UG5511-2AR20

3UG5514-2BR20

3UG5816-2AA40

Phase	Under-	Over-	Fre-	Adjustab	le ON-delay time	Number	Screw terminals	(+)	Spring-loaded terminals (push-in)	#
failure detec- tion	voltage detection in 3 phases	voltage detection in 3 phases	quency measure- ment	On starting	On upper or lower limit violation	of CO contacts for auxiliary contacts				
				s	S		Article No.	Price per PU	Article No.	Price per PU
Line m	onitoring	relays wit	h fixed fu	nction						
Monito	ring of ph	ase seque	ence							
						1 2	3UG5511-1AR20 3UG5511-1BR20		3UG5511-2AR20 3UG5511-2BR20	
Monito	ring of ph	ase seque	ence, pha	se failur	e, and phase a	symmetry				
✓						1 2	3UG5512-1AR20 3UG5512-1BR20		3UG5512-2AR20 3UG5512-2BR20	
• For sa	fety applicat	ions								
1						1 2	3UG5512-1AR21 3UG5512-1BR21		3UG5512-2AR21 3UG5512-2BR21	
Analog	gically adju	ıstable lir	ne monito	ring rela	ys					
	oring of ph ndervoltag		ence, pha	se failur	e, phase asym	metry,				
/	✓				0.1 20	2	3UG5514-1BR20		3UG5514-2BR20	
Digital	ly adjustal	ole line m	onitoring	relays						
Monito N-cond	ring of pha ductor (adj	ase seque iustable),	ence, pha frequenc	se failur y, overvo	e, phase asym oltage and und	metry, ervoltage				
/	✓	✓	✓	0.1 30	0.1 30	2	3UG5616-1CR20		3UG5616-2CR20	
• For IO	-Link									
/	✓	✓	✓	0.1 30	0.1 30	1	3UG5816-1AA40		3UG5816-2AA40	
sequei	nce, monit	oring of p	hase failu	ıre, phas	n in case of wro se asymmetry, oltage and und	0,				
/	/	✓	✓	0.1 30	0.1 30	2	3UG5618-1CR20		3UG5618-2CR20	
• For sa	fety applicat	ions								
✓	✓	✓	✓	0.1 30	0.1 30	2	3UG5618-1CR21		3UG5618-2CR21	

✓ Function available

-- Function not available

Accessories, see page 10/71.

Relays

SIRIUS 3UG5 monitoring relays for stand-alone installation

NEW

Line monitoring

Terminals for SIRIUS devices in the industrial DIN-rail enclosure Removable terminals • 2-pole, up to 1 x 4 mm² or 2 x 2.5 mm² Screw terminals • 2-pole, up to 1 x 4 mm² or 2 x 2.5 mm² Spring-loaded terminals (push-in) • 2-pole, up to 1 x 4 mm² or 2 x 1.5 mm² (in shared end sleeve) 1 6 units 4 3ZY1122-2BA00 Accessories for enclosures Push-in lugs For wall mounting								Accessories
Removable terminals • 2-pole, up to 1 x 4 mm² or 2 x 2.5 mm² 3ZY1122-1BA00 1 6 units 4 Spring-loaded terminals (push-in) • 2-pole, up to 1 x 4 mm² or 2 x 1.5 mm² (in shared end sleeve) 3ZY1122-2BA00 Accessories for enclosures Push-in lugs For wall mounting Coding pins For removable terminals of SIRIUS devices in the industrial DIN-rail enclosure; they enable the mechanical coding of terminals Hinged covers	PG		PS*	(UNIT,		Article No.	Version	
Removable terminals • 2-pole, up to 1 x 4 mm² or 2 x 2.5 mm² 3ZY1122-1BA00 1 6 units 4 Spring-loaded terminals (push-in) • 2-pole, up to 1 x 4 mm² or 2 x 1.5 mm² (in shared end sleeve) 3ZY1122-2BA00 Accessories for enclosures Push-in lugs For wall mounting Coding pins For removable terminals of SIRIUS devices in the industrial DIN-rail enclosure; they enable the mechanical coding of terminals Hinged covers							RIUS devices in the industrial DIN-rail enclosure	Terminals for SIR
Push-in lugs For wall mounting Coding pins For removable terminals of SIRIUS devices in the industrial DIN-rail enclosure; they enable the mechanical coding of terminals Push-in lugs (Push-in) Coding pins For removable terminals of SIRIUS devices in the industrial DIN-rail enclosure; they enable the mechanical coding of terminals Push-in lugs (Push-in lugs) For removable terminals of SIRIUS devices in the industrial DIN-rail enclosure; they enable the mechanical coding of terminals Hinged covers 1 6 units 4 3ZY1122-1BA00 1 6 units 4 3ZY1122-2BA00 1 10 units 4 3ZY1311-0AA00 1 12 units 4 4 in the industrial DIN-rail enclosure; they enable the mechanical coding of terminals Hinged covers					<u> </u>	Screw terminals		ATA
Spring-loaded terminals (push-in) 3ZY1122-2BA00 Coding pins For removable terminals of SIRIUS devices in the industrial DIN-rail enclosure; they enable the mechanical coding of terminals Spring-loaded terminals (push-in) 3ZY1122-2BA00 1 6 units 4 3ZY1122-2BA00 1 10 units 4 3ZY1311-0AA00 1 10 units 4 3ZY1440-1AA00 1 12 units 4 Hinged covers	41L	i	6 units	1		3ZY1122-1BA00	• 2-pole, up to 1 x 4 mm ² or 2 x 2.5 mm ²	3
Coding pins For removable terminals of SIRIUS devices in the industrial DIN-rail enclosure; they enable the mechanical coding of terminals Value of the pink of the					<u>∞</u>			3ZY1122-1BA00
Accessories for enclosures Push-in lugs For wall mounting Coding pins For removable terminals of SIRIUS devices in the industrial DIN-rail enclosure; they enable the mechanical coding of terminals Hinged covers Push-in lugs 3ZY1311-0AA00 1 10 units 47 3ZY1440-1AA00 1 12 units 47 Hinged covers	41L	i	6 units	1		**		
Push-in lugs For wall mounting Coding pins For removable terminals of SIRIUS devices in the industrial DIN-rail enclosure; they enable the mechanical coding of terminals Hinged covers 3ZY1311-0AA00 1 10 units 4: 3ZY1440-1AA00 1 12 units 4: Hinged covers								3ZY1122-2BA00
For wall mounting 3ZY1311-0AA00 Coding pins For removable terminals of SIRIUS devices in the industrial DIN-rail enclosure; they enable the mechanical coding of terminals Hinged covers For wall mounting 3ZY1440-1AA00 1 12 units 4: Hinged covers								Accessories for 6
Coding pins For removable terminals of SIRIUS devices in the industrial DIN-rail enclosure; they enable the mechanical coding of terminals Hinged covers 3ZY1440-1AA00 1 12 units 4	41L		10 units	1		3ZY1311-0AA00	Push-in lugs For wall mounting	P
For removable terminals of SIRIUS devices in the industrial DIN-rail enclosure; they enable the mechanical coding of terminals Hinged covers								3ZY1311-0AA00
	41L		12 units	1		3ZY1440-1AA00	For removable terminals of SIRIUS devices in the industrial DIN-rail enclosure;	3ZY1440-1AA00
• 22.5 mm wide 3ZY1450-1AB00 1 5 units 4	41L	;	5 units	1		3ZY1450-1AB00	Replacement cover, without terminal labeling, titanium gray	
3ZY1450-1AB00								3ZY1450-1AB00
Sealable covers Replacement cover, without terminal labeling, titanium gray • 22.5 mm wide 3ZY1321-2AA00 1 5 units 4	41L	;	5 units	1		3ZY1321-2AA00	Replacement cover, without terminal labeling, titanium gray	
3ZY1321-2AA00								
Blank labels Unit labeling plates ¹⁾							Unit labeling plates ¹⁾	Blank labels
For SIRIUS devices	41B	;	340 units	100		3RT2900-1SB20	For SIRIUS devices	001_00181
Tools for opening spring-loaded terminals							g spring-loaded terminals	
Screwdriver For all SIRIUS devices with spring-loaded terminals Spring-loaded terminals (push-in)						terminals (push-in)	For all SIRIUS devices with spring-loaded terminals	- Alleria
Length approx. 200 mm, 3RA2908-1A 3.0 mm x 0.5 mm, titanium gray/black, partially insulated 3RA2908-1A 1 1 unit 41	41B		1 unit	1		3RA2908-1A	3.0 mm x 0.5 mm, titanium gray/black,	3RA2908-1A

PC labeling system for individual inscription of unit labeling plates available from: murrplastik Systemtechnik GmbH, see page 16/18.

Relays

SIRIUS 3UG5 monitoring relays for stand-alone installation

DC load monitoring

Overview



SIRIUS 3UG546 DC load monitoring relays

More information
Homepage, see www.siemens.com/sirius-monitoring-relays
SiePortal, see www.siemens.com/product?3UG5

The SIRIUS 3UG546 DC load monitoring relays are suitable for monitoring motors, batteries, and other DC equipment. They are also suitable for applications where batteries are used. The devices monitor the DC current, voltage, and actual power for overshooting or undershooting of the set limit values in 1 or 2 channels. The relays have a CO contact output for alarms and operate on the closed-circuit principle (NC).

The devices are parameterized via PROFINET, and transfer the measured values and diagnostic messages to a controller. Besides providing detailed fault diagnostics, the integrated energy counters, operating hours counters, and operating cycles counters can also be read out and reset.

When metering energy consumption, the SIRIUS 3UG546 DC load monitoring relays distinguish the direction of current flow and can thus, for example, separately sense the quantities of energy stored in or drawn from a battery.

Features	3UG5461-1AA4., 3UG5462-1AA4.
DC monitoring	
Monitoring the DC current for undershoot	√
Monitoring the DC current for overshoot	✓
Range monitoring	✓
Voltage monitoring	
Monitoring the voltage for undershoot	✓
Monitoring the voltage for overshoot	✓
Range monitoring	✓
Power monitoring	
Monitoring the power for undershoot	✓
Monitoring the power for overshoot	✓
Range monitoring	✓
Delay times	
ON-delay	✓
Tripping delay	✓
Operating hours counter	
Monitoring for overshoot	✓
Operating cycles counter	
Monitoring for overshoot	✓
Energy recovery counter	
Monitoring for overshoot	1
Energy consumption counter	
Monitoring for overshoot	✓
PROFINET IO functions	
Ethernet services	√
Port diagnostics	✓
Min. update time	2 ms
Resetting of communication parameters to factory settings	✓
PROFINET RT (real-time communication)	✓
Firmware update via PROFINET IO	✓
I&M identification data 0 to 3	✓
✓ Available	

Article number scheme

Product versions		Article nu	mber	
Monitoring relays		3UG546	□ - 1 A A 4	· 🗆
Current measuring range	2 x 8 A/1 x 16 A		1	
	1 x 63 A		2	
Voltage range	0 800 V			0
	0 60 V			1
Example		3UG546	1 - 1 A A 4	1 0

Note:

The article number scheme shows an overview of product versions for better understanding of the logic behind the article numbers.

For your orders, please use the article numbers quoted in the selection and ordering data.

Benefits

- Wide voltage measuring range of up to 800 V
- 60 V versions especially for applications where batteries are used
- Detection and monitoring of current, voltage and power in a single device
- Detailed fault diagnostics
- Energy metering with distinction of direction of current flow
- Communication and visualization via PROFINET and thus quick and easy integration for visualizing plant energy values
- Integration in the TIA Portal
- · Customary screw terminals for quick and reliable wiring
- Device replacement without renewed wiring thanks to removable terminals

Relays

SIRIUS 3UG5 monitoring relays for stand-alone installation

DC load monitoring

Application

- Exhaustive discharge protection on battery-operated vehicles
- Acquisition of energy flows, incl. energy recovery, e.g. for robots
- DC line monitoring
- DC heaters

- Lighting systems
- Energy management
- Condition monitoring

Technical specifications

More information						
https://support.industry.siemens.com/cs/ww/en/ps/25412/td	Equipment Manual, see https://support.industry.siemens.com/cs/ww/en/ps/25412/man FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/25412/faq					

Article number		3UG5461-1AA40	3UG5461-1AA41	3UG5462-1AA40	3UG5462-1AA41
General technical specifications:					
Dimensions (W x H x D)		22.5 x 100 x 141.6		45 x 100 x 141.6	
Type of electrical separation		Protective separati	on		
Electrical endurance (operating cycles) for relay outputs, maximum		100 000, 0.5 A, 125	5 V AC, for resistive I	oad up to 40 °C	
Mechanical endurance (operating cycles), typical		10 000 000			
Power loss [W], maximum	W	3			
Adjustable response value current 1	Α	-8 +8		-63 +63	
Adjustable response value current 2	Α	-8 +8			
Adjustable ON-delay time On starting On upper or lower limit violation	s s	0 999 0 999			
Adjustable voltage range	V	0 800	0 60	0 800	0 60
Minimum supply voltage failure buffering time	ms	10			
Reaction time, maximum	ms	100			
Degree of protection IP on the front according to IEC 60529		IP20			
Touch protection on the front according to IEC 60529		Finger-safe		Finger-safe for vert the front	ical touching from
Type of mounting • Mounting position		Screw fixing and si Any	nap-on mounting on	35 mm DIN rail	
Installation altitude at height above sea level, maximum	m	2 000			
Ambient temperatureDuring operationDuring storage	°C	-25 +60 -40 +80			
Relative temperature-related measurement deviation	%	0.5			
Number of ports at the interface 1		1			
Product function Operating cycles counter Operating hours counter Auto RESET Manual RESET Overvoltage detection DC Overcurrent detection DC Undervoltage detection DC Undervortage detection DC		Yes Yes Yes Yes Yes Yes Yes			
Product component Removable terminal for main circuit Removable terminal for auxiliary and control circuit		Yes Yes		No	

Relays

SIRIUS 3UG5 monitoring relays for stand-alone installation

DC load monitoring

Article number	3UG5461-1AA40	3UG5461-1AA41	3UG5462-1AA40	3UG5462-1AA41
Measuring circuit:				
Relative measurement accuracy with reference to the upper $\%$ range value	2			
Number of CO contacts for auxiliary contacts	1			
Control circuit:				
Current-carrying capacity of the output relay at DC-13 at 24 V	1			
Thermal current of the non-solid-state contact blocks, maximum A	1			
Type of voltage for monitoring	DC			
Type of current for monitoring	DC			
Supply voltage type	DC			
Supply voltage 1 at DC, rated value	24			
Supply voltage:				
Operating range factor of the supply voltage, rated value at DC	0.85 1.15			

Article number		3UG5461-1AA40	3UG5461-1AA41	3UG5462-1AA40	3UG5462-1AA41
Type of electrical connection		Screw termin	als		
Connectable conductor cross-section for auxiliary contacts • Solid • Finely stranded with end sleeve • For AWG cables	mm ² mm ²	1 x (0.5 4), 2 x (0 1 x (0.5 4), 2 x (0 1 x (20 12), 2 x (0	D.5 1.5)		
Connectable conductor cross-section for main contacts Solid Finely stranded with end sleeve Stranded For AWG cables	mm ² mm ² mm ²	1 x (0.5 4), 2 x (0.5 4), 2 x (0.5 4), 2 x (0.5 4), 2 x (0.5 4), 2 x (0.5 4), 2 x (0.5 12),).5 2.5)).5 2.5)	2 x (1 16), 1 x (1 2 x (1 25), 1 x (1 2 x (1 16), 1 x (1 1 x (18 1), 2 x (18	35) 16)

The SIRIUS 3UG546 DC load monitoring relays monitor a DC load current circuit for undershooting or overshooting of set limit values in 1 or 2 channels. Current, voltage, and power can be monitored separately. When the relays measure the current, they also detect the direction of current and have separate counters for measuring energy consumption and energy recovery.

The devices count the operating cycles and the operating hours of the connected loads as well as the operating cycles of the internal relay. All counters can be monitored for settable limit values and the counter statuses can be reset (with the exception of the operating cycle counter of the internal relay).

The SIRIUS 3UG546 DC load monitoring relays are parameterized exclusively via a PROFINET interface. All measured values and counter values as well as other diagnostics data are transmitted to a controller via PROFINET. The relays can also be operated without PROFINET. If communication fails, the monitoring function continues to be reliably executed. The internal relay, which is switched as a signaling output that responds when a set limit value is undershot or overshot, responds to detected system faults.

All monitored counter values and measured values can be additionally assigned a warning limit, which generates an alarm via PROFINET when the set value is undershot or overshot. Violations of the set limit values are also signaled as an alarm via PROFINET.

The devices are supplied via an external 24 V DC voltage source.

The integral counters for operating hours and operating cycles support operators in requirement-oriented preventive plant maintenance. The operating hours counter outputs the time during which a measurable current flows. The properties of the insulation material of the motor windings, for example, deteriorate during operation due to the thermal load. The operating hours serve as an indicator of upcoming preventive maintenance or replacement of machine parts and system components.

The operating cycles counter is incremented by one each time a breaking operation of the monitored load is detected (transition from current flow to no measurable current flow). The number of operating cycles serves as an indicator of upcoming preventive maintenance or replacement of contact blocks. Arcs in breaking operations cause high loads and wear in particular in DC current circuits.

A1(+)/A2(-) -

(8) Tripping delay time

Monitoring and control devices

Relays

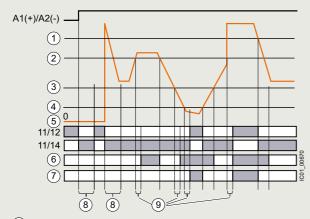
SIRIUS 3UG5 monitoring relays for stand-alone installation

DC load monitoring

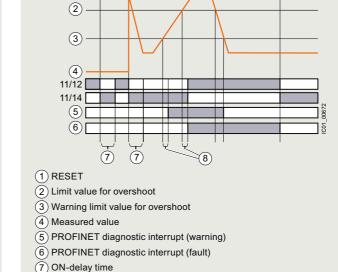
With the closed-circuit principle selected upon application of the control supply voltage

Monitoring for overshooting and undershooting of a measured value including parameterized warning limit/current flow in one direction only/automatic RESET

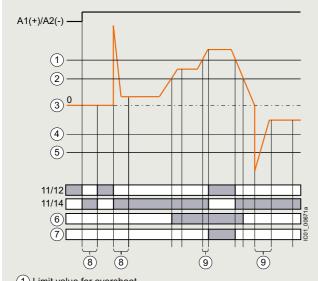
Monitoring for overshooting of a measured value including parameterized warning limit/manual RESET



- 1 Limit value for overshoot
- (2) Warning limit value for overshoot
- (3) Warning limit value for undershoot
- (4) Limit value for undershoot
- (5) Measured value
- (6) PROFINET diagnostic interrupt (warning)
- 7 PROFINET diagnostic interrupt (fault)
- (8) ON-delay time
- 9 Tripping delay time



Monitoring for overshooting and undershooting of a measured value including parameterized warning limit/current flow in both directions (energy consumption and energy recovery)/ automatic RESET



- 1 Limit value for overshoot
- (2) Warning limit value for overshoot
- (3) Measured value
- (4) Warning limit value for undershoot
- (5) Limit value for undershoot
- (6) PROFINET diagnostic interrupt (warning)
- 7 PROFINET diagnostic interrupt (fault)
- (8) ON-delay time
- (9) Tripping delay time

Relays

SIRIUS 3UG5 monitoring relays for stand-alone installation

DC load monitoring

Selection and ordering data





3UG5461-1AA40

3UG5462-1AA40

Measurable voltage	Measurable current	Width	Screw terminals	(01411,	PS*	PG
V	A	mm	Article No. Pric			
DC load monitoring relay						
0 800	2 x 8/1 x 16	22.5	3UG5461-1AA40	1	1 unit	41H
	1 x 63	45	3UG5462-1AA40	1	1 unit	41H
0 60	2 x 8/1 x 16	22.5	3UG5461-1AA41	1	1 unit	41H
	1 x 63	45	3UG5462-1AA41	1	1 unit	41H

Accessories

	Version	Article No.	Price per PU		PS*	PG
Terminals for SIRIUS	devices in the industrial DIN-rail enclosure					
	Removable terminals	Screw terminals	(1)			
3ZY1122-1BA00	• 2-pole, up to 1 x 4 mm² or 2 x 2.5 mm²	3ZY1122-1BA00		1	6 units	41L
Accessories for encl	osures					
P	Push-in lugs For wall mounting	3ZY1311-0AA00		1	10 units	41L
3ZY1311-0AA00						
3ZY1440-1AA00	Coding pins For removable terminals of SIRIUS devices in the industrial DIN-rail enclosure; they enable the mechanical coding of terminals	3ZY1440-1AA00		1	12 units	41L
	Hinged covers Replacement cover, without terminal labeling, titanium gray • 22.5 mm wide	3ZY1450-1AB00		1	5 units	41L
3ZY1450-1AB00						
Blank labels	Unit labeling plates ¹⁾ For SIRIUS devices • 20 mm x 7 mm, titanium gray	3RT2900-1SB20		100	340 units	41B
	ring-loaded terminals					
	Screwdriver For all SIRIUS devices with spring-loaded terminals	Spring-loaded terminals (push-in)				
3RA2908-1A	Length approx. 200 mm, 3.0 mm x 0.5 mm, titanium gray/black, partially insulated	3RA2908-1A		1	1 unit	41B

PC labeling system for individual inscription of unit labeling plates available from: murrplastik Systemtechnik GmbH, see page 16/18.

Relays

SIRIUS 3UG45, 3UG46 monitoring relays for stand-alone installation

General data

Overview



SIRIUS 3UG4 monitoring relays

More information

Homepage, see www.siemens.com/sirius-monitoring-relays SiePortal, see www.siemens.com/product?3UG45

TIA Selection Tool Cloud (TST Cloud), see www.siemens.com/tstcloud/?node=SIRIUSRelais

Conversion tool, see www.siemens.com/conversion-tool

The field-proven SIRIUS monitoring relays for electrical and mechanical variables enable constant monitoring of all important characteristic quantities that provide information about the functional capability of a plant. Both sudden disturbances and gradual changes, which may indicate the need for maintenance, are detected. Thanks to their relay outputs, the monitoring relays permit direct disconnection of the affected system components as well as alerting (e.g. by switching a warning lamp).

Thanks to adjustable delay times the monitoring relays can respond very flexibly to brief faults such as voltage dips or load changes. This avoids unnecessary alarms and disconnections while enhancing plant availability.

The individual 3UG4 monitoring relays offer the following functions in various combinations:

- Undershooting and/or overshooting of liquid levels
- Undershooting and/or overshooting of limit values for voltage for 1-phase monitoring
- Undershooting and/or overshooting of limit values for current
- Undershooting and/or overshooting of limit values for power factor.
- Monitoring of the active current or the apparent current
- Monitoring of the residual current
- Monitoring of the insulation resistance
- Undershooting and/or overshooting of limit values for speed

Note

SIRIUS 3UG5 line monitoring relays, see from page 10/62 onwards.

Article number scheme

Product versions		Article number
Monitoring relays		3UG4 🗆 🗆 🗕 🗆 🗆 🗆 0
Type of setting	e.g. 6 = digitally adjustable	
Functions	e.g. 32 = voltage monitoring	
Connection type	Screw terminals	1
	Spring-loaded terminals	2
Contacts	e.g. A = 1 CO contact	
Supply voltage	e.g. A3 = 24 V AC/DC	
Example		3UG4 6 3 2 - 1 A A 3 0

Note:

The article number scheme shows an overview of product versions for better understanding of the logic behind the article numbers.

For your orders, please use the article numbers quoted in the selection and ordering data.

Relays

SIRIUS 3UG45, 3UG46 monitoring relays for stand-alone installation

General data

Benefits

- Customary screw and spring-loaded terminals for quick and reliable wiring
- Fast commissioning thanks to menu-guided parameterization and actual value display for limit value determination
- Reduced space requirement in the control cabinet thanks to a consistent width of 22.5 mm
- Configurable monitoring functions, delay times, RESET response, etc.
- Reduced stockkeeping thanks to minimized variance and large measuring ranges
- Wide-voltage power supply units for global applicability
- Device replacement without renewed wiring thanks to removable terminals
- Reliable system diagnostics thanks to actual value display and connectable fault storage
- Rapid diagnostics thanks to unambiguous fault messages on the display

Application

The SIRIUS 3UG4 monitoring relays monitor the most diverse electrical and mechanical quantities in the feeder, and provide reliable protection against damage in the plant. For this purpose, they offer freely configurable limit values and diverse options for adapting to the respective task, and in the event of a fault, they provide clear diagnostics information.

The digitally adjustable products also display the current measured values direct on the device. This not only facilitates the display of valuable plant status information during operation, it also enables adjustment of the monitored limit values according to the actual conditions.

The positive result: More selective avoidance of production faults – sustained increases in availability and productivity.

The 3UG4 monitoring relays are available for the following applications:

- · 1-phase voltage monitoring
- 1-phase current monitoring or power factor and active current monitoring
- · Residual current monitoring
- Insulation monitoring
- Level monitoring
- Speed monitoring

Technical specifications

More information

Technical specifications, see

https://support.industry.siemens.com/cs/ww/en/ps/16367/td

Equipment Manual and internal circuit diagrams, see https://support.industry.siemens.com/cs/ww/en/view/54397927

FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/16367/faq

Туре		3UG
General data		
Dimensions (W x H x D)		
For 2 terminal blocks Screw terminals Spring-loaded terminals	mm mm	22.5 x 83 x 91 22.5 x 84 x 91
 For 3 terminal blocks Screw terminals Spring-loaded terminals 	mm mm	22.5 x 92 x 91 22.5 x 94 x 91
 For 4 terminal blocks Screw terminals Spring-loaded terminals 	mm mm	22.5 x 103 x 91 22.5 x 103 x 91
Permissible ambient temperature • During operation	°C	-25 +60
Connection type		⊕ Screw terminals
 Terminal screw Solid Finely stranded with end sleeve AWG cables, solid or stranded 	mm ² mm ² AWG	M3 (for standard screwdriver, size 2 and Pozidriv 2) 1 x (0.5 4)/2 x (0.5 2.5) 1 x (0.5 2.5)/2 x (0.5 1.5) 2 x (20 14)
Connection type		Spring-loaded terminals
 Solid Finely stranded, with end sleeve according to DIN 46228 Finely stranded AWG cables, solid or stranded 	mm ² mm ² mm ² AWG	2 x (0.25 1.5) 2 x (0.25 1.5) 2 x (0.25 1.5) 2 x (24 16)

Relavs

SIRIUS 3UG45, 3UG46 monitoring relays for stand-alone installation

Voltage monitoring

Overview



SIRIUS 3UG4631 monitoring relay

The relays monitor 1-phase AC voltages (rms value) and DC voltages against the set threshold value for overshoot and undershoot. The devices differ with regard to their power supply (internal or external).

Benefits

- Versions with wide voltage supply range
- Variably adjustable to overshoot, undershoot or range monitoring
- Freely configurable delay times and RESET response
- Width 22.5 mm
- Display of actual value and status messages
- All versions with removable terminals
- All versions with screw or spring-loaded terminals

Application

- Protection of a plant against destruction due to overvoltage
- Switch-on of a plant at a defined voltage and higher
- Protection from undervoltage due to overloaded supply voltages, particularly with battery power
- Threshold switch for analog signals from 0.1 to 10 V

Technical specifications

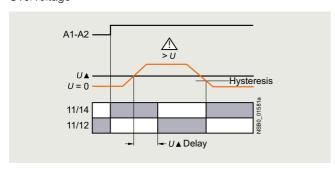
3UG4631/3UG4632 monitoring relays

The 3UG4631/3UG4632 voltage monitoring relay is supplied with an auxiliary voltage of 24 V AC/DC or 24 to 240 V AC/DC and performs overshoot, undershoot or range monitoring of the voltage depending on parameterization. The device is equipped with a display and is parameterized using three buttons.

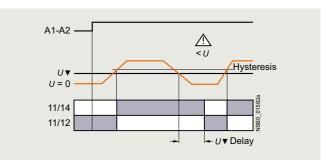
The measuring range extends from 0.1 to 60 V or 10 to 600 V AC/DC. The threshold values for overshoot or undershoot can be freely configured within this range. If one of these threshold values is reached, the output relay responds according to the set principle of operation as soon as the delay time has elapsed. This delay time $U_{\rm Del}$ can be set from 0.1 to 20 s. The hysteresis can be set from 0.1 to 30 V or 0.1 to 300 V. The device can be operated on the basis of either the open-circuit or closed-circuit principle and with Manual or Auto RESET. One output changeover contact is available as signaling contact.

With the closed-circuit principle selected

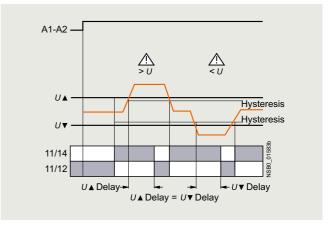
Overvoltage



Undervoltage



Range monitoring



Relays

SIRIUS 3UG45, 3UG46 monitoring relays for stand-alone installation

Voltage monitoring

3UG4633 monitoring relay

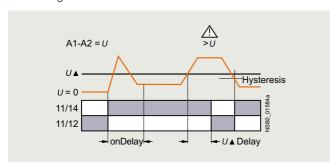
The 3UG4633 voltage monitoring relay has an internal power supply and performs overshoot, undershoot or range monitoring of the voltage depending on parameterization. The device is equipped with a display and is parameterized using three buttons.

The operating and measuring range extends from 17 to 275 V AC/DC. The threshold values for overshoot or undershoot can be freely configured within this range. If one of these threshold values is reached, the output relay responds according to the set principle of operation as soon as the tripping delay time has elapsed. This delay time $U_{\rm Del}$ can also be adjusted, just like the ON-delay time $t_{\rm onDel}$, from 0.1 to 20 s.

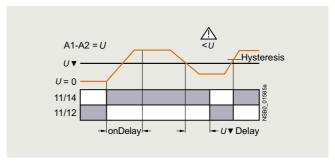
The hysteresis is adjustable from 0.1 to 150 V. The device can be operated on the basis of either the open-circuit or closed-circuit principle and with Manual or Auto RESET. One output change-over contact is available as signaling contact.

With the closed-circuit principle selected

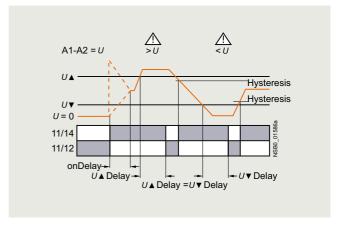
Overvoltage



Undervoltage



Range monitoring



Туре		3UG4631	3UG4632	3UG4633
General data				
Rated insulation voltage <i>U</i> _i Pollution degree 3 Overvoltage category III according to VDE 0110	V	690		
Rated impulse withstand voltage U _{imp}	kV	6		
Measuring circuit				
Permissible measuring range 1-phase AC/DC voltage	V	0.1 60	10 650	17 275
Measuring frequency	Hz	40 500		
Setting range 1-phase voltage	V	0.1 60	10 600	17 275
Control circuit				
Load capacity of the output relay Thermal current Ith	А	5		
Rated operational current $I_{\rm e}$ at • AC-15/24 400 V • DC-13/24 V • DC-13/125 V • DC-13/250 V	A A A	3 1 0.2 0.1		
Minimum contact load at 17 V DC	mA	5		

Relays

SIRIUS 3UG45, 3UG46 monitoring relays for stand-alone installation

Voltage monitoring

Selection and ordering data

Digitally adjustable, with illuminated LCDAuto or Manual RESET

Open-circuit or closed-circuit principle1 CO contact

PU (UNIT, SET, M) = 1 PS* = 1 PG = 4 =41H





3UG4631-1AA30

3UG4633-2AL30

Measuring range	Hysteresis adjustable	Rated control supply voltage $U_{\rm S}$	Screw terminals		Spring-loaded terminals	<u> </u>
V	V	V	Article No.	Price per PU	Article No.	Price per PU
Internal power sup separately adjusta	oply without auxiliable ON-delay and	ary voltage, tripping delay time 0.1 20 s				
17 275 AC/DC	0.1 150	17 275 AC/DC ¹⁾	3UG4633-1AL30		3UG4633-2AL30	
Externally supplie tripping delay time						
0.1 60 AC/DC 10 600 AC/DC	0.1 30 0.1 300	24 AC/DC	3UG4631-1AA30 3UG4632-1AA30		3UG4631-2AA30 3UG4632-2AA30	
0.1 60 AC/DC 10 600 AC/DC	0.1 30 0.1 300	24 240 AC/DC	3UG4631-1AW30 3UG4632-1AW30		3UG4631-2AW30 3UG4632-2AW30	

¹⁾ Absolute limit values.

Accessories, see page 10/100.

Relays

SIRIUS 3UG45, 3UG46 monitoring relays for stand-alone installation

Current monitoring

Overview



SIRIUS 3UG4622 monitoring relay

The relays monitor 1-phase AC currents (rms value) and DC currents against the set threshold value for overshoot and undershoot. They differ with regard to their measuring ranges and control supply voltage types.

Benefits

- Versions with wide voltage supply range
- Variably adjustable to overshoot, undershoot or range monitoring
- Freely configurable delay times and RESET response
- Width 22.5 mm
- Display of actual value and status messages
- All versions with removable terminals
- All versions with screw or spring-loaded terminals

Application

- · Overcurrent and undercurrent monitoring
- Monitoring the functionality of electrical loads
- · Open-circuit monitoring
- Threshold switch for analog signals from 4 to 20 mA

■ Technical specifications

3UG4621/3UG4622 monitoring relays

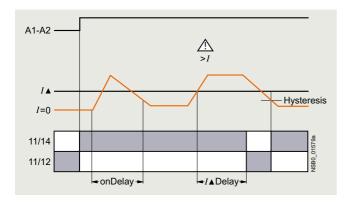
The 3UG4621 or 3UG4622 current monitoring relay is supplied with an auxiliary voltage of 24 V AC/DC or 24 to 240 V AC/DC and performs overshoot, undershoot or range monitoring of the current depending on parameterization. The device is equipped with a display and is parameterized using three buttons.

The measuring range extends from 3 to 500 mA or 0.05 to 10 A. The rms value of the current is measured. The threshold values for overshoot or undershoot can be freely configured within this range. If one of these threshold values is reached, the output relay responds according to the set principle of operation as soon as the tripping delay time $I_{\rm Del}$ has elapsed. This time and the ON-delay time $t_{\rm onDel}$ are adjustable from 0.1 to 20 s.

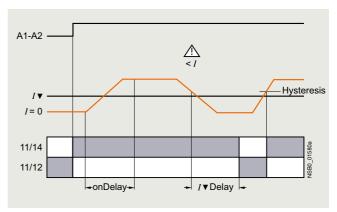
The hysteresis is adjustable from 0.1 to 250 mA or 0.01 to 5 A. The device can be operated with Manual or Auto RESET and on the basis of either the open-circuit or closed-circuit principle. You can decide here whether the output relay is to respond when the supply voltage $U_{\rm S}={\rm ON}$ is applied, or not until the lower measuring range limit of the measuring current (I>3 mA/50 mA) is reached. One output changeover contact is available as signaling contact.

With the closed-circuit principle selected upon application of the control supply voltage

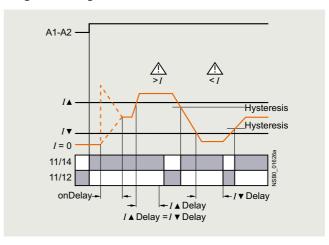
Current overshoot



Current undershoot



Range monitoring



Relays

SIRIUS 3UG45, 3UG46 monitoring relays for stand-alone installation

Current monitoring

Туре		3UG4621AA	3UG4621AW	3UG4622AA	3UG4622AW
General data					
Rated insulation voltage \textit{U}_{i} Pollution degree 3; overvoltage category III according to VDE 0110	V	690			
Rated impulse withstand voltage U _{imp}	kV	6			
Measuring circuit					
Measuring range for 1-phase AC/DC current	Α	0.003 0.6		0.05 15	
Measuring frequency	Hz	40 500			
Setting range for 1-phase current	Α	0.003 0.5		0.05 10	
Load supply voltage	V	24	Max. 300 ¹⁾ Max. 500 ²⁾	24	Max. 300 ¹⁾ Max. 500 ²⁾
Control circuit					
Load capacity of the output relay • Thermal current I _{th}	А	5			
Rated operational current <i>I</i> _e at ■ AC-15/24 400 V ■ DC-13/24 V	A A	3			
• DC-13/125 V • DC-13/250 V	A A	0.2 0.1			
Minimum contact load at 17 V DC	mA	5			

¹⁾ With protective separation.

Selection and ordering data

- Digitally adjustable, with illuminated LCD
- Auto or Manual RESET
- Open-circuit or closed-circuit principle
- 1 CO contact

PU (UNIT, SET, M) = 1 PS* PG = 1 unit = 41H







Spring-loaded terminals	$\stackrel{\infty}{\mathbb{H}}$

Measuring range	Hysteresis adjustable	Rated control supply voltage U_s	Screw terminals	+	Spring-loaded terminals	
		V	Article No.	Price per PU	Article No.	Price per PU
Monitoring of underc		rent, ON-delay and tripping 0.1 20 s				_
3 500 mA AC/DC 0.05 10 A AC/DC	0.1 250 mA 0.01 5 A	24 AC/DC ¹⁾	3UG4621-1AA30 3UG4622-1AA30		3UG4621-2AA30 3UG4622-2AA30	
3 500 mA AC/DC 0.05 10 A AC/DC	0.1 250 mA 0.01 5 A	24 240 AC/DC ²⁾	3UG4621-1AW30 3UG4622-1AW30		3UG4621-2AW30 3UG4622-2AW30	

¹⁾ No electrical separation. Load supply voltage 24 V.

Accessories, see page 10/100.

For AC currents I > 10 A it is possible to use 4NC current transformers as an accessory, see Catalog LV 10.

²⁾ With simple separation.

²⁾ Electrical separation between control circuit and measuring circuit. Load supply voltage for protective separation max. 300 V, for simple separation max. 500 V.

Relays

SIRIUS 3UG45, 3UG46 monitoring relays for stand-alone installation

Power factor and active current monitoring

Overview



SIRIUS 3UG4641 monitoring relay

The 3UG4641 power factor and active current monitoring device enables load monitoring of motors.

Whereas power factor (p.f.) monitoring is used above all for monitoring no-load operation, the active current monitoring option can be used to observe and evaluate the load factor over the entire torque range.

Benefits

- Can be used worldwide thanks to wide voltage range from 90 to 690 V (absolute limit values)
- Monitoring of even small 1-phase motors with a no-load current below 0.5 A
- Simple determination of threshold values by directly referencing measured variables to motor loading
- Range monitoring and active current measurement enable detection of cable breaks between control cabinets and motors, as well as phase failures
- Power factor (p.f.) or I_{res} (active current) can be selected as the measurement principle
- Width 22.5 mm
- All versions with removable terminals
- All versions with screw or spring-loaded terminals

Application

- No-load monitoring and load shedding, such as in the event of a V-belt tear
- Underload monitoring in the low-end performance range, e.g. in the event of pump no-load operation
- Monitoring of overload, e.g. due to a dirty filter system
- Simple power factor monitoring in power systems for control of compensation equipment
- Broken cable between control cabinet and motor

Technical specifications

3UG4641 monitoring relays

The 3UG4641 monitoring relay is self-powered and serves the 1-phase monitoring of the power factor or performs overshoot, undershoot or range monitoring of the resulting active current depending on how it is parameterized. The load to be monitored is connected upstream of the IN terminal. The load current flows through the terminals IN and Ly/N. The setting range for the power factor is 0.1 to 0.99 and for the active current I_{res} it is 0.2 to 10 A. If the control supply voltage is switched on and no load current flows, the display will show I < 0.2 A as well as a symbol for overshoot, undershoot or range monitoring. If the motor is now switched on and the current exceeds 0.2 Å, the set ON-delay time begins. During this time, if the set limit values are undershot or exceeded, this does not lead to a relay reaction of the changeover contact. If the operational flowing active current and/or the power factor value falls below or exceeds the respective set threshold value, the spike delay begins. When this time has expired, the relay changes its switch position. The relevant measured variables for overshooting and undershooting in the display flash. If monitoring for active current undershoot is switched off ($I_{res} \nabla = OFF$), and if the load current undershoots the lower measuring range threshold (0.2 A), the CO contacts remain unchanged. If a threshold value is set for the monitoring of active current undershooting then undershooting of the measuring range threshold (0.2 A) will result in a response of the CO contacts.

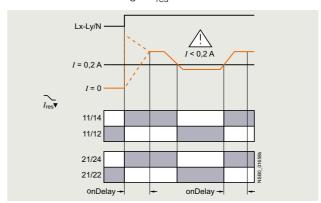
The relay operates either according to the open-circuit or closed-circuit principle. If the device is set to Auto RESET (Memory = No), depending on the set principle of operation, the switching relay returns to its initial state and the flashing ends when the hysteresis threshold is reached.

If Manual RESET is selected in the menu (Memory = Yes), the switching relay remains in its current switching state and the current measured variable and the symbol for undershooting and overshooting continue to flash, even when the measured variable reaches a permissible value again. This stored fault status can be reset by simultaneously pressing the UP▲ and DOWN▼ keys for 2 seconds, or by switching the supply voltage off and back on again.

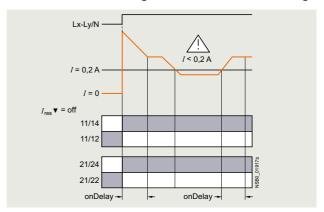
With the closed-circuit principle selected

Response in the event of undershooting the measuring range limit

With activated monitoring of I_{res}▼



• With deactivated monitoring of active current undershooting

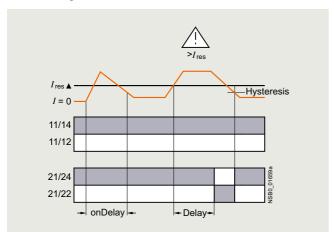


Relays

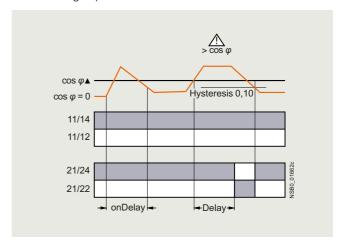
SIRIUS 3UG45, 3UG46 monitoring relays for stand-alone installation

Power factor and active current monitoring

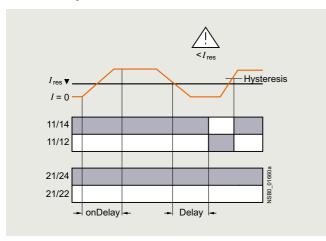
Overshooting of active current



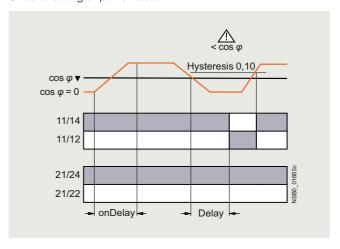
Overshooting of power factor



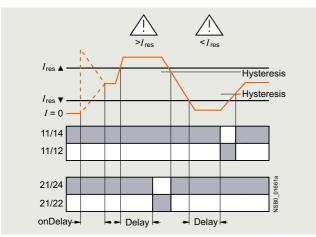
Undershooting of active current



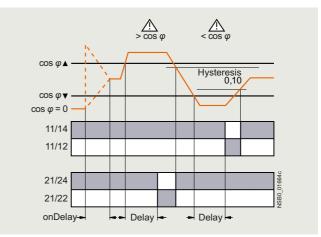
Undershooting of power factor



Range monitoring of active current



Range monitoring of power factor



Relays

SIRIUS 3UG45, 3UG46 monitoring relays for stand-alone installation

Power factor and active current monitoring

Туре		3UG4641
General data		
Rated insulation voltage <i>U</i> _i Pollution degree 3 Overvoltage category III according to VDE 0110	V	690
Rated impulse withstand voltage U _{imp}	kV	6
Control circuit		
Number of CO contacts for auxiliary contacts		2
Load capacity of the output relay • Thermal current I_{th}	А	5
Rated operational current $I_{\rm e}$ at • AC-15/24 400 V • DC-13/24 V • DC-13/125 V • DC-13/250 V	A A A	3 1 0.2 0.1
Minimum contact load at 17 V DC	mA	5

Selection and ordering data

ullet For monitoring the power factor and the active current $I_{
m res}$

Suitable for 1-phase and 3-phase currents
Digitally adjustable, with illuminated LCD
Overshoot, undershoot or range monitoring adjustable

Upper and lower threshold value can be adjusted separately

• Permanent display of actual value and tripping state

1 changeover contact each for undershoot/overshoot

PU(UNII, SEI, M) = 1	
PS* = 1	unit
PG = 41	1H

Measuring r	ange	Hystere adjusta		ON-delay time adjustable	Tripping delay time adjustable	Rated control supply voltage $U_s^{(1)}$	Screw terminals			Spring-loaded terminals	•••
for power factor	for active current I_{res}	for power factor	for active current I_{res}	onDel	I▲Del/ I▼Del, φ ▲Del/ φ ▼Del	50/60 Hz AC					
P.f.	Α	P.f.	А	s	S	V	Article No.	Price per PU	,	Article No.	Price per PU
0.10 0.99	0.2 10.0	0.1	0.1 2.0	0 99	0.1 20.0	90 690	3UG4641-1CS20			3UG4641-2CS20	

¹⁾ Absolute limit values.

Accessories, see page 10/100.

For AC active currents $I_{\rm res}$ > 10 A it is possible to use 4NC current transformers as an accessory, see Catalog LV 10.

Relays

SIRIUS 3UG45, 3UG46 monitoring relays for stand-alone installation

Residual current monitoring > Residual current monitoring relays

Overview



SIRIUS 3UG4625 monitoring relay

The 3UG4625 residual current monitoring relays are used in conjunction with the 3UL23 residual-current transformers for monitoring plants in which higher residual currents are increasingly expected due to ambient conditions. Monitoring encompasses pure AC residual currents or AC residual currents with a pulsating DC fault current component (transformer, type A according to DIN VDE 0100-530/IEC TR 60755).

Benefits

- Worldwide use thanks to wide voltage range from 24 to 240 V AC/DC
- High measurement accuracy of ± 7.5%
- · Permanent self-monitoring
- Variable threshold values for warning and disconnection
- Freely configurable delay times and RESET response
- Permanent display of the actual value and fault diagnostics via the display
- High level of flexibility and space saving through installation of the transformer inside or outside the control cabinet
- Width 22.5 mm
- · All versions with removable terminals
- All versions with screw or spring-loaded terminals

Application

Monitoring of plants in which residual currents can occur, e.g. due to dust deposits or moisture, porous cables and leads, or capacitive residual currents.

Technical specifications

3UG4625 monitoring relays

The main conductor, and any neutral conductor to which a load is connected, are routed through the opening of the toroidal core of a residual-current transformer. A secondary winding is placed around this toroidal core to which the monitoring relay is connected.

If operation of a plant is fault-free, the sum of the inflowing and outward currents equals zero. No current is then induced in the secondary winding of the residual-current transformer.

However, if an insulation fault occurs, the sum of the inflowing currents is greater than that of the outward currents. The differential current – i.e. the residual current – induces a secondary current in the secondary winding of the transformer. This current is evaluated in the monitoring relay and is used on the one hand to display the actual residual current and on the other, to switch the relay if the set warning or tripping threshold is overshot.

If the measured residual current exceeds the set warning value, the associated changeover contact instantly changes the switching state and an indication appears on the display.

If the measured residual current exceeds the set tripping value, the set delay time begins and the associated relay symbol flashes. On expiry of this time, the associated changeover contact changes the switching state.

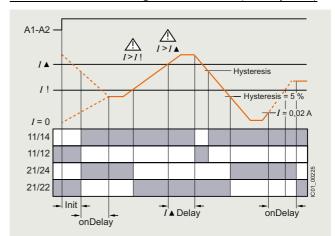
ON-delay time for motor start

To be able to start a drive when a residual current is detected, the output relays switch to the OK state for an adjustable ON-delay time depending on the selected open-circuit principle or closed-circuit principle.

The changeover contacts do not react if the set threshold values are overshot during this period.

With the closed-circuit principle selected

Residual current monitoring with Auto RESET (Memory = No)



If the device is set to Auto RESET, the relay switches back to the OK state for the tripping value after tripping once the value falls below the set hysteresis threshold and the display stops flashing.

The associated relay changes its switching state if the value falls below the fixed hysteresis value of 5% of the set warning value.

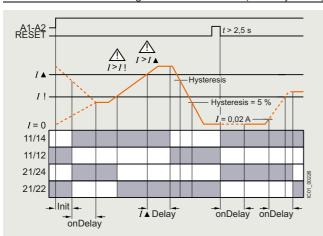
Any overshoots are therefore not stored.

Relays

SIRIUS 3UG45, 3UG46 monitoring relays for stand-alone installation

Residual current monitoring > Residual current monitoring relays

Residual current monitoring with Manual RESET (Memory = Yes)



If Manual RESET is selected in the menu, the output relays remain in their current switching state and the current measured value and the symbol for overshooting continue to flash, even when the measured residual current returns to a permissible value. This stored fault status can be reset by simultaneously pressing the UP▲ and DOWN▼ keys for > 2 seconds, or by switching the supply voltage off and back on again.

Note:

Do not ground the neutral conductor downstream of the residual-current transformer as otherwise residual current monitoring functions can no longer be ensured.

Туре		3UG4625-1CW30, 3UG4625-2CW30
General data		
Insulation voltage for overvoltage category III according to IEC 60664 for pollution degree 3, rated value	V	300
Impulse withstand voltage, rated value $U_{\rm imp}$	kV	4
Control circuit		
Number of CO contacts for auxiliary contacts		2
Thermal current of the non-solid-state contact blocks, maximum	Α	5
Current-carrying capacity of the output relay • At AC-15 at 250 V at 50/60 Hz • At DC-13 - At 24 V - At 125 V - At 250 V	A A A	3 1 0.2 0.1
Operational current at 17 V, minimum	mA	5

Selection and ordering data

- For monitoring residual currents from 0.03 to 40 A, from 16 to 400 Hz
- For 3UL23 residual-current transformers with feed-through opening from 35 to 210 mm
- Permanent self-monitoring
- Certified according to IEC 60947, functionality corresponds to IEC 62020
- Digitally adjustable, with illuminated LCD

- Permanent display of actual value and tripping state
- Separately adjustable limit value and warning threshold
- 1 changeover contact each for warning threshold and tripping threshold







3UG4625-2CW30

Measur- able	response	Switching hysteresis			Screw terminals	(1)	Spring-loaded terminals	<u></u>		
current	value current		time	at AC at 50 Hz, rated value	at AC at 60 Hz, rated value	at DC, rated value	Article No.	Price per PU	Article No.	Price per PU
Α	Α	%	S	V	V	٧				
0.01 43	0.03 40	0 50	0 20	24 240	24 240	24 240	3UG4625-1CW30		3UG4625-2CW30	

Accessories, see page 10/100.

For the 3UL23 residual-current transformers, see page 10/89.

Relays

SIRIUS 3UG45, 3UG46 monitoring relays for stand-alone installation

Residual current monitoring > 3UL23 residual-current transformers

Overview



SIRIUS 3UL23 residual-current transformer

The 3UL23 residual-current transformers detect residual currents in machines and plants. They are suitable for pure AC residual currents or AC residual currents with a pulsating DC fault current component (transformer type A according to DIN VDE 0100-530/IEC TR 60755).

Together with the 3UG4625, 3UG4825 residual current monitoring relays for IO-Link or the SIMOCODE 3UF motor management and control device they enable residual current and ground-fault monitoring.

The 3UL2302-1A and 3UL2303-1A residual-current transformers with a feed-through opening from 35 to 55 mm can be mounted in conjunction with the 3UL2900 accessories on a TH 35 DIN rail according to IEC 60715.

Selection and ordering data

Diameter of the feed-through opening	Connectable cross-section of the connecting terminal	Screw terminals	⊕	PU (UNIT, SET, M)	PS*	PG
mm	mm ²		Price r PU			
Residual-current transformers (essential accessories for 3UG4625	3UG4825)					
35 55 80	2.5 2.5 2.5	3UL2302-1A 3UL2303-1A 3UL2304-1A		1 1 1	1 unit 1 unit 1 unit	41H 41H 41H
110 140 210	2.5 2.5 4	3UL2305-1A 3UL2306-1A 3UL2307-1A		1 1 1	1 unit 1 unit 1 unit	41H 41H 41H

Accessories

3UL2900

Accessories						
	Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Adapters						
Series .	Adapters For mounting on DIN rail for 3UL23 to diameter 55 mm	3UL2900		1	2 units	41H

Relays

SIRIUS 3UG45, 3UG46 monitoring relays for stand-alone installation

Insulation monitoring

Overview



SIRIUS 3UG458 insulation monitors

Insulation monitoring relays are used for monitoring the insulation resistance between ungrounded 1-phase or 3-phase AC supplies and a protective conductor.

Ungrounded, i.e. isolated networks (IT networks) are always used where high demands are placed on the reliability of the power supply, e.g. emergency lighting systems. IT systems are supplied via an isolating transformer or by power supply sources such as batteries or a generator. While an initial insulation fault between a phase conductor and the ground effectively grounds the conductor, as a result no circuit has been closed, so it is possible to continue work in safety (single-fault safety). However, the fault must be rectified as quickly as possible before a second insulation fault occurs (e.g. according to DIN VDE 0100-410). For this purpose insulation monitoring relays are used, which constantly measure the resistance to ground of the phase conductor and the neutral conductor, reporting a fault immediately if insulation resistance falls below the set value so that either a controlled shutdown can be performed or the fault can be rectified without interrupting the power supply.

Two device series

- 3UG4581 insulation monitoring relays for ungrounded AC networks
- 3UG4582 and 3UG4583 insulation monitoring relays for ungrounded DC and AC networks

Insulation monitoring for ungrounded AC networks

The 3UG4581 insulation monitoring relays are used to monitor insulation resistance according to IEC 61557-8 in ungrounded AC networks with rated voltages of up to 400 V.

These devices can monitor control circuits (1-phase) and main circuits (3-phase).

They measure insulation resistances between system cables and system ground. If the value falls below the threshold value, the output relays are switched to fault status.

In the case of 3UG4581 a higher-level DC measuring signal is used. The higher-level DC measuring signal and the resulting current are used to determine the value of the insulation resistance of the network which is to be measured.

Insulation monitoring relay for ungrounded DC and AC networks

The 3UG4582 and 3UG4583 insulation monitoring relays are used to monitor insulation resistance in ungrounded IT AC or DC networks according to IEC 61557-8.

They measure insulation resistances between system cables and system ground. If the value falls below the threshold value, the output relays are switched to fault status. With these monitoring relays, which are suitable for both AC and DC networks, a pulsed test signal is fed into the network to be monitored and the insulation resistance is determined.

The pulsed test signal changes its form according to insulation resistance and network loss capacitance. The changed form is used to predict the changed insulation resistance.

If the predicted insulation resistance matches the insulation resistance calculated in the next measurement cycle, and is lower than the threshold value, the output relays are activated or deactivated, depending on the device configuration. This measurement principle is also suitable for identifying symmetrical insulation faults.

3UG4983 voltage reducer module



3UG4983 voltage reducer module

The 3UG4983-.AA01 voltage reducer module is available for the 3UG4583 insulation monitoring relay to extend the network voltage range to 690 V AC and 1000 V DC.

Connection methods

With the updated enclosure, future-proof push-in technology is available alongside the tried-and-trusted screw terminals.

Push-in is a form of spring-loaded connection system allowing wiring of terminals without tools. These terminals are self-adjusting, i.e. the regular tightening needed with screw terminals is not necessary.

Relays

SIRIUS 3UG45, 3UG46 monitoring relays for stand-alone installation

Insulation monitoring

Benefits

- Devices for AC and DC systems
- All devices have a wide control supply voltage range
- Direct connection to networks with mains voltages of up to 690 V AC and 1 000 V DC by means of a voltage reducer module
- For AC supply systems: Frequency range 15 to 400 Hz
- Monitoring of broken conductors
- Monitoring of setting errors
- Safety in use thanks to integrated system test after startup
- Option of resetting and testing (by means of button on the front or using control contact)
- New predictive measurement principle allows very fast response times
- · All versions with screw or spring-loaded terminals with push-in functionality

Application

IT networks are used, for example:

- In emergency power supplies
- In safety lighting systems
- In industrial production facilities with high availability requirements (chemical industry, automobile manufacturing, printing plants)
- In shipping and railways
- For mobile generators (aircraft)
- For renewable energies, such as wind energy and photovoltaic power plants
- In the mining industry

Technical specifications

More information

For equipment manuals, see

- https://support.industry.siemens.com/cs/ww/en/view/54382552
 https://support.industry.siemens.com/cs/ww/en/view/54382528

Туре		3UG4581AW31	3UG4582AW31	3UG4583CW31	3UG4983AA01
General data					
Dimensions (W x H x D)	mm	22.5 x 78 x 100		45 x 78 x 100	
Degree of protection IP on the front according to IEC 60529		IP20			
Mounting position		Any			
Type of mounting		Snap-on mounting	on 35 mm DIN-rail		
Ambient temperature during operation	°C	-25 +60			
Fault storage		✓	✓	✓	
Measuring circuit					
Measurable voltage					
• At DC	V	100	0 300	0 600	0 1 000
• At AC		0 400	0 250	0 400	0 690
Measurable line frequency	Hz	50 60	15 400		
Adjustable response value impedance 1 2	kΩ kΩ	1 100		2 200	=
System leakage capacitance	μF	10		20	
Control circuit					
Control supply voltage • At AC					
- At 50 Hz	V	24 240 24 240			
- At 60 Hz • At DC	V	24 240			
Operating frequency	Hz	50 60	15 400		
Impulse withstand voltage	V	6 000		4 000	8 000
Number of CO contacts with delayed switching		1		2	0
Thermal current of the non-solid-state contact blocks, maximum	А	4			

- ✓ Available
- -- Not available

Relays

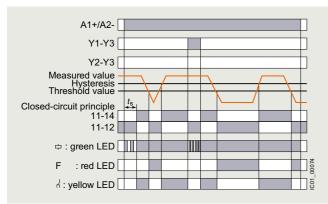
SIRIUS 3UG45, 3UG46 monitoring relays for stand-alone installation

Insulation monitoring

Туре	3UG4581-1AW31 3UG4582-1AW31 3UG4583-1CW31 3UG4983-1AA01	3UG4581-2AW31 3UG4582-2AW31 3UG4583-2CW31 3UG4983-2AA01
Type of electrical connection	Screw terminals	Spring-loaded terminals (push-in)
Tightening torque	0.6 0.8 Nm	
Type of connectable conductor cross-sections		
Solid Finely stranded	1 x (0.5 4.0 mm ²), 2 x (0.5 2.5 mm ²)	2 x (0.5 1.5 mm ²)
- Without end sleeves - With end sleeves	1 x (0.5 2.5 mm ²), 2 x (0.5 1.5 mm ² 1 x (0.5 2.5 mm ²), 2 x (0.5 1.5 mm ²	2 x (0.5 1.5 mm ²) 2 x (0.5 1.5 mm ²)
For AWG cablesSolidStranded	1 x (20 12), 2 x (20 14) 1 x (18 14), 2 x (18 16)	2 x (20 16) 2 x (18 16)

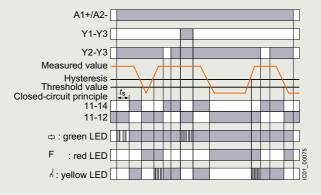
With the closed-circuit principle selected

Insulation resistance monitoring without fault storage, with Auto RESET

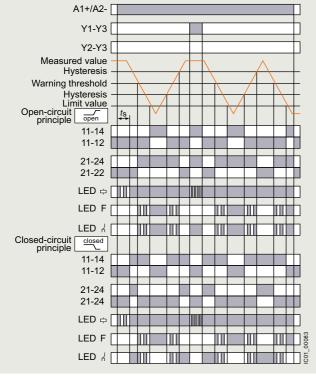


3UG4581, 3UG4582 monitoring relays

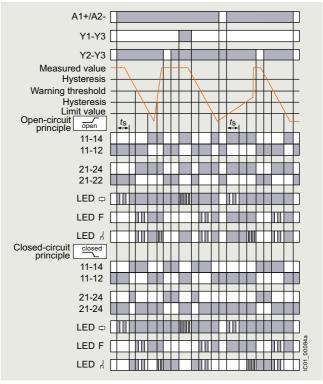




3UG4581, 3UG4582 monitoring relays



3UG4583 monitoring relays



3UG4583 monitoring relays

Relays

SIRIUS 3UG45, 3UG46 monitoring relays for stand-alone installation

Insulation monitoring

Selection and ordering data

PU (UNIT, SET, M) = 1 PS* = 1 unit PG = 41H









3UG4582-1AW31

3UG4583-1CW31

3UG4583-1AA01

Measurab voltage at AC	le at DC	Type of voltage of the control supply voltage, value range	System leakage capaci- tance	Number of CO contacts with delayed switching	Adjustable response impedance 1	value	Screw terminals	+	Spring-loaded terminals (push-in)	<u>~</u>
V	V	AC/DC	μF		kΩ	kΩ	Article No.	Price per PU	Article No. Pr	rice PU
Insulation	on monito	rs								
0 400		24 240	10	1	1 100		3UG4581-1AW31		3UG4581-2AW31	
0 250	0 345	24 240	10	1	1 100		3UG4582-1AW31		3UG4582-2AW31	
0 400	0 690	24 240	20	2	1 100	2 200	3UG4583-1CW31		3UG4583-2CW31	
Voltage	reducer m	odules								
		lation monitorin	g relay for	extending tl	ne network	voltage				
0 690	0 1 000		20	0			3UG4983-1AA01		3UG4983-2AA01	

Relays

SIRIUS 3UG45, 3UG46 monitoring relays for stand-alone installation

Level monitoring

Overview



SIRIUS 3UG4501 monitoring relay

The 3UG4501 level monitoring relay is used in combination with 2- or 3-pole sensors to monitor the levels of conductive liquids.

Benefits

- Can be used worldwide thanks to wide voltage range from 24 to 240 V (absolute limit values)
- Individually shortenable 2- and 3-pole wire electrodes for easy mounting from above/below
- Bow electrodes for installation from the side, for larger filling levels and minimum space requirements
- Can be flexibly adapted to different conductive liquids through analog setting of the sensitivity from 2 to 200 k Ω
- Compensation for wave movements through tripping delay times from 0.1 to 10 s
- Upstream or downstream function selectable
- All versions with removable terminals
- All versions with screw or spring-loaded terminals

Application

- Single-point and two-point level monitoring
- Overflow protection
- Dry-running protection
- · Leak monitoring

Technical specifications

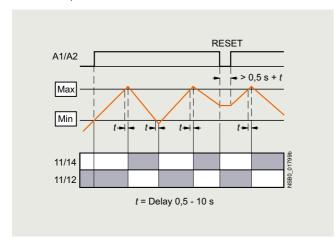
3UG4501 monitoring relays

The principle of operation of the 3UG4501 level monitoring relay is based on measuring the electrical resistance of the liquid between two immersion sensors and a reference terminal. If the measured value is lower than the sensitivity set on the front, the output relay changes its switching state. In order to preclude active current undershooting of the liquid, the sensors are supplied with alternating current.

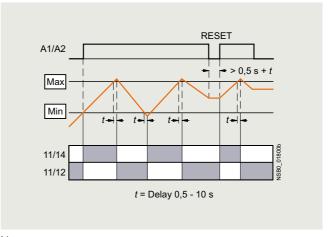
Two-point control

The output relay changes its switching state as soon as the liquid level reaches the maximum sensor, while the minimum sensor is submerged. The relay returns to its original switching state as soon as the minimum sensor no longer has contact with the liquid.

OVER, two-point control



UNDER, two-point control



Note:

It is also possible to connect other resistance sensors to the Min and Max terminals in the range 2 to 200 k Ω , e.g. photoresistors, temperature sensors, encoders based on resistance, etc. The monitoring relay can therefore also be used for other applications as well as for monitoring the levels of liquids.

Relays

SIRIUS 3UG45, 3UG46 monitoring relays for stand-alone installation

Level monitoring

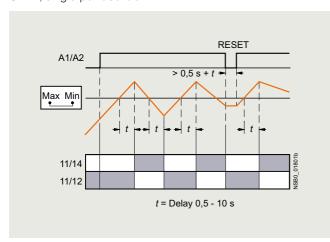
Single-point control

If only one level is being controlled, the terminals for Min and Max on the monitoring relay are bridged. The output relay changes its switching state as soon as the liquid level is reached and returns to its original switching state once the sensor no longer has contact with the liquid.

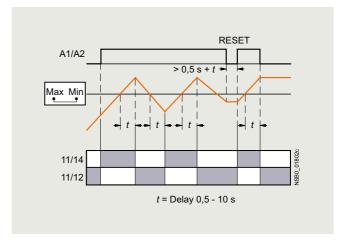
In order to prevent premature tripping of the switching function caused by wave motion or frothing, even though the set level has not been reached, it is possible to delay this function by 0.5 to 10 s

For safe resetting, the control supply voltage must be interrupted for at least the set delay time of ± 0.5 s.

OVER, single-point control



UNDER, single-point control



Туре		3UG4501
General data		
Rated insulation voltage <i>U</i> _i Pollution degree 3	V	300
Overvoltage category III according to VDE 0110		
Rated impulse withstand voltage U _{imp}	kV	4
Measuring circuit		
Electrode current, max. (typ. 70 Hz)	mA	1
Electrode voltage, max. (typ. 70 Hz)	V	15
Sensor feeder cable	m	Max. 100
Cable capacitance of sensor cable ¹⁾	nF	Max. 10
Control circuit		
Load capacity of the output relay		
Thermal current Ith	Α	5
Rated operational current I _e at		
• AC-15/24 400 V	Α	3
• DC-13/24 V	Α	1
• DC-13/125 V	Α	0.2
• DC-13/250 V	Α	0.1
Minimum contact load at 17 V DC	mA	5

¹⁾ The sensor cable does not necessarily have to be shielded, but we do not recommend installing this cable parallel to the power supply lines. It is also possible to use a shielded cable, whereby the shield has to be connected to the M terminal.

Relays

SIRIUS 3UG45, 3UG46 monitoring relays for stand-alone installation

Level monitoring

Selection and ordering data

• For level monitoring of electrically conductive liquids

 Control principle: inlet or sequence control adjustable per rotary switch

• Single-point and two-point control possible

 Analogically adjustable sensitivity (specific resistance of the liquid)

Analogically adjustable tripping delay time

• 1 yellow LED for displaying the relay state

1 green LED for displaying the applied control supply voltage

1 ČO contact

PU (UNII, SEI, M)	= 1
PS*	= 1 unit
PG	= 41H

Sensitivity	Tripping delay time	Rated control supply voltage $U_{\rm S}$	Screw terminals)	Spring-loaded terminals	<u></u>
kΩ	S	V AC/DC	Article No. Pric		Article No.	Price per PU
2 200	0.5 10	24 ¹⁾	3UG4501-1AA30		3UG4501-2AA30	
		24 240	3UG4501-1AW30		3UG4501-2AW30	

 $^{^{1)}}$ The rated control supply voltage and the measuring circuit are $\underline{\rm not}$ electrically separated.

Accessories, see page 10/100.

Note:

Level monitoring sensors are available from various providers. We recommend sensors made by Jacob GmbH (see "External partners", page 16/18). The previous 3UG3 level sensors are also available from here.

Relays

SIRIUS 3UG45, 3UG46 monitoring relays for stand-alone installation

Speed monitoring

Overview



SIRIUS 3UG4651 monitoring relay

The 3UG4651 monitoring relay is used in combination with a sensor to monitor motor drives for overspeed and/or underspeed.

Furthermore, the monitoring relay is ideal for all functions where a continuous pulse signal needs to be monitored (e.g. belt travel monitoring, completeness monitoring, passing monitoring, clock-time monitoring).

Benefits

- Can be used worldwide thanks to wide voltage range from 24 to 240 V (absolute limit values)
- Variably adjustable to overshoot, undershoot or range monitoring
- Freely configurable delay times and RESET response
- · Permanent display of actual value and fault type
- Use of up to 10 sensors per rotation for extremely slowly rotating motors
- Two-wire or three-wire sensors and sensors with a mechanical switching output or solid-state output can be connected
- · Auxiliary voltage for sensor integrated
- All versions with removable terminals
- All versions with screw or spring-loaded terminals

Application

- Slip or tear of a belt drive
- · Overload monitoring
- Transport monitoring for completeness

Technical specifications

3UG4651 monitoring relays

The speed monitoring relay operates according to the principle of period duration measurement.

In the monitoring relay, the time between two successive rising edges of the pulse encoder is measured and compared to the minimum and/or maximum permissible period duration calculated from the set limit values for the speed.

Thus, the period duration measurement recognizes any deviation in speed after just two pulses, even at very low speeds or in the case of extended pulse gaps.

By using up to ten pulse encoders evenly distributed around the circumference, it is possible to shorten the period duration, and in turn the response time. By taking into account the number of sensors in the monitoring relay, the speed continues to be indicated in rpm.

ON-delay time for motor start

To be able to start a motor drive, and depending on whether the open-circuit or closed-circuit principle is selected, the output relay switches to the OK state during the ON-delay time, even if the speed is still below the set value.

The ON-delay time is started by either switching on the auxiliary voltage or, if the auxiliary voltage is already applied, by actuating the respective NC contact (e.g. auxiliary contact).

Speed monitoring with Auto RESET (Memory = No)

If the device is set to Auto RESET, the output relay switches to the OK state, once the adjustable hysteresis threshold is reached in the range of 0.1 to 99.9 rpm and the flashing stops. Any overshoots or undershoots are therefore not stored.

Speed monitoring with Manual RESET (Memory = Yes)

If Manual RESET is selected in the menu, the output relay remains in its current switching state and the current measured value and the symbol for overshooting/undershooting continue to flash, even when the speed returns to a permissible value. This stored fault status can be reset by simultaneously pressing the UP▲ and DOWN▼ buttons for > 2 s, by connecting the RESET device terminal to 24 V DC or by switching the control supply voltage off and back on again.

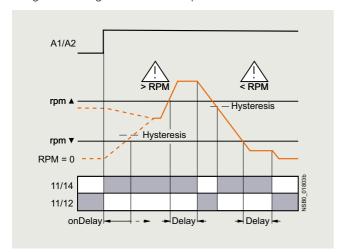
Relays

SIRIUS 3UG45, 3UG46 monitoring relays for stand-alone installation

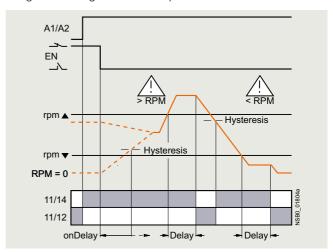
Speed monitoring

With the closed-circuit principle selected

Range monitoring without enable input



Range monitoring with enable input



	3UG4651
V	300
kV	4
mΑ	Max. 50
mA	Max. 8.2
	40 11 11
	16, three-wire sensor, pnp operation 1, floating contact, two-wire NAMUR sensor
1/22	1, hoating contact, two-wire typinori sensor
V	4.5 30
V	0 1
mA	> 2.1
	< 1.2
ms	5
ms	5
	1
A	5
^	
A A	3
A	0.2
A	0.1
mΑ	5
rr Pr rr	mA nA mA

Relays

SIRIUS 3UG45, 3UG46 monitoring relays for stand-alone installation

Speed monitoring

Selection and ordering data

• For speed monitoring in revolutions per minute (rpm)

Two-wire or three-wire sensor with mechanical or solid-state switching output can be connected

Two-wire NAMUR sensor can be connected

• Sensor supply 24 V DC/50 mA integrated

Input frequency 0.1 to 2 200 pulses per minute (0.0017 to 36.7 Hz)

With or without enable signal for the drive to be monitored Digitally adjustable, with illuminated LCD

Overshoot, undershoot or range monitoring adjustable

Number of pulses per revolution can be adjusted

• Upper and lower threshold value can be adjusted separately

Auto, Manual or Remote RESET options after tripping

• Permanent display of actual value and tripping state

• 1 CO contact

PU (UNII, SEI, M)	= 1
PS*	= 1 unit
PG	= 41H

Measuring range	Hysteresis	ON-delay time	Tripping delay time	Pulses per revolution	Rated control supply voltage $U_{\rm s}$	Screw terminals	+	Spring-loaded terminals	<u></u>
rpm	rpm	S	s		V AC/DC	Article No.	Price per PU	Article No.	Price per PU
0.1 2200	OFF 0.1 99.9	0 900	0.1 99.9	1 10	24 ¹⁾	3UG4651-1AA30		3UG4651-2AA30	
					24 240	3UG4651-1AW30		3UG4651-2AW30	

¹⁾ The rated control supply voltage and the measuring circuit are not electrically separated.

Accessories, see page 10/100.

Relays

SIRIUS 3UG45, 3UG46 monitoring relays for stand-alone installation

Accessories

Selection and order	ring data						
	Use	Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Accessories for end	losures						
3RP1902	For 3UG4	Sealable covers For securing against unauthorized adjustment of setting knobs	3RP1902		1	5 units	41H
3RP1903	For 3UG4	Push-in lugs For screw fixing, 2 units are required for each device	3RP1903		1	10 units	41H
Blank labels	For 3UG4	Unit labeling plates ¹⁾	_				
3RT2900-1SB20		For SIRIUS devices • 20 mm x 7 mm, titanium gray ¹⁾	3RT2900-1SB20		100	340 units	41B
Tools for opening s					ı		
No.	For auxiliary circuit connections	Screwdriver For all SIRIUS devices with spring-loaded terminals	Spring-loaded terminals	•••			
3RA2908-1A		Length approx. 200 mm, 3.0 mm x 0.5 mm, titanium gray/black, partially insulated	3RA2908-1A		1	1 unit	41B

PC labeling system for individual inscription of unit labeling plates available from: murrplastik Systemtechnik GmbH, see page 16/18.

Note:

For products for mechanical bearing monitoring, e.g. condition monitoring systems, see www.siemens.com/siplus-cms.

Relays

SIRIUS 3UG48 monitoring relays for stand-alone installation for IO-Link

General data

Overview



SIRIUS 3UG48 monitoring relays

More information

Homepage, see www.siemens.com/sirius-monitoring-relays SiePortal, see www.siemens.com/product?3UG48

TIA Selection Tool Cloud (TST Cloud), see www.siemens.com/tstcloud/?node=SIRIUSRelais

Conversion tool, see www.siemens.com/conversion-tool

The SIRIUS 3UG4 monitoring relays for electrical and mechanical variables monitor all important characteristics that allow conclusions to be drawn about the functionality of a plant. Both sudden disturbances and gradual changes, which may indicate the need for maintenance, are detected.

Thanks to their relay outputs, the monitoring relays permit direct disconnection of the affected system components and alerting, e.g. by the triggering of a warning light. Thanks to adjustable delay times the 3UG4 monitoring relays can respond very flexibly to brief faults such as voltage dips or load changes and can thus avoid unnecessary alarms and disconnections and increase system availability.

3UG48 monitoring relays for IO-Link

The SIRIUS 3UG48 monitoring relays for IO-Link also offer many other options based upon the monitoring functions of the tried-and-tested SIRIUS 3UG4 monitoring relays:

- Measured value transmission to a controller, including resolution and unit, may be configurable as to which value is cyclically transmitted
- Transmission of alarm flags to a controller
- Full diagnostics capability by inquiry as to the cause of the fault in the diagnostics data record
- Remote parameterization is also possible, in addition to or instead of local parameterization
- Rapid parameterization of the same devices by duplication of the parameterization in the controller
- Parameter transmission through uploading to a controller by IO-Link call or by parameter server (if IO-Link master from IO-Link specification V1.1 and higher is used)
- Consistent central data storage in the event of parameter change locally or via a controller
- · Automatic reparameterizing when devices are exchanged
- Blocking of local parameterization via IO-Link possible
- Faults are saved in a configurable and non-volatile fashion to prevent an automatic startup after voltage failure and to make sure diagnostics data are not lost

 Integration into the automation level provides the option of parameterizing the monitoring relays at any time via a display unit, or displaying the measured values in a control room or locally at the machine/control cabinet.

Even without communication via IO-Link the devices continue to function fully autonomously:

- Parameterization can take place locally at the device, independently of a controller.
- In the event of failure or before the controller becomes available the monitoring relays work as long as the control supply voltage (24 V DC) is present.
- If the monitoring relays are operated without the controller, the 3UG48 monitoring relays have, thanks to the integrated SIO mode, an additional semiconductor output, which switches when the adjustable warning threshold is exceeded.

Thanks to the combination of autonomous monitoring relay function and integrated IO-Link communication, redundant sensors and/or analog signal converters – which previously took over the transmission of measured values to a controller, leading to considerable extra cost and wiring overhead – are no longer needed.

Because the output relays are still present, the monitoring relays increase the functional reliability of the system, since the controller can fulfill the control tasks on its own if the current measured values are available, whereas the output relays can also be used for the disconnection of the system if limit values that cannot be reached during operation are exceeded.

The individual 3UG48 monitoring relays for IO-Link offer the following functions in different combinations:

- Undershooting and/or overshooting of limit values for voltage
- Undershooting and/or overshooting of limit values for current
- Undershooting and/or overshooting of power factor limit values
- Monitoring of the active current or the apparent current
- Monitoring of the residual current
- Undershooting and/or overshooting of limit values for speed

Note

For more information on the IO-Link bus system, see page 2/88 onwards.

Notes on security

In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial security concept. Siemens products and solutions represent only one component of such a concept.

For more information about the subject of Industrial Security, see www.siemens.com/industrialsecurity.

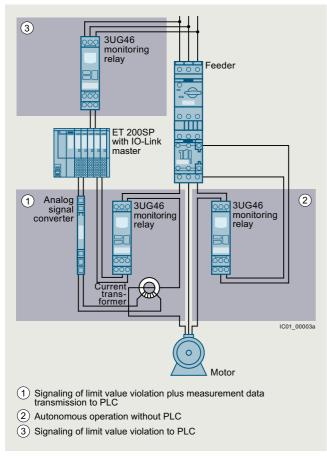
Note:

SIRIUS 3UG5 line monitoring relays for IO-Link, see from page 10/62 onwards.

Relays

SIRIUS 3UG48 monitoring relays for stand-alone installation for IO-Link

General data

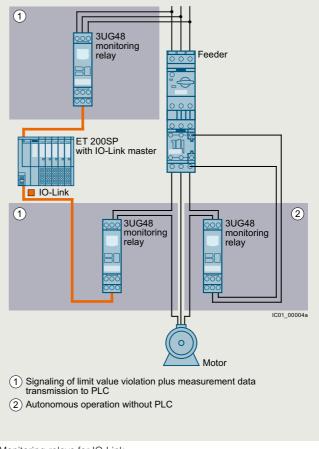


Use of conventional monitoring relays

Notes:

Devices required for communication via IO-Link:

- Any controller that supports IO-Link (e.g. ET 200SP with CPU or S7-1200), see Catalog ST 70.
- IO-Link master (e.g. CM 4xIO-Link for SIMATIC ET 200SP, see page 2/99 or SM 1278 for S7-1200, see page 2/98).



Monitoring relays for IO-Link

Each monitoring relay requires an IO-Link channel.

Article number scheme

Product versions		Article number			
3UG4 monitoring rela	ay with IO-Link	3UG4			
Type of setting	e.g. 8 = digitally adjustable				
Functions	e.g. 32 = voltage monitoring				
Connection type	Screw terminals	1			
	Spring-loaded terminals	2			
Contacts	e.g. A = 1 CO contact				
Supply voltage	e.g. A4 = 10 600 V AC/DC				
Example		3UG4 8 3 2 - 1 A A 4 0			

Note:

The article number scheme shows an overview of product versions for better understanding of the logic behind the article numbers.

For your orders, please use the article numbers quoted in the selection and ordering data.

Benefits

- Simple cyclical transmission of the current measured values, relay switching states and events to a controller
- Remote parameterization
- Automatic reparameterizing when devices are exchanged
- · Simple duplication of identical or similar parameterizations
- · Reduction of control current wiring
- Elimination of testing costs and wiring errors

- · Reduction of configuration work
- Integration in TIA means clear diagnostics if a fault occurs
- Cost saving and space saving in control cabinet due to the elimination of AI and IO modules as well as analog signal converters and duplicated sensors

Relays

SIRIUS 3UG48 monitoring relays for stand-alone installation for IO-Link

General data

Application

The use of SIRIUS monitoring relays for IO-Link is particularly recommended for machines and plants in which these relays, in addition to their monitoring function, are to be connected to the automation level for the rapid, simple and fault-free provision of the current measured values and/or for remote parameterization.

The monitoring relays can either relieve the controller of monitoring tasks or, as a second monitoring entity in parallel to and independent of the controller, increase the reliability in the process or in the system. In addition, the elimination of Al and IO modules allows the width of the controller to be reduced despite significantly expanded functionality.

Technical specifications

More information						
Technical specifications, see https://support.industry.siemens.com/cs/ww/en/ps/16368/td	FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/16368/faq					
Equipment Manual and internal circuit diagrams, see https://support.industry.siemens.com/cs/ww/en/view/54375430						

Туре		3UG48
General technical specifications		
Dimensions (W x H x D)		
For 3 terminal blocks Screw terminals Spring-loaded terminals	mm mm	22.5 x 92 x 91 22.5 x 94 x 91
 For 4 terminal blocks Screw terminals Spring-loaded terminals 	mm mm	22.5 x 103 x 91 22.5 x 103 x 91
Permissible ambient temperature • During operation	°C	-25 +60
Connection type		Screw terminals
 Terminal screw Solid Finely stranded with end sleeve AWG cables, solid or stranded Tightening torque 	mm ² mm ² AWG Nm	M3 (for standard screwdriver, size 2 and Pozidriv 2) 1 x (0.5 4), 2 x (0.5 2.5) 1 x (0.5 2.5), 2 x (0.5 1.5) 2 x (20 14) 0.8 1.2
Connection type		Spring-loaded terminals
 Solid		2 x (0.25 1.5) 2 x (0.25 1.5) 2 x (0.25 1.5) 2 x (0.25 1.6)

Relays

SIRIUS 3UG48 monitoring relays for stand-alone installation for IO-Link

Voltage monitoring

Overview



SIRIUS 3UG4832 monitoring relay

The relays monitor 1-phase AC voltages (rms value) and DC voltages against the set limit value for overshoot and undershoot.

Benefits

- Variably adjustable to overshoot, undershoot or range monitoring
- Freely configurable delay times and RESET response
- Width 22.5 mm
- Display and transmission of actual value and status messages to controller
- All versions with removable terminals
- All versions with screw or spring-loaded terminals

Application

- Protection of a plant against destruction due to overvoltage
- Switch-on of a plant at a defined voltage and higher
- Protection from undervoltage due to overloaded supply voltages, particularly with battery power

Technical specifications

3UG4832 monitoring relays

The 3UG4832 voltage monitoring relays are supplied with power through IO-Link or with an external auxiliary voltage of 24 V DC and perform overshoot, undershoot or range monitoring of the voltage depending on parameterization. The devices are equipped with a display and are parameterized by means of three buttons or through IO-Link.

The measuring range extends from 10 to 600 V AC/DC. The limit values for overshoot or undershoot can be freely configured within this range. If one of these limit values is reached, the output relay responds according to the set principle of operation as soon as the delay time has elapsed. This tripping delay time $U \triangle \text{Del}/U \nabla \text{Del}$ can be set from 0 to 999.9 s, as can the ON-delay time onDel. The hysteresis is adjustable from 0.1 to 300 V.

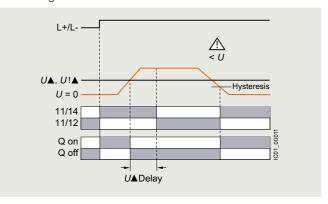
The device can be operated on the basis of either the opencircuit or closed-circuit principle and with Manual or Auto RESET. One output changeover contact is available as a signaling contact, and a semiconductor output is available in addition in SIO mode.

If Manual RESET is selected in the menu (Memory = Yes), the switching relay remains in its current switching state and the current measured variable and the symbol for undershooting and overshooting continue to flash, even when the measured variable reaches a permissible value again. This stored fault status can be reset by simultaneously pressing the UP▲ and DOWN▼ keys for 2.5 s.

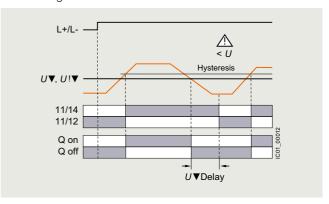
With Manual RESET through IO-Link it is possible in addition to set whether fault messages are to be deleted when the control supply voltage is switched off and on (as Remote RESET) or whether the signals are to be permanently saved even in a voltage failure, with confirmation possible only through local RESET or via IO-Link.

With the closed-circuit principle selected

Overvoltage



Undervoltage



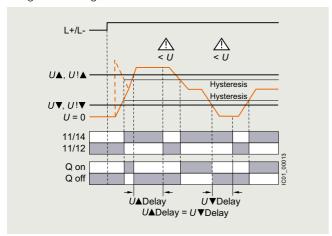
Relays

SIRIUS 3UG48 monitoring relays for stand-alone installation for IO-Link

Voltage monitoring

With the closed-circuit principle selected

Range monitoring



Туре		3UG4832
General technical specifications		
Rated insulation voltage <i>U</i> _i Pollution degree 2 Overvoltage category III according to VDE 0110	V	690
Rated impulse withstand voltage U _{imp}	kV	6
Measuring circuit		
Permissible measuring range 1-phase AC/DC voltage	V	10 690
Measuring frequency	Hz	40 500
Setting range 1-phase voltage	V	10 600
Control circuit		
Load capacity of the output relay • Thermal current $I_{\rm th}$	Α	5
Rated operational current I _e at • AC-15/24 400 V • DC-13 at - 24 V - 125 V - 250 V	A A A	3 1 0.2 0.1
Minimum contact load at 17 V DC	mA	5

Relays

SIRIUS 3UG48 monitoring relays for stand-alone installation for IO-Link

Voltage monitoring

Selection and ordering data

Adjustable via IO-Link and locally, with illuminated LCD
Power supply with 24 V DC via IO-Link or external auxiliary voltage

Auto or Manual RESET

Open-circuit or closed-circuit principle
1 CO contact, 1 semiconductor output (in SIO mode)

PU (UNIT, SET, M) = 1 PS* = 1 = 1 unit PG =41H







3UG4832-2AA40

Measuring range	Hysteresis adjustable	ON-delay time adjustable onDel	Tripping delay time separately adjustable U▲Del/U▼Del	Screw terminals	+	Spring-loaded terminals	<u></u>
V AC/DC	٧	s	S	Article No.	Price per PU	Article No.	Price per PU
Monitoring of vo	oltage for oversh	ooting and under	shooting				
10 600	0.1 300	0 999.9	0 999.9	3UG4832-1AA40		3UG4832-2AA40	

Accessories, see page 10/120.

Relays

SIRIUS 3UG48 monitoring relays for stand-alone installation for IO-Link

Current monitoring

Overview



SIRIUS 3UG4822 monitoring relay

The relays monitor 1-phase AC currents (rms value) and DC currents against the set limit value for overshoot and undershoot.

Benefits

- Variably adjustable to overshoot, undershoot or range monitoring
- Freely configurable delay times and RESET response
- Width 22.5 mm
- Display and transmission of actual value and status messages to controller
- All versions with removable terminals
- All versions with screw or spring-loaded terminals

Application

- Overcurrent and undercurrent monitoring
- Monitoring the functionality of electrical loads
- Monitoring for broken conductors

Technical specifications

3UG4822 monitoring relays

The 3UG4822 current monitoring relays are supplied with power through IO-Link or with an external voltage of 24 V DC and perform overshoot, undershoot or range monitoring of the current depending on the parameterization. The devices are equipped with a display and are parameterized using three buttons.

The measuring range extends from 0.05 to 10 A. For larger AC currents the measuring range can be extended by using commercially available current transformers. Using the adjustable transformer factor, the display of the measured primary currents up to 750 A instead of the secondary currents (max. 1 A or 5 A) is possible.

The rms value of the current is measured. The limit values for overshoot or undershoot can be freely configured within this range. If one of these limit values is reached, the output relay responds according to the set principle of operation as soon as the tripping delay time $I\triangle Del/I \nabla Del$ has elapsed. This time and the ON-delay time onDel are adjustable from 0 to 999.9 s.

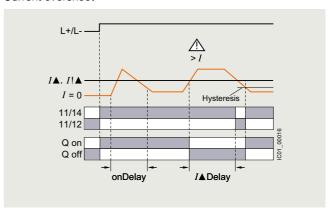
The hysteresis is adjustable from 0.01 to 5 A. The device can be operated with Manual or Auto RESET and on the basis of either the open-circuit or closed-circuit principle. You can decide here whether the output relay is to respond when the supply voltage $U_{\rm S}={\rm ON}$ is applied, or not until the lower measuring range limit of the measuring current (I>50 mA) is reached. One output changeover contact is available as a signaling contact, and a semiconductor output is available in addition in SIO mode.

If Manual RESET is selected in the menu (Memory = Yes), the switching relay remains in its current switching state and the current measured variable and the symbol for undershooting and overshooting continue to flash, even when the measured variable reaches a permissible value again. This stored fault status can be reset by simultaneously pressing the UP▲ and DOWN▼ keys for 2.5 s.

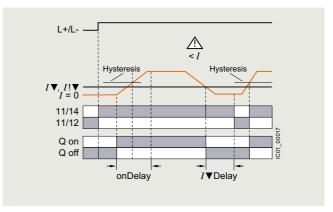
With Manual RESET through IO-Link it is possible in addition to set whether fault messages are to be deleted when the control supply voltage is switched off and on (as Remote RESET) or whether the signals are to be permanently saved even in a voltage failure, with confirmation possible only through local RESET or via IO-Link.

With the closed-circuit principle selected upon application of the control supply voltage

Current overshoot



Current undershoot



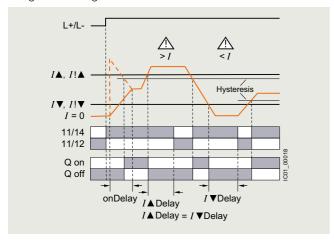
Relays

SIRIUS 3UG48 monitoring relays for stand-alone installation for IO-Link

Current monitoring

With the closed-circuit principle selected upon application of the control supply voltage

Range monitoring



Туре		3UG4822
General technical specifications		
Rated insulation voltage U_i Pollution degree 2 Overvoltage category III according to VDE 0110	V	690
Rated impulse withstand voltage $U_{\rm imp}$	kV	6
Measuring circuit		
Measuring range for 1-phase AC/DC current	Α	0.05 15
Measuring frequency	Hz	40 500
Setting range for 1-phase current	Α	0.05 10
Load supply voltage	V	Max. 300 (with protective separation) Max. 500 (with simple separation)
Control circuit		
Load capacity of the output relay ■ Thermal current <i>I</i> _{th}	Α	5
Rated operational current I_e at • AC-15/24 400 V • DC-13 at	Α	3
- 24 V	Α	1
- 125 V - 250 V	A A	0.2 0.1
Minimum contact load at 17 V DC	mA	5

Relays

SIRIUS 3UG48 monitoring relays for stand-alone installation for IO-Link

Current monitoring

Selection and ordering data

Adjustable via IO-Link and locally, with illuminated LCD
Power supply with 24 V DC via IO-Link or external auxiliary

 Adjustable transformer factor to display the measured primary current when an external current transformer is used

• Auto or Manual RESET

• Open-circuit or closed-circuit principle

• 1 CO contact, 1 semiconductor output (in SIO mode)

PU (UNIT, SET, M) = 1 PS* = 1 unit PG = 41H





3UG4822-1AA40

Measuring range	Hysteresis adjustable	ON-delay time adjustable onDel	Tripping delay time separately adjustable I▲Del/I▼Del	Screw terminals	+	Spring-loaded terminals	
A AC/DC	А	S	S	Article No.	Price per PU	Article No.	Price per PU
Monitoring of c	urrent for over	shooting and un	dershooting				
0.05 10	0.01 5	0.1 999.9	0.1 999.9	3UG4822-1AA40		3UG4822-2AA40	

Accessories, see page 10/120.

For AC currents I > 10 A it is possible to use commercially available current transformers, e.g. the Siemens 4NC current transformers, as accessories, see Catalog LV 10.

Relays

SIRIUS 3UG48 monitoring relays for stand-alone installation for IO-Link

Power factor and active current monitoring

Overview



SIRIUS 3UG4841 monitoring relay

The 3UG4841 power factor and active current monitoring devices enable the load monitoring of motors.

Whereas power factor (p.f.) monitoring is used above all for monitoring no-load operation, the active current monitoring option can be used to observe and evaluate the load factor over the entire torque range.

Benefits

- Monitoring of even small 1-phase motors with a no-load current below 0.5 A
- Simple determination of threshold values by directly referencing measured variables to motor loading
- Range monitoring and active current measurement enable detection of cable breaks between control cabinets and motors, as well as phase failures
- Power factor (p.f.) and/or I_{res} (active current) can be selected as the measurement principle
- Width 22.5 mm
- Display and transmission of actual value and status messages to controller
- · All versions with removable terminals
- All versions with screw or spring-loaded terminals

Application

- No-load monitoring and load shedding, such as in the event of a V-belt tear
- Underload monitoring in the low-end performance range, e.g. in the event of pump no-load operation
- Monitoring of overload, e.g. due to a dirty filter system
- Power factor monitoring in networks for control of compensation equipment
- · Broken cable between control cabinet and motor

Technical specifications

3UG4841 monitoring relays

3UG4841 monitoring relays are supplied with power through IO-Link or with an external auxiliary voltage of 24 V DC and are used for performing overshoot, undershoot or range monitoring of the power factor and/or the resulting active current, depending on parameterization. The load to be monitored is connected upstream of the IN terminal. The load current flows through the terminals IN and Ly/N. The setting range for the power factor is 0 to 0.99 and for the active current $I_{\rm res}$ it is 0.2 to 10 A. If the control supply voltage is switched on and no load current is flowing yet, the display will show I < 0.2 A as well as a symbol for overshoot, undershoot or range monitoring. If the motor is now switched on and the current exceeds 0.2 A, the set ON-delay time onDel begins. During this time, if the set limit values are undershot or exceeded, this does not lead to a relay reaction of the changeover contact. If the operational flowing active current and/or the p.f. value falls below or exceeds the respective set threshold value, the tripping delay time begins. When this time has expired, the relay changes its switch position. The relevant measured variables for overshooting and undershooting in the display flash. If monitoring for active current undershoot is switched off ($I_{res} \nabla = OFF$), and if the load current undershoots the lower measuring range threshold (0.2 A), the CO contacts remain unchanged. If a threshold value is set for the monitoring of active current undershooting, then undershooting of the measuring range threshold (0.2 A) will result in a response of the CO contacts.

The relay operates either according to the open-circuit or closed-circuit principle.

If the device is set to Auto RESET (Memory = No), depending on the set principle of operation, the switching relay returns to its initial state and the flashing ends when the hysteresis threshold is reached.

If Manual RESET is selected in the menu (Memory = Yes), the switching relay remains in its current switching state and the current measured variable and the symbol for undershooting and overshooting continue to flash, even when the measured variable reaches a permissible value again. This stored fault status can be reset by simultaneously pressing the UP▲ and DOWN▼ keys for 2.5 s.

With Manual RESET through IO-Link it is possible in addition to set whether fault messages are to be deleted when the control supply voltage is switched off and on (as Remote RESET) or whether the signals are to be permanently saved even in a voltage failure, with confirmation possible only through local RESET or via IO-Link.

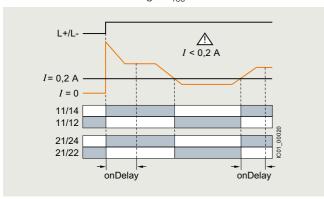
Relays

SIRIUS 3UG48 monitoring relays for stand-alone installation for IO-Link

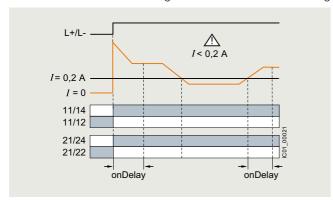
Power factor and active current monitoring

With the closed-circuit principle selected

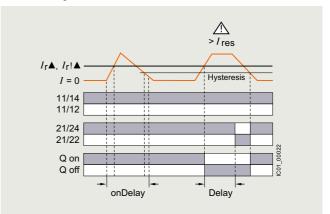
Response in the event of undershooting the measuring range limit with activated monitoring of $I_{\rm res} \nabla$



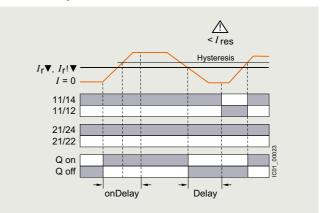
Response in the event of undershooting the measuring range limit with deactivated monitoring of active current undershooting



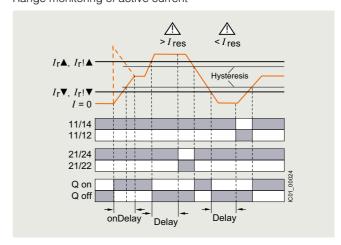
Overshooting of active current



Undershooting of active current



Range monitoring of active current



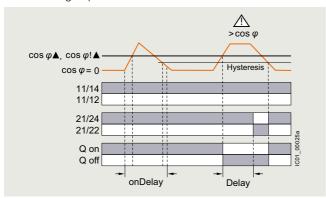
Relays

SIRIUS 3UG48 monitoring relays for stand-alone installation for IO-Link

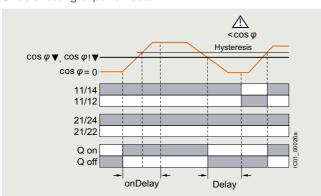
Power factor and active current monitoring

With the closed-circuit principle selected

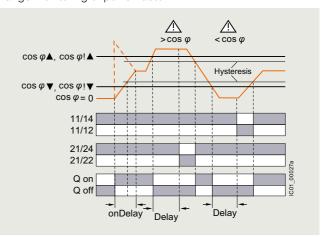
Overshooting of power factor



Undershooting of power factor



Range monitoring of power factor



Туре		3UG4841
General technical specifications		
Rated insulation voltage <i>U</i> _i Pollution degree 2 Overvoltage category III according to IEC 60664-1	V	690
Rated impulse withstand voltage U_{imp}	kV	6
Control circuit		
Number of CO contacts for auxiliary contacts		2
Load capacity of the output relay ● Thermal current I _{th}	Α	5
Rated operational current <i>I</i> _e at • AC-15/24 400 V • DC-13 at - 24 V - 125 V - 250 V	A A A	3 1 0.2 0.1
Minimum contact load at 17 V DC	mA	5

Relays

SIRIUS 3UG48 monitoring relays for stand-alone installation for IO-Link

Power factor and active current monitoring

Selection and ordering data

• For monitoring the power factor and the active current $I_{\rm res}$

Suitable for 1-phase and 3-phase currents
Adjustable via IO-Link and locally, with illuminated LCD

• Power supply with 24 V DC via IO-Link or external auxiliary voltage

• Overshoot, undershoot or range monitoring adjustable

Upper and lower limit values can be adjusted separately

Permanent display of actual value and tripping state

• 1 CO contact each for undershoot and overshoot, 1 semiconductor output (in SIO mode)

PU (UNIT, SET, M)	= 1
PS*	= 1 unit
PG	= 41H







3UG4841-2CA40

Measuring		Voltage range of the measuring voltage ¹⁾	Hysteresis		ON-delay time adjustable onDel	Tripping delay time separately adjustable	Screw terminals	+	Spring-loaded terminals	
for power factor	for active current I_{res}	50/60 Hz AC	adjustable for power factor			U▲Del/ U▼Del, φ ▲Del/ φ ▼Del				
P.f.	А	V	P.f.	А	S	S	Article No.	Price per PU	Article No.	Price per PU

Monitoring of power factor and active current for overshooting or undershooting

0.1 ... 0.99 0.2 ... 10 90 ... 690 0.1 ... 0.2 0.1 ... 3 0 ... 999.9 0 ... 999.9 3UG4841-1CA40

3UG4841-2CA40

Accessories, see page 10/120.

For AC active currents $I_{\rm res}$ > 10 A it is possible to use commercially available current transformers, e.g. Siemens 4NC current transformers, as accessories, see Catalog LV 10.

¹⁾ Absolute limit values.

Relays

SIRIUS 3UG48 monitoring relays for stand-alone installation for IO-Link

Residual current monitoring > Residual current monitoring relays

Overview



SIRIUS 3UG4825 monitoring relay

The 3UG4825 residual current monitoring relays are used in conjunction with the 3UL23 residual-current transformers for monitoring plants in which higher residual currents are increasingly expected due to ambient conditions. Monitoring encompasses pure AC residual currents or AC residual currents with a pulsating DC fault current component (transformer, type A according to DIN VDE 0100-530/IEC TR 60755).

Benefits

- High measurement accuracy of ± 7.5%
- · Permanent self-monitoring
- Parameterization of the devices locally or via IO-Link possible
- Variable threshold values for warning and disconnection
- Freely configurable delay times and RESET response
- Display and transmission of actual value and status messages to controller
- High level of flexibility and space saving through installation of the transformer inside or outside the control cabinet
- Width 22.5 mm
- All versions with removable terminals
- All versions with screw or spring-loaded terminals

Application

Monitoring of plants in which residual currents can occur, e.g. due to dust deposits or moisture, porous cables and leads, or capacitive residual currents.

Technical specifications

3UG4825 monitoring relays

The main conductor, and any neutral conductor to which a load is connected, are routed through the opening of the toroidal core of a residual-current transformer. A secondary winding is placed around this toroidal core to which the monitoring relay is connected.

If operation of a plant is fault-free, the sum of the inflowing and outward currents equals zero. No current is then induced in the secondary winding of the residual-current transformer.

However, if an insulation fault occurs, the sum of the inflowing currents is greater than that of the outward currents. The differential current – i.e. the residual current – induces a secondary current in the secondary winding of the transformer. This current is evaluated in the monitoring relay and is used on the one hand to display the actual residual current and on the other, to switch the relay if the set warning or tripping threshold is overshot.

If the measured residual current exceeds the set warning value, the associated changeover contact instantly changes the switching state and an indication appears on the display.

If the measured residual current exceeds the set tripping value, the set delay time begins and the associated relay symbol flashes. On expiry of this time, the associated changeover contact changes the switching state.

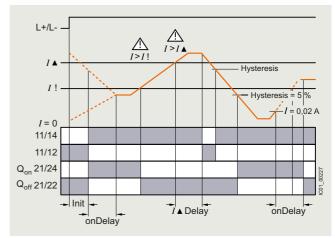
ON-delay time for motor start

To be able to start a drive when a residual current is detected, the output relays switch to the OK state for an adjustable ON-delay time depending on the selected open-circuit principle or closed-circuit principle.

The changeover contacts do not react if the set threshold values are overshot during this period.

With the closed-circuit principle selected

Residual current monitoring with Auto RESET (Memory = No)



If the device is set to Auto RESET, the relay switches back to the OK state for the tripping value after tripping once the value falls below the set hysteresis threshold and the display stops flashing.

The associated relay changes its switching state if the value falls below the fixed hysteresis value of 5% of the warning value.

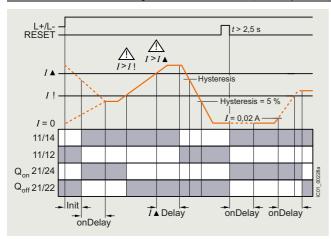
Any overshoots are therefore not stored.

Relays

SIRIUS 3UG48 monitoring relays for stand-alone installation for IO-Link

Residual current monitoring > Residual current monitoring relays

Residual current monitoring with Manual RESET (Memory = Yes)



If Manual RESET is selected in the menu, the output relays remain in their current switching state and the current measured value and the symbol for overshooting continue to flash, even when the measured residual current returns to a permissible value. This stored fault status can be reset by simultaneously pressing the UP▲ and DOWN▼ keys for > 2 seconds, or by switching the supply voltage off and back on again.

Note:

The neutral conductor must not be grounded downstream of the summation current transformer as this may impair the function of the residual current monitoring device.

Туре		3UG4825-1CA40, 3UG4825-2CA40
General data		
Insulation voltage for overvoltage category III according to IEC 60664 for pollution degree 3, rated value	V	300
Impulse withstand voltage, rated value U_{imp}	kV	4
Control circuit		
Number of CO contacts for auxiliary contacts		2
Thermal current of the non-solid-state contact blocks, maximum	Α	5
Current-carrying capacity of the output relay • At AC-15 at 250 V at 50/60 Hz • At DC-13 - At 24 V	A A	3
- At 125 V - At 250 V	A A	0.2 0.1
Operational current at 17 V, minimum	mA	5

Relays

SIRIUS 3UG48 monitoring relays for stand-alone installation for IO-Link

Residual current monitoring > Residual current monitoring relays

Selection and ordering data

• For monitoring residual currents from 0.03 to 40 A, from 16 to 400 Hz

• For 3UL23 residual-current transformers with feed-through opening from 35 to 210 mm

Permanent self-monitoring
Certified according to IEC 60947, functionality corresponds to IEC 62020

Digitally adjustable, with illuminated LCD
Permanent display of actual value and tripping state

· Separately adjustable limit value and warning threshold

1 CO contact each for warning threshold and tripping

PU (UNIT, SET, M) = 1 PS* = 1 unit PG = 41H





3UG4825-1CA40

3UG4825-2CA40

Measurable current	Adjustable response value	Switching hysteresis	Adjustable ON- delay time	Control supply voltage	Screw terminals	+	Spring-loaded terminals	<u>~</u>
	current			at DC, rated value	Article No.	Price per PU	Article No.	Price per PU
Α	Α	%	S	V				
0.01 43	0.03 40	0 50	0 999.9	24	3UG4825-1CA40		3UG4825-2CA40	

Accessories, see page 10/120.

For 3UL23 residual-current transformers and accessories for 3UL23, see page 10/89.

Relays

SIRIUS 3UG48 monitoring relays for stand-alone installation for IO-Link

Speed monitoring

Overview



SIRIUS 3UG4851 monitoring relay

3UG4851 monitoring relays are used in combination with a sensor to monitor drives for overspeed and/or underspeed.

Furthermore, the monitoring relays are ideal for all functions where a continuous pulse signal needs to be monitored (e.g. belt travel monitoring, completeness monitoring, passing monitoring, clock-time monitoring).

Benefits

- Variably adjustable to overshoot, undershoot or range monitoring
- Freely configurable delay times and RESET response
- Display and transmission of actual value and fault type to controller
- Use of up to 10 sensors per rotation for extremely slowly rotating motors
- Two-wire or three-wire sensors and sensors with a mechanical switching output or solid-state output can be connected
- Auxiliary voltage for sensor integrated
- · All versions with removable terminals
- All versions with screw or spring-loaded terminals

Application

- · Slip or tear of a belt drive
- Overload monitoring
- Transport monitoring for completeness

Technical specifications

3UG4851 monitoring relays

The speed monitoring relay operates according to the principle of period duration measurement.

In the monitoring relay, the time between two successive rising edges of the pulse encoder is measured and compared to the minimum and/or maximum permissible period duration calculated from the set limit values for the speed.

Thus, the period duration measurement recognizes any deviation in speed after just two pulses, even at very low speeds or in the case of extended pulse gaps.

By using up to ten pulse encoders evenly distributed around the circumference, it is possible to shorten the period duration, and in turn the response time. By taking into account the number of sensors in the monitoring relay, the speed continues to be indicated in rpm.

ON-delay time for motor start

To be able to start a motor drive, and depending on whether the open-circuit or closed-circuit principle is selected, the output relay switches to the OK state during the ON-delay time, even if the speed is still below the set value.

The ON-delay time is started by either switching on the auxiliary voltage or, if the auxiliary voltage is already applied, by actuating the respective NC contact (e.g. auxiliary contact).

Speed monitoring with Auto RESET (Memory = No)

If the device is set to Auto RESET, the output relay switches to the OK state, once the adjustable hysteresis threshold is reached in the range of 1 to 99.9 rpm and the flashing stops. Any overshoots or undershoots are therefore not stored.

Speed monitoring with Manual RESET (Memory = Yes)

With Manual RESET through IO-Link it is possible in addition to set whether fault messages are to be deleted when the control supply voltage is switched off and on (as Remote RESET) or whether the signals are to be permanently saved even in a voltage failure, with confirmation possible only through local RESET, the Remote RESET contact, or via IO-Link.

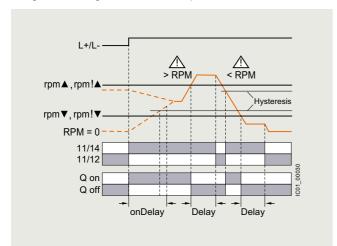
Relays

SIRIUS 3UG48 monitoring relays for stand-alone installation for IO-Link

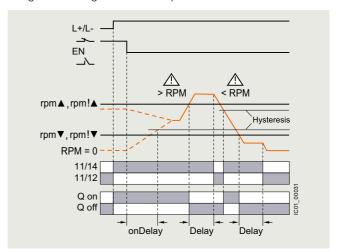
Speed monitoring

With the closed-circuit principle selected

Range monitoring without enable input



Range monitoring with enable input



Туре		3UG4851
General technical specifications		
Rated insulation voltage U _i	V	300
Pollution degree 2		
Overvoltage category III according to VDE 0110		
Rated impulse withstand voltage $U_{\rm imp}$	kV	4
Measuring circuit		
Sensor supply		
• For three-wire sensor (24 V/0 V)	mA	Max. 50
For two-wire NAMUR sensor (8V2)	mA	Max. 8.2
Signal input • IN1	l ₁ O	16 three wire concer and energian
• IN I • IN 2	kΩ kΩ	16, three-wire sensor, pnp operation 1, floating contact, two-wire NAMUR sensor
	1/22	1, hoading contact, two-wire trainort sensor
Voltage level For level 1 at IN1	V	4.5 30
• For level 0 at IN1	V	0 1
Current level	-	
• For level 1 at IN2	mA	> 2.1
For level 0 at IN2	mΑ	< 1.2
Minimum pulse duration of signal	ms	5
Minimum interval between 2 pulses	ms	5
Control circuit		
Number of CO contacts for auxiliary contacts		1
Load capacity of the output relay		
Thermal current I_{th}	А	5
Rated operational current I_e at		
• AC-15/24 250 V	Α	3
• DC-13 at - 24 V	٨	4
- 24 V - 125 V	A A	1 0.2
- 250 V	A	0.1
Minimum contact load at 17 V DC	mA	5

Relays

SIRIUS 3UG48 monitoring relays for stand-alone installation for IO-Link

Speed monitoring

Selection and ordering data

• For speed monitoring in revolutions per minute (rpm)

Two-wire or three-wire sensor with mechanical or solid-state switching output can be connected

Two-wire NAMUR sensor can be connected

• Sensor supply 24 V DC/50 mA integrated

Input frequency 0.1 to 2 200 pulses per minute (0.0017 to 36.7 Hz)

• With or without enable signal for the drive to be monitored

Adjustable via IO-Link and locally, with illuminated LCD
Power supply with 24 V DC via IO-Link or external auxiliary voltage

• Overshoot, undershoot or range monitoring adjustable

• Number of pulses per revolution can be adjusted

Upper and lower limit values can be adjusted separately

Auto, Manual or Remote RESET options after tripping

Permanent display of actual value and tripping state

• 1 CO contact, 1 semiconductor output (in SIO mode)

PU (UNIT, SET, M) = 1= 1 unit





3UG4851-1AA40

3UG4851-2AA40

Measuring range	Hysteresis adjustable	ON-delay time adjustable onDel	Tripping delay time separately adjustable rpm▲Del/rpm▼Del	Pulses per revolution	Screw terminals	+	Spring-loaded terminals	
rpm	rpm	S	S		Article No.	Price per PU	Article No.	Price per PU
Speed monito	ring for oversho	oting and u	ndershooting					
0.1 2 200	OFF	0 999.9	0 999.9	1 10	3UG4851-1AA40		3UG4851-2AA40	

Accessories, see page 10/120.

Relays

SIRIUS 3UG48 monitoring relays for stand-alone installation for IO-Link

Accessories

Selection and ordering data Version Article No Price PS* PG per PU (UNIT, SÈT, M) Accessories for enclosures For 3UG48 3RP1902 5 units 41H Sealable covers For securing against unauthorized adjustment of setting knobs 3RP1902 3RP1903 For 3UG48 Push-in lugs 10 units 41H For screw fixing 2 units are required for each device 3RP1903 Blank labels For 3UG48 Unit labeling plates 1) For SIRIUS devices • 20 mm x 7 mm, titanium gray 3RT2900-1SB20 100 340 units 41B For 3UG48 3RT2900-1SB60 Adhesive labels 100 3060 units 41B For SIRIUS devices, 19 mm x 6 mm, titanium gray 3RT2900-1SB20 Tools for opening spring-loaded terminals For auxiliary Screwdriver Spring-loaded terminals $\stackrel{\circ}{\mathbb{H}}$ circuit For all SIRIUS devices with spring-loaded connections terminals Length approx. 200 mm, 3RA2908-1A 1 unit 41B 3.0 mm x 0.5 mm, 3RA2908-1A titanium gray/black, partially insulated

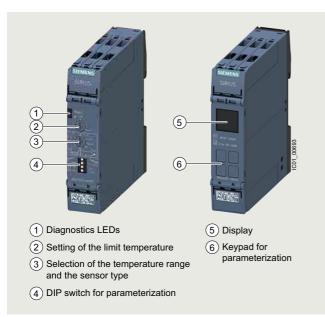
¹⁾ PC labeling system for individual inscription of unit labeling plates available from: murrplastik Systemtechnik GmbH, see page 16/18.

Relays

SIRIUS 3RS2 temperature monitoring relays

General data

Overview



SIRIUS 3RS2 temperature monitoring relays

More information

Homepage, see www.siemens.com/sirius-monitoring-relays SiePortal, see www.siemens.com/product?3RS2 TIA Selection Tool Cloud (TST Cloud), see www.siemens.com/tstcloud/?node=SIRIUSRelais

Conversion tool, see www.siemens.com/conversion-tool



Video: Temperature monitoring with SIRIUS relays at a glance

The 3RS2 temperature monitoring relays can be used to measure temperatures in solid, liquid and gas media. The temperature is acquired by means of sensors in the medium, evaluated by the device and monitored for overshoot, undershoot or location within a specified range (window function).

The family comprises an analog multi-function device which can be set using DIP switches and potentiometers, and digital devices which can be parameterized via an intuitive LC display. The digital device is also available as a version with IO-Link.

All 3RS26 digital devices, including the 3RS28 versions with IO-Link, have safety certification according to IEC 61508/62061 or ISO 13849 up to SIL 1/PL c as well as EN 14597 for heat generating systems and EN 50156 for burners.

Furthermore, the functionality of the 3RS26/3RS28 digital devices can be expanded using a 3RS29 sensor expansion module with two additional resistance sensors, e.g. for monitoring 3-phase motors or transformers.

The 3RS29 sensor expansion module also features an additional relay for outputting the sensor status, and an additional analog input 4 to 20 mA. This analog input allows ATEX applications to be implemented when using an intrinsically safe temperature sensor or other appropriate type of protection. The 3RS29 is connected wirelessly via a SIL 1-certified infrared communications interface.

Notes:

The SIRIUS 3RS2 temperature monitoring relays fully replace the 3RS1 predecessor. The large number of 3RS1 analog devices can simply be replaced with the new 3RS25 analog multifunction device. The reduced variety of order numbers means the successors can be selected quickly and easily.

The 3RS2 digital devices fully supersede the functionality of the 3RS1 predecessor in a single device type that is now able to use resistance sensors and thermocouples – all at half the width of 22.5 mm instead of 45 mm.

Analog multi-function devices



SIRIUS 3RS25 analog multi-function device

The analog multi-function device is parameterized using DIP switches and potentiometers. The device can be used to monitor a sensor with a limit value for overshoot or undershoot. The most common temperature ranges with Pt100 resistance sensors or type J or K thermocouples can be used for this purpose. This device can therefore also be used as a compact, easy-to-adjust two-point controller. The relay CO contact output enables loads to be switched directly. The NC contact can optionally be used as a signaling contact.

Digital devices (1 sensor)



SIRIUS 3RS26 digital device (1 sensor) with 3RS29 sensor expansion module

The SIRIUS 3RS26 digital device with display enables sensors with two limit values to be monitored using all common resistance sensors and thermocouples.

Relavs

SIRIUS 3RS2 temperature monitoring relays

General data

The additional limit value means that, in addition to overshoot and undershoot, an additional warning value can be output to the relay outputs. Alternatively, the second monitoring value can also be used to implement range monitoring. The digital devices can thus also be used as compact two-step or three-step controllers, with Manual RESET or Remote RESET.

Thanks to safety certification, this device can be used in a wide range of applications.

The functionality of the SIRUS 3RS26 and 3RS28 digital devices can be expanded wirelessly with the sensor expansion module via a SIL 1-certified infrared communications interface. This combination then features three sensors and is designed for monitoring large 3-phase motors and transformers. It goes without saying that the additional sensors can also be used for other applications.

Digital devices (1 sensor) for IO-Link

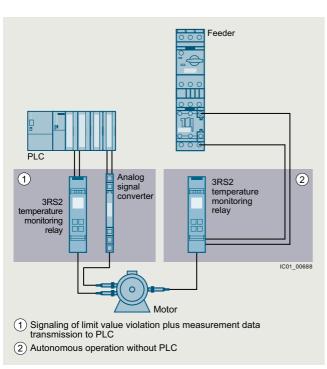


SIRIUS 3RS28 digital device (1 sensor) for IO-Link with 3RS29 sensor expansion module

The 3RS28 digital temperature monitoring relays for IO-Link feature an IO-Link communications interface in addition to a display. They include all functions of the 3RS26 digital device and can also be operated on L+/L- as a stand-alone installation with 24 V DC.

Note:

The IO-Link devices can be reset on the display or via IO-Link.



Conventional temperature monitoring relays

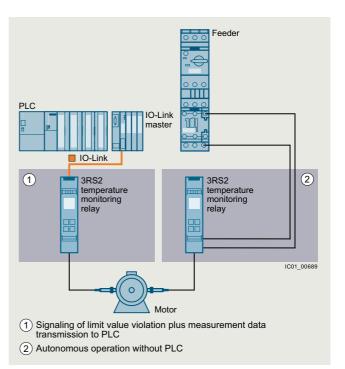
Notes:

Devices required for communication via IO-Link:

- Any controller that supports IO-Link (e.g. ET 200SP with
- CPU or S7-1200), see Catalog ST 70.

 IO-Link master (e.g. CM 4xIO-Link for SIMATIC ET 200SP, see page 2/99 or SM 1278 for S7-1200, see page 2/98).

Each monitoring relay requires an IO-Link channel.



Temperature monitoring relays for IO-Link

Notes on security

In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement - and continuously maintain - a holistic, state-of-the-art industrial security concept. Siemens products and solutions represent only one component of such a concept.

For more information about the subject of Industrial Security, see www.siemens.com/industrialsecurity.

Relays

SIRIUS 3RS2 temperature monitoring relays

General data

Article number scheme

Product versions		Article number
Temperature monitoring relays		3RS2 000-0000
Device type	e.g. 5 = analogically adjustable	
Connection type	Screw terminals	1
	Spring-loaded terminals (push-in)	2
Number of CO contacts	e.g. A = 1 CO contact, B = 2 CO contacts	
Rated control supply voltage	A = 24 V AC/DC, W = 24 240 V AC/DC	
Type of rated control supply voltage	3 = AC/DC, 4 = DC	
Example		3RS2 5 0 0 - 1 A A 3 0

Note:

The article number scheme shows an overview of product versions for better understanding of the logic behind the article numbers.

For your orders, please use the article numbers quoted in the selection and ordering data.

Benefits

- Customary screw and spring-loaded terminals for quick and reliable wiring
- Reduced space requirement in the control cabinet thanks to a consistent width of 22.5 mm
- Easy parameterization thanks to new display and intuitive operating concept
- Reduced stock keeping and logistics thanks to heavily reduced device variance
- Cost savings thanks to additional scalable functionality with integrated infrared interface

- Communication via IO-Link for 3RS28
- Global applicability and exportability thanks to compliance with international standards and certifications
- Problem-free use in a wide range of applications thanks to Safety bundle with certification according to SIL 1/PL c, ATEX, EN 14597 for heat generating systems and EN 50156 for hurners
- All versions with removable terminals
- All versions with screw or spring-loaded terminals with push-in functionality

Application

The SIRIUS 3RS2 temperature monitoring relays can be used in almost any application in which temperature overshoot or undershoot is not permitted, e.g. in the monitoring of set temperature limits and the output of alarm messages for:

- Simple and compact two-point control
- Motor and system protection
- Control cabinet temperature monitoring
- Freeze monitoring
- Temperature limits for process variables e.g. in the packaging industry or electroplating
- Controlling equipment and machines such as heating, climate and ventilation systems, solar collectors, heat pumps or warm water supplies
- · Motor, bearing and gear oil monitoring
- · Monitoring of coolants

Additionally for digital devices

- Simple and compact two-point or three-point control
- Burner according to EN 50156
- Temperature monitors or temperature limiters¹⁾ according to EN 14597
- ATEX explosion protection according to EN 50495
- 1) A 3RS29 sensor expansion module with an additional sensor is required for the function as a temperature limiter.

Relays

SIRIUS 3RS2 temperature monitoring relays

General data

Technical specifications

More information

Technical specifications, see

https://support.industry.siemens.com/cs/ww/en/ps/25719/td

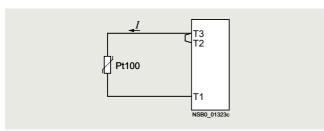
Equipment Manual and internal circuit diagrams, see https://support.industry.siemens.com/cs/ww/en/ps/25719/man

FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/25719/faq

Connection of resistance-type thermometers

Two-wire measurement

When two-wire temperature sensors are used, the resistances of the sensor and wiring are added. The resulting systematic error must be taken into account when the evaluation unit is calibrated. A jumper must be clamped between terminals T2 and T3 for this purpose.



Wiring errors

The errors that are generated by the wiring comprise approximately 2.5 K/ Ω . If the resistance of the cable is not known and cannot be measured, the wiring errors can also be estimated using the following table.

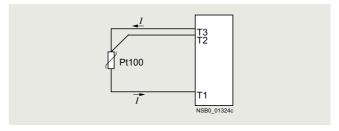
Temperature drift dependent on the length and cross-section of the cable with Pt100 sensors and an ambient temperature of 20 °C, in K:

Cable length in m	Cross-section mm ²									
	0.5	0.75	1	1.5						
	Temperature d	rift in K:								
0	0	0	0	0						
10	1.8	1.2	0.9	0.6						
25	4.5	3.0	2.3	1.5						
50	9.0	6.0	4.5	3.0						
75	13.6	9.0	6.8	4.5						
100	18.1	12.1	9.0	6.0						
200	36.3	24.2	18.1	12.1						
500	91.6	60.8	45.5	30.2						

Example: On a Pt100 sensor with a cable length of 10 m and a conductor cross-section of 1 mm² the temperature drift equals 0.9 K.

Three-wire measurement

To minimize the effects of the line resistances, a three-wire circuit is often used. Using the additional cable, two measuring circuits can be formed of which one is used as a reference. The evaluation unit can then automatically calculate the line resistance and take it into account.



Connection of thermocouples

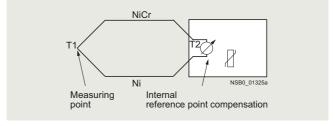
Based on the thermo-electrical effect, a differential temperature measurement will be performed between the measuring point and the evaluation unit.

This principle assumes that the evaluation unit knows the temperature at the clamping point (T2). For this reason, the 3RS2 temperature monitoring relays have an integral reference point compensation that determines this comparison temperature and builds it into the result of the measurement. The thermal sensors and cables must therefore be insulated.

The absolute temperature is therefore calculated from the ambient temperature of the evaluation unit and the temperature difference measured by the thermocouple.

Temperature detection is therefore possible (T1) without needing to know the precise ambient temperature of the clamping point at the evaluation unit (T2).

The connecting cable is only permitted to be extended using compensating lines that are made from the same material as the thermocouple. If a different type of conductor is used, an error will result in the measurement.



For more information, see https://www.ephymess.de

Relays

SIRIUS 3RS2 temperature monitoring relays

General data

Principle of operation

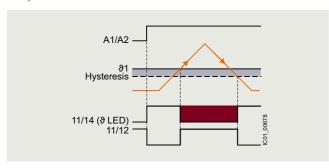
Once the temperature has reached the set threshold value \$1, the K1 output relay changes its switching state as soon as the set time t has elapsed (K2 responds in the same manner to \$2). The delay time can only be adjusted with digital units (on analog units t=0).

When Auto RESET (AUTO RST) is set, the relays return to their original state as soon as the temperature reaches the set hysteresis value.

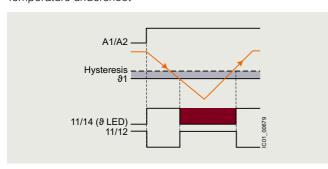
The memory function (MEMORY) allows the status to be saved even in the event of a voltage failure.

3RS25 analog multi-function devices

Temperature overshoot



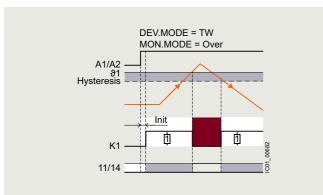
Temperature undershoot



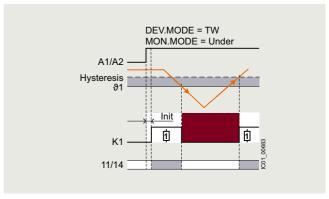
3RS26, 3RS28 digital devices (1 sensor) with Safety function

Temperature monitors according to EN 14597

Temperature overshoot

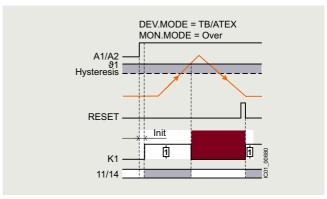


Temperature undershoot

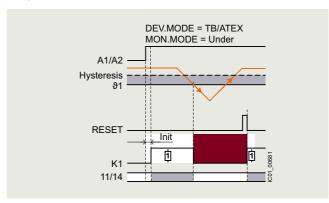


Temperature limiters according to EN 14597/ATEX

Temperature overshoot



Temperature undershoot



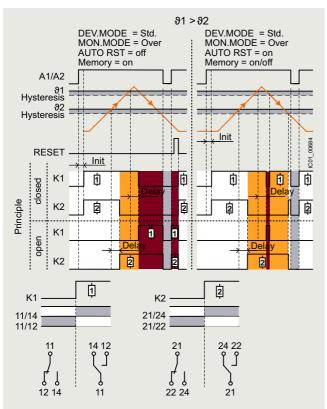
Relays

SIRIUS 3RS2 temperature monitoring relays

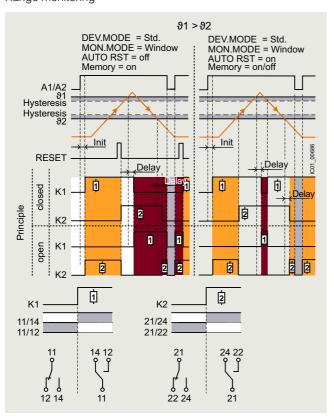
General data

3RS26, 3RS28 digital devices (1 sensor)

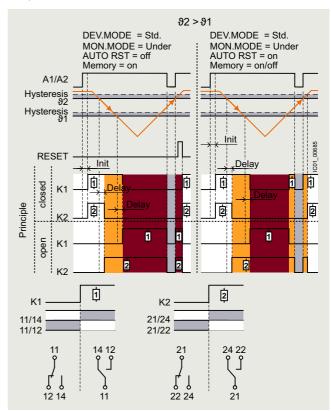
Temperature overshoot



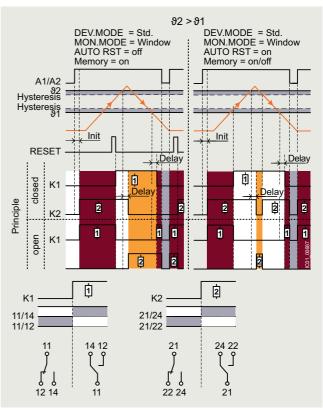
Range monitoring



Temperature undershoot



Range monitoring



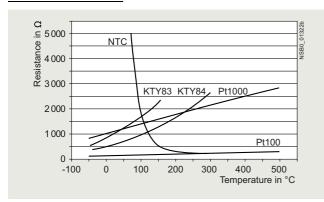
Relays

SIRIUS 3RS2 temperature monitoring relays

General data

Characteristic curves

For resistance sensors



Characteristic curves for resistance sensors

The short-circuit and open-circuit detection as well as the measuring range is limited, depending on the sensor type.

Measuring ranges and switch position for analog devices in °C for Pt100 resistance sensor

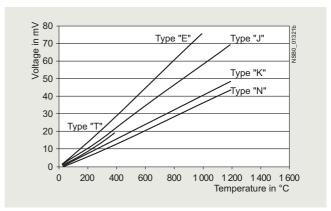
Measuring Switch position in °C											
range in °C	min.					1/2					max.
0+100	0	10	20	30	40	50	60	70	80	90	100
0 +200	0	20	40	60	80	100	120	140	160	180	200
-50 +50	-50	-40	-30	-20	-10	0	10	20	30	40	50

Measuring ranges for digital devices in °C for resistance sensor

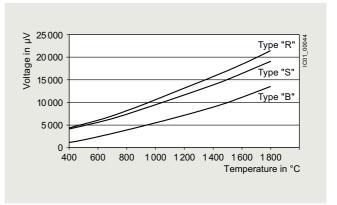
Sensor type	Short circuit	Open circuit	3RS26, 3RS28 Measuring range in °C	3RS26, 3RS28 Measuring range in °F
Pt100	1	1	-50 +750	-58 +1 382
Pt1000	1	1	-50 +500	-58 +932
KTY83-110	1	1	-50 +175	-58 +347
KTY84	✓	✓	-40 +300	-40 +572
NTC ¹⁾	1		+80 +160	+176 +320

- ✓ Detection possible
- -- Detection not possible

For thermocouples



Characteristic curves for thermocouples J, K, T, E, N



Characteristic curves for thermocouples S, R and B

Measuring ranges and switch position for analog devices in $^{\circ}\text{C}$ for thermocouple types J, K

•	Switch position in °C										
range in °C	min.					1/2					max.
0 +200	0	20	40	60	80	100	120	140	160	180	200
0 +600	0	60	120	180	240	300	360	420	480	540	600
+500 +1 000	500	550	600	650	700	750	800	850	900	950	1 000

Measuring ranges for digital devices in °C/°F for thermocouples

Sensor type	Short circuit	Open circuit	3RS26, 3RS28 Measuring range in °C	3RS26, 3RS28 Measuring range in °F
J		✓	-99 +1 200	-146.2 +2 192
K		1	-99 +1 350	-146.2 +2 462
T		✓	-99 +400	-146.2 +752
E		✓	-99 +999	-146.2 +1 830.2
Ν		✓	-99 +1 300	-146.2 +2 372
S		1	0 +1 750	+32 +3 182
R		1	0 +1 750	+32 +3 182
В		1	+400 +1 800	+752 +3 272

- ✓ Detection possible
- -- Detection not possible

¹⁾ NTC type: B57227-K333-A1 (100 °C: 1.8 kΩ; 25 °C: 32.762 kΩ).

Relays

SIRIUS 3RS2 temperature monitoring relays

General data

Time		ancar a	2DC26 0	2DC00 0	2DC20 0
Type Convert technical analifications		3RS250	3RS260	3RS280	3RS290
General technical specifications Dimensions (W x H x D)	mm	22.5 x 100 x 90			
Permissible ambient temperature □ During operation □ During transport □ During storage	°C °C °C	-25 +60 -40 +85 -40 +85			
Degree of protection IP		IP20			
Mounting position		Any			
Type of mounting		Screw fixing and	snap-on mounting	on 35 mm DIN-rail	
Auxiliary circuit					
Type of voltage		AC/DC		DC	AC/DC
Operating range factor of the control supply voltage, rated value • At AC at 50 Hz • At AC at 60 Hz • At DC		0.85 1.1 0.85 1.1 0.85 1.1		 0.7 1.25	0.85 1.1 0.85 1.1 0.85 1.1
Operating frequency, rated value	Hz	50 60			_
Number of measuring circuits		1			3
Number of CO contacts for auxiliary contacts		1	2		0
Product function Removable terminal for auxiliary and control circuit Auto RESET Fault storage External RESET		Yes Yes No No	Yes Yes		 - -
ATEX					
Certificate of suitability • Relative to ATEX		module 31			Yes, with 3RS26/3RS28 digital device
Safety integrity level (SIL) according to IEC 61508			1		
Performance Level (PL) according to ISO 13849-1			С		
Туре		3RS2500-10 3RS2600-10 3RS2800-10 3RS2900-10		3RS2500-20 3RS2600-20 3RS2800-20 3RS2900-20	
Type of electrical connection		Screw term	inals	Spring-load (push-in)	ed terminals
Tightening torque	Nm	0.6 0.8			
Type of connectable conductor cross-sections Solid Finely stranded Without end sleeves With end sleeves For AWG cables	mm ² mm ²	1 x (0.5 4), 2 x 1 x (0.5 4), 2 x	(0.5 2.5)	1 x (0.5 4) 1 x (0.5 4) 1 x (0.5 2.5)	
- Solid - Stranded		1 x (20 12), 2 x (20 14)		1 x (20 12) 1 x (20 12)	

Relays

SIRIUS 3RS2 temperature monitoring relays

Basic units

Selection and ordering data

PU (UNIT, SET, M) = 1 PS* PG = 1 unit

Multi-unit	
packaging,	
see page 16/7.	

= 41H	
Number of	Ī
magaziring	

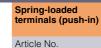
circuits

Type of Rated control supply voltage U_s 50/60 Hz AC measuring sensor/ connectable

Suitability for use

Screw terminals 1 Article No. Price

per PU





Temperature monitoring relays

Analog multi-function devices, 1 sensor, 1 threshold value



Resistance 24 AC/DC sensors: Pt100 24 ... 240 AC/DC Thermocouples: Type J, K

3RS2500-1AA30 3RS2500-1AW30 3RS2500-2AA30 3RS2500-2AW30



Digital devices, 1 sensor, 2 threshold values



Resistance 24 AC/DC sensors: 24 ... 240 AC/DC Pt100, Pt1000, KTY83-110, KTY84, NTC

Thermocouples: Type J, K, T, E, N, S, R, B 3RS2600-1BA30 3RS2600-1BW30

3RS2600-2BA30 3RS2600-2BW30

3RS2600-1BA30

Digital device for IO-Link, 1 sensor, 2 threshold values 24 DC



Resistance sensors: Pt100, Pt1000, KTY83-110, KTY84, NTC Thermocouples: Type J, K, T, E, N, S, R, B 3RS2800-1BA40

3RS2800-2BA40

3RS2800-1BA40

Sensor expansion modules



2 additional resistance sensors, analog input 4 ... 20 mA, ATEX via analog input, status relay 3

Resistance sensors: Pt100, Pt1000, KTY83-110, KTY84, NTC

24 AC/DC 24 ... 240 AC/DC 3RS26/ 3RS28 digital devices

3RS2900-1AA30 3RS2900-1AW30 3RS2900-2AA30 3RS2900-2AW30

3RS2900-1AA30

Accessories, see page 10/130.

Relays

SIRIUS 3RS2 temperature monitoring relays

Accessories

Selection and orderi	ng data					
	Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Terminals for SIRIUS	devices in the industrial DIN-rail enclosure					
47	Removable terminals	Screw terminals	(1)			
	• 2-pole, up to 1 x 4 mm ² or 2 x 2.5 mm ²	3ZY1122-1BA00		1	6 units	41L
T	• 2-pole, up to 1 X 4 min of 2 X 2.5 min	Spring-loaded terminals (push-in)	<u></u>	ı	o units	41L
27/11/22 18 400	2-pole, up to 1 x 4 mm² or 2 x 1.5 mm² (in shared end sleeve)	3ZY1122-2BA00		1	6 units	41L
3ZY1122-1BA00 Accessories for encle	osures					
	Sealing covers					
	• 22.5 mm	3ZY1321-2AA00		1	5 units	41L
3ZY1321-2AA00						
P	Push-in lugs For wall mounting	3ZY1311-0AA00		1	10 units	41L
3ZY1311-0AA00						
3ZY1440-1AA00	Coding pins For removable terminals of SIRIUS devices in the industrial DIN-rail enclosure; they enable the mechanical coding of terminals	3ZY1440-1AA00		1	12 units	41L
	Hinged covers Replacement cover, without terminal labeling, titanium gray • 22.5 mm wide	3ZY1450-1AB00		1	5 units	41L
3ZY1450-1AB00 Blank labels						
3RT2900-15B20	Unit labeling plates ¹⁾ For SIRIUS devices • 20 mm x 7 mm, titanium gray	3RT2900-1SB20		100	340 units	41B
Tools for opening sp	ring-loaded terminals					
	Screwdriver For all SIRIUS devices with spring-loaded terminals	Spring-loaded terminals (push-in)	$\stackrel{\circ}{\square}$			
3RA2908-1A	Length approx. 200 mm, 3.0 mm x 0.5 mm, titanium gray/black, partially insulated	3RA2908-1A		1	1 unit	41B

PC labeling system for individual inscription of unit labeling plates available from: murrplastik Systemtechnik GmbH, see page 16/18.

For suitable sensors, see www.siemens.com/temperature.

SIRIUS 3RN2 thermistor motor protection

General data

Overview



SIRIUS 3RN2 thermistor motor protection

More information

Homepage, see www.siemens.com/sirius-monitoring-relays SiePortal, see www.siemens.com/product?3RN2

TIA Selection Tool Cloud (TST Cloud), see www.siemens.com/tstcloud/?node=SIRIUSRelais

Conversion tool, see www.siemens.com/conversion-tool



Video: SIRIUS 3RN2 thermistor motor protection relays

Thermistor motor protection devices are used for direct monitoring of the motor winding temperature. For this purpose, the motors are equipped with temperature-dependent resistors (PTC) that are directly installed in the motor winding by the motor manufacturer and abruptly change their resistance at their temperature limit.

Versions

SIRIUS 3RN2 thermistor motor protection relays are available in the following versions:

- 3RN2000 compact evaluation unit
- 3RN2010 compact/standard evaluation unit
- 3RN2012-.BW31 bistable evaluation unit
- 3RN2011, 3RN2012-...30, 3RN2013 standard evaluation unit with ATEX approval
- 3RN2023 evaluation unit with ATEX approval and 2 sensor circuits for warning and disconnection

They comply with

- IEC 60947-8 Low-voltage switchgear and controlgear Part 8: "Control units for built-in thermal protection (PTC) for rotating electrical machines"
- IEC 61000-6-2, IEC 61000-6-4. "Electromagnetic compatibility for industrial-process measurement and control equipment"

The 3RN2 thermistor motor protection relays with ATEX approval fulfill SIL 1 in compliance with EN 50495.

The terminals of the auxiliary contacts are designated according to EN 60947-1.

3RN2 evaluation units are suitable for snap-on mounting on TH 35 DIN rails according to IEC 60715 or for screw fixing using an adapter (accessory).

Article number scheme

Product versions	Article n	umber				
Thermistor motor protection	relay with PTC sensor, type A	3RN20 🗆	J 🗆 –			
Number and version	1 sensor circuit, supply voltage = root voltage	0)			
of the sensor circuits	1 sensor circuit	1				
	2 sensor circuits for warning and disconnection	2	2			
RESET	Auto RESET		0			
	Manual RESET, with open-circuit and short-circuit detection		1			
	Manual/Auto/Remote RESET, non-volatile, with open-circuit and short-circuit detection		2			
	Manual/Auto/Remote RESET, non-volatile, with open-circuit and short-circuit detection, with protective separation		3			
Connection method	Screw terminals			1		
	Spring-loaded terminals (push-in)			2		
Auxiliary switches	1 CO			Α		
	2 CO			В		
	1 NO + 1 NC			С		
	1 NO + 1 CO			D		
	2 CO, hard gold-plated			G		
Rated control supply voltage	24 V AC/DC				A 3	
	24 240 V AC/DC				W 3	
Response to failure	Monostable				0	
	Bistable				1	
Example		3RN20 0	0 -	1 A	A 3 0	

Note:

The article number scheme shows an overview of product versions for better understanding of the logic behind the article numbers.

For your orders, please use the article numbers quoted in the selection and ordering data.

Relays

SIRIUS 3RN2 thermistor motor protection

General data

Benefits

- Thanks to direct motor protection, overdimensioning of the motors is not necessary
- · No settings on the device are necessary
- Solid-state compatible output thanks to versions with hard gold-plated contacts
- Rapid error diagnostics thanks to versions that indicate open and short circuits in the sensor circuit
- All versions with removable terminals
- All versions with screw or spring-loaded terminals with push-in functionality

Application

Direct motor protection through temperature monitoring of the motor winding offers 100% motor protection even under the most difficult ambient conditions, without the need to make adjustments on the device. Versions with hard gold-plated contacts additionally ensure a switching reliability that is higher than that of an electronic control.

Direct motor protection

- At increased ambient temperatures
- · When switching frequency is too high
- · When startup and braking procedures are too long

ATEX approval for operation in hazardous areas

The SIRIUS 3RN2011, 3RN2012-...30, 3RN2013 and 3RN2023 thermistor motor protection relays for PTC sensors are certified according to ATEX Ex II (2) G and D for environments with explosive gas or dust loads.

Motor protection using current- and temperature-dependent protective devices

IEC 60204 stipulates that motors must be protected from overheating at a rating of 0.5 kW and higher. The protection can take the form of overload protection, overtemperature protection or current limiting.

For motors with frequent starting and braking and in environments where cooling may be impaired (e.g. by dust), it is recommended to use the overtemperature protection option in the form of a protective device coordinated with this mode of operation. A good choice in this case is the use of 3RN2 thermistor motor protection devices.

On rotor-critical motors, overtemperature detection in the stator windings can lead to delayed and hence inadequate protection. In this case the standards stipulate additional protection, e.g. by means of an overload relay.

This combination of thermistor motor protection and overload relay is recommended for full motor protection in case of frequent starting and braking of motors, irregular intermittent duty or excessive switching frequency. To prevent premature tripping of the overload relay in such operating conditions, a higher setting than that normally required for the operational current is chosen. The overload relay then performs stall protection, and the 3RN2 thermistor motor protection relay monitors the temperature of the motor windings.

Application	Motor protection						
	Current- dependent only, e.g. with overload relay	Temperature- dependent only, e.g. with thermistor motor protection relay	Current- and temperature- dependent				
Motor protection in case of							
Overloading in uninterrupted duty	1	1	1				
Long startup and braking operations	0	1	1				
Irregular intermittent duty	0	✓	1				
When switching frequency is too high	0	1	1				
Single-phase operation and current asymmetry	/	1	1				
Voltage and frequency fluctuations	1	1	1				
Stalling of the rotor	1	✓	1				
Switching on a stalled rotor of a stator-critical motor	/	1	1				
Switching on a stalled rotor of a rotor-critical motor	1	0	1				
Elevated ambient temperature		1	1				
Impeded cooling		✓	✓				

- ✓ Full protection
- O Conditional protection
- -- No protection

SIRIUS 3RN2 thermistor motor protection

General data

Technical specifications

More information

Technical specifications, see

https://support.industry.siemens.com/cs/ww/en/ps/24302/td

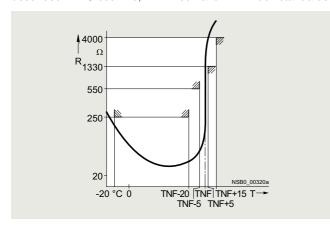
Operating Instructions and internal circuit diagrams, see https://support.industry.siemens.com/cs/ww/en/ps/24302/man

FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/24302/faq For more information on explosion protection (ATEX), see www.siemens.com/sirius/atex

Type A PTC temperature sensor

If a Type A temperature sensor is connected to a Type A evaluation unit, compliance with the operating temperatures is assured (on pick-up and reset) according to IEC 60947-8.

The characteristic curves of the Type A temperature sensors are described in IEC 60947-8, DIN 44081 and DIN 44082 standards.



Characteristic curve of the 3RN2 evaluation unit

Bimetallic switch

In some applications, bimetallic switches (e.g. Klixon, Thermoclick) are used as sensors instead of PTC temperature sensors. Bimetallic switches are temperature- and current-dependent NC contacts and are available for different temperature ranges. Because bimetallic switches have practically no resistance below their opening temperature, short-circuit detection is not possible when using bimetallic switches. A bimetallic switch can be used for versions 3RN2000 and 3RN2010 on the SIRIUS thermistor motor protection relay.

Note:

Never use bimetallic switches in applications subject to an explosion hazard! Because of their non-standardized tripping characteristic, bimetallic switches must not be used in hazardous applications. Use Type A PTC sensors instead!

Use in hazardous areas

Increased danger in hazardous areas means it is necessary to observe the following notes and standards carefully:

- EN 60079-14/VDE 0165-1 for electrical apparatus for hazardous areas
- EN 60079-17 Explosive atmospheres Electrical installations inspection and maintenance
- EN 50495 Safety devices required for the safe functioning of equipment with respect to explosion risks

The following SIRIUS 3RN2 thermistor motor protection relays with short-circuit detection are approved for Equipment Group II, Category (2) in Area "G" (areas in which potentially explosive gas, vapor, mist, or air mixtures are present) and are additionally approved for Area "D" (areas containing combustible dust):

- 3RN2011
- 3RN2012-...30
- 3RN2013
- 3RN2023

PTB 15 ATEX 3011 ex II (2) G (Ex e) (EX d) (Ex px) PTB 15 ATEX 3011 ex II (2) D (Ex t) (Ex p)

For 3RN2 thermistor motor protection relays, the EC type-examination certificate is available for Group II, Category (2) G [Ex e] [Ex d] [Ex px] and D [Ex t] [Ex p]. The number is PTB 15 ATEX 3011.

SIRIUS 3RN2 thermistor motor protection relays are not intended for installation in hazardous areas. If they are installed in a hazardous area, the SIRIUS 3RN2 thermistor motor protection relays must be adapted to the applicable type of protection.

The machine or plant must shut down immediately if the SIRIUS 3RN2 thermistor motor protection relay is tripped, even if connected through a frequency converter. This must be implemented with circuitry.

SIRIUS 3RN2 thermistor motor protection relays with functional safety according to EN 50495 are suitable for protecting explosion-proof motors/machines.

On evaluation units with a supply voltage of 24 V AC/DC, you must ensure electrical separation with a battery network or a power supply unit with electrical separation (e.g. isolating transformer) (does not apply to 3RN2013-.BA30).

A SIRIUS 3RN2 thermistor motor protection relay set to "Automatic RESET" mode will be reset automatically after the recovery time has elapsed, without the RESET button being pressed. An additional ON button has to be used to ensure that the motor does not start up automatically following tripping. "Automatic RESET" mode must not be used in applications where there is a risk of personal injury or damage to property if the motor restarts unexpectedly.

Relays

SIRIUS 3RN2 thermistor motor protection

General data

⚠ NOTICE!

When used in a hazardous area, the thermistor motor protection relay must not be operated with Auto RESET (terminals Y1 and Y2 permanently jumpered).

A risk analysis must be performed for the complete plant or machine. If this analysis yields a lower hazard potential (category 1), all SIRIUS 3RN2 thermistor motor protection relays can be used, provided the safety regulations are observed.

All work involved in connecting, commissioning and maintenance must be carried out by qualified, responsible personnel. Improper handling may result in serious personal injury and considerable damage to property.

Cable routing

The measuring circuit leads must be routed as separate control cables. It is not permitted to use cores from the supply line of the motor or any other main supply cables. If extreme inductive or capacitive interference is expected as a result of power lines routed in parallel, shielded control cables must be used.

Maximum length of sensor circuit cables for evaluation units without short-circuit detection in the sensor circuit:

	3RN2000, 3RN2010
2.5 mm ²	2 x 2 800 m
1.5 mm ²	2 x 1 500 m
0.5 mm ²	2 x 500 m

Maximum length of sensor circuit cables for evaluation units with short-circuit detection 1):

Cable cross-section	3RN2011, 3RN2012, 3RN2013, 3RN2023
2.5 mm ²	2 x 250 m
1.5 mm ²	2 x 150 m
0.5 mm ²	2 x 50 m

¹⁾ A short circuit in the sensor circuit will be detected up to this maximum cable length.

Principle of operation

SIRIUS 3RN2 thermistor motor protection relays are thermal protection devices that are suitable, in combination with Type A PTC thermistors, for monitoring temperatures of electrical drives, transformer windings, oils, bearings, air, etc.

The most frequent application is monitoring of three-phase motors in which the motor manufacturer has fitted a PTC sensor into every winding overhang and in which these PTC sensors are connected in series.

The SIRIUS 3RN2 thermistor motor protection relays operate in accordance with the closed-circuit principle and therefore monitor themselves for loss of supply voltage. The exceptions are the warning output on 3RN2023, which always works on the open-circuit principle and the bistable relays of the 3RN2012-.BW31, which always retain the last switching state.

A micro-interruption in the power supply of less than 30 ms does not change the status of the output relays.

For devices with the "Manual RESET" function, the test function can be activated and a trip simulated by pressing the blue Test/RESET button for > 2 seconds.

The 3RN2011, 3RN2012, 3RN2013 and 3RN2023 devices are additionally equipped with open-circuit and short-circuit detection in the sensor circuit. The unit will trip in the event of a short circuit (resistance in sensor circuit < 10 Ω) or open circuit in the sensor circuit (dynamic open-circuit detection). Tripping as the result of a short circuit in the sensor circuit is indicated by a flickering red LED (TRIPPED) (in the event of a short circuit in the sensor circuit for warning on the 3RN2023, the yellow warning LED (WARNING) flickers.) The devices with dynamic open-circuit detection evaluate the rise time of the sensor circuit resistance. If the sensor circuit resistance rises from 3 300 Ω to 12 k Ω within 200 ms, the unit will not only trip, but also indicate the open circuit via a flashing red LED (TRIPPED) (in the event of an open circuit in a sensor circuit, the yellow warning LED (WARNING) flashes for the 3RN2023.)

All evaluation units (except for the 3RN2000 compact evaluation unit) feature electrical separation between the control circuit and the sensor circuit. The relay outputs are also electrically separated from all other circuits. The 3RN2013 and 3RN2023 evaluation units incorporate protective electrical separation between all circuits up to $U_{\rm i}$ = 300 V.

3RN2000 compact evaluation unit

The compact unit, which is only 17.5 mm wide, is equipped with a red LED (TRIPPED) for the tripped indicator and a changeover contact. After the unit has tripped, it is automatically reset once the thermistors have cooled down. The root of the changeover contact is connected to the control voltage (terminal 11 is connected to terminal A1). This unit is particularly suitable in circuits in which the control circuit and signaling circuit have the same potential, e.g. in local control boxes.

3RN2010, 3RN2011, 3RN2012, 3RN2013 compact/standard evaluation units

The units are equipped with two LEDs (READY and TRIPPED) for an operating and tripped display and are available with either 1 NO + 1 NC contacts (3RN2010, overall width 17.5 mm) or with 2 CO contacts. Depending on the version, they are available with Auto RESET (3RN2010), Manual/Remote RESET (3RN2011) or Manual/Auto and Remote RESET (3RN2012 and 3RN2013). Remote RESET can be achieved by connecting an external pushbutton with a normally-open function to terminals Y1 and Y2. If terminals Y1 and Y2 are jumpered, the unit is automatically reset once the thermistors have cooled down (Auto RESET). 3RN2012 and 3RN2013 are non-volatile. This means a previous trip remains stored in the event of a control supply voltage failure - the thermistor motor protection relay remains in the safe state with an opened output relay until it is intentionally reset by pressing the TEST/RESET button of the unit or an external pushbutton.

3RN2023 "warning and disconnection" evaluation units

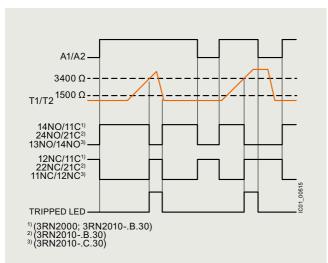
Two sensor circuits can be connected to one 3RN2023 evaluation unit that act on two separate output relays with 1 NO contact for warning and 1 CO contact for disconnection. Thermistors with different rated response temperatures TNF are used to implement the "Warning" and "Disconnection" functions. When sensor circuit 2 for "Warning" responds, a yellow LED is lit and when the "Disconnection" circuit responds, a red LED is lit. The sensor circuits have a different reset response and operating behavior: The "Warning" thermistor sensor circuit 2 (terminals 2T1, T2) works only with Auto RESET and according to the open-circuit principle (output relay K2, NO contact). The "Disconnection" thermistor sensor circuit 1 (terminals 1T1, T2) can be changed from Manual RESET to Auto RESET by jumpering terminals Y1 and Y2. Remote RESET is implemented by connecting an external pushbutton with a normally-open function to these terminals.

Relays

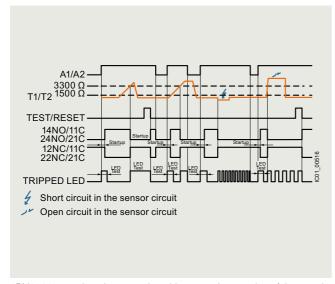
SIRIUS 3RN2 thermistor motor protection

General data

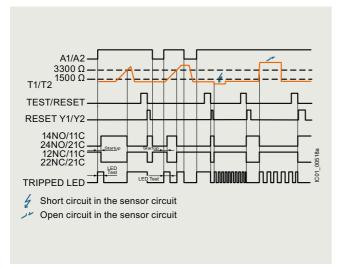
Function diagrams



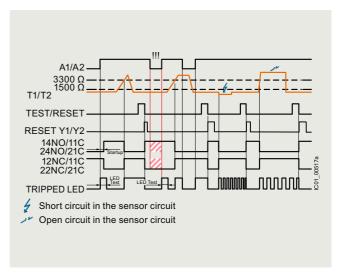
3RN2000, 3RN2010



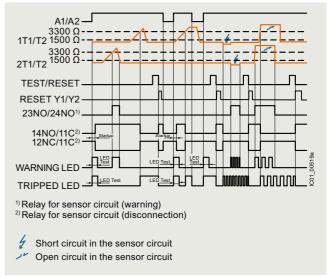
3RN2011: resetting via external pushbutton or interruption of the supply voltage



3RN2012-.B.30, 3RN2013: resetting via the TEST/RESET button or external pushbutton



3RN2012-.BW31: resetting via the TEST/RESET button or external pushbutton



3RN2023: resetting via the TEST/RESET button or external pushbutton

Relays

SIRIUS 3RN2 thermistor motor protection

General data

Dimensions (W x H x D) 17.5 x 100 x 90 22.5 x 100 x 90	Article number	3RN2000A, 3RN2010C	3RN201B, 3RN2013G, 3RN2023D
		17.5 x 100 x 90	22.5 x 100 x 90

- ⇒ VV - ≼ -										
Article number		3RN2000- .AA30	3RN2000- .AW30, 3RN2010- .BW30, 3RN2010-	.BA30,	.BA30,	3RN2011- .BW30, 3RN2012- .BW30	3RN2012- .BW31	3RN2013- .BA30	3RN2013- .BW30, 3RN2013- .GW30	3RN2023- .DW30
			.CW30							
General technical specifications	:									
Type of electrical separation		Without electrical separation	Electrical s	eparation				Protective	separation	
Electrical endurance (operating cycles) for AC-15 at 230 V		100 000								
Mechanical endurance (operating cycles)		10 000 000	1							
Insulation voltage for overvoltage category III according to IEC 60664 for pollution degree 3, rated value	V	300								
Impulse withstand voltage, rated value	kV	4						6		
Minimum mains failure buffering time	ms	40								30
Pollution degree		3								
Degree of protection IP		IP20								
Shock resistance according to IEC 60068-2-27		11 <i>g</i> /15 ms								
Vibration resistance according to IEC 60068-2-6		10 55 Hz	z: 0.35 mm							
Type of mounting • Mounting position • Installation altitude at height above sea level, maximum	m	Screw fixing Any 2 000	g and snap-	on mounting	on 35 mm E	OIN rail				
Ambient temperature during operation	°C	-25 +60								
Relative humidity during operation, maximum	%	70								
ATEX										
Ex device group and Ex category according to ATEX Product Directive 2014/34/EU					II 2G, II 2D			II 2G, II 2D		
Safety device type according to IEC 61508-2					Type B			Type B		
Safety Integrity Level (SIL) according to IEC 61508					SIL 1			SIL 1		
Performance Level (PL) according to ISO 13849-1					С			С		
T1 value for proof test interval or service duration according to IEC 61508	У				3			3		
Measuring circuit:										
Number of measuring circuits		1								2
Relative measurement accuracy	%	9			2					
Maximum number of sensors in series		6								
Cable length of sensor, maximum	m	2 800			250					
Thermistor resistance response value	Ω	1 500 1 6	650		1 500 1 5	550				
Thermistor resistance return value	Ω	3 400 3 6	600		3 300 3 3	350				

Relays

SIRIUS 3RN2 thermistor motor protection

General data

Article number		3RN2000- .AA30	3RN2000- .AW30, 3RN2010- .BW30, 3RN2010- .CW30	3RN2010- .BA30, 3RN2010- .CA30	3RN2011- .BA30, 3RN2012- .BA30	3RN2011- .BW30, 3RN2012- .BW30	3RN2012- .BW31	3RN2013- .BA30	3RN2013- .BW30, 3RN2013- .GW30	3RN2023- .DW30
Control circuit:										
Current-carrying capacity of the output relay • At AC-15 at 250 V at 50/60 Hz • At DC-13 at 24 V • At DC-13 at 125 V • At DC-13 at 250 V	A A A	3 1 0.2 0.1								
Thermal current of the non-solid- state contact blocks, maximum	Α	5								
Uninterrupted current of the output relay's DIAZED fuse link	Α	6								
Supply voltage:										
Control supply voltage At AC At 50 Hz, rated value At 60 Hz, rated value At DC, rated value	V V V	24 24 24 24 24 24	24 240 24 240 24 240	24 24 24 24 24 24		24 240 24 240 24 240		24 24 24 24 24 24	24 240 24 240 24 240	
Operating range factor of the control supply voltage, rated value • At AC at 50 Hz • At AC at 60 Hz • At DC		0.85 1.1 0.85 1.1 0.85 1.1								

Article number		3RN201	3RN202
Type of electrical connection		Screw terminals	
Tightening torque	Nm	0.6 0.8	
Type of connectable conductor cros sections	s-		
• Solid		1 x (0.5 4 mm ²), 2 x (0.5 2.5 mm ²)	1 x (0.5 4 mm ²)
Finely stranded with end sleeveFor AWG cables		1 x (0.5 4 mm²), 2 x (0.5 1.5 mm²)	1 x (0.5 2.5 mm²)
- Solid		1 x (20 12), 2 x (20 14)	1 x (20 12)
- Stranded			1 x (20 12)

Relays

SIRIUS 3RN2 thermistor motor protection

Basic units

Selection and ordering data

Multi-unit packaging, see page 16/7.











20	NIOC	$\cap \cap$	1 A	A30

		3RN20	00-1AA30	3RN20	10-1BA30	3RN2011-1	3A30	3RN2012-1BW3	30 3F	RN2023-1D	W30	
Product function	Number of CO contacts for auxiliary contacts	Number of NO contacts for auxiliary contacts	Number of NC contacts for auxiliary contacts	Material of switching contacts	Control sup at AC at 50 Hz, rated value	at DC rated value	Artic	cle No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Compact evalua	ation unito	quitable	for himet	allia awit		V						
Terminal A1 jumpe					CII							
Auto RESET	1	ot of chang	O		04 04	24 24	2DN	10000 □ 4 4 20		1	1 unit	41H
AUIO RESET	1	U	U	AgSnO2	24 24	24 24		I2000-□AA30 I2000-□AW30		1	1 unit	
	0	1	1	AgSnO2		24 24		I2000-□AW30		1	1 unit	41H 41H
	U	1	ı	Aysnoz	24 24	24 240		I2010-□CA30		1	1 unit	41H
Standard evalua	otion unito	quitable	for hime	tallia awit		24 240	SHIN	12010-LCW30		1	1 UIIII	41П
Auto RESET	2	, sultable 0				04 04	200	10010 DBA20		4	4 . mit	4411
AUTO RESET	2	U	0	AgSnO2		24 24		I2010-□BA30		1 1	1 unit	41H
Distrible soules					24 240	24 240	JHN	I2010-□BW30		ļ	1 unit	41H
Bistable evaluation open-circuit and	d short-cir				circuit							
Does not trigger in				-								
Auto RESET, Manual RESET, External RESET, Fault storage	2	0	0	AgSnO2	24 240	24 240	3RN	I2012-□BW31		1	1 unit	41H
Standard evaluation open-circuit and	ation units d short-cir	with ATE cuit detec	X approvetion in the	al, e sensor	circuit ¹⁾							
Manual RESET	2	0	0	AgSnO2	24 24	24 24	3RN	I2011-□BA30		1	1 unit	41H
External RESET					24 240	24 240	3RN	I2011-□BW30		1	1 unit	41H
Non-volatile ³⁾												
Auto RESET,	2 ⁴⁾	0	0	AgSnO2	24 24	24 24	3RN	I2012-□BA30		1	1 unit	41H
Manual RESET, External RESET, Fault storage					24 240	24 240	3RN	I2012-□BW30		1	1 unit	41H
Protective separat	ion, non-vo	latile ²⁾³⁾										
Auto RESET,	2	0	0	AgSnO2	24 24	24 24	3RN	I2013-□BA30		1	1 unit	41H
Manual RESET, External RESET,					24 240	24 240	3RN	I2013-□BW30		1	1 unit	41H
Fault storage				AgSnO2 Hard gold- plated	24 240	24 240	3RN	I2013-□GW30		1	1 unit	41H
Evaluation units disconnection,	s with ATE open-circเ	X approv iit and sh	al and 2 s ort-circui	ensor cir t detectio	cuits for w	varning and sensor circuit	ts					
Protective separat	ion, non-vo	latile 2)3)										
Auto RESET, Manual RESET, External RESET, Fault storage	1	1	0	AgSnO2	24 240	24 240	3RN	I2023-□DW30		1	1 unit	41H
Type of electrical	connection											
 Screw terminals 								1				
 Spring-loaded ter 	minals (push	n-in)						2				

Spring-loaded terminals (push-in)

¹⁾ For 3RN2011: The unit can be reset with the RESET button or by disconnecting the control supply voltage.

 $^{^{2)}}$ Protective separation up to 300 V according to DIN/VDE 0160, IEC 60947-1.

³⁾ Protection against voltage failure or non-volatile fault storage means that previous tripping due to a fault remains stored even if the control supply voltage fails. The monitoring device is not reset if the voltage fails. With an active fault, meaning a fault which has not been manually confirmed, an automatic restart of the plant upon recovery of the power is prevented therefore and plant safety increased as the result.

⁴⁾ Setting of output contacts in as-supplied state not defined (bistable relay). Application of the control supply voltage once results in contact changeover to the correct setting.

SIRIUS 3RN2 thermistor motor protection

Accessories

Selection and orde	ering data					
	Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Terminals for SIRI	US devices in the industrial DIN-rail enclosure					
47	Removable terminals	Screw terminals	(1)			
10	• 2-pole, up to 1 x 4 mm ² or 2 x 2.5 mm ²	3ZY1122-1BA00		1	6 units	41L
C		Spring-loaded terminals (push-in)	8			
3ZY1122-1BA00	• 2-pole, up to 1 x 4 mm ² or 2 x 1.5 mm ² (in shared end sleeve)	3ZY1122-2BA00		1	6 units	41L
Accessories for en	closures					
3ZY1311-0AA00	Push-in lugs For wall mounting	3ZY1311-0AA00		1	10 units	41L
3ZY1440-1AA00	Coding pins For removable terminals of SIRIUS devices in the industrial DIN-rail enclosure; enable the mechanical coding of terminals	3ZY1440-1AA00		1	12 units	41L
100	Hinged covers Replacement cover, without terminal labeling, titanium gray 17.5 mm wide 22.5 mm wide	3ZY1450-1AA00 3ZY1450-1AB00		1	5 units 5 units	41L 41L
3ZY1450-1AB00 Blank labels						
3RT2900-1SB20	Unit labeling plates ¹⁾ For SIRIUS devices • 10 mm x 7 mm, titanium gray • 20 mm x 7 mm, titanium gray	3RT2900-1SB10 3RT2900-1SB20			816 units 340 units	41B 41B
Tools for opening	spring-loaded terminals			· 		
	Screwdriver For all SIRIUS devices with spring-loaded terminals	Spring-loaded terminals (push-in)				
3RA2908-1A	Length approx. 200 mm, 3.0 mm x 0.5 mm, titanium gray/black, partially insulated	3RA2908-1A		1	1 unit	41B

PC labeling system for individual inscription of unit labeling plates available from: murrplastik Systemtechnik GmbH, see page 16/18.

Relays

Coupling relays and signal converters

SIRIUS 3RS70 signal converters

Overview



SIRIUS 3RS70 signal converters

More information

Homepage, see www.siemens.com/sirius-coupling-relays SiePortal, see www.siemens.com/product?3RS70

TIA Selection Tool Cloud (TST Cloud), see www.siemens.com/tstcloud/?node=SIRIUSRelais

Conversion tool, see www.siemens.com/conversion-tool

Signal converters perform the coupling function for analog signals on both the input side and the output side. They are indispensable when processing analog values with electronic controls. Under harsh industrial conditions in particular, it is often necessary to transmit analog signals over long distances. Electrical separation is then needed as a result of the different power supplies. The resistance of the wiring causes potential differences and losses which must be prevented.

Electromagnetic disturbance and overvoltages can affect the signals on the input side in particular or even destroy the analog modules. All terminals of the 3RS70 signal converters are safe up to a voltage of 30 V DC and protected against switching poles. Short-circuit protection is an especially important function for the outputs.

The devices are EMC-tested according to

- IEC 61000-6-4 (generic standard regarding interference emission)
- IEC 61000-6-2 (generic standard for interference immunity)

The analog signals comply with

• IEC 60381-1/2

Article number scheme

Product versions		Article numbe	r		
Signal converters		3RS70 □ □ -		□ □ 0	0
Product function/	Single-range converters, active	0 0			3-way separation, input 0 10 V
type of input signal		0 2			3-way separation, input 0 20 mA,
		0 3			3-way separation, input 4 20 mA,
	Multi-range converters, active, switchable	0 5			3-way separation, 3 standard signals can be switched 0 10 V, 0/4 20 mA
	Universal converters, active, switchable	0 6			3-way separation, 16 signals can be switched
	Single-range converters, passive	2 0			2-way separation, 4 20 mA
	Multi-range converters, active, switchable	2 5			3-way separation, with manual/automatic switch and setting potentiometer
Connection type	Screw terminals		1		
	Spring-loaded terminals (push-in)		2		
Type of output signal	0 10 V		1	4	
	0 20 mA		(
	4 20 mA)	
	Loop power isolator 4 20 mA		E	≣	
	3 standard signals can be switched		F	=	
	4 frequencies can be switched		ŀ	<	
Supply voltage	24 V AC/DC			E	
	None			T	
	24 240 V AC/DC			W	
Example		3RS70 0 0 -	1 /	A E O	0

Note:

The article number scheme shows an overview of product versions for better understanding of the logic behind the article numbers.

For your orders, please use the article numbers quoted in the selection and ordering data.

Monitoring and control devices Relays Coupling relays and signal converters

SIRIUS 3RS70 signal converters

Benefits

- Narrow width
- · Easy-to-set universal converters
- · Converters with frequency output
- · All ranges are fully calibrated

- Universal family of devices the perfect solution for every application
- Integrated manual/automatic switch with a setpoint generator
- · Outputs are short-circuit proof
- Up to 30 V protected against damage caused by wiring errors

Application

Signal converters are used in analog signal processing for

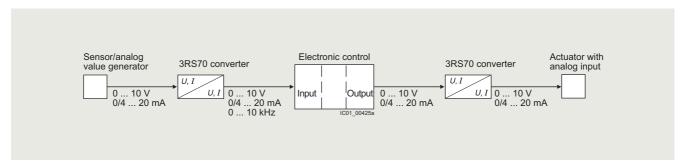
- Electrical separation
- Conversion of normalized and non-normalized signals
- · Amplification and impedance adaptation
- Conversion to a frequency for processing by a digital input
- Overvoltage and EMC protection
- Short-circuit protection of the outputs

3RS7025 manual/automatic converter

For special applications in which analog signals have to be simulated, or during plant commissioning when the actual process value is not yet available, the 3RS7025 devices feature a setting potentiometer for manual setpoint selection and a manual/automatic switch.

The potentiometer for the 3RS7025 devices is used to simulate analog output signals when the changeover switch is set to "Manual" and the control supply voltage is applied, without the need for an analog input signal. The scale ranges from 0 to 100%.

Example: When it is set for an output of 4 to 20 mA, the left stop on the potentiometer represents an output current of 4 mA and the right stop represents an output current of 20 mA. In the "Auto" switch position, the output signal follows the input signal proportionally regardless of the potentiometer setting.



Application example of analog signal processing

Relays

Coupling relays and signal converters

SIRIUS 3RS70 signal converters

Technical specifications

More information	
	Internal circuit diagrams, see https://support.industry.siemens.com/cs/ww/en/view/109475738
Operating Instructions, see https://support.industry.siemens.com/cs/ww/en/view/109475738	

Article number	3	BRS7000AE00	3R\$7002AE00, 3R\$7003AE00		3RS7002CE00, 3RS7002DE00, 3RS7003CE00, 3RS7003DE00	
Product designation Product version		Single-range contactive	verters			Single-range converters passive
General data:						
Dimensions (W x H x D)	6	5.2 x 93 x 72.5				6.2 x 93 x 71
Ambient temperature						
• During operation °C		25 +60				
During storage °C	C -	40 +80				
Relative humidity during operation %	6 1	10 95				
Insulation voltage for overvoltage category III according to IEC 60664 for pollution degree 3, rated value $$	/ 5	50				
Active power input W	V C	0.29				
Degree of protection	1	P20				
Input:						
Input voltage • Max. ∨	/ 3	30				
Input impedance • Of current input, maximum • Of voltage input, minimum		 330	100	 330	100	
Output:						
Load • Maximum at current output • Minimum at voltage output kg		 2		500		1 000
Relative measurement accuracy %	6 (0.1				
Short-circuit-proof	١	Yes				No

Monitoring and control devices Relays Coupling relays and signal converters

SIRIUS 3RS70 signal converters

Article number		3RS7005- .FE00	3RS7005- .KE00	3RS7005- .FW00	3RS7005- .KW00	3RS7025- .FE00	3RS7025- .FW00
Product designation Product version		Multi-range active, switc					
General data:							
Dimensions (W x H x D)	<u>□</u>	6.2 x 93 x 72	2.5	17.5 x 93 x 1	72.5	17.5 x 93 x 7	75
Ambient temperature							
During operationDuring storage	°C	-25 +60 -40 +80					
Relative humidity during operation	%	10 95					
Insulation voltage for overvoltage category III according to IEC 60664 for pollution degree 3, rated value	V	50		300		50	300
Active power input	W	0.29		0.5	0.34	0.5	
Degree of protection		IP20					
Input:							
Input voltage • Max.	٧	30					
Input impedance Of current input, maximum Of voltage input, minimum	Ω kΩ	100 330					
Output:							
Load Maximum at current output Minimum at voltage output	Ω k Ω	500 2		500 2		500 2	
Relative measurement accuracy	%	0.1					
Short-circuit-proof		Yes					

Relays

Coupling relays and signal converters

SIRIUS 3RS70 signal converters

Article number		3RS7006FE00	3RS7006FW00
Product designation Product version		Universal converters active, switchable	
General data:		delive, switchable	
Dimensions (W x H x D)		17.5 x 93 x 72.5	
Dimensions (W X H X D)		17.5 X 93 X 72.5	
Ambient temperature			
During operation	°C	-25 +60	
During storage	°C	-40 +80	
Relative humidity during operation	%	10 95	
Insulation voltage for overvoltage category III according to IEC 60664 for pollution degree 3, rated value	V	50	300
Active power input	W	0.5	
Degree of protection		IP20	
Input:			
Input voltage • Max.	V	30	
Input impedance Of current input, maximum Of voltage input, minimum	Ω kΩ	100 330	
Output:			
Load Maximum at current output Minimum at voltage output	Ω kΩ	500 2	
Relative measurement accuracy	%	0.1	
Short-circuit-proof		Yes	

Article number	3RS701	3RS702
Type of electrical connection	Screw terminals	Spring-loaded terminals (push-in)
Type of connectable conductor cross-sections Solid Finely stranded Without end sleeves With end sleeves Solid for AWG cables	1 x (0.25 2.5 mm²) 1 x (0.25 1.5 mm²) 1 x (20 14)	1 x (0.25 2.5 mm²) 1 x (0.25 2.5 mm²) 1 x (0.25 1.5 mm²) 1 x (20 14)

Monitoring and control devices Relays Coupling relays and signal converters

SIRIUS 3RS70 signal converters

	Signal type		Supply voltage	Width	Article No.	Price	PU	PS*	PG
						per PU	(UNIT, SET, M)		
	at the input	at the output		mm					
Single-range co	nverters			111111					
	Passive								
	= =	trical separation,	2-way						
	4 20 mA	4 20 mA		6.2	3RS7020-□ET00		1	1 unit	41H
	Active								
	0 10 V	trical separation, 0 10 V	24 V AC/DC	6.2	3RS7000-□AE00		1	1 unit	/11 ⊔
	0 20 mA	0 10 V	24 V AC/DC	6.2	3RS7000-□AE00		1	1 unit	41H 41H
	4 20 mA	0 10 V	24 V AC/DC	6.2	3RS7003-□AE00		1	1 unit	41H
	0 10 V	0 20 mA	24 V AC/DC	6.2	3RS7000-□CE00		1	1 unit	41H
	0 20 mA	0 20 mA	24 V AC/DC	6.2	3RS7002-□CE00		1	1 unit	41H
6 2 2	4 20 mA	0 20 mA	24 V AC/DC	6.2	3RS7003-□CE00		1	1 unit	41H
3RS7000-1AE00	0 10 V	4 20 mA	24 V AC/DC	6.2	3RS7000-□DE00		1	1 unit	41H
	0 20 mA	4 20 mA	24 V AC/DC	6.2	3RS7002-□DE00		1	1 unit	41H
£	4 20 mA	4 20 mA	24 V AC/DC	6.2	3RS7003-□DE00		1	1 unit	41H
3RS7000-2AE00									
Multi-range con	verters								
	Active, swi	tchable							
	Type of elect	trical separation,	3-way						
	0 10 V,	0 10 V,	24 V AC/DC	6.2	3RS7005-□FE00		1	1 unit	41H
	0 20 mA, 4 20 mA	0 20 mA, 4 20 mA	24 240 V AC/DC	17.5	3RS7005-□FW00		1	1 unit	41H
		0 50 Hz	24 V AC/DC	6.2	3RS7005-□KE00		1	1 unit	41H
		0 100 Hz 0 1 kHz 0 10 kHz	24 240 V AC/DC	17.5	3RS7005-□KW00		1	1 unit	41H
3RS7005-1FW00									
	setting pot	entiometer	nanual/automatic sw	itch and					
	0 10 V,	trical separation, 0 10 V,	24 V AC/DC	17.5	3RS7025-□FE00		1	1 unit	41H
	0 20 mA,	0 20 mA,	24 240 V AC/DC	17.5	3RS7025-□FW00		1	1 unit	41H
	4 20 mA	4 20 mA	21210 1710/00	17.0	01101020 =1 1100			1 dille	
Universal conve									
	Active, swi								
	Type of elect	trical separation,	3-way						
	0 60 mV,	0 10 V,	24 V AC/DC	17.5	3RS7006-□FE00		1	1 unit	41H
				17.5	3RS7006-□FW00		1	1 unit	41H
	0 100 mV, 0 300 mV,	0 20 mA, 4 20 mA	24 240 V AC/DC						
	0 300 mV, 0 500 mV,	0 20 mA, 4 20 mA	24 240 V AC/DC						
	0 300 mV, 0 500 mV, 0 1 V,		24 240 V AC/DC						
	0 300 mV, 0 500 mV, 0 1 V, 0 2 V, 0 5 V,		24 240 V AC/DC						
2007.15500	0 300 mV, 0 500 mV, 0 1 V, 0 2 V, 0 5 V, 0 10 V,		24 240 V AC/DC						
3RS7006-1FE00	0 300 mV, 0 500 mV, 0 1 V, 0 2 V, 0 5 V, 0 10 V, 0 20 V, 2 10 V,		24 240 V AC/DC						
3RS7006-1FE00	0 300 mV, 0 500 mV, 0 1 V, 0 2 V, 0 5 V, 0 10 V, 0 20 V,		24 240 V AC/DC						
3RS7006-1FE00	0 300 mV, 0 500 mV, 0 1 V, 0 2 V, 0 5 V, 0 10 V, 0 20 V, 2 10 V, 0 5 mA, 0 10 mA,		24 240 V AC/DC						
3RS7006-1FE00	0 300 mV, 0 500 mV, 0 1 V, 0 2 V, 0 5 V, 0 20 V, 2 10 V, 0 5 mA, 0 10 mA, 0 20 mA, 4 20 mA,		24 240 V AC/DC						
33RS7006-1FE00	0 300 mV, 0 500 mV, 0 1 V, 0 2 V, 0 5 V, 0 10 V, 0 20 V, 2 10 V, 0 5 mA, 0 10 mA,	4 20 mA	24 240 V AC/DC						
	0 300 mV, 0 500 mV, 0 5 V, 0 2 V, 0 5 V, 0 10 V, 0 20 V, 2 10 V, 0 5 mA, 0 10 mA, 0 20 mA, 4 20 mA, -5 +5 mA,	4 20 mA	24 240 V AC/DC						
3RS7006-1FE00 Type of electrical c Screw terminals Spring-loaded term	0 300 mV, 0 500 mV, 0 5 00 mV, 0 1 V, 0 2 V, 0 5 V, 0 10 V, 0 20 V, 2 10 V, 0 5 mA, 0 10 mA, 0 20 mA, 4 20 mA, -5 +5 mA, -20 +20 mA	4 20 mA	24 240 V AC/DC		1				

Relays

Coupling relays and signal converters

SIRIUS 3RS70 signal converters

Accessories Version Article No PS* PG per PU (UNIT, SÈT, M) Galvanic isolation plates Galvanic isolation plates 3RQ3900-0A 10 units 41H For electrical separation of different potentials when devices of different types are installed side by side 3RQ3900-0A Connecting combs Connecting combs For linking the same potentials, current carrying capacity for infeed max. 6 A 3RQ3901-0B 3RQ3901-0A • 2-pole 10 units 41H 3RQ3901-0B 10 units 41H • 4-pole 3RQ3901-0C • 8-pole 10 units 41H 3RQ3901-0D • 16-pole 10 units 41H Clip-on labels Clip-on labels For terminal and equipment labeling, white \bullet 5 x 5 mm¹⁾ 3RQ3902-0A 100 2000 units 41H Tools for opening spring-loaded terminals Screwdriver Spring-loaded $\stackrel{\circ}{\mathbb{H}}$ For all SIRIUS devices with spring-loaded terminals terminals (push-in) Length approx. 200 mm, 3.0 mm x 0.5 mm, 3RA2908-1A 41B 1 unit titanium gray/black, partially insulated 3RA2908-1A

PC labeling system for individual inscription of unit labeling plates available from: Conta-Clip Verbindungstechnik GmbH, see page 16/18.

7

Safety technology



	PG 41B, 41H, 41L, 42B, 42C, 42F, 42J, 4N1
11/2	Introduction
	Safety relays
	SIRIUS 3SK safety relays
11/13	General data
	Basic units
11/22	- SIRIUS 3SK1 Standard basic units
11/23	- SIRIUS 3SK1 Advanced basic units
11/24	- SIRIUS 3SK2 basic units
	Expansion units
11/26	- Output expansions
11/28	- Input expansions
11/29	Accessories
	SIRIUS 3TK28 safety relays
11/33	With special functions
11/35	Accessories

Price groups

Safety technology

Introduction

Overview

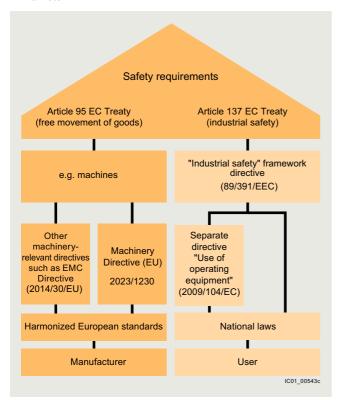
Functional safety of machines and plants – Basic safety requirements in the manufacturing industry

In order to protect people and the environment in many industrial applications in the manufacturing and process industries, machines and plants must meet fundamental safety requirements. The Machinery Directive applies in the EU. In addition to design solutions, automation systems and components are also expected to perform safety-related tasks. This means that the life and health of people and the physical integrity of capital goods and the environment depend on the proper operation of these systems and components, on "functional safety".

With the introduction of the uniform European Single Market, national standards and regulations affecting the technical realization of machines were consistently harmonized. This involved defining basic safety requirements which address, on the one hand, machine manufacturers in terms of the free movement of goods (Article 95) and, on the other hand, users in terms of industrial safety (Article 137).

EU Directives:

- Define requirements which must be met by plants and their operating companies in order to protect the health of people and the quality of the environment
- Include standards for health & safety at work (minimum requirements)
- Define product requirements (e.g. for machines) to protect the health and safety of consumers
- Differentiate between the requirements which must be met for the implementation of products in order to ensure the free movement of goods and the requirements which must be met for the use of products
- Similar requirements apply in many other countries and markets



Safety requirements imposed on machines and plants

Objective of the standards

It is the objective of safety technology to minimize as far as possible the hazards from technical facilities for people and the environment while restricting no more than absolutely necessary the scope of industrial production, the use of machines or the production of chemical products.

Production automation is governed in particular by the following standards:

- IEC 62061 and
- ISO 13849-1

The IEC 62061 standard

The IEC 62061 standard "Safety of machines – Functional safety of electrical, electronic and programmable electronic control systems" defines comprehensive requirements. It includes recommendations for the design, integration and validation of safety-related electrical, electronic and programmable electronic control systems (SRECS) for machines. For the first time, one standard covers the entire safety chain, from the sensor to the actuator. The Safety Integrity Level, or SIL for short, is defined as the application parameter for this standard.

Requirements with respect to the capacity of non-electrical – e.g. hydraulic, pneumatic, or electromechanical – safety-related control elements for machines are not specified by the standard.



Safety of machines and systems

The ISO 13849-1 standard

ISO 13849-1 "Safety of machinery - Safety-related parts of controls – Part 1: General principles" replaced EN 954-1 at the end of 2011. It considers the complete range of safety functions with all the devices which are involved in their performance. ISO 13849-1 also provides a quantitative analysis of the safety functions. The standard describes how to determine the Performance Level (PL) for safety-relevant parts of control systems on the basis of architectures specified for the intended service life.

When combining several safety-related parts to form a complete system, the standard explains how to determine the resulting PL. It can be applied to safety-related parts of control systems (SRP/CS) and all types of machines, regardless of the technology and energy used, e.g. electrical, hydraulic, pneumatic or mechanical.

Introduction

Safety Integrated – Integrated safety technology from a single source



Safety Integrated

The following applies equally for machine manufacturers and the companies which operate their machines: Maximum possible safety for personnel and machines. The solution: our Safety Integrated concept based on Totally Integrated Automation. Whether for simple safety functions or highly complex tasks – our portfolio offers you maximum safety.

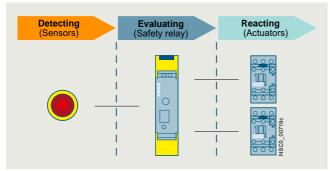
Safety Integrated is a unique, complete and consistent range of safety products covering all safety-related tasks – from detecting, evaluating and reacting, from switches and control systems to operating mechanisms (see graphic on page 11/4). Our products meet the safety requirements in force in industry, including IEC, ISO, NFPA and UL, and are certified according to the latest safety standards.

All Safety Integrated products or systems can be seamlessly integrated in the standard automation environment. They are therefore particularly flexible and economical, reduce engineering time, increase plant availability and enable practice-related machine operation.

Designing a safety function

A safety chain normally comprises the following functions: detect, evaluate and react. In detail this means:

- Detect = the detection of a safety requirement with corresponding sensors, such as EMERGENCY STOP or position switches
- Evaluate = the detection of a safety requirement and the reliable initiation of a reaction, e.g. shutting down the enabling circuits
- React = shutting down the hazard using suitable motor switching devices such as contactors, fail-safe motor starters, or fail-safe soft starters



Possible configuration of a safety function

As a partner for all safety requirements, we not only support you with the respective safety-related products and systems, but also consistently provide you with the most current know-how on international standards and regulations. Machine manufacturers and plant managers are offered a comprehensive training portfolio as well as services for the entire lifecycle of safety-related systems and machines.

- A uniform, certified product range
- Courses on CE marking, risk assessment and standards, see www.siemens.com/sitrain
- For a collection of frequently required documents, see Safety Integrated - Safety in Factory Automation
- For application examples, see www.siemens.com/safety-selector
- Worldwide service and support, see https://support.industry.siemens.com

For more information, see www.siemens.com/safety-integrated.

Safety Evaluation in the TIA Selection Tool



Safety Evaluation

The safety evaluation for the IEC 62061 and ISO 13849-1 standards is performed quickly and easily, directly in the TIA Selection Tool. In addition to the fast and safe calculation of machine safety functions – from the definition of the system structure to the selection of components – this enables shared data management during all project phases. Take the next step in the digital design of machinery and equipment with Safety Evaluation in the TIA Selection Tool.

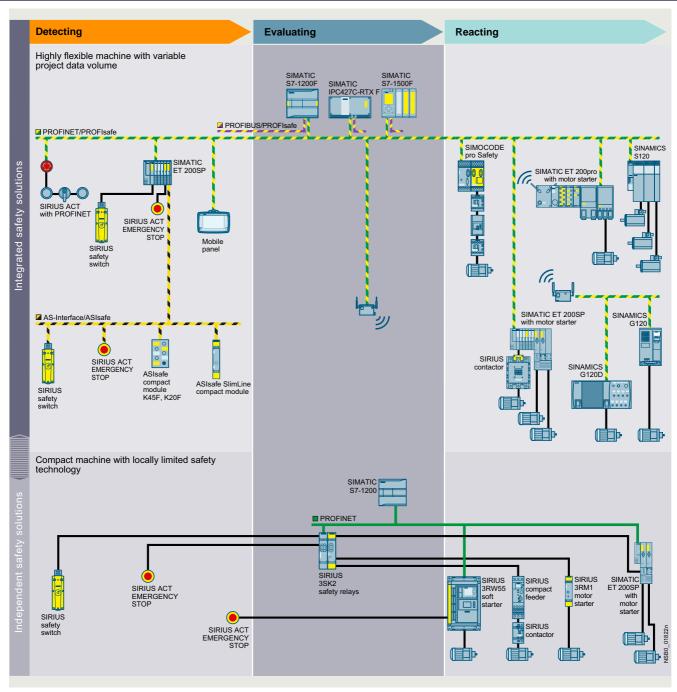
In addition, the functionalities of the proven Safety Evaluation Tool are still available. It determines the achieved safety integrity (SIL/PL) step-by-step. You receive the results as a standards-compliant report that can be integrated in the documentation as proof of safety.

Your advantages at a glance:

- · Automatic calculation according to current standards
- Fast results: Standard-compliant report
- Less time needed to evaluate the safety functions
- Fast access to the latest product data
- User-friendly archiving: Projects can be saved and called up again as required
- Selection menus for determining diagnostic coverage (DC) and common cause failures (CCF).
- Different operating cycles can be input when used in a 2-channel configuration
- · Failure rate calculation

For more information, see www.siemens.com/safety-evaluation-tool.

Introduction



Safety Integrated

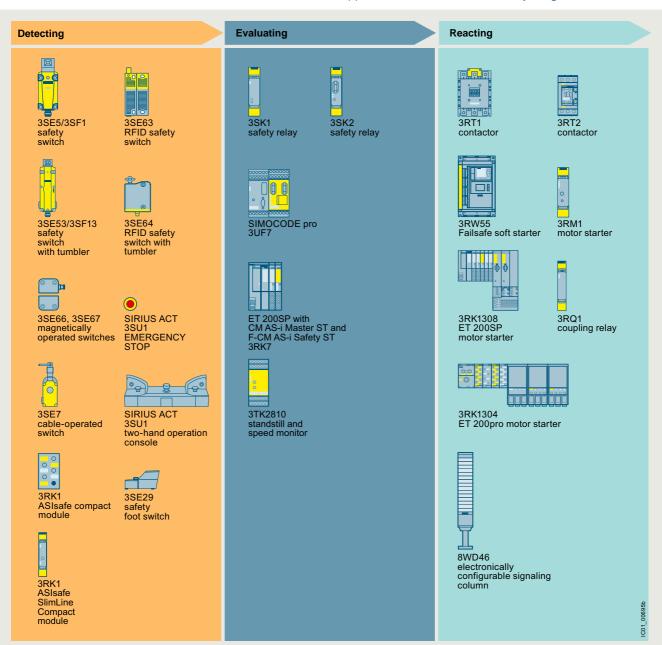
Introduction

SIRIUS Safety Integrated

Our SIRIUS Safety Integrated controls are a central element of the Siemens Safety Integrated concept. Whether for fail-safe detecting, commanding and signaling, monitoring and evaluating or starting and reliable shutting down – our SIRIUS Safety Integrated controls are experts at performing safety tasks in your plant.

SIRIUS Safety Integrated uses fail-safe communication via standard fieldbus systems, such as ASIsafe via AS-Interface and PROFIsafe via PROFIBUS and PROFINET, to solve even networked safety tasks of greater complexity. This opens the door for flexible safety solutions for compact machines or large-scale plants.

Implementation of many typical safety applications, see Application Manual for SIRIUS Safety Integrated.



SIRIUS Safety Integrated

Introduction

Monitoring with safe evaluation devices from the 3SK series

The safe evaluation devices of the 3SK device series are perfectly suited for evaluating safety switches of the 3SE product family. These are not only suitable for simple position switches, but can also be used easily and without problems with

non-contact position switches and switches with tumblers. The highest safety levels, SIL 3 according to IEC 62061 or PL e according to ISO 13849-1, can be achieved.



Monitoring with fail-safe evaluation units

Notes:

For more information, see FAQ article. For information on safety switches, see page 12/1 onwards.

Introduction

Using SIRIUS 3RT contactors with fail-safe controllers and safety relays

Safety relays and fail-safe controllers work perfectly with SIRIUS contactors optimized for safety application regardless of their size:

- In the low performance range with 3RT201 or 3RT202 contactors with DC operating mechanism
- In the medium performance range with 3RT203 or 3RT204 contactors with solid-state operating mechanism and fail-safe control input
- In the high performance range with 3RT105, 3RT106 or 3RT107 contactors with solid-state operating mechanism and fail-safe control input

They offer the following advantages:

- Reduced current load on the controller outputs
- Minimization of wear for mechanical relays on controllers or safety relays
- Coupling links between controllers and contactors are no longer required



Combination of SIRIUS 3RT contactors with fail-safe controllers and safety relays

Introduction

		Туре	Page
SIRIUS Safety Integrated			
	3SK safety relays		
	Key modules of a consistent and cost-effective safety chain		
	 Can be used for all safety applications thanks to compliance with the highest safety requirements (SIL 3 according to IEC 62061 or PL e according to ISO 13849-1) 		
F.	Suitable for use all over the world through compliance with all globally established certifications		
The state of the s	SIRIUS 3SK1 Standard basic units	3SK111	11/22
3SK111	Simple, compact devices for all important requirements for monitoring safety sensors and actuators		
	SIRIUS 3SK1 Advanced basic units	3SK112	11/23
	Multifunctional series of safety relays with safe relay outputs, semiconductor outputs or time-delayed outputs for:		
	- EMERGENCY STOP monitoring		
	- Protective door monitoring		
	Monitoring of non-floating sensors such as light arrays, laser scanners, etc.		
	- Monitoring of two-hand operation consoles		
SK112	Monitoring of equivalent (NC/NC) and antivalent (NO/NC) sensors		
All Inc.	Setting by means of DIP switch		
	SIRIUS 3SK2 basic units	3SK2	11/24
	Series of safety relays that can be parameterized by software, with semiconductor outputs and independent output functions for:		11/24
	- EMERGENCY STOP monitoring		
	- Protective door monitoring		
	- Protective door monitoring with tumbler		
3SK2	- Monitoring of non-floating sensors such as light arrays, laser scanners, etc.		
	- Monitoring of two-hand operation consoles		
<i>777</i>	- Monitoring of equivalent (NC/NC) and antivalent (NO/NC) sensors		
	- Muting		
	- Communication via PROFINET (optional)		
	Expansion units	3SK121,	11/26,
	3RO and 4RO output expansions for SIRIUS 3SK1 Standard basic units, SIRIUS 3SK1 Advanced basic units and SIRIUS 3SK2 basic units	3SK122, 3SK123	11/28
SK121	 3RQ1 output expansions up to SIL 3/PL e for SIRIUS 3SK1 Standard basic units, SIRIUS 3SK1 Advanced basic units and SIRIUS 3SK2 basic units 		
	 Input expansion for SIRIUS 3SK1 Advanced basic units 		
	 Power supply for SIRIUS 3SK1 Advanced basic units 		
	 Integration of 3RM1 motor starters possible and, therefore, simple integration of a main circuit component in a system configuration of the safety relays. There is no need for complex wiring between the safety evaluation unit and the actuator. 		
	 Expansion of the Standard device series by means of wiring 		
	 Expansion of the SIRIUS 3SK1 Advanced and SIRIUS 3SK2 device series by means of wiring or without wiring outlay by means of 3ZY12 device connectors 		
	3TK2810 safety relays	3TK2810	11/33
tion,	Further modules of a consistent and cost-effective safety chain		
Wester 1	 Can be used for all safety applications thanks to compliance with the highest safety requirements (SIL 3 according to IEC 62061/IEC 61508 and PL e according to ISO 13849-1) 		
	 Suitable for use all over the world through compliance with all globally established certifications 		
access of	Safe standstill monitoring with 3TK2810-0		
TK2810-1BA41	Monitoring without external sensors		
	Universal use in applications possible		
	Safe speed monitoring with 3TK2810-1		
	Monitoring of speed with encoders and proximity switches possible		
	Easy diagnostics options via display		
	• Interested manifesting of a paring landed landing protective deep		

• Integrated monitoring of a spring-loaded locking protective door

Introduction

		Туре	Page
SIRIUS Safety Integrated (co	ntinued)		
	AS-Interface safety modules	3RK1	From 2/26
	Complete portfolio of ASIsafe modules		
	For connection of safety switches with contacts (e.g. position switches)		
	Degree of protection IP65/IP67 or IP20		
	Especially compact dimensions, with widths from 17.5 mm		
(a)	Up to four safe inputs per module		
W455	Standard outputs are available on the module in addition		
K45F SC17.5F	• Up to SIL 3/PL e		
	Advantage: Easy integration of safe signals both in the control cabinet or in the field		
(eq. a.) at the last two last	CM AS-i Master ST and F-CM AS-i Safety ST for ET 200SP	6ES7,	From 2/29,
	The CM AS-i Master ST and F-CM AS-i Safety ST modules are plugged into an ET 200SP configuration and connect an AS-i network, including safety-related inputs and outputs, with the controller.	3RK7	from 2/34
R: * #### # F	Single, double and multiple masters possible		
The second secon	 Per CM AS-i Master ST up to 496 DI/496 DQ/124 AI/124 AQ possible 		
	• Per F-CM AS-i Safety ST up to 31 safe input signals (2-channel)/16 safe output channels		
	possible		
	Configuration in the TIA Portal/STEP 7		
CM AS-i Master ST and F-CM AS-i Safety ST	Plant-wide safety programming of the F-CPU via SIMATIC Distributed Safety/Safety Advanced		
. om no reality or	Integrated diagnostics		
	No other programming tools required		
	Advantage: Modular connection of fail-safe AS-i networks with system-wide programming in SIMATIC and SINUMERIK controllers.		
	SIRIUS 3RT contactors, 3-pole		
	18.5 to 55 kW	3RT20	3/65
6 6 6	 Solid-state operating mechanism with fail-safe control input for safety-related applications up to SIL 2/PL c with one contactor or SIL 3/PL e with two contactors 		
	3RT20 only for motor loads		
	Version with auxiliary switch can be extended either on the front or on the side		
	Version with auxiliary switch can be extended either on the north of on the side		
* * *			
3RT2031S.30 3RT2041S.30			
-	55 to 250 kW or 690 A	3RT10,	3/67,
	Solid-state operating mechanism with fail-safe control input for safety-related applications up to	3RT14	4/18
	SIL 2/PL c with one contactor or SIL 3/PL e with two contactors		
	3RT10 for motor loads or 3RT14 for weak or non-inductive loads		
	Version with removable lateral auxiliary switches or permanently mounted auxiliary switches		
= btot			
2DT1 C 2C			
3RT1S.36	SIRIUS 3RQ1 force-guided coupling relays, fail-safe up to SIL 3/PL e	3RQ1	From 5/21
A STATE OF THE STA	They are used for safe coupling up to SIL 3/PL e of control signals from and to a control system	JIIGI	110111 3/21
	or as an output expansion for the SIRIUS 3SK safety relays.		
	Wide voltage ranges from 24 to 240 V AC/DC		
	All versions with real load contacts, also in the NC circuit		
# 1	• International standards and certifications including CE, UL/CSA, EAC, railway approvals,		
	and more		
3RQ1			
	3RW55 Failsafe soft starters	3RW55	From 6/39
Carrie Ca	3RW55 soft starters for safety-oriented tripping		
	SIL 1/PL c without additional safety evaluation unit or contactor with direct wiring of an EMERGENCY STOP to F-DI		
	SIL 3/PL e with an additional contactor and safety evaluation unit or F-PLC		
	• For motors up to 315 kW (at 400 V) in the standard (inline) circuit or 560 kW (at 400 V)		
	in the inside-delta circuit		



3RW55

Introduction

		Туре	Page
SIRIUS Safety Integrated (co	ntinued)		
omice cancily amognation (co	3RM1 Failsafe motor starters	3RM1	From 8/83
	 Motor starters for safety-oriented tripping as 3RM11 direct-on-line starters or 3RM13 reversing starters 		1101110/00
	Compact devices with 22.5 mm width comprising combinations of relay contacts and power semiconductors (hybrid technology) and an electronic overload relay		
	 For switching three-phase motors up to 3 kW (at 400 V) and resistive loads up to 10 A at AC voltages up to 500 V under normal operating conditions 		
3RM1	Safety-related shutdown according to SIL 3 or PL e by shutting down the control supply voltage or control inputs possible without additional devices in the main circuit		
	• Combination with 3SK safety relay through conventional wiring or 3ZY12 device connectors		
	 Simple wiring and collective shutdown with device connectors in assemblies; there is no further need for complex looping of the connecting cables 		
	ET 200SP fail-safe motor starters	3RK1	From 8/94
	• Fully integrated into the ET 200SP I/O system (including TIA Selection Tool and TIA Portal)		
us S	 Fully pre-wired motor starters for switching and protecting any AC loads up to 5.5 kW from 48 V AC to 500 V AC 		
	 Less space required in the control cabinet (20 to 80%) as a result of greater functional density (direct-on-line and reversing starters in same width) 		
	 Longer service life and reduced heat losses thanks to hybrid technology 		
2	• Self-assembling 32 A power bus, i.e. the load voltage is only fed in once for a group of motor starters		
3RK1308-0CB00-0CP0	 High degree of flexibility when it comes to safety applications via SIMATIC F-CPU or 3SK safety relays up to SIL 3 or PL e 		
	• Diagnostics capability for active monitoring of the switching and protection functions		
	• Digital inputs can optionally be used via a 3DI/LC module		
	ET 200pro Safety motor starters Solution	3RK1	From 9/11
	Safety motor starters Solution PROFIsafe are often found in safety applications of the more complex type that are interlinked. In this case, a safe control system is used with the PROFINET or PROFIBUS bus systems with the PROFIsafe profile.		
- COURSE	It comprises:		
ET 200pro Safety	PROFIsafe modules		
E1 200pio Galety	Disconnecting modules		
	Standard motor starters		
	High Feature motor starters		
tester reserve	SIMOCODE pro motor management and control devices	3UF7	From 10/5
TUIL I	 Flexible, modular motor management system for motors with constant speeds in the low-voltage range 		
	 Provides an intelligent interface between the higher-level automation system and the motor feeder 		
ONACCORE	• Multi-functional, electronic full motor protection which is independent of the automation system		
SIMOCODE pro V	 Integrated control functions for the motor control 		
	Detailed operating, service and diagnostics data		
	 Open communication via PROFIBUS DP, PROFINET/OPC UA, Modbus RTU or EtherNet/IP 		
	 Safety relay function for the fail-safe disconnection of motors up to SIL 3 according to IEC 62061/IEC 61508 or PL e according to ISO 13849-1 		
SIMOCODE pro S	Fail-safe digital modules		
	DM-F Local for direct assignment between a fail-safe hardware shutdown signal and a motor feeder		

DM-F PROFIsafe for when a fail-safe controller (F-CPU) creates the fail-safe signal for the disconnection



Introduction

		Туре	Page
SIRIUS Safety Integrated (co	ontinued)		
	Mechanical position switches	3SE51,	From 12/5
	Easy assembly thanks to modular design	3SE52	
	Solid, rugged design		
A S	Special versions are easily generated and quickly available, also in combination with		
	 standard modules With a 3SE51/3SE52 position switch, it is possible to achieve SIL 1 according to 		
	IEC 62061/IEC 61508 or PL c according to ISO 13849-1.		
3SE51	• SIL 2/PL d and SIL 3/PL e can be achieved by using a second 3SE51/3SE53 position switch.		
O Eso	Mechanical safety switches	3SE51,	From 12/54
	With separate actuator, hinge switch, or separate actuator and tumbler	3SE52, 3SE53	
	 With a position switch, it is possible to achieve SIL 2 according to IEC 62061/IEC 61508 or PL d according to ISO 13849-1. 	3SF1	From 12/99
<u></u>	• SIL 3 according to IEC 62061/IEC 61508 or PL e according to ISO 13849-1 can		
	be achieved by using a second 3SE51 or 3SE52 position switch.		
	Version in various sizes made of metal or plastic		
	• In the case of safety switches with tumbler, versions in the high degree of protection IP69		
3SE53	Version with integrated ASIsafe electronics available for all enclosure designs		
	Non-contact magnetically operated safety switches		
	Magnetically operated switches	3SE66,	From 12/119
	Small, compact, safe	3SE67	
	 Simple installation even in restricted spaces thanks to connector versions Two safety contacts and one signaling contact enable simple diagnostics 		
	Two safety contacts and one signaling contact enable simple diagnostics at the maximum safety level		
3SE66, 3SE67	,		
00200, 00207	RFID safety switches	3SE63	From 12/125
	Long service life due to non-contact switching		
	Only one switch required for the maximum safety level SIL 3 according to		
20522	IEC 62061/IEC 61508 or PL e according to ISO 13849-1		
3SE63	 Tamper protection better than with mechanical safety switches thanks to switches and actuators with individual coding 		
	• LED status display including threshold indication for door displacement		
	Degree of protection up to IP69 and resistance to cleaning products		
	Larger switching displacement than with mechanical switches; offers better mounting televines and eagging televines of the protective deer.		
~	offers better mounting tolerance and sagging tolerance of the protective door RFID safety switches with tumbler	3SE64	From 12/128
0	In addition to the features mentioned above for 3SE63, the RFID safety switch with tumbler has	33204	110111 12/120
	other advantages:		
•	• 1 150 N locking force		
3SE64	 Suitable for protection of persons and/or processes (quiescent current or open-circuit principle) 		
33E04	• 25 N/50 N latching force adjustment by rotating the star handle 180°		
	Guard locking possible from three sides (three directions of actuation) by means of a star		
	handle		
	Assisted or escape release of guard locking		
	Actuator can be used for door stop (using damper) Commanding devices	3SU1	From 10/C
	SIRIUS ACT pushbuttons and indicator lights	3501	From 13/6
111	Using a special F adapter, EMERGENCY STOP devices according to ISO 13850 can be		
A STATE OF THE PARTY OF THE PAR	directly connected through the standard AS-Interface or PROFIsafe with safety-related		
6666	communication. This F adapter/fail-safe interface module is snapped from the rear onto the EMERGENCY STOP device, enabling the achievement of SIL 3 according to IEC 62061 or		
3SU14	PL e according to ISO 13849-1.		
33014	 Thanks to SIRIUS ACT with PROFINET, commanding and signaling devices can be connected directly via PROFINET to the controller and HMI devices – including with safety functions. 		
FALL PE	Engineering and commissioning are simplified by the TIA Portal.		
	EMERGENCY STOP devices for disconnecting plants in an emergency situation		
6660	 With positive latching function according to ISO 13850 and SIL 3 according to IEC 62061 or PL e according to ISO 13849-1 		
	Various mushroom diameters (also illuminated), with lock, in plastic/metal, as individual		
3SU1 with PROFINET	or complete units, and in combination with 3SU1 enclosure or two-hand		
	operation console. The 3SU1 enclosures are also optionally available with ASIsafe interface		
20114			
3SU1			

Introduction

		Туре	Page
SIRIUS Safety Integrated (continued)		
M M	Cable-operated switches	3SE7	From 13/156
ll E	 Control functions and EMERGENCY STOP always within reach 		
	 More safety over long distances of up to 2 x 100 m length 		
	Easy release		
	Fail-safe applications with SIRIUS Safety Integrated		
	Status display directly on the switch		
	• Signal display for long distances in innovative LED technology with visibility over 50 m		
3SE7	 Cable-operated switches with latching according to ISO 13850 (EN 418) and full EMERGENCY STOP function with positive-opening contacts 		
	 Quick and safe mounting using uniform mounting accessories 		
	 Versions with 1 NO/2 NC with yellow lid 		
	Safety foot switches	3SE2924-	From 13/162
	 Are used wherever manual operation is not possible 	3AA20	
	With hood, IP65 metal enclosure		
	 With interlocking function according to ISO 13850, manual release by pushbutton switch 		
3SE2924-3AA20	 With 2 NO + 2 NC, NO contacts close by momentary contact, positive-opening NC contacts with independent latching (safety function) 		
	Electronically configurable 8WD46 signaling columns	8WD46	From 13/164
=	 Compact and electronically modular design for flexible and versatile use 		
	 Flexible segment configuration through individually adjustable colors (multicolor LED), intensity and function (blinking, flashing, continuous or rotating light) 		
= =	Adjustable tones and volume		
	 Conventional signaling columns with configuration of the signaling columns via USB interface, with fast linking to the application through 8-pole M12 plug 		
III 8WD46	 Signaling columns for IO-Link configured via IO-Link interface (IODD) and fast linking to the application through 4-pole M12 plug 		

Connection methods

The 3SK safety relays are available with screw or spring-loaded terminals (push-in).

The 3TK2810 safety relays are available with screw or spring-loaded terminals.

(1)

Screw terminals



Spring-loaded terminals, spring-loaded terminals (push-in)

The terminals are indicated in the corresponding tables by the symbols shown on orange backgrounds.

3SK safety relays: Spring-loaded terminals (push-in) with TOP wiring

Push-in terminals are a form of spring-loaded terminals allowing fast wiring without tools for rigid conductors or conductors equipped with end sleeves.

As with other spring-loaded terminals, a screwdriver (with 3.0×0.5 mm blade) is required to disconnect the conductor. The same tool can also be used to wire finely stranded or stranded conductors with no end finishing.

The advantages of the push-in terminals are found, as with all spring-loaded terminals, in speed of assembly and disassembly and vibration-proof connection. There is no need for the checking and tightening required with screw terminals.

With the TOP wiring method, the wire inlet and terminals can be reached from the front. This helps to speed up the wiring process and eliminate wiring errors.



Video: SIRIUS spring-loaded terminals – Strong, flexible, safe, fast



SIRIUS 3SK safety relays



Video: 3SK safety relays - Select the optimum device - precisely for your application

Note:

More videos in the ExplaineArium, see www.siemens.com/sirius-xplained.

Device series

More information

Homepage, see www.siemens.com/sirius-safety-relays

SiePortal, see www.siemens.com/product?3SK

TIA Selection Tool Cloud (TST Cloud), see www.siemens.com/tstcloud/?node=Śirius3SK

Conversion tool, see www.siemens.com/conversion-tool

SIRIUS Sim 3SK2 simulation tool, see

https://support.industry.siemens.com/cs/ww/en/view/109763750

SIRIUS 3SK safety relays are the key elements of a consistent, cost-effective safety chain. Whether you need EMERGENCY STOP functionality, protective door monitoring, light arrays, laser scanners or the protection of presses or punches – slimline SIRIUS safety relays enable all safety applications to be implemented in the best possible way in terms of engineering and price.

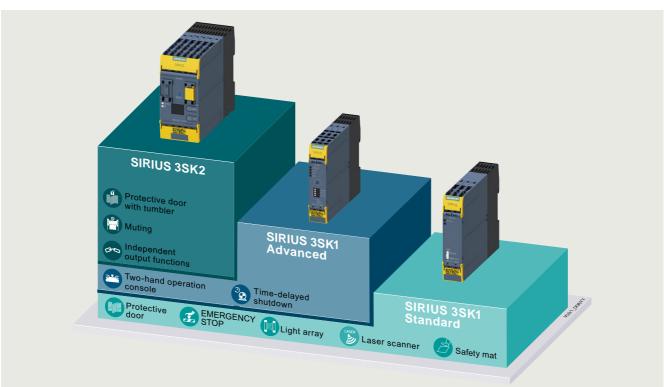
The following safety-related functions are available:

- Monitoring the safety functions of sensors
- Monitoring the sensor leads
- Monitoring the correct device function of the safety relays
- · Monitoring the actuators in the shutdown circuit
- Safety-related disconnection when dangers arise

SIRIUS 3SK safety relays are approved for applications up to SIL 3 according to IEC 62061 or PL e according to ISO 13849-1.

Note:

Device versions with protective coating on the printed circuit board are available on request.



SIRIUS 3SK device series

General data

SIRIUS 3SK safety relays stand out due to their flexibility for both parameterization and system designs with several evaluation units. This reduces device variance, thus bringing advantages in terms of device selection and spare parts management. Optimized solutions when selecting components and reduced spare part inventory requirements are facilitated by a clearly structured component range. Device connectors are simply used for connecting most components. This considerably reduces the wiring effort and avoids possible errors.

3SK1 Standard basic units

The 3SK1 Standard basic units are characterized by the following features:

- Compact design
- Simple operation
- Relay and semiconductor outputs
- Economical solution

3SK1 Advanced basic units

The 3SK1 Advanced basic units also offer:

- Universal application possibilities thanks to multifunctionality
- Time-delayed outputs
- · Expansion of inputs and outputs

3SK2 basic units

The 3SK2 basic units also offer:

- Up to six fail-safe, independent shutdown functions
- Flexible in use thanks to software parameterization
- Powerful semiconductor outputs
- Convenient diagnostics using diagnostics display and configuration software
- Communication via PROFINET/PROFIBUS by means of communications module

All three basic device series can be supplemented with output expansions. These provide further fail-safe, potential-free relay contacts for controlling actuators. In addition, the 3RM1 Failsafe motor starters can also be integrated into the 3SK system (see page 11/17).

In the 3SK1 Advanced and 3SK2 device series, the output expansions are connected by means of device connectors, in the 3SK1 Standard series by means of wiring.

For the 3SK1 Advanced device series, there is also the possibility of supplementing the basic units with input expansions. Here too, the connection is made via device connectors. This means that no individual basic units need to be interconnected if more than one sensor is required in the safety application.

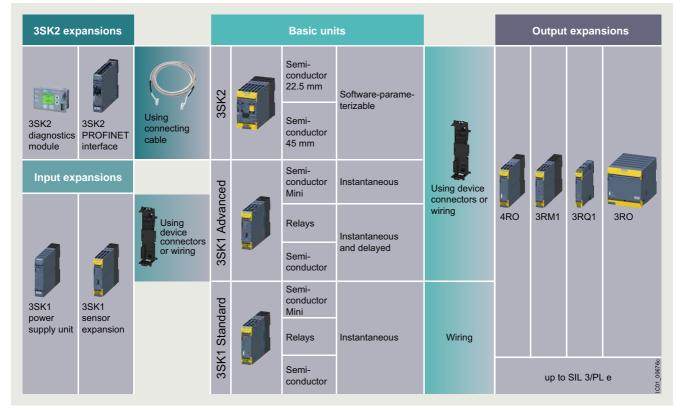
Since the 3SK1 Advanced device series comprises devices with 24 V DC operational voltage, a power supply is also available.

The 3SK2 device series can optionally be connected with a communications module via PROFINET to a control system, e.g. for diagnostics.

It is also possible to connect a diagnostics module to the 3SK2 system. This can be mounted in the control cabinet door, for example, and displays errors and diagnostics as well as configuration data quickly and clearly.

The 3SK1 Standard and Advanced and 3SK2 series are a highquality replacement for the 3TK28 safety relays. In their narrower design, and equipped with greater functionality, they can replace every 3TK28 device. The only exception to this are the 3TK2810 devices.

The 3RQ1 force-guided coupling relays can be used as an output expansion for 3SK up to SIL 3/PL e. Connection is also possible with device connectors.



System overview

General data

Overview of functions of the 3SK device series

Туре	3SK1 Standard basic units		3SK1 Advanced	basic units	3SK2 basic units 22.5 mm 45 mm		
	Safe relay outputs	Safe semiconductor outputs	Safe relay outputs	Safe semiconductor outputs	Safe semiconductor outputs	Safe semiconductor outputs	
Sensors							
Mechanical	✓	✓	1	1	✓	✓	
 Non-floating 	✓ ¹⁾	✓	1	✓	✓	✓	
 Antivalent 			✓	✓	✓	✓	
Expandable		✓ by means of cascading	1	✓			
Inputs	2 x 1-channel, 1 x 2-channel	2 x 1-channel, 1 x 2-channel	2 x 1-channel, 1 x 2-channel	2 x 1-channel, 1 x 2-channel	Freely configurable: 10 x 1-channel, 5 x 2-channel	Freely configurable: 20 x 1-channel, 10 x 2-channel	
Parameters							
Start (auto/monitored)	1	1	1	1	A variety of functions	s can be set for each	
 Sensor connection, 2 x 1-channel/ 1 x 2-channel 	✓ by means of wiring	/	/	/	input/output by mea parameterization.	ns of software	
Cross-circuit detection	✓ by means of wiring	1	✓	✓			
 Start-up test ON/OFF 		✓	1	✓			
 Monitoring of two-hand operator panels according to EN 574/ISO 13851 			✓	✓			
 Safety mat 			✓	✓			
Safe outputs							
 Instantaneous 	✓	✓	1	1	Configurable	Configurable	
Time-delayed			1	✓	Configurable	Configurable	
 Expandable with safe relay outputs 	✓ by means of wiring	✓ by means of wiring	✓	1	✓ •	✓	
 Independent 					✓ ²⁾	✓ ³⁾	
Device connectors			✓	✓	✓	✓	
Options							
 External memory module 						✓	
 Display on the device 						✓	
External diagnostics module can be connected					1	✓	
Control supply voltage							
• 24 V DC	$\checkmark^{4)}$	1	1	1	✓	✓	
• 110 240 V AC/DC	✓	✓ ⁵⁾	√ ⁶⁾	√ ⁶⁾			

✓ Available

- -- Not available
- 1) 24 V basic units only.
- 2) Up to four independent safe outputs, two of which via device connectors.
- 3) Up to six independent safe outputs, two of which via device connectors.
- 4) 24 V AC/DC.

- $^{5)}\,$ Possible using 3SK1230 power supply by means of wiring.
- 6) Possible using 3SK1230 power supply via device connector.

Safety relays SIRIUS 3SK safety relays

General data

Enclosure concept



Innovative enclosure concept for SIRIUS 3SK safety relays

Parameter assignment

3SK112 and 3SK1112 with DIP switch

The 3SK112 and 3SK1112 safety relays are configurable safety relays. They are used as evaluation units for typical safety chains (detect, evaluate, react). A number of functions can be set using the DIP switches on the front. 3SK112 and 3SK1112 are therefore universally applicable.

DIP switch No.	OFF	ON	Schematic
1	Sensor input Autostart	Sensor input Monitored start	→ ON
2	Without cross-circuit detection	With cross-circuit detection	1
3	2 x 1-channel sensor connection	1 x 2-channel sensor connection	3 96100
4	With start-up test	Without start-up test	4

3SK2 with software

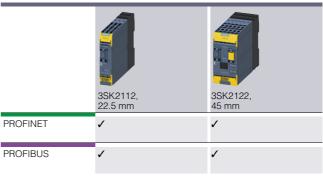
The SIRIUS Safety ES (TIA Portal) software permits quick and easy parameterization, commissioning and diagnostics of SIRIUS 3SK2 safety relays.

Device configuration and device functionality can easily be created graphically directly on the PC and transferred to the switching device through a USB cable or an optional PROFIBUS/PROFINET interface.

Note:

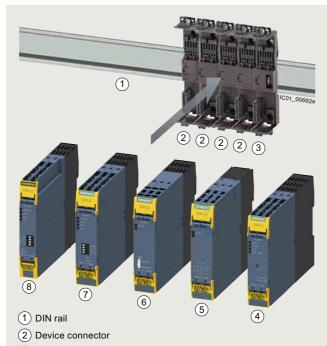
SIRIUS Safety ES (TIA Portal), see page 14/22.

Communication



General data

Optimum connection with device connectors



- (3) Device termination connector
- (4) SIRIUS 3RM1 motor starter
- (5) Force-guided 3RQ1 coupling relay as output expansion up to SIL 3/PL e
- (6) SIRIUS 3SK1211 output expansion
- (7) SIRIUS 3SK1121 Advanced basic unit
- (8) SIRIUS 3SK1220 sensor expansion

3RQ1 with 3SK1

In the case of 3SK1 Advanced basic units or 3SK2 basic units, the 3ZY12 device connectors allow safety functions involving several sensors and actuators to be constructed very quickly.

3RQ1 coupling relays as output expansion for 3SK

The SIRIUS 3RQ1 force-guided coupling relays in a modern titanium gray industrial enclosure are available in widths of 17.5 mm and 22.5 mm and can be used as an output expansion for SIRIUS 3SK safety relays.

They have safety certification up to SIL 3 according to IEC 62061/IEC 61508 or PL e according to ISO 13849-1.

Versions with a wide-range voltage input of 24 ... 240 V AC/DC and an installation depth of 90 mm, and versions with 24 V DC and an installation depth of 120 mm for use with 3SK device connectors are available.

The series consists of devices with up to five outputs and can be supplied with screw or spring-loaded (push-in) terminals.

Note:

SIRIUS 3RQ1 coupling relays, see page 5/21.

Seamlessly integrated safety right through to the main circuit



Problem-free integration of functional safety into the main circuit through the simple combination of 3RM1 and 3SK1 devices

Functional safety in the main circuit needs to be both simple and flexible

The unique compatibility of hybrid 3RM1 fail-safe motor starters and 3SK safety relays means that integrated functional safety right through to the main circuit is no longer a problem.

Their compact design allows the motor starters to be installed to the right of the safety relay in a simple manner, just like an output expansion. The wiring of the safety-related signals to the relay can be performed simply, quickly and in an error-free manner using the device connector.

The ergonomically designed enclosure with removable terminals and terminal labeling in the hinged cover allows for the cables to be conveniently diagonally mounted from the front. Either screw or spring-loaded terminals with push-in technology are available.

Highlights

- Fail-safe disconnection of motors up to 3 kW
- Problem-free combination of fail-safe motor starters and safety relays
- End-to-end system, simple setup using device connectors
- Ergonomic enclosure

Note:

SIRIUS 3RM1 motor starters, see page 8/83.

Safety relays SIRIUS 3SK safety relays

General data

Ordering notes for multi-unit packaging

SIRIUS 3SK safety relays can also be ordered in practical and environmentally friendly multi-unit packaging on request.

Multi-unit packaging with order code X90

When ordering products in <u>multi-unit packaging</u>, the article number of the product concerned must be supplemented with "-Z" and, <u>in addition</u>, the order code "X90" must be specified.

Ordering example:

3SK1111-2AB30-Z X90;

Order quantity 12 items → Packed number of items 12

For more information, see page 16/7.

Article number schemes

Product versions		Article	e number		
3SK1 safety relays		3SK1			
Device version	Basic unit		1		
	Expansion unit		2		
Device versions	3SK11: Standard; 3SK12: Output expansion		1		
	3SK11: Advanced; 3SK12: Input expansion		2		
Type of outputs	Relay outputs		1		
	Semiconductor outputs		2		
	Power outputs		3		
Connection type	Screw terminals		1		
	Spring-loaded terminals (push-in)		2		
Control circuit/actuation	3SK11: 3 enabling circuits			Α	
	3SK11: 2 enabling circuits			В	
	3SK11: 4 enabling circuits			С	
Type of control supply voltage	3SK1213: 24 V AC, 50/60 Hz			B 0	
	3SK1: 24 V AC/DC, 50/60 Hz			B 3	
	3SK1: 24 V DC			B 4	
	3SK1213: 115 V AC, 50/60 Hz	J 2			
	3SK1213: 230 V AC, 50/60 Hz			L 2	
	3SK1: 110 240 V AC/DC, 50/60 Hz			W 2	
Time delay	None				0
	0.05 3 s				1
	0.5 30 s	2			2
	5 300 s				4
Example		3SK1	111-1	A B 3	0

Product versions		Article number	
3SK2 safety relays		3SK2 1 □ 2 - □ A A 1 0	-
Device versions	10 F-DI, 2 F-DQ, width 22.5 mm	1	
	20 F-DI, 4 F-DQ, width 45 mm	2	
Connection type	Screw terminals	1	
	Spring-loaded terminals (push-in)	2	
Example		3SK2 1 1 2 - 1 A A 1 0	

Product versions		Article number
3SK2 interface modules		3SK2 5 1 1 - □ F A 1 0
Connection type	Screw terminals	1
	Spring-loaded terminals (push-in)	2
Example		3SK2 5 1 1 - 1 F A 1 0

Product versions		Article number
3RK3 interface module	es	3RK3 5 1 1 - □ B A 1 0
Connection type	Screw terminals	1
	Spring-loaded terminals	2
Example		3RK3 5 1 1 - 1 B A 1 0

Note:

The article number schemes show an overview of product versions for better understanding of the logic behind the article numbers

For your orders, please use the article numbers quoted in the selection and ordering data.

General data

Benefits

General

- Approved for all safety applications because of its compliance with the highest safety requirements (SIL 3/PL e)
- Universally usable thanks to adjustable parameters
- Usable worldwide thanks to globally valid certificates
- Compact SIRIUS design
- Device connectors with DIN-rail mounting for flexible connectability and expandability
- · Removable terminals for greater plant availability
- Yellow terminal covers clearly identify the device as a safety component
- Sensor cable with a length of up to 2 000 m allows it to be used in extensive plants
- Can be used for installation altitudes up to 4 000 m

Relay outputs

- Different voltages can be switched through the floating contacts
- The relay contacts allow currents of up to 5 A at AC-15/DC-13 to be connected

Semiconductor outputs

- · Wear-free
- Suitable for operation in frequently switching applications
- · Insensitive to vibrations and dirt
- High electrical endurance

Power outputs (3SK1213 output expansion)

- Different voltages can be switched through the floating contacts
- With the power relay contacts currents up to 10 A AC-15/6 A DC-13 can be switched
- High mechanical and electrical endurance
- Protective separation between safe outputs and electronics

Expansion option by adding the 3RM1 motor starter

SIRIUS 3SK safety relays are ideal for combining with the SIRIUS 3RM1 motor starters (see page 11/17).

Combinations are made by means of SIRIUS 3ZY12 device connectors (in combination with 3SK1 Advanced/3SK2) or conventional wiring (for all 3SK1 and 3SK2 basic units).

This makes collective shutdown very easy in assemblies. The wiring, and ultimately the shutting down of the control supply voltage for the expansion components in EMERGENCY STOP situations, is performed via the device connector. There is no further need for complex looping of the connecting cables between the safety relay and the motor starters.

The 3RM1 motor starter combines the benefits of semiconductor technology and relay technology. This combination is also known as hybrid technology. The hybrid technology in the motor starter is characterized by the following features:

- The inrush current in the case of motorized loads is conducted briefly via the semiconductors. Advantages include protection of the relay contacts and a long service life due to low wear.
- The uninterrupted current is conducted via relay contacts. Advantages include lower heat losses compared with the semiconductor.
- Shutdown is implemented again via the semiconductor.
 The contacts are only slightly exposed to arcs, and this results in a longer service life.
- · Integrated overload protection

Expansion option with 3RQ1 coupling relay

SIRIUS 3SK safety relays are ideal for combining with the SIRIUS 3RQ1 coupling relays (see page 11/17). Combinations are made by means of SIRIUS 3ZY12 device connectors or wiring.

3ZY12 device connectors

Using 3ZY12 device connectors to combine devices reduces the time required to configure and wire the components. At the same time errors are avoided during wiring, and this considerably reduces the testing required for the fully-assembled application.

Configuration and stock-keeping

Variable setting options by means of DIP switches or software, a wide voltage range (3SK1111) and a special power supply unit (3SK1 only) reduce the cost of keeping stocks, along with the configuration considerations of which evaluation unit should be selected.

Communication

The 3SK2 safety relays can be easily integrated in the overall application via PROFINET or PROFIBUS using optionally available interface modules.

This provides the following advantages:

- Exchange of signals and information with the plant controller
- Read-out and visualization of diagnostics information of the safety relay via the controller supports troubleshooting and reduces plant downtimes
- Access with the Safety ES engineering software via the fieldbus for parameterization, commissioning and diagnostics

Simulation

The SIRIUS Sim simulation tool for 3SK2 (see page 11/24) can be used to quickly and easily test configurations that have been created without real devices. The configurations thus created can then be loaded directly into the real devices. Time and costs for engineering are thus reduced.

Application

3SK1 safety relays

SIRIUS 3SK1 safety relays are used mainly in autonomous safety applications which are not connected to a safety-related bus system. Their function here is to evaluate the sensors and initiate safety-oriented tripping in the event of hazards. Also they check and monitor the sensors, actuators and safety-related functions of the safety relay.

3SK2 safety relays

SIRIUS 3SK2 safety relays are used primarily in autonomous, more complex safety applications for which the functional scope of the 3SK1 devices is no longer sufficient, such as in the implementation of independent shutdown functions or integration into higher-level control systems for diagnostics via fieldbus. Their function here is to evaluate the sensors and initiate safety-oriented tripping in the event of hazards. Also they check and monitor the sensors, actuators and safety-related functions of the safety relay.

Safety relays SIRIUS 3SK safety relays

General data

Technical specifications

More information

Equipment Manual 3SK1, see https://support.industry.siemens.com/cs/ww/en/view/67585885

Technical specifications

3SK1230, see
https://support.industry.siemens.com/cs/ww/en/ps/16389/td

3RK3511-BA10, see https://support.industry.siemens.com/cs/ww/en/ps/16398/td

Equipment Manual 3SK2, see https://support.industry.siemens.com/cs/ww/en/view/109444336

https://support.industry.siemens.com/cs/ww/en/ps/16382/faq

SIRIUS 3SK1 safety relays

Article number		3SK1111AB30, 3SK1211BB00, 3SK1211BB40	3SK1111AW20, 3SK1121, 3SK1211BW20	3SK1112	3SK1120, 3SK1220	3SK1122	3SK1213
General data:							
Width x height x depth	mm	22.5 x 100 x 121.6		22.5 x 100 x 91.6	17.5 x 100 x 121.6	22.5 x 100 x 121.6	90 x 100 x 121.6
Ambient temperature							
During operationDuring storage	°C °C	-25 +60 -40 +80					
Installation altitude at height above sea level, maximum	m	4 000, Derating, se	ee Product annound	ement			
Air pressure according to SN 31205	kPa	90 106					
Shock resistance		10 <i>g</i> /11 ms					5 g/10 ms
Vibration resistance according to IEC 60068-2-6		5 500 Hz: 0.75 r	nm				
Degree of protection IP of the enclosure		IP20					
Touch protection against electric shock		Finger-safe					
Insulation voltage, rated value	V	300		50			300
Impulse withstand voltage, rated value	V	4 000		800			4 000
Safety Integrity Level (SIL) according to IEC 62061		3					
Performance Level (PL) according to ISO 13849-1		е					
T1 value for proof test interval or service duration according to IEC 61508	у	20					
Electromagnetic interference emission		IEC 60947-5-1, class B	IEC 60947-5-1, class A				IEC 60947-5-1, class B
Certificate of suitability UL approval TÜV approval		Yes Yes					

Article number		3SK1111, 3SK1121AB40, 3SK1211	3SK1112, 3SK1122	3SK1120	3SK1121CB4.	3SK1213
Switching capacity current of the NO contacts of the relay outputs • At AC-15 at 230 V • At DC-13 at 24 V	A A	5 5	 		3 3	10
Switching capacity current of the semiconductor outputs at DC-13 at 24 V	Α		2	0.5		

Article number		3SK1111- .AB30, 3SK1211	3SK1111- .AW20	3SK1112, 3SK1220	3SK1120, 3SK1122- .AB40	3SK1121- .AB40	3SK1121- .CB4.	3SK1122- .CB4.	3SK1213
PFHD at high demand rate according to EN 62061	1/h	1.7 x 10 ⁻⁹	1.5 x 10 ⁻⁹	1.0 x 10 ⁻⁹	1.3 x 10 ⁻⁹	2.5 x 10 ⁻⁹	3.7 x 10 ⁻⁹	1.5 x 10 ⁻⁹	1.0 x 10 ⁻⁹
PFDavg at low demand rate according to IEC 61508			7.0 x 10 ⁻⁶					1.0 x 10 ⁻⁶	

General data

SIRIUS 3SK2 safety relays

Article number		3SK2112AA10	3SK2122AA10	3SK2511FA10
General data:				
Width x height x depth	mm	22.5 x 100 x 124.5	45 x 100 x 124.5	22.5 x 100 x 124.5
Ambient temperature During operation During storage	°C	-25 +60 -40 +80		-40 +85
Installation altitude at height above sea level, maximum	m	4 000		
Air pressure according to SN 31205	kPa	90 106		
Shock resistance		15 <i>g</i> /11 ms		
Vibration resistance according to IEC 60068-2-6		5 500 Hz: 0.75 mm		
Degree of protection IP of the enclosure		IP20		
Touch protection against electric shock		Finger-safe		
Insulation voltage, rated value	V	50		
Impulse withstand voltage, rated value	V	800		
Electromagnetic interference emission according to IEC 60947-1		Class A		
Certificate of suitability UL approval TÜV approval		Yes Yes		

Article number		3SK2112AA10	3SK2122AA10
Safety Integrity Level (SIL) according to IEC 62061		3	
Performance Level (PL) according to ISO 13849-1		е	
T1 value for proof test interval or service duration according to IEC 61508	у	20	
Switching capacity current of the semiconductor outputs at DC-13 at 24 V	А	4	
PFHD at high demand rate according to EN 62061	1/h	1.0 x 10 ⁻⁸	1.2 x 10 ⁻⁸
PFDavg at low demand rate according to IEC 61508		1.5 x 10 ⁻⁵	1.8 x 10 ⁻⁵

Article number		3SK2511FA10
Transmission type for Industrial Ethernet		PROFINET with 100 Mbps full duplex (100BASE-TX)
Number of interfaces according to PROFINET		1
Type of interface Ethernet interface		Yes
Type of interface 1 RJ45 (Ethernet)		Yes
PROFINET Conformance Class		В
Network load class according to PROFINET		1
Volume of cyclic user data for PROFINET IO • For outputs • For inputs	bit bit	64 64

Safety relays SIRIUS 3SK safety relays

Basic units > SIRIUS 3SK1 Standard basic units

Overview



The 3SK111 Standard basic units are characterized by simple, variable functionality. These devices are recommended for safety functions requiring only a few sensors and a small number of outputs on the safety relay.

Note:

Use of device connectors not possible.

3SK111 Standard basic units

Selection and ordering data

Multi-unit packaging, see page 16/7.







3SK1111-1AW20



3SK1112-1BB40

Control su	pply voltage	Number of	outputs					Article No.	Price	PU	PS*	PG
at AC at 50 Hz	at DC	S			as contactless semiconductor contact block			per PU	(UNIT, SET, M)			
		as NO contact, instanta- neous switching	as NO contact, delayed switching	for signaling function, instanta- neous switching	instan- tane- ous switch- ing		for signaling function, instanta- neous switching					
V	V											
Standar	d basic unit	ts										
24	24	3	0	1	0	0	0	3SK1111-□AB30		1	1 unit	41L
110 240	110 240	3	0	1	0	0	0	3SK1111-□AW20		1	1 unit	41L
	24	0	0	0	2	0	1	3SK1112-□BB40		1	1 unit	411

Type of electrical connection

- Screw terminals
- Spring-loaded terminals (push-in)



Overview



The 3SK112 Advanced basic units form an innovative system landscape that allows even complex safety functions with large numbers of sensors and outputs to be built up using the device connectors. It is possible to increase both the number of inputs for sensors and the number of safe outputs of the basic unit without the need for wiring outlay between the devices.

Note:

Use of device connectors possible.

3SK112 Advanced basic units

Selection and ordering data

Multi-unit packaging, see page 16/7.







3SK1120-1AB40



3SK1122-1AB40



3SK1122-1CB41

Control	Number of	f outputs					Adjustable	Article No.	Price		PS*	PG
supply voltage at DC	as contact	ting contact	block	as contactless semiconductor contact block			OFF-delay time		per PU	(UNIT, SET, M)		
at DO	as NO contact, instanta- neous switching	as NO contact, delayed switching	as NC contact for signaling function, instantaneous switching		delayed switch- ing	for signaling function, instanta- neous switching						
V							S					
Advan	ced basic ur	nits										
24	3	0	1	0	0	0		3SK1121-□AB40		1	1 unit	41L
	2	2	0	0	0	0	0.05 3	3SK1121-□CB41		1	1 unit	41L
							0.5 30	3SK1121-□CB42		1	1 unit	41L
							5 300	3SK1121-□CB44		1	1 unit	41L
24	0	0	0	1	0	0		3SK1120-□AB40		1	1 unit	41L
				3	0	1		3SK1122-□AB40		1	1 unit	41L
				2	2	0	0.05 3	3SK1122-□CB41		1	1 unit	41L
							0.5 30	3SK1122-□CB42		1	1 unit	41L
							5 300	3SK1122-□CB44		1	1 unit	41L

Type of electrical connection

- Screw terminals
- Spring-loaded terminals (push-in)



Basic units > SIRIUS 3SK2 basic units

Overview



3SK2 basic units

The 3SK2 basic units have a large number of inputs and outputs within a narrow width. In addition, demanding safety applications can be implemented simply with several independent safety functions. Flexible application options are enabled by powerful semiconductor outputs, as well as by expandability with additional 3SK output expansions and 3RM1 Failsafe motor starters. Flexible time functions and diagnostics options are available.

The 3SK2 basic units can be easily integrated in control systems by means of optional communications modules for the purpose of diagnostics or access via software, for example. Furthermore, system states and fault diagnostics can be displayed easily and more rapidly on site using the diagnostics module for installation in the control cabinet front.

The 22.5 mm wide version of the 3SK2 basic units has 10 x 1-channel (5 x 2-channel) inputs, while the 45 mm wide 3SK2 version comes with 20 x 1-channel (10 x 2-channel) inputs.

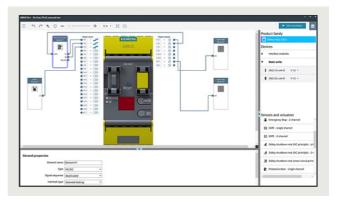
Note:

For series applications, pre-programmed memory modules with customer-specific configurations can also be created. Please contact your responsible sales partner for this purpose.

We are offering new HMI faceplates with a uniform design for SIRIUS 3SK2. They provide a well-structured overview of all the disconnection and element diagnostics, see

https://support.industry.siemens.com/cs/ww/en/view/109818076.

SIRIUS Sim 3SK2



SIRIUS Sim 3SK2

The SIRIUS 3SK2 simulation tool can be used to quickly and easily test functions and configurations in an office environment. These configurations can then be loaded directly into real devices. Time and costs for engineering are reduced.

SIRIUS Sim 3SK2 is available free of charge as a download, see https://support.industry.siemens.com/cs/ww/en/view/109763750.

Note:

For more information, see page 14/25.

Starter kits



3SK2941 starter kit

Starter kits are cost-effective complete packages for the simple creation of complex safety applications.

The 3SK2941-2AA11 basic starter kit includes:

- 3SK2112-2AA10 basic unit, 22.5 mm wide, with spring-loaded terminals (push-in)
- SIRIUS Safety ES (TIA Portal) Basic software for configuration, commissioning, operation and diagnostics available as a free download
- USB PC cable for easy transmission of the configuration to the device by means of USB

The 3SK2942-2AA11 PROFINET starter kit includes:

- 3SK2122-2AA10 basic unit, 45 mm wide, with spring-loaded terminals (push-in)
- PROFINET 3SK2511-2FA10 interface module, 22.5 mm wide, with spring-loaded terminals (push-in)
- SIRIUS Safety ES (TIA Portal) Professional
- Required cables

Basic units > SIRIUS 3SK2 basic units

Selection and ordering data





3SK2112

3SK2122

Control supply voltage at DC	Number of outputs as contactless semiconductor contact block safety-related 2-channel		Number of outputs to the device connector, safety-related	Width	Article No.	Price per PU		PS*	PG
V				mm					
Basic u	nits								
24	2	1	2	22.5	3SK2112-□AA10		1	1 unit	41L
	4	2	2	45	3SK2122-□AA10		1	1 unit	41L
	electrical connection								

- Screw terminals
- Spring-loaded terminals (push-in)

3SK2 multi-unit packaging, see page 16/7.







3RK3511-1BA10

Application	Width	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	mm			. ,		
Interface modules						
For connecting 3SK2 safety relays via PROFINET	22.5	3SK2511-□FA10		1	1 unit	41L
For connecting 3SK2 safety relays via PROFIBUS	45	3RK3511-□BA10		1	1 unit	42B
Type of electrical connection						

- Spring-loaded terminals: 3RK3 or spring-loaded terminals (push-in): 3SK2

Note:

The 3UF7930-0AA00-0 connecting cable is not included in the scope of supply and must be ordered separately, see page 11/30.

Product version	Spring-loaded terminals (push-in) Article No. Price per PU	(UNIT, SET, M)	PS*	PG
Basic starter kit				
Comprises 3SK2112-2AA10 basic unit, SIRIUS Safety ES (TIA Portal) as a free download and 3UF7941-0AA00-0 USB PC cable	3SK2941-2AA11	1	1 unit	4N1
PROFINET starter kit				
Comprises 3SK2122-2AA10 basic unit, PROFINET 3SK2511-2FA10 interface module, SIRIUS Safety ES (TIA Portal) Professional and required cables	3SK2942-2AA11	1	1 unit	4N1

Safety technology Safety relays

SIRIUS 3SK safety relays

Expansion units > Output expansions

Overview



3SK121 output expansion

The 3SK121 and 3RQ1 output expansions can be used for expanding all 3SK basic units.

3SK1211 output expansion (up to SIL 3/PL e)

The 3SK1211 output expansion is used to expand the safe outputs of a basic unit by adding another four safe outputs. These outputs have a switching capacity of AC-15 5 A at a switching voltage of 230 V. The devices can be connected to any 3SK basic unit by means of wiring. In addition, the devices with a 24 V DC control supply voltage can also be connected to 3SK1 Advanced basic units and 3SK2 basic units by means of the 3ZY12 device connectors.

3SK1213 output expansion (up to SIL 3/PL e)

The 3SK1213 output expansion is used to expand the safe outputs of a basic unit by adding three safe outputs with high switching capacity. These outputs have a switching capacity of AC-15 10 A at a switching voltage of 230 V. The devices can be connected to any 3SK basic unit by means of wiring. As with the 3SK1211, the devices with a 24 V DC control supply voltage can also be connected to 3SK1 Advanced and 3SK2 basic units by means of the 3ZY12 device connectors.

3RQ1 output expansion (up to SIL 2/PL c or SIL 3/PL e)

The 3RQ1 force-guided coupling relays serve as an output expansion up to SIL 2/PL c or SIL 3/PL e (depending on the version) and can be connected to all 3SK basic units by wiring and to all 3SK1 Advanced and 3SK2 basic units by using the 3ZY12 device connector. They have a switching capacity of AC-15 5 A (like 3SK1211) at a switching voltage of 230 V and are available in widths of 17.5 mm and 22.5 mm. Furthermore, they have NC contacts with a switching capacity of AC-15 for direct switching of loads, e.g. for anti-parallel switching or signaling, see page 5/21.

Note:

It is only possible to expand the Standard basic units by means of wiring. Advanced basic units and 3SK2 basic units can be expanded using the 3ZY12 device connector.

Benefits

- · Perfect adaptation of the number of outputs
- Simple expansion of instantaneous and time-delayed safe outputs of the Advanced basic units using device connectors
- When using the device connector, the outputs on the terminals of the basic device can still be used
- Two further freely configurable shutdown functions on 3SK2 basic units when using device connectors
- Cost-effective multiplication of outputs up to SIL 2/PL c or SIL 3/PL e with 3RQ1
- Expansion with power contacts for high AC-15/DC-13 currents in the control circuit
- No wiring of the feedback circuit to the basic units is required when using device connectors
- Shorter installation times
- · Less configuring and testing required

Expansion units > Output expansions

Selection and ordering data

3SK1211 multi-unit packaging, see page 16/7.





3SK1211-1BB40

3SK1213-1AB40

Control supply voltage Number of outputs as contacting contact block				Suitable for	Article No.	Price per PU	(UNIT,	PS*	PG	
at AC at 50 Hz	at DC	as NO contact instantaneous switching	as NO contact delayed switching	as NC contact instantaneous switching for feedback circuit	use with 3ZY12 device connector			SET, M)		
V	V									
Output ex	pansions									
24		4	0	1	No	3SK1211-□BB00		1	1 unit	41L
	24	4	0	1	Yes	3SK1211-□BB40		1	1 unit	41L
110 240	110 240	4	0	1	No	3SK1211-□BW20		1	1 unit	41L
	24	3	0	1	Yes	3SK1213-□AB40		1	1 unit	41L
115		3	0	1	No	3SK1213-□AJ20		1	1 unit	41L
230		3	0	1	No	3SK1213-□AL20		1	1 unit	41L

Type of electrical connection

- Screw terminals
- Spring-loaded terminals (push-in)

Note:

The 3RQ1 force-guided coupling relays can also be used as an output expansion for 3SK and have safety levels up to SIL 2/PL c or SIL 3/PL e, see page 5/21.

Expansion units > Input expansions

Overview



3SK1220 sensor expansion

With the input expansions

- 3SK1220 sensor expansion
- 3SK1230 power supply

the 3SK1 Advanced basic units can be made more flexible.

3SK1220 sensor expansion

The 3SK1220 input expansion allows additional sensors to be integrated easily and flexibly. The device monitors two 1-channel sensors or one 2-channel sensor, whatever their output technology (floating/single-ended).

The 3SK1220 sensor expansion can only be connected to the 3SK1 Advanced basic units by means of the 3ZY12 device connector, see page 11/29.

3SK1230 power supply

The 3SK1230 power supply makes the 3SK1 devices universally usable, whatever control supply voltage is to be used.

Alongside the 3ZY12 device connector, the 3SK1230 power supply can also be wired to act as a power supply for 3SK1

Benefits

- A wide voltage range of 110 to 240 V AC/DC allows the devices to be used worldwide
- Low stock-keeping due to little variance
- Flexible expansion of the number of sensors without the need for additional wiring between the devices
- Perfect adaptation of the number of inputs to suit the application
- Universal use thanks to the wide range of adjustable parameters for sensor expansion (parameters as for 3SK1 Advanced basic units)

Selection and ordering data

Multi-unit packaging, see page 16/7.





	33K 1220-1AB40		TAW20		
Product version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Sensor expansions					
For safety-related expansion of the 3SK1 Advanced basic units by an additional 2-channel sensor or two 1-channel sensors	3SK1220-□AB40		1	1 unit	41L
Power supply					
For supplying 3SK1 Advanced basic units via 3ZY12 device connectors at voltages of 110 240 V AC/DC	3SK1230-□AW20		1	1 unit	41L
Type of electrical connection					
Screw terminals	1				
Spring-loaded terminals (push-in)	2				

Numerous accessories are available for 3SK, such as device connectors, terminals, cables, adapters, covers, memory and diagnostics modules or software.

Note:

The last device in a system setup, i.e. the device on the far right, requires a device termination connector.

Device connectors for 3SK112., 3SK12.. and 3SK2

With the device connector, several devices of the 3SK/3RM1/3RQ1 system can be connected together. Use of device connectors not possible with 3SK1 Standard.

Device connectors are available in various versions specifically for the 3SK safety relays:

For type	type Device connectors				Device termination connectors		
	3ZY1212-1BA00 (for 3SK1/3RQ1, width 17.5 mm)	3ZY1212-2BA00 (for 3SK1/3RQ1, width 22.5 mm)	3ZY1212-2GA00 (for 3SK2, width 22.5 mm)	3ZY1212-4GA01 (for 3SK2, width 45 mm)	3ZY1212-1DA00 (for 3RQ1, width 17.5 mm)	3ZY1212-2DA00 (for 3SK1/3RQ1, width 22.5 mm)	3ZY1212-0FA01 (for 3SK1, set for enclosures ≥ 45 mm)
3SK1 Adv	anced basic units						
3SK1120	✓						
3SK1121		✓				✓	
3SK1122		✓				✓	
3SK2 bas	ic units						
3SK2112			✓				
3SK2122				✓			
Output ex	pansions						
3SK1211		✓				✓	
3SK1213							✓
3RQ1, 17.5 mm	✓				✓		
3RQ1, 22.5 mm		✓				✓	
Input exp	Input expansions						
3SK1220	1						
3SK1230		✓					

[✓] Available

Removable terminals for 3SK

The following removable terminals are available for the 3SK safety relays for pre-wiring of the terminals in the control cabinet, or for replacing terminals:

For type	Removable termin	Removable terminals				
	Screw terminals		Spring-loaded terr	ninals (push-in)		
	2-pole 3ZY1121-1BA00	3-pole 3ZY1131-1BA00	2-pole 3ZY1121-2BA00	3-pole 3ZY1131-2BA00		
3SK1 basic unit	s					
3SK1111		✓		✓		
3SK1112	✓		✓	-		
3SK1120		✓		✓		
3SK1121		✓		✓		
3SK1122	✓ bottom	√ top	✓ bottom	✓ top		
3SK2 basic unit	s					
3SK2112		✓		✓		
3SK2122		✓ ¹⁾		√ ¹⁾		
Output expansion	ons					
3SK1211	✓		✓	-		
3SK1213				-		
Input expansion	ıs					
3SK1220		√ top		✓ top		
3SK1230	✓ bottom		✓ bottom			

[✓] Available

⁻⁻ Not available

⁻⁻ Not available

 $^{^{1)}\,}$ Two sets of terminals are required for 3SK2122.

Safety relays SIRIUS 3SK safety relays

Selection	and	ordering	data
-----------	-----	----------	------

Selection and order	ring data						
	Version		Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Device connectors in the industrial DIN	for the electrical connection of SIRI I-rail enclosure	US devices					
	Device connectors for 3SK1/3RQ1 • Width 17.5 mm • Width 22.5 mm		3ZY1212-1BA00 3ZY1212-2BA00		1 1	1 unit 1 unit	41L 41L
	Device connectors for 3SK2 • Width 22.5 mm • Width 45 mm		3ZY1212-2GA00 3ZY1212-4GA01		1 1	1 unit 1 unit	41L 41L
3ZY1212 3ZY1212	• Width 22.5 mm		3ZY1212-2EA00		1	1 unit	41L
3ZY1212 3ZY1212 -1BA00 -2DA00	Pevice termination connectors For 3SK1/3RQ1, width 22.5 mm For 3RQ1, width 17.5 mm For 3RM1, width 22.5 mm Note: Positions of the slide switch, see Equipm	nent Manual 3SK1.	3ZY1212-2DA00 3ZY1212-1DA00 3ZY1212-2FA00		1 1 1	1 unit 1 unit 1 unit	41L 41L 41L
	Device daisy chain connector For 3SK/3RQ1/3RM1, 24 V DC, 22.5 mm distances between devices according to guidelines	3ZY1212-2AB00		1	1 unit	41L	
	Device connector For height adjustment for devices without connection via device connector, with a 22.5 mm or greater		3ZY1210-2AA00		1	1 unit	41L
	Device termination connector set For 3SK1213, width > 45 mm, comprising 3ZY1212-2FA00 and 3ZY1212	10-2AA00	3ZY1212-0FA01		1	1 unit	41L
Terminals for SIRIU	S devices in the industrial DIN-rail e						
47	Removable terminals		Screw terminals	+			
27/11/21 20/00	• Screw terminals up to 2 x 1.5 mm ² or 1 - 2-pole - 3-pole ¹⁾ - 4-pole	l x 2.5 mm ²	3ZY1121-1BA00 3ZY1131-1BA00 3ZY1141-1BA00		1 1 1	6 units 6 units 6 units	41L 41L 41L
3ZY1121-2BA00	 Push-in terminals up to 2 x 1.5 mm² 		Spring-loaded termina (push-in)				
	- 2-pole - 3-pole ¹⁾ - 4-pole		3ZY1121-2BA00 3ZY1131-2BA00 3ZY1141-2BA00		1 1 1	6 units 6 units 6 units	41L 41L 41L
PC cables for 3SK2	(essential accessory) USB PC cable For connecting to the USB interface of a for communication with 3SK2 through the	e system interface,	3UF7941-0AA00-0		1	1 unit	42J
3UF7941-0AA00-0 Connecting cables	recommended for use in connection with	n 3SK2					
	y for diagnostics/interface modules	s)					
	For connecting diagnostics/interface moto 3SK2 basic unit Central unit with interface module Diagnostics module with central unit or interface module						
3UF7932-0AA00-0	/ - / - / - / - / - /	 0.025 m (flat) 0.1 m (flat) 0.15 m (flat) 0.3 m (flat) 0.5 m (flat) 0.5 m (round) 1.0 m (round) 2.5 m (round) 	3UF7930-0AA00-0 3UF7931-0AA00-0 3UF7934-0AA00-0 3UF7935-0AA00-0 3UF7932-0AA00-0 3UF7932-0BA00-0 3UF7937-0BA00-0 3UF7933-0BA00-0		1 1 1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	42J 42J 42J 42J 42J 42J 42J 42J

¹⁾ For 3SK2122 two terminal sets are required.

	Version	Article No.	Price	PU	PS*	PG
			per PU	(UNIT, SET, M)		
Operating and mani-	toring modules for 3SK2					
Operating and moni	Diagnostics module	3SK2611-3AA00		1	1 unit	41L
and have been selled	For direct display of errors, e.g. of cross-circuits					
	Note: The 3RK3611-3AA00 MSS diagnostics module cannot be operated on the 3SK2 devices.					
3SK2611-3AA00						
Door adapters for 35						
	For external connection of the system interface, e.g. outside a control cabinet	3UF7920-0AA00-0		1	1 unit	42J
3UF7920-0AA00-0 Interface covers for	25/2					
interface covers for	For system interface, titanium gray	3RA6936-0B		1	5 units	42F
	Tot system interface, mainting gray	011A0300 0D		,	o unito	721
3RA6936-0B						
Memory modules for						
	For backing up the complete parameterization of the 3SK2 safety system without a PC/PG through the system interface	3RK3931-0AA00		1	1 unit	42C
3RK3931-0AA00						
Software for 3SK2	CIDILIS Cofety ES /TIA Doutel)	_				
Carbon of comm	SIRIUS Safety ES (TIA Portal) Software for configuration, commissioning, operation and diagnostics of 3SK2, see page 14/22 or www.siemens.com/product?3ZS1.					
3ZS1326-2C.10-0Y.5	SIRIUS Sim 3SK2					
	Available free of charge as a download for simulating configurations, see page 14/25 or https://support.industry.siemens.com/cs/ww/en/view/109763750.					
Accessories for enc						
	Sealing covers • 17.5 mm	3ZY1321-1AA00		4	5 units	41L
	(for 3SK1120 and 3SK1220)	3211321-1AAUU		1	5 units	41L
	22.5 mm (for all 3SK1 devices except 3SK1120 and 3SK1220)	3ZY1321-2AA00		1	5 units	41L
3ZY1321-2AA00						
P	Push-in lugs For wall mounting	3ZY1311-0AA00		1	10 units	41L
3ZY1311-0AA00						
3ZY1440-1AA00	Coding pins For removable terminals of SIRIUS devices in the industrial DIN-rail enclosure; enable the mechanical coding of terminals	3ZY1440-1AA00		1	12 units	41L

Safety technology Safety relays

SIRIUS 3SK safety relays

	Version	Article No. Pr	PU (UNIT, SET, M)	PS*	PG
Accessories for end	closures (continued)	_			
Accessories for end	Hinged covers				
SUNUS	Replacement covers, without terminal labeling				
. ,	Titanium gray				
	- 22.5 mm wide (for 3SK1230, 3SK2511)	3ZY1450-1AB00	1	5 units	41L
	• Yellow				
	- 17.5 mm wide (for 3SK1220, 3SK1120)	3ZY1450-1BA00	1	5 units	41L
3ZY1450-1AB00	- 22.5 mm wide (for 3SK11 except 3SK1120, 3SK1211, 3SK2112)	3ZY1450-1BB00	1	5 units	41L
SARIUS	- 45 mm wide (for 3SK2122)	3ZY1450-1BC00	1	5 units	41L
•					
3ZY1450-1BB00					
Blank labels					
0 0 0 0	Unit labeling plates ¹⁾ For SIRIUS devices				
	10 mm x 7 mm, titanium gray	3RT2900-1SB10	100	816 units	41B
	• 20 mm x 7 mm, titanium gray	3RT2900-1SB20		340 units	41B
<u>■ ■ ■ ĕ</u> 3RT2900-1SB20					
Tools for opening s	pring-loaded terminals				
	Screwdriver For all SIRIUS devices with spring-loaded terminals				
5	Length approx. 200 mm,	3RA2908-1A	1	1 unit	41B
	3.0 mm x 0.5 mm, titanium gray/black,				
3RA2908-1A	partially insulated				

PC labeling system for individual inscription of unit labeling plates available from: murrplastik Systemtechnik GmbH, see page 16/18.

Overview



SIRIUS 3TK2810 safety relays

More information

Homepage, see www.siemens.com/sirius-monitor SiePortal, see www.siemens.com/product?3TK28

3TK2810-0 standstill monitors

The standstill monitor increases safety in hazardous areas. Without a sensor, it detects motor stoppage from the residual magnetization of the rotating motor. When an adjustable threshold value is undershot, it uses its outputs to allow access to hazardous areas, for example by unlocking a protective door.

3TK2810-1 speed monitors

The speed monitor combines two safety functions in one unit by continuously monitoring machines and plants for standstill and speed.

Through simple parameterization and permanent diagnostics on the display, faults can be quickly remedied at any time – often before they cause plant downtimes.

In addition to standstill and speed monitoring, the unit also features an integrated monitoring function of a protective door with spring-loaded interlocking. Therefore, an additional evaluation unit is not needed. In addition, it can be protected against unwanted changes by the optionally activatable parameterization lock.

Article number scheme

Product versions		Article number	
Safety relays with special func	tions	3TK2810 - □ □ A □ □	
Device version	Standstill monitor	0	
	Speed monitor for NPN/PNP proximity switches and encoders	1	
Type of control supply voltage	24 V DC	В	
	230 V AC, 50/60 Hz	G	
	400 V AC, 50/60 Hz	J	
	120 240 V AC/DC; 50/60 Hz	K	
Time delay	0.2 6 s (standstill)	0	
	0 999 s (release delay)	4	
Connection type	Screw terminals	1	
	Spring-loaded terminals	2	
Version	Speed monitor for NAMUR proximity switches and encoders	- 0 A A 0	
Example		3TK2810 - 0 B A 0 1	

Note:

The article number scheme shows an overview of product versions for better understanding of the logic behind the article numbers.

For your orders, please use the article numbers quoted in the selection and ordering data.

Benefits

3TK2810-0 standstill monitors

- · No additional sensors required
- · Signaling of faults with diagnostics display
- Standstill time can be set
- Unit can be used with frequency converters

3TK2810-1 speed monitors

- Menu-prompted, easy parameterization
- Direct diagnostics on the display means shorter downtimes thanks to early fault detection
- Integrated protective door monitoring means greater safety because access to the plant is allowed only in the safe state
- Suitable for all standard sensors, i.e. high flexibility

Safety relays SIRIUS 3TK28 safety relays

With special functions

Technical specifications

inform	

Operating Instructions 3TK2810-0, see https://support.industry.siemens.com/cs/ww/en/view/25437254

Equipment Manual 3TK2810-1, see

https://support.industry.siemens.com/cs/ww/en/view/43707376

https://support.industry.siemens.com/cs/ww/en/ps/16391/td

https://support.industry.siemens.com/cs/ww/en/ps/16391/faq

Туре	3TK2810-0 standstill monitors	3TK2810-1 speed monitors
Sensors		
• Inputs	3	4
Electronic		3
With contacts		1
 Without sensors (measuring inputs) 	3	
 Magnetically operated switch (Reed contacts) 		
Safety mats		
Start		
• Auto	✓	✓
Monitored		✓
Cascading input 24 V DC		
Key-operated switches		
Enabling circuit, floating		
 Stop category 0 	3 NO + 1 NC	2
Stop category 1		
Enabling circuit, electronic		
Stop category 0		
Stop category 1		
/ Available		

Туре	3TK2810-0 standstill monitors	3TK2810-1 speed monitors
Signaling outputs		
 Floating 	1 CO	
Electronic	2	2
Standards	IEC 60204-1, ISO 12100, ISO 13849-1, IEC 62061/IEC 61508	IEC 60947-5-1, ISO 13849-1, IEC 60204-1, IEC 62061/IEC 61508
Test certificates	TÜV, UL, CSA	TÜV, UL, CSA
SIL level max. according to IEC 62061/IEC 61508	3	3
Performance Level (PL) according to ISO 13849-1	е	е
Probability of a dangerous failure per hour (PFH _d)	1.5 x 10 ⁻⁸ 1/h	3.38 x 10 ⁻⁹ 1/h
Rated control supply voltage		
• 24 V DC	✓	✓
• 230 V AC	1	
• 400 V AC	✓	
• 120 240 V AC/DC		✓

- ✓ Available
- -- Not available

Selection and ordering data

PU (UNIT, SET, M) =1 PS* =1 PG =4 =1 unit =41L





3TK2810-0BA01

3TK2810-1BA41

Rated control supply voltage $U_{\rm S}$	Times	Screw terminals	+	Spring-loaded terminals	<u></u>
V	S	Article No.	Price per PU	Article No.	Price per PU
Standstill monitors					
3TK2810-0					
• 24 DC • 230 AC • 400 AC	0.2 6 (standstill) 0.2 6 (standstill) 0.2 6 (standstill)	3TK2810-0BA01 3TK2810-0GA01 3TK2810-0JA01		3TK2810-0BA02 3TK2810-0GA02 3TK2810-0JA02	
Speed monitors					
3TK2810-1 for NPN/PNP proximit	y switches and encoders				
• 24 DC • 120 240 AC/DC	0 999 (release delay) 0 999 (release delay)	3TK2810-1BA41 3TK2810-1KA41		3TK2810-1BA42 3TK2810-1KA42	
3TK2810-1 for NAMUR proximity	switches and encoders				
• 24 DC • 120 240 AC/DC	0 999 (release delay) 0 999 (release delay)	3TK2810-1BA41-0AA0 3TK2810-1KA41-0AA0		3TK2810-1BA42-0AA0 3TK2810-1KA42-0AA0	

Selection and orde	Selection and ordering data						
	Use	Version	Article No. Price per PU		PS*	PG	
Push-in lugs							
3RP1903	For 3TK28	Push-in lugs For screw fixing, 2 units are required for each device	3RP1903	1	10 units	41H	
Adapters and conn	ecting cables for	speed monitors					
	For 3TK2810-1	Adapters For connecting encoders of type Siemens/Heidenhain 15-pole	3TK2810-1A	1	1 unit	41L	
3TK2810-1A		• 25-pole	3TK2810-1B	1	1 unit	41L	
3TK2810-1B	For 3TK2810-1	Connecting cable For connecting the speed monitor to the 3TK2810-1A or 3TK2810-1B adapter	3TK2810-0A	1	1 unit	41L	
3TK2810-0A Blank labels	For SIRIUS	Unit labeling plates	3RT2900-1SB20	100	340 units	41B	
3RT2900-1SB20	devices	20 mm x 7 mm, titanium gray ¹⁾					
Tools for opening s							
No.	For auxiliary circuit connections	Screwdriver For all SIRIUS devices with spring-loaded terminals Length approx. 200 mm,	Spring-loaded terminals	1	1 unit	41B	
3RA2908-1A		3.0 mm x 0.5 mm, titanium gray/black, partially insulated	Olinesso IA		i dint	טוד	

PC labeling system for individual inscription of unit labeling plates available from: murrplastik Systemtechnik GmbH, see page 16/18.

Notes

7

Position and safety switches





		Price groups		Shock and vibration test according to railway standard
		PG 41K, 41L, 42A, 42D, 250, 572		SIRIUS 3SE5 mechanical position
H	12/2	Introduction	10/01	switches
		SIRIUS 3SE5 mechanical position switches	12/81 12/84	- 3SE5, plastic enclosures- 3SE5, metal enclosures
	12/5	General data		SIRIUS 3SE5 mechanical safety
	12,0	3SE5, plastic enclosures	12/89	switches with separate actuator - 3SE5, plastic enclosures/metal
	12/15	- Enclosure width 31 mm according to	12/09	enclosures
	12/21	EN 50047 - Enclosure width 40 mm according to		SIRIUS 3SE5 mechanical safety
	12/21	EN 50041	10/00	switches with tumbler
	12/26	- Enclosure width 50 mm	12/90	- 3SE5, plastic enclosures
	10/20	3SE5, metal enclosures		SIRIUS 3SE safety switches and 3SU1 EMERGENCY STOP
	12/30	- Enclosure width 31 mm according to EN 50047		enclosures for PROFIsafe connection
	12/34	- Enclosure width 40 mm according to	12/91	Safety cabling in the field with IP67
	12/40	EN 50041 - Enclosure width 56 mm		SIRIUS 3SF1 mechanical safety
	12/40	- Enclosure width 56 mm, XL		switches for AS-Interface
	12/47	- Compact design	12/99	General data
	10/40	3SE5, open-type design	12/102	·
	12/49	- Enclosure width 30 mm Accessories and spare parts	12/104	
	12/50	- Accessories	10/100	With separate actuator
	12/52	- Optional accessories and spare parts		General data
ĺ		SIRIUS 3SE5, 3SE2 mechanical safety	12/110 12/111	* 1
		switches	12/112	
		With separate actuator	,	With tumbler
	12/54	General data	12/113	General data
	12/57	3SE5, plastic enclosures	12/115	
	12/59 12/61	3SE5, metal enclosures Accessories		with locking force greater than 1 200 N
	12/63	3SE2, plastic enclosures	12/116	3SF1, metal enclosures with locking force greater than 2 000 N
	,55	With tumbler		Safety hinge switches
	12/64	General data	12/117	
	12/68	3SE5, plastic enclosures	12/118	
	40/70	with locking force greater than 1 200 N		SIRIUS 3SE6 non-contact safety
	12/70	3SE5, metal enclosures with locking force greater than 2 000 N		switches
	12/71	Accessories	12/119	3SE66, 3SE67 magnetically operated
	<u> </u>	SIRIUS 3SE5, 3SE2	10/105	switches
		mechanical safety hinge switches	12/125	3SE63 RFID safety switches 3SE64 RFID safety switches
	12/73	General data	<u> </u>	with tumbler NEW
	12/74	3SE5, plastic enclosures	13/156	SIDILIS 3SE7 cable approted
	12/76	3SE5, metal enclosures	-13/130 	SIRIUS 3SE7 cable-operated switches
	12/77	3SE2, plastic enclosures	13/162	SIRIUS 3SE2, 3SE3 foot switches
	12/11	- With integrated hinge	13/102	Jii 103 33L2, 33E3 100t SWITCHES
		SIRIUS 3SE5 mechanical position switches for		
		ambient temperatures down to -40 °C		
		Shock and vibration test		

Shock and vibration test
SIRIUS 3SE5 mechanical position switches
- 3SE5, plastic enclosures

SIRIUS 3SE5 mechanical safety switches with tumbler - 3SE5, plastic enclosures

SIRIUS 3SE5 mechanical safety hinge switches

- 3SE5, plastic enclosures

Position and safety switches

Introduction

Overview















3SE523., 3SE521., 3SF12.4

3SE524., 3SF1244

3SE513., 3SE511., 3SF1114

3SE512., 3SF1124

3SE516.

3SE5413, 3SE5423

3SE5250

	3SF12.4		3SF1114						
	Position switches								
	Standard					Compact design	Open-type		
Enclosure						, i			
Plastic	1						1		
Metal	1		✓			1			
Dimensions (W x H x D) in mm	31 x 68 x 33	50 x 53 x 33	40 x 78 x 38	56 x 78 x 38	56 x 100 x 38	30 x 50 x 16 40 x 50 x 16	30 x 48.5 x 20		
Degree of protection	IP65, IP66/IP67	IP66/IP67				IP66/IP67	IP10 or IP20		
Standards	Mounting and	Operating	Mounting and	Operating point	ts according to		Mounting and		
IEC 60947-5-1	operating points according to EN 50047	points according to EN 50047	operating points according to EN 50041	S EN 50041			operating points according to EN 50047		
Approvals	CE, TÜV, UL, CS	SA, CCC				CE, UL, CSA, CCC	CE, TÜV, UL, CSA, CCC		
Contact blocks							,		
2 slow-action contacts	1 NO + 1 NC; 2	NC			2 × (1 NO + 1 NC)		1 NO + 1 NC		
2 snap-action contacts	1 NO + 1 NC				2 × (1 NO + 1 NC)	1 NO + 1 NC	1 NO + 1 NC		
Short stroke	1 NO + 1 NC		✓				✓		
 Contact distance 2 x 2 mm 	1 NO + 1 NC		✓				✓		
3 slow-action contacts	1 NO + 2 NC; 2	NO + 1 NC					1 NO + 2 NC; 2 NO + 1 NC		
With make-before-break	1 NO + 2 NC				2 x (1 NO + 2 NC)		1 NO + 2 NC		
3 snap-action contacts	1 NO + 2 NC						1 NO + 2 NC		
Special features									
LED status display	✓								
Increased corrosion protection	✓								
ASIsafe integrated	✓								
Electrical specifications									
Insulation voltage U_i	400 V					400 V	400 V		
Conventional thermal current I_{th}	6 A/10 A (3-/2-p	ole)				10 A	6 A		
Connections									
Cable entry	1 x (M20 x 1.5)	2 x (M20 x 1.5)	1 x (M20 x 1.5)	3 x (M20 x 1.5)					
M12 plug, 4-, 5- or 8-pole	1					1			
Plug, 6-pole + PE			✓						
Molded cables						1			
Actuators									
Rounded plungers and roller plungers	✓								
Roller levers and angular roller levers	✓								
Spring rod	✓								
Twist levers and rod levers	✓								
Fork lever			✓						
Hinge switches									
Plungers, twist levers					✓	✓	✓		
Page									
Complete units	12/15, 12/30	12/26	12/21, 12/34	12/40	12/44	12/48	12/49		
Modular system	12/19, 12/32	12/27	12/23, 12/37	12/42	12/45				
Ambient temperature -40 °C	12/78, 12/83	12/83	12/83	12/86	12/87				
ASIsafe	12/102, 12/104	12/102	12/106	12/106					

- ✓ Available
- -- Not available

Introduction

	San San San San San San San San San San			C C C C C C C C C C C C C C C C C C C		
	3SE5232, 3SE5212, 3SF12.4	3SE5132, 3SE5112, 3SF11.4	3SE5232, 3SE5242, 3SF12.4	3SE5112, 3SE5122, 3SF11.4	3SE5322, 3SE5312, 3SF13.4	
	Safety hinge switches		Safety switches with separate a		Safety switches with tumbler	
Enclosure	- J					
Plastic	✓		1		✓	
Metal	✓		1		✓	
Dimensions (W x H x D) in mm	31 x 68 x 33	40 x 78 x 38	31 x 68 x 33, 50 x 53 x 33	40 x 78 x 38, 56 x 78 x 38	54 x 185 x 44	
Degree of protection	IP65, IP66/IP67	IP66/IP67	IP65, IP66/IP67	IP66/IP67	IP66/IP67, IP69	
Standards IEC 60947-5-1	Mounting and operating points according to EN 50047	Mounting and operating points according to EN 50041	Mounting and operating points according to EN 50047	Mounting according to EN 50041	ISO 14119, IEC 62061/IEC 61508, ISO 13849-1	
Approvals	CE, TÜV, UL, CSA,	CCC	CE, TÜV, UL, CSA,	CCC	CE, TÜV, UL, CSA, CCC	\Box
Contact blocks/outputs						
2 slow-action contacts			1 NO + 1 NC; 1 NC) + 2 NC		
2 snap-action contacts	1 NO + 1 NC					
Short stroke						
Contact distance 2 x 2 mm						
3 slow-action contacts			1 NO + 2 NC		2 x (1 NO + 2 NC)	
With make-before-break						
3 snap-action contacts	1 NO + 2 NC					
Electronic safety outputs						
Special features						
LED status display	✓		✓		✓	
Increased corrosion protection	<i>/</i>		<i>y</i>		/	
ASIsafe integrated	V		V		V	
Electrical specifications Insulation voltage U_i	400 V		400 V		400 V	
Conventional thermal current <i>I</i> _{th}	6 A/10 A (3-/2-pole)		6 A		6 A	
Connections	0 A/ 10 A (0-/2-pole)				0.4	
Cable entry	1 x (M20 x 1.5)		1 x (M20 x 1.5), 2 x (M20 x 1.5)	1 x (M20 x 1.5), 3 x (M20 x 1.5)	3 x (M20 x 1.5)	
M12 plug, 4-, 5- or 8-pole	1		✓ ` ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' '		/	
Molded cables						
AS-Interface			1		/	
Actuators						
Plungers, twist levers						
Separate actuators			✓		✓	
Hinge switches	✓					
Page						
Complete units	12/74	12/74, 12/76	12/57, 12/59	12/58, 12/60	12/68 12/70	
Modular system						
Ambient temperature -40 °C	12/80		12/89		12/90	
ASIsafe	12/117	12/118	12/110	12/111	12/115, 12/116	

- ✓ Available
- -- Not available

Introduction



- ✓ Available
- -- Not available

Note:

Safety characteristics, see page 16/9.

¹⁾ CCC approval not required for voltages < 36 V.

Position and safety switches SIRIUS 3SE5 mechanical position switches

General data

Overview

More information

Homepage, see www.siemens.com/sirius-position-switches

SiePortal, see www.siemens.com/product?3SE

Configurator, see www.siemens.com/sirius/configurators

Conversion tool, see www.siemens.com/conversion-tool

Our SIRIUS 3SE5 position switches are modern, compact and modular in design and simple to connect. They save time and increase flexibility during installation of a whole range of switch versions. In principle it is possible to combine any enclosure with any actuator, paying due consideration to the EN 50041 and EN 50047 standards where necessary.

Complete units

Popular versions of the position switches in standard enclosures are available as complete units.



3SE5 position switches with plastic and metal enclosures

Modular system

The 3SE5 series is the modular system comprising different sizes of the basic switch and an actuator which must be ordered separately. Thanks to the modular design of the switch the user can select the right solution for his application from numerous versions and install it himself in a very short time.

Simple plug-in mounting enables fast replacement of the actuator heads.



Examples of selection options in the modular system

Configuration Manual, see

https://support.industry.siemens.com/cs/ww/en/view/43920150

For brochure, see

https://support.industry.siemens.com/cs/ww/en/view/109811407

Service box for SIRIUS 3SE5 position switches



Service box with basic switches, actuator heads and accessories

For the most common applications for quick replacement as part of maintenance or for many first applications, a service box 3SX5110-0BK can be ordered for the SIRIUS 3SE5 position switches in the modular system.

This contains a selection of basic switches, actuator heads and accessories for various possible combinations.

213 tested combinations of 22 individual products are possible. The standard interface enables simple replacement of the actuator heads by plug-in mounting. The actuator heads can be rotated in steps of $16 \times 22.5^{\circ}$.

For more information, see page 12/50.

SIRIUS 3SE5 mechanical position switches

General data

Design

All enclosure versions have an integrated chlorinated rubber diaphragm for high functional safety in cold and aggressive environments.

Enclosure sizes

The 3SE5 switches are available in five different enclosure sizes with 2 or 3 contacts and with the XL enclosure:

- Open-type position switch IP20 or IP10
- Plastic enclosures according to EN 50047, 31 mm wide, IP65, 1 cable entry
- Metal enclosures according to EN 50047, 31 mm wide, IP66/IP67, 1 cable entry
- Plastic and metal enclosures according to EN 50041, 40 mm wide, IP66/IP67, 1 cable entry
- Plastic enclosures, 50 mm wide, IP66/IP67, 2 cable entries
- Metal enclosures, 56 mm wide, IP66/IP67, 3 cable entries
- XL metal enclosures with 4 to 6 contacts, 56 mm wide, IP66/IP67, 3 cable entries

Enclosure versions

Various basic switches can be selected for the enclosures of the 3SE5 series:

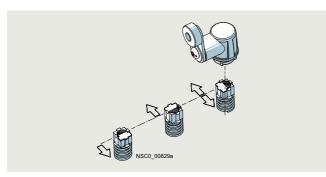
- With contact blocks with two or three contact elements (screw terminals) designed as slow-action or snap-action contacts; the slow-action contacts also with make-before-break
- · Optional LED status display
- With assembled M12 device plug, 4- or 5-pole (available as an accessory for self-assembly for the wide enclosure)
- With 6-pole device plug + PE on the metal enclosures
- · Versions with increased corrosion protection
- Versions for operating temperatures down to -40 °C
- AS-Interface version with integrated ASIsafe electronics for all enclosure designs (see page 12/99)

Actuator versions

All actuators can be rotated around the axis in increments of 16 x 22.5°. The following actuator versions are available:

- Plain, rounded and roller plungers
- Roller levers and angular roller levers
- Spring rod
- Twist levers and rod levers with twist actuator
- · Fork levers with twist actuator

The actuator rollers are available with various materials and diameters.



Twist actuator for twist levers and rod levers, with setting of switching direction to right, left or right/left (standard for all twist actuators except fork levers)

Cover design

The mechanical position switches have a turquoise cover and the mechanical safety switches have a yellow cover.



Cover colors: position switch turquoise, safety switch yellow

On request the switches can be delivered ex works with a yellow cover. The cover has no effect on the mode of operation. Both versions can be used in safety applications (see also page 12/17).

Diverse contact types

Exchangeable 2-pole and 3-pole contact blocks for all enclosure sizes.



Contact block for position switches, 3 contacts

The 3-pole contact block with snap-action or slow-action contacts is regularly available for all enclosure forms. The same installation space is required as for a 2-pole block. The version with 1 NO + 2 NC offers, for example, more safety through redundant shutdowns (2 NC contacts) with simultaneous signaling (NO contact). The 3-pole blocks are also available with make-before-break and with 2 NO + 1 NC.

Contact reliability

The contact blocks ensure an extremely high contact stability. This applies even when the devices are switching low voltages and currents.

Positive opening →

The NC contacts of the switch are forced open mechanically, positively driven and reliably by the plunger. This is referred to as "positive opening".

Optional LED displays

LED displays are available for all enclosure sizes except for XL. The enclosures are supplied with an LED signaling indicator (1 x green + 1 x yellow). This is the first time that optical signaling equipment is also available for small standard enclosures according to EN 50047. The LEDs are implemented in 24 V DC and 230 V AC.

SIRIUS 3SE5 mechanical position switches

General data

Mounting

Easy plug-in method for fast replacement of the actuator heads



Replacement of the position switch actuator head in only four steps



Video: What makes the SIRIUS position switches so flexible?

Quick-connect technology

For plastic enclosures with a width of 31 mm



Quick-connect technology for plastic enclosures

These position switches can be wired quickly and easily as an added customer benefit. The connecting cable is first connected to the terminals of the contact block and then guided through a slit into the cable gland opening. The time saved through this new connection method is approx. 20 to 25%.

A cable gland with seal must be used with the quick-connect method



Video: How easy is it to install the 3SE5232 position switch?

Article number scheme

Product versions		Article number	
SIRIUS position and safety switches		3SE -	
Series		5	
Standard	EN 50041 EN 50047 With tumbler	1 2 3	
Enclosure material and width	e.g. 1 = metal, narrow		
Connection	Cable entry Device plug	2 4/5	
LEDs	None 24 V DC 115 V AC 230 V AC	0 1 2 3	
Version of contacts	e.g. C = snap-action 1 NO + 1 NC		
Actuator version	e.g. C02 = rounded plunger		
Example		3SE 5 1 1 2 - 0 C C 0 2	

Note:

The article number scheme shows an overview of product versions for better understanding of the logic behind the article numbers.

For your orders, please use the article numbers quoted in the selection and ordering data.

SIRIUS 3SE5 mechanical position switches

General data

Benefits

The 3SE5 position switches differ from the previous series through the following new characteristics:

- The modular design of the product range allows a number of versions with a smaller number of bearing types for enclosures and actuators.
- All actuators can be rotated around the axis in increments of 22.5° (see Mounting, page 12/7).
- Rounded and roller plungers according to EN 50041 with 3 mm overtravel (total travel 9 mm) for greater tolerance when switching.
- All enclosure sizes now also including the small enclosure 31 mm wide – are optionally available with an LED signaling indicator (see page 12/6).
- All enclosure versions have an integrated chlorinated rubber diaphragm for high functional safety in cold and aggressive environments.
- All contact blocks are replaceable (see page 12/52).
- The 3-pole contact blocks are available for all enclosure sizes (see Diverse contact types, page 12/6).

- Contact blocks with 1 NO + 2 NC slow-action contacts with make-before-break and 2 NO + 1 NC
- The short-stroke contact block 1 NO + 1 NC improves the precision of the switching operation through a reduced actuation path.
- The contact block with 1 NO + 1 NC snap-action contacts with a contact distance of 2 x 2 mm is suitable for simultaneous shutdown and signaling, particularly in the elevator industry.
- XL metal enclosures for accommodating two 2- or 3-pole contact blocks
- Versions with plugs for safe and fast connection, e.g. to fail-safe field modules of the SIMATIC ET 200eco PN or SIMATIC ET 200AL
- The plastic enclosure with width 31 mm has simple and fast wiring equipment which makes it possible to save approx. 20 to 25% of the time when connecting (see Quick-connect technology, page 12/7).
- The ASIsafe electronics are integrated in the enclosure for the versions with AS-Interface connection (see page 12/99); an additional adapter is not required.

Application

With the standard position switches, mechanical positions of moving machine parts are converted into electrical signals. Through their modular and uniform design and large number of versions, the devices can comply with practically all requirements in industry.

Devices are available with enclosure versions to suit the particular ambient conditions. Different control tasks can be performed with the contact blocks best suited for the particular purpose. And many different actuator versions are available to match the mechanical configuration of the moving machine parts. Dimensions, fixing points and characteristics are largely according to the EN 50041 or EN 50047 standards.

The devices are suitable for use in any climate.

Standards

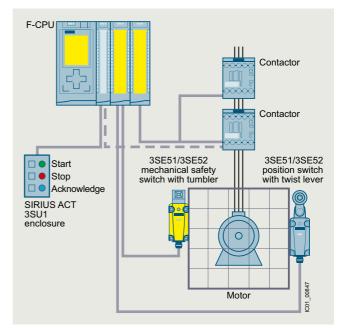
The switches comply with IEC 60947-5-1 (electromechanical control circuit devices).

The protective measure of "total insulation" by the plastic enclosure is ensured by the use of plastic screw glands.

Safety position switches

For controls according to IEC 60204-1 the devices can be used as a safety position switch. They comply with ISO 14119. A TÜV certificate is available. To secure position switches against changes in their position, positively-driven techniques must be employed on installation.

Application example



Monitoring of a protective door up to PL e/SIL 3 with two 3SE5 position switches using a SIMATIC S7-1500 fail-safe controller

For a detailed description of this application example, see https://support.industry.siemens.com/cs/ww/en/view/21331363.

Position and safety switches SIRIUS 3SE5 mechanical position switches

General data

Safety circuits

Standard IEC 60947-5-1 requires positive opening of the NC contacts. In other words, for the purposes of personal safety, the assured opening of NC contacts is expressly stipulated for the electrical equipment of machines in all safety circuits and marked according to the standard IEC 60947-5-1 with the symbol $\widehat{\oplus}$.

SIL 1 according to IEC 62061/IEC 61508 or PL c according to ISO 13849-1 can be attained with the 3SE5 position switches with \odot if the corresponding fail-safe evaluation units are selected and correctly installed (e.g. the 3SK safety relays or matching devices from the ASIsafe, SIMATIC or SINUMERIK product ranges).

If a second position switch with \odot is used, SIL 3/PL e can be attained.

In addition to positive opening, the actuators must also have a positively driven connection to the enclosure. The corresponding actuators are marked in the catalog with \odot .

Evaluation of safety functions

Safety Evaluation in the TIA Selection Tool

The safety evaluation for the IEC 62061 and ISO 13849-1 standards is performed quickly and easily, directly in the TIA Selection Tool. In addition to the fast and safe calculation of machine safety functions – from the definition of the system structure to the selection of components – this enables shared data management during all project phases. Take the next step in the digital design of machinery and equipment with Safety Evaluation in the TIA Selection Tool.

In addition, the functionalities of the proven Safety Evaluation Tool are still available. It determines the achieved safety integrity (SIL/PL) step-by-step. You receive the results as a standards-compliant report that can be integrated in the documentation as proof of safety.

For more information, see www.siemens.com/safety-evaluation-tool.

Contacts for every application

- <u>Snap-action contacts</u>: NC and NO contacts switch <u>simultaneously - regardless of the actuating speed</u> (v_{min} = 0.01 m/s) and contact erosion.
- Slow-action contacts: Difference in travel between "NC contact opens" and "NO contact closes"; the switching speed is the same as or proportional to the actuating speed (v_{min} = 0.4 m/s).
- Slow-action contacts with make-before-break: e.g. suitable for adding a second function to a sequence control.

Actuators for every application

Plain, rounded and roller plungers

- Operation in direction of the plunger axis or in case of roller plunger with bar at right angles to the plunger axis.
- The roller plunger is recommended for lateral actuation and relatively long overtravel.

Roller levers and angular roller levers

 For actuators made of finely ground steel in the form of cams, bars (approach angle 30°) or cam disks.

Spring rod

- Can be used for undefined actuations and changing approach conditions
- Approach from any direction is possible

Twist levers and rod levers

- For high approach velocities (v = 1.5 m/s)
- Variety of approach options
- Insensitive to oil, grinding dust, dirt and coarse-grained material
- Adjustment of the lever in increments of 10°
- Can be adjusted with left or right switching

Fork lever

- Switchable in two directions
- Latching actuator
- For reciprocating movements

SIRIUS 3SE5 mechanical position switches

General data

Monitoring with safe evaluation units from the 3SK series

Safe evaluation units	Maximum ach	eximum achievable safety level according to type of switch impact. Standard Hinge Separate actuator. Tumbler							
	Compact	_	_	Separate	Tumbler				
3SK	3SE54 ⊕	3SE51/3SE52 →	3SE51/3SE52 ⊕	3SE51/3SE52 →	3SE53 ⊕				
Use of only one position/safety switch									
Monitoring with 1 contact: 1 x NC contact			SIL 1/PL c						
Monitoring with 2 contacts: 2 x NC contact or 1 x NC contact + 1 x NO contact	SIL	1/PL c		SIL 2/PL d					
Use of a second		-							

position/safety switch	
Standard switch	3SE51/3SE52/3SE54
Safety switch/hinge switch	3SE51/3SE52
Safety switch with separate actuator	3SE51/3SE52
Safety switch with tumbler	3SE53

Note:

Taking account of certain fault exclusions (e.g. actuator breakage), use of just one hinge switch or a switch with separate actuator with or without tumbler up to SIL 2/PL d is possible as described in the table.

Since the machine manufacturer must provide proof of fault exclusion, the component manufacturer is unable to carry out a definitive assessment of the measures taken.

For more information, see

https://support.industry.siemens.com/cs/ww/en/view/35443942.

The maximum achievable SIL or PL level always depends on other assumptions as well. Factors to be taken into account include the DC (declaration), the CCF, and the number of actuations.

SIL 3/PL e

For information on the safe evaluation units and an introduction to safety systems, see page 11/1 onwards.

Position and safety switches SIRIUS 3SE5 mechanical position switches

General data

Safety cabling in the field with IP67

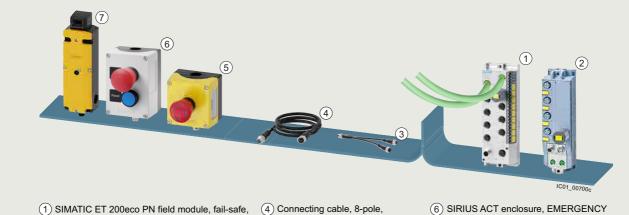
More information

Fail-safe I/O device for

- SIMATIC ET 200eco PN, see
- https://mall.industry.siemens.com/mall/en/ww/Catalog/Products/10370455?tree=CatalogTree
- SIMATIC ET 200AL, see
- https://mall.industry.siemens.com/mall/en/ww/Catalog/Products/10414335?tree=CatalogTree

Configurator, see

www.siemens.com/SIMATIC-ET200-safety-sensor-configurator



- 6ES7146-6FF00-0BA0
- (2) SIMATIC ET 200AL field module, fail-safe, 6ES7146-5FF00-0BA0
- (3) Y-cable, 8-pole to 2 x 5-pole, 6ES7194-6KC00-0XA0
- 4 Connecting cable, 8-pole, 3SX5601-3SV18
- 5 SIRIUS ACT enclosure, **EMERGENCY STOP** illuminated, with M12 plug, 8-pole, 3SU1801-0NV00-4SA2
- (6) SIRIUS ACT enclosure, EMERGENCY STOP and pushbutton, with M12 plug, 8-pole, 3SU1802-0NE00-4SB1
- (7) Safety switch with tumbler, with M12 plug, 8-pole, 3SE5324

Excerpt from the Safety field system composed of SIRIUS sensors and SIMATIC ET 200 with the M12 connection method

The new system comprising SIRIUS sensors and fail-safe SIMATIC ET 200 provides a safe M12 connection method for industry.

The SIRIUS sensors can be connected in the field via the fail-safe field modules of the SIMATIC ET 200eco PN and SIMATIC ET 200AL.

The signals are forwarded to the higher-level controller via PROFINET/PROFIsafe either by means of a direct connection of the SIMATIC ET 200eco PN or, in the case of SIMATIC ET 200AL, via an interface module.

For more information and examples, see page 12/91 onwards.

SIRIUS 3SE5 mechanical position switches

General data

Technical specifications

Туре		3SE51 ¹⁾ , 3SE52 ¹⁾	3SE541.	3SE542.
General data				
Standards		IEC 60947-5-1, ISO 14119		
Rated insulation voltage U _i	V	400 ²⁾	400	
Degree of pollution according to IEC 60664-1		Class 3	Class 3	
Rated impulse withstand voltage U _{imp}	kV	6	4	
Rated operational voltage $U_{\rm e}$	V	400 AC; over 300 V AC same potential only ³⁾	300 AC	
Conventional thermal current I _{th}	Α	10	10	
Rated operational current I _e • With alternating current 50/60 Hz - At 24 V - At 120 V - At 240 V - At 400 V • With direct current - At 24 V - At 125 V - At 400 V	A A A A A A A A	I _e /AC-15 6 6 6 4 I _e /DC-13 3 0.55 0.27 0.12	I _e /AC-15 6 6 3 I _e /DC-13 3 0.55 0.27	
Short-circuit protection ⁴⁾ • With DIAZED fuse links, operational class gG • With miniature circuit breaker, C characteristic (I _{K< 400 A})	A A	6	10	
Mechanical endurance • Basic switch • With spring rod, 3SE5R • With fork lever, 3SE51T		15 x 10 ⁶ operating cycles 10 x 10 ⁶ operating cycles 1 x 10 ⁶ operating cycles	10 x 10 ⁶ operating cycles 	10 x 10 ⁶ operating cycles
For utilization category AC-15 when switching off I _e /AC-15 at 240 V For utilization category DC-12/DC-13		100 000 operating cycles With direct current depending on the	100 000 operating cycles e loading of the switch	100 000 operating cycles
Switching accuracy For repeated switching, measured at the plunger of the contact block With twist actuators	mm	0.05 1°	0.05 1°	
Rated data according to ②, ③ and ¶\ • Rated voltage • Uninterrupted current • Switching capacity	V A	300 6 Heavy duty, A 300/B 300/Q 300	300 10 A 300/Q 300	

 $^{^{\}rm 1)}$ Special versions, see the respective data sheet.

4) Without any welds according to IEC 60947-5-1.

Туре		3SE523.	3SE513.	3SE524.	3SE521.	3SE511.	3SE512., 3SE516.	3SE54	3SE525.
Enclosure									
Enclosure									
Material		Plastic P66			Zinc die-ca	sting		Zn/Al	
• Width	mm	31	40	50	31	40	56	30/40	30
Degree of protection on the front according to IEC 60529		IP65	IP66/IP67; IP65/IP67 f	or actuator he	eads with spr	ing rods and	I rod levers	IP67	IP20 ¹⁾ , IP10
Ambient temperature									
During operation	°C		-25 +85; -40 +85 for 3SE511AJ0 and 3SE521AJ0, -1AY0 -25 +85						
 During operation, switch with LEDs 	°C	-25 +60							
Storage, transport	°C	-40 +90						-40 +90	
Mounting position		Any							
Connection									
Cable entry		1 x (M20 x 1.5))	2 x (M20 x 1.5)	1 x (M20 x 1.5)		3 x (M20 x 1.5)		
Conductor cross-sections									
• Solid	mm²	1 x (0.5	1.5), 2 x (0.5	5 0.75)					
 Finely stranded with end sleeve 	mm ²	1 x (0.5	1.5), 2 x (0.5	5 0.75)					
 AWG cables, solid or stranded 	AWG	1 x (AWG 2	20 16), 2 x	(AWG 20	18)				
Tightening torque, contact block	Nm	0.8 1.0							
Protective conductor connection inside enclosure					M3.5				

¹⁾ With the conductor connected and the clamping screw tightened.

²⁾ For slow-action contacts 1 NO + 2 NC with make-before-break ("M") and 2 NO + 1 NC ("P") the following applies: 250 V.

³⁾ For slow-action contacts 1 NO + 2 NC with make-before-break ("M") and 2 NO + 1 NC ("P") the following applies: Over 250 V AC same potential only.

SIRIUS 3SE5 mechanical position switches

General data

Circuit diagrams

Enclosure widths 31, 40, 50 and 56 mm

Slow-action contacts 1 NO + 1 NC 3SE5...-.B..., -.R...

Slow-action contacts 1 NO + 2 NC 3SE5...-.K..., -.Q...

Slow-action contacts 2 NO + 1 NC 3SE5...-.P...

Slow-action contacts 1 NO + 2 NC with make-before-break, 3SE5...-.M...

Snap-action contacts 1 NO + 1 NC 3SE5...-C..., -.F..., -.G..., -.H..., -.N...

Snap-action contacts 1 NO + 2 NC 3SE5...-.L...

XL enclosures, width 56 mm

Slow-action contacts 2 x (1 NO + 1 NC) 3SE5162-0B...



Slow-action contacts 2 x (1 NO + 2 NC) with make-before-break, 3SE5162-0D...



Slow-action contacts 1 NO + 2 NC with make-before-break, 1 NO + 1 NC 3SE5162-0E...



Snap-action contacts 2 x (1 NO + 1 NC) 3SE5162-0C...



3SE5 pin assignment

M12 device plug, 4-pole 3SY3127





M12 device plug, 8-pole 3SX5100-1SS08



Device plug, 6-pole + PE 3SY3131



Туре	Device plugs	Contacts	LEDs	Connections								
71	Туре	Version	Version	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	PE
M12 device plugs	s, 4-, 5- or 8-po	le										
3SE54-01AC4, 3SE54-01AJ1 ¹⁾	3SY3127	1 NO + 1 NC		21	22	13	14					
3SE54-01AL0, 3SE54-01AJ2 ^{†)}	3SY3128	1 NO + 1 NC		21	22	13	14	PE				
3SE54-01AE0	3SY3127	2 NC		21	22	31	32					
3SE54-01AE1, 3SE54-01AJ4 ¹)	3SY3128	2 NC		21	22	31	32	PE				
3SE54-01AE2	3SX5100-1SS51	2 NC		21	31		22	32				
3SE54-01AE3	3SX5100-1SS51	2 NC		21	31	PE	22	32				
3SE54-1B1AF3	3SX5100-1SS05	1 NO + 1 NC slow-action	2 LEDs	21	22	14/ LED gn	13/ LED ye	Ground LED				
3SE54-1C1AF3	3SX5100-1SS05	1 NO + 1 NC snap-action	2 LEDs	21	22	13/ LED gn	14/ LED ye	Ground LED				
3SE54-1C1AF5	3SX5100-1SS05	1 NO + 1 NC snap-action	2 LEDs	21 21/13 jumper	22	13/ Ground LED	14/ LED ye	PE				
3SE54-1L1AD4		1 NO + 2 NC snap-action	2 LEDs	21	22	13/ LED gn	14/ LED ye	31	32	Ground LED	PE	
Device plugs, 6-p	oole + PE											
3SE55-01AD0	3SY3131	1 NO + 1 NC		21	22	13	14					1
	3SY3131	1 NO + 2 NC		21	22	13	14	31	32			4 -

Legend:

gn = green, ye = yellow

- ✓ Connected
- -- Not available

SIRIUS 3SE5 mechanical position switches

General data

Options

On the following pages you will find selection tables for complete units as well as components of the modular system.



The differences between the units are indicated in the selection and ordering data by the symbols shown on orange backgrounds.

Using the modular system you can assemble switch versions which are not available as complete units. Each complete unit can also be supplied as a module.

A basic switch for the modular system comprises an enclosure with a contact block and a cover. Among the basic switches the following versions, for example, can be selected:

- Basic enclosure with rounded plunger
- Version with increased corrosion protection
- Version with M12 device plug and/or with 2 LEDs
- Version with M12 device plug or 6-pole + PE

Support functions

The 3SE5/3SF1 position and safety switches can also be ordered using an online configurator.

This also enables a complete documentation to be prepared:

- Product data sheets
- · Dimensional drawings
- Operating travel diagrams
- CAD data in 2D and 3D model images
- · Ordering data
- Product photos

For online configurator, see www.siemens.com/sirius/configurators.

Complete units

Ordering example

Required:

- Position switch according to EN 50047 in a plastic enclosure
- Contact block with slow-action contacts 1 NO + 1 NC
- Angular roller lever, metal lever and plastic roller

To be ordered:

	Version	Complete units
		Article No.
Complete	units · Enclosure width 31 mm	
	Angular roller levers	-
	With metal lever and plastic roller 13 mm	
STATE OF THE PARTY	• Slow-action contacts 1 NO + 1 NO	3SE5232-0BF10

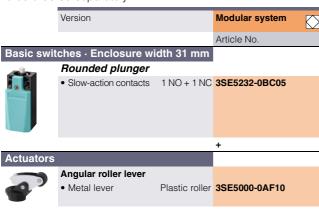
Modular system

Ordering example 1

Required:

- Position switch according to EN 50047 in a plastic enclosure
- Contact block with slow-action contacts 1 NO + 1 NC
- Angular roller lever, metal lever and plastic roller

To be ordered separately:



Ordering example 2

Required:

- Position switch according to EN 50047 in a plastic enclosure
- Contact block with slow-action contacts 1 NO + 1 NC
- Twist levers, high-grade steel lever and plastic roller

To be ordered separately:

	Version	Modular system
		Article No.
Basic swit	ches · Enclosure width 31 m	mm
وطاعه	Rounded plunger	
S & C	• Slow-action contacts 1 NO + 1	1 NC 3SE5232-0BC05
		+
Twist actu	ators	
9	Twist actuator	3SE5000-0AK00
	Twist lever	
Ö	• High-grade steel lever Plas rolle	3SE5000-0AA31 ler

SIRIUS 3SE5 mechanical position switches 3SE5, plastic enclosures

Enclosure width 31 mm according to EN 50047

Selection and ordering data

Complete units for installation in control cabinets

2 contacts \cdot Degree of protection IP40 \cdot Cable entry by means of a locking plug with \varnothing 6 mm

	Version	Contacts	LEDs		Complete units		PU (UNIT, SET, M)	PS*	PG
					Article No.	Price per PU	. ,		
Complete units ¹⁾ · E	inclosure width 31 mm acc	ording to EN	N 50047						
	Control cabinet type, rour type B, according to EN 5 With flat cover	nded plunge 0047	ers,				ı		
	 Snap-action contacts, integrated² 	1 NO + 1 NC	;	→	3SE5232-0HC05-1AB1		1	1 unit	41K
3SE5232-0HC05-1AB1									
Silve.	With mounting plate and screws	s for attachme	nt profile						
	 Snap-action contacts, integrated²⁾ 	1 NO + 1 NC	>	→	3SE5232-0HC05-1AB2		1	1 unit	41K
3SE5232-0HC05-1AB2									
Alm	With standard cover								
	 Snap-action contacts, integrated²⁾ 	1 NO + 1 NC	;	→	3SE5232-0HC05-1AB3		1	1 unit	41K
3SE5232-0HC05-1AB3									
	 With mounting plate and screws Snap-action contacts, integrated²⁾ 	s for attachme 1 NO + 1 NC		→	3SE5232-0HC05-1AB4		1	1 unit	41K
3SE5232-0HC05-1AB4									
Accessories									
3SX5100-1A	Mounting plate Suitable for 3SE523. and 3SE521. position switches with a width of 31 mm				3SX5100-1A		1	1 unit	41K

→ Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.

¹⁾ The control cabinet types are not basic switches for the modular system.

²⁾ Subsequent replacement of contact blocks is not possible.

SIRIUS 3SE5 mechanical position switches 3SE5, plastic enclosures

Enclosure width 31 mm according to EN 50047

Complete units

2 or 3 contacts \cdot Degree of protection IP65 \cdot Cable entry 1 x (M20 x 1.5)¹⁾

	Version	Contacts	LEDs		Complete units		PU (UNIT, SET, M)	PS*	PG
					Article No.	Price per PU	OL1, WI)		
Complete units ²⁾ · E	Enclosure width 31 mm								
	Rounded plungers, type E	_							
	 Slow-action contacts 	1 NO + 1 NC		→	3SE5232-0BC05		1	1 unit	41K
100		1 NO + 2 NC 2 NO + 1 NC		⊕ ⊕	3SE5232-0KC05 3SE5232-0PC05		1 1	1 unit 1 unit	41K 41K
	- With make-before-break	1 NO + 2 NC		→	3SE5232-0MC05		1	1 unit	41K
	 Snap-action contacts 	1 NO + 1 NC		€	3SE5232-0CC05		1	1 unit	41K
3SE5232-0HC05		1 NO + 2 NC		→→→	3SE5232-0LC05		1	1 unit	41K
	- Integrated ³⁾	1 NO + 1 NC		→	3SE5232-0HC05		1	1 unit	41K
	 Short stroke, integrated³⁾ Contact distance 2 x 2 mm 	1 NO + 1 NC 1 NO + 1 NC		→	3SE5232-0FC05 3SE5232-0GC05		1 1	1 unit 1 unit	41K 41K
~1h	With 2 LEDs, yellow/green	1110 1 1110		•	0020202 00000		'	1 dilit	7110
	Slow-action contacts	1 NO + 2 NC	24 V DC	→	3SE5232-1KC05		1	1 unit	41K
(F)	ciew delien demade	1 NO + 2 NC			3SE5232-3KC05		1	1 unit	41K
100	 Snap-action contacts 	1 NO + 2 NC	24 V DC	→	3SE5232-1LC05		1	1 unit	41K
		1 NO + 2 NC	230 V AC	\odot	3SE5232-3LC05		1	1 unit	41K
3SE5232-1KC05									
Allen	With increased corrosion protect	ction ⁴⁾							
	 Slow-action contacts 	1 NO + 1 NC		\odot	3SE5232-0BC05-1CA0		1	1 unit	41K
		1 NO + 2 NC		→	3SE5232-0KC05-1CA0		1	1 unit	41K
	- With make-before-break	2 NO + 1 NC 1 NO + 2 NC		→	3SE5232-0PC05-1CA0 3SE5232-0MC05-1CA0		1 1	1 unit 1 unit	41K 41K
	Snap-action contacts	1 NO + 1 NC		⊙	3SE5232-0CC05-1CA0		1	1 unit	41K
3SE5232-0BC05-1CA0	Chap action contacts	1 NO + 2 NC		⊕	3SE5232-0LC05-1CA0		1	1 unit	41K
	With M12 device plug, 4-pole (2	250 V, 4 A) ⁵⁾		•					
	 Slow-action contacts 	1 NO + 1 NC 2 NC		→	3SE5234-0BC05-1AC4 3SE5234-0KC05-1AE0		1 1	1 unit 1 unit	41K 41K
	Snap-action contacts	2 NC		→	3SE5234-0LC05-1AE0		1	1 unit	41K
	- Integrated ³⁾	1 NO + 1 NC		⊕	3SE5234-0HC05-1AC4		1	1 unit	41K
Alm.	With M12 device plug, 5-pole (125 V, 4 A) ⁵⁾		•					
	With 2 LEDs, yellow/green								
Survivas	 Slow-action contacts 	1 NO + 1 NC	24 V DC	\odot	3SE5234-1BC05-1AF3		1	1 unit	41K
Con Control	 Snap-action contacts 	1 NO + 1 NC	24 V DC	\odot	3SE5234-1CC05-1AF3		1	1 unit	41K
3SE5234-1BC05-1AF3									
All-	With pin assignment as for SIM.	ATIC ET 200 ⁶⁾							
The same of the sa	Snap-action contacts	2 NC		→	3SE5234-0LC05-1AE2		1	1 unit	41K
3SE5234-0LC05-1AE2									
Positive opening acco	ording to IEC 60947-5-1, Annex K,	or positively d	riven						

- → Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.
- 1) A cable gland with seal must be used with the quick-connect method.
- 2) Popular versions.
- 3) Subsequent replacement of contact blocks is not possible.
- 4) Use corresponding high-grade steel lever.
- 5) For pin assignments, see page 12/13.
- 6) The 3SE5234-....-1AE2 position switches, prewired with an M12 plug, 5-pole, have the same pin assignment as all fail-safe block I/O modules with a PROFINET connection in the SIMATIC ET 200eco PN and ET 200AL series with degree of protection IP65/IP67 for cabinet-free installation directly at the machine. For more information, see page 12/91 onwards.

SIRIUS 3SE5 mechanical position switches 3SE5, plastic enclosures

Enclosure width 31 mm according to EN 50047

2 or 3 contacts · Degree of protection IP65 · Cable entry 1 x (M20 x 1.5)¹⁾

	V :	0 1 1	LED		0		DL	DO#	DC
	Version	Contacts	LEDs		Complete units		PU (UNIT, SET, M)	PS*	PG
					Article No.	Price per PU			
Complete units ²⁾ · E	Enclosure width 31 mm								
<u> </u>	Roller plungers, type C, a	according to	EN 5004	17	_				
	With plastic roller 10 mm								
J & &	 Slow-action contacts 	1 NO + 1 NO	O	\odot	3SE5232-0BD03		1	1 unit	41K
Supribes		1 NO + 2 NO	0	\odot	3SE5232-0KD03		1	1 unit	41K
	Snap-action contacts	1 NO + 2 NO		→	3SE5232-0LD03		1	1 unit	41K
	 Integrated³⁾ Short stroke, integrated³⁾ 	1 NO + 1 NO 1 NO + 1 NO		→ →	3SE5232-0HD03 3SE5232-0FD03		1	1 unit 1 unit	41K 41K
3SE5232-0BD03	- Actuator head rotated 90°	1 NO + 2 NO		→	3SE5232-0LD03-1AH0		1	1 unit	41K
A	- With yellow cover	1 NO + 2 NO	O	\widecheck{ullet}	3SE5232-0LD03-1AG0		1	1 unit	41K
	With M12 device plug, 4-pole ((250 V, 4 A) ⁴⁾							
Propriess	 Snap-action contacts, integrated³⁾ 	1 NO + 1 NO	C	→	3SE5234-0HD03-1AC4		1	1 unit	41K
	With M12 device plug, 5-pole (
3SE5232-0LD03-1AG0	With pin assignment as for SIM	1ATIC ET 200 ⁵)						
0020202 02200 17100	Snap-action contacts	2 NC		→	3SE5234-0LD03-1AE2		1	1 unit	41K
<u> </u>	Roller plungers with cent	tral fixing ac	cording	to EN 5	0047				
2	With plastic roller 10 mm		_						
	Slow-action contacts	1 NO + 2 NO		→	3SE5232-0KD10		1	1 unit	41K
4 0.	Snap-action contacts, integrated ³⁾	1 NO + 1 NO	<i>J</i>	→	3SE5232-0HD10		1	1 unit	41K
3SE5232-0HD10	B-#		V 50047						
	Roller levers, type E, acc. With metal lever and plastic	-	V 50047				ı		
	Slow-action contacts	1 NO + 1 NO	<u> </u>	→	3SE5232-0BE10		1	1 unit	41K
⊕ €	- Slow-action contacts	1 NO + 2 NO		⊕	3SE5232-0KE10		i	1 unit	41K
	 Snap-action contacts 	1 NO + 2 NO	O	⊙	3SE5232-0LE10		1	1 unit	41K
	- Integrated ³⁾	1 NO + 1 NO	O	\odot	3SE5232-0HE10		1	1 unit	41K
3SE5232-0HE10	With M12 device plug, 4-pole ((250 V, 4 A) ⁴⁾							
0000000 011010	 Snap-action contacts, integrated³⁾ 	1 NO + 1 NO		→	3SE5234-0HE10-1AC4		1	1 unit	41K
	With metal lever and high-gra		er 13 mm						
	With M12 device plug, 5-pole (
	With pin assignment as for SIM		,						
	Snap-action contacts	2 NC		€	3SE5234-0LE11-1AE2		1	1 unit	41K
	With high-grade steel lever a	•			2055222 21 542			4 "	4417
	 Snap-action contacts With increased corrosion prote 		J	€	3SE5232-0LE12		'	1 unit	41K
			_		200000000000000000000000000000000000000		,	4 . mit	441/
	Snap-action contacts	1 NO + 1 NO		→	3SE5232-0CE12-1CA0		1	1 unit	41K
	Angular roller levers, acc With metal lever and plastic	•	N 3004/				ı		
	Slow-action contacts	1 NO + 1 NO	n	→	3SE5232-0BF10		1	1 unit	41K
ADDITION TO THE PERSON OF THE	- Giow-action contacts	1 NO + 1 NO		⊕	3SE5232-0KF10		1	1 unit	41K
	Snap-action contacts	1 NO + 2 NO		⊕	3SE5232-0LF10		1	1 unit	41K
	- Integrated ³⁾	1 NO + 1 NO		⊕	3SE5232-0HF10		1	1 unit	41K
29E5222 0BE10									



→ Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.

¹⁾ A cable gland with seal must be used with the quick-connect method.

²⁾ Popular versions.

³⁾ Subsequent replacement of contact blocks is not possible.

⁴⁾ For pin assignments, see page 12/13.

⁵⁾ The 3SE5234-....-1AE2 position switches, prewired with an M12 plug, 5-pole, have the same pin assignment as all fail-safe block I/O modules with a PROFINET connection in the SIMATIC ET 2009co PN and ET 200AL series with degree of protection IP65/IP67 for cabinet-free installation directly at the machine For more information, see page 12/91 onwards.

⁶⁾ Use corresponding high-grade steel lever.

SIRIUS 3SE5 mechanical position switches 3SE5, plastic enclosures

Enclosure width 31 mm according to EN 50047

2 or 3 contacts · Degree of protection IP65 · Cable entry 1 x (M20 x 1.5)¹⁾

	Version	Contacts	LEDs		Complete units		PU (UNIT, SET, M)	PS*	PG
					Article No.	Price per PU	, ,		
ete unit	ts ²⁾ · Enclosure width 31 mm								
	Spring rods, according to EN 5	0047							
	Length 142.5 mm, with plastic plung	ger 50 mm							
	 Snap-action contacts, integrated³⁾ 	1 NO + 1 NO	C		3SE5232-0HR01		1	1 unit	41K
	With M12 device plug, 4-pole (250 V, 4	4 A) ⁴⁾							
	 Snap-action contacts, integrated³⁾ 	1 NO + 1 NO	C		3SE5234-0HR01-1AC4		1	1 unit	41K
	Twist levers, type A, according	to EN 50047	7						
	With metal lever 21 mm and plastic	roller 19 mm							
	 Slow-action contacts 	1 NO + 1 NO	C	\odot	3SE5232-0BK21		1	1 unit	41K
		1 NO + 2 NO	C	\odot	3SE5232-0KK21		1	1 unit	41K
	Snap-action contacts	1 NO + 2 NO		€	3SE5232-0LK21		1	1 unit	41K
	- Integrated ³⁾	1 NO + 1 NO)	igotharpoons	3SE5232-0HK21		1	1 unit	41K
01	With M12 device plug, 4-pole (250 V, 4		_						
	 Snap-action contacts, integrated³⁾ 	1 NO + 1 NO	C	€	3SE5234-0HK21-1AC4		1	1 unit	41K
	With metal lever 35 mm and plastic								
	 Snap-action contacts, integrated³⁾ 	1 NO + 1 NO	C	igotharpoons	3SE5232-0HK15		1	1 unit	41K
21									
	Twist levers, adjustable length,	according	to FN 50	047					
	With metal lever 100 mm, with grid h	_	O LIV SO	747					
	plastic roller 19 mm	10100 4114							
	• Snap-action contacts, integrated ³⁾	1 NO + 1 NO)	\odot	3SE5232-0HK60		1	1 unit	41K
60									
	With metal lever 100 mm and plastic	roller 19 mm							
	Slow-action contacts	1 NO + 1 NO	C		3SE5232-0BK50		1	1 unit	41K
	Snap-action contacts	1 NO + 2 NO			3SE5232-0LK50		1	1 unit	41K
	- Integrated ³⁾	1 NO + 1 NO	C		3SE5232-0HK50		1	1 unit	41K
	With M12 device plug, 4-pole (250 V, 4	4 A) ⁴⁾							
	 Snap-action contacts, integrated³⁾ 	1 NO + 1 NO	C		3SE5234-0HK50-1AC4		1	1 unit	41K
<50									
.00	Rod levers, according to EN 50	047							
	With aluminum rod 200 mm	U-11							
	Snap-action contacts, integrated ³⁾	1 NO + 1 NO			3SE5232-0HK80		1	1 unit	41K
	With plastic rod 200 mm	1 INO + 1 INC	<i>-</i> -		33E3232-UFINOU		'	i ullit	411
	•	1 NO + 1 NO			36EE333 UHV03		1	1 unit	111/
	Snap-action contacts, integrated ³⁾ With M12 device plug, 4 pale (250 V)	1 NO + 1 NO	<i>,</i>		3SE5232-0HK82		1	1 unit	41K
	With M12 device plug, 4-pole (250 V, 4		_		0055004 011100 440		_	4 9	4417
	 Snap-action contacts, integrated³⁾ 	1 NO + 1 NO	<i>j</i>		3SE5234-0HK82-1AC4		1	1 unit	41K
IK80									
	a according to IEC 60947-5-1. Annex K		atati	Note:					

[→] Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.

Note:

If the device you require is not available as a complete unit, see "Modular system", page 12/19.

¹⁾ A cable gland with seal must be used with the quick-connect method.

²⁾ Popular versions.

³⁾ Subsequent replacement of contact blocks is not possible.

⁴⁾ For pin assignments, see page 12/13.

SIRIUS 3SE5 mechanical position switches 3SE5, plastic enclosures

Enclosure width 31 mm according to EN 50047

Modular system

2 or 3 contacts · Degree of protection IP65 · Cable entry 1 x (M20 x 1.5)¹⁾

	Version	Contacts	LEDs		Modular system		PU (UNIT, SET, M)	PS*	PG
					Article No.	Price per PU	, ,		
Basic switches ²⁾ · E	nclosure width 31 mm								
Allen	Rounded plungers, type E	3, according	to EN 50	047	_				
	 Slow-action contacts 	1 NO + 1 NC		\odot	3SE5232-0BC05		1	1 unit	41K
		1 NO + 2 NC		→	3SE5232-0KC05		1	1 unit	41K
	- With make-before-break	2 NO + 1 NC 1 NO + 2 NC		→	3SE5232-0PC05 3SE5232-0MC05		1 1	1 unit 1 unit	41K 41K
	Snap-action contacts	1 NO + 2 NC		→	3SE5232-0MC05 3SE5232-0CC05		1	1 unit	41K
3SE5232-0BC05	• Snap-action contacts	1 NO + 1 NC		→	3SE5232-0CC05 3SE5232-0LC05		1	1 unit 1 unit	41K 41K
	- Integrated ³⁾	1 NO + 1 NC		\odot	3SE5232-0HC05		1	1 unit	41K
	- Short stroke, integrated ³⁾	1 NO + 1 NC		⊕	3SE5232-0FC05		1	1 unit	41K
	- Contact distance 2 x 2 mm			\widecheck{ullet}	3SE5232-0GC05		1	1 unit	41K
Alm	With increased corrosion protect	ction ⁴⁾							
	 Slow-action contacts 	1 NO + 1 NC		\odot	3SE5232-0BC05-1CA0		1	1 unit	41K
T. C.		1 NO + 2 NC		\odot	3SE5232-0KC05-1CA0		1	1 unit	41K
	\\(\lambda \); \(\lambda \); \(\la	2 NO + 1 NC		→	3SE5232-0PC05-1CA0		1	1 unit	41K
	- With make-before-break	1 NO + 2 NC		⊕	3SE5232-0MC05-1CA0		1	1 unit	41K
3SE5232-0BC05-1CA0	Snap-action contacts	1 NO + 1 NC 1 NO + 2 NC		→	3SE5232-0CC05-1CA0 3SE5232-0LC05-1CA0		1 1	1 unit 1 unit	41K 41K
Alm	With 2 LEDs, yellow/green								
	Slow-action contacts	1 NO + 2 NC	24 V DC	→	3SE5232-1KC05		1	1 unit	41K
L3		1 NO + 2 NC	230 V AC	\odot	3SE5232-3KC05		1	1 unit	41K
100	 Snap-action contacts 	1 NO + 2 NC		\odot	3SE5232-1LC05		1	1 unit	41K
		1 NO + 2 NC	230 V AC	€	3SE5232-3LC05		1	1 unit	41K
3SE5232-1KC05									
Alm	With M12 device plug, 4-pole (2	250 V, 4 A) ⁵⁾							
	 Slow-action contacts 	1 NO + 1 NC		\odot	3SE5234-0BC05-1AC4		1	1 unit	41K
process		2 NC		\odot	3SE5234-0KC05-1AE0		1	1 unit	41K
	Snap-action contacts	2 NC		→	3SE5234-0LC05-1AE0		1	1 unit	41K
	- Integrated ³⁾	1 NO + 1 NC		€	3SE5234-0HC05-1AC4		1	1 unit	41K
3SE5234-0HC05-1AC4									
Alm	With M12 device plug, 5-pole (125 V, 4 A) ⁵⁾							
	With 2 LEDs, yellow/green								
- European	Slow-action contacts	1 NO + 1 NC	24 V DC	→	3SE5234-1BC05-1AF3		1	1 unit	41K
	Snap-action contacts	1 NO + 1 NC	24 V DC	→	3SE5234-1CC05-1AF3		1	1 unit	41K
	With pin assignment as for SIM			-					
3SE5234-1BC05-1AF3	Snap-action contacts	2 NC		€	3SE5234-0LC05-1AE2		1	1 unit	41K
Positive energing acco	rding to IEC 60947-5-1. Appey K	or positivoly d	rivon N	loto:					

[→] Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.

- 1) A cable gland with seal must be used with the quick-connect method.
- 2) For enclosures with widths of 31 mm, the basic switch is a complete unit with rounded plungers.
- 3) Subsequent replacement of contact blocks is not possible.
- 4) Use corresponding high-grade steel lever.
- 5) For pin assignments, see page 12/13.

For more information, see page 12/91 onwards.

Note:

For the selection aid, see page 12/14.

⁶⁾ The 3SE5234-....-1AE2 position switches, prewired with an M12 plug, 5-pole, have the same pin assignment as all fail-safe block I/O modules with a PROFINET connection in the SIMATIC ET 200eco PN and ET 200AL series with degree of protection IP65/IP67 for cabinet-free installation directly at the machine.

SIRIUS 3SE5 mechanical position switches 3SE5, plastic enclosures

Enclosure width 31 mm according to EN 50047

	Version		Diame-		Modular system		PU	PS*	PG
			ter				(UNIT, SET, M)		
			mm			Price er PU			
Actuators									
•	Plain plunger								
3SE5000-0AB01	High-grade steel plung	jer	8.5	€	3SE5000-0AB01		1	1 unit	41K
Δ	Roller plungers, type C	, according to EN 50047							
A 💆	Plastic roller		10	€	3SE5000-0AD03		1	1 unit	41K
	High-grade steel roller		10	€	3SE5000-0AD04		1	1 unit	41K
3SE5000- 3SE5000-	Roller plungers with ce	ntral fixing		\sim					
0AD03 0AD10	Plastic rollerHigh-grade steel roller		10 10	→	3SE5000-0AD10 3SE5000-0AD11		1 1	1 unit 1 unit	41K 41K
	Roller levers, type E, ac	cording to EN 50047	10	•	COLUCIO CADIT		'	Tanic	7110
	Metal lever	Plastic roller	13	→	3SE5000-0AE10		1	1 unit	41K
		High-grade steel roller	13	€	3SE5000-0AE11		1	1 unit	41K
3SE5000- 3SE5000- 0AE10 0AF10	High-grade steel lever	Plastic roller High-grade steel roller	13 13	→	3SE5000-0AE12 3SE5000-0AE13		1 1	1 unit 1 unit	41K 41K
ALIO DALIO	Angular roller levers	Trigit grade electroner	10	•	COLOGO CALIO			1 dille	
	Metal lever	Plastic roller	13	€	3SE5000-0AF10		1	1 unit	41K
		High-grade steel roller	13	\odot	3SE5000-0AF11		1	1 unit	41K
	High-grade steel lever	Plastic roller High-grade steel roller	13 13	→	3SE5000-0AF12 3SE5000-0AF13		1 1	1 unit 1 unit	41K 41K
	Spring rods	Trigit grade steet folici	10	•	002000 0AI 10		'	Tunit	7110
	(for switches with snap-a	action contacts only)							
		, spring of high-grade stee			200000000000			1 . mit	41K
		oring 50 mm, plunger 50 r g 23.5 mm, plunger 10 m			3SE5000-0AR01 3SE5000-0AR03		1 1	1 unit 1 unit	41K 41K
	- Length 242.5 mm (sp	oring 150 mm, plunger 50			3SE5000-0AR04		1	1 unit	41K
3SE5000- 3SE5000-	Plunger and spring ma Longth 142.5 mm (sr	de of high-grade steel: oring 50 mm, plunger 50 r	7 mm)		3SE5000-0AR02		1	1 unit	41K
0AR01 0AR03	- Lengur 142.5 mm (5)	oring 50 mm, plunger 50 m	11111)		33E3000-0AH02		' '	1 unit	4110
Twist actuators									
	· ·	mm, according to EN 5	50047		0055000 04100		_	4	4417
9 /	 For twist levers and roo switching right and/or I 			€	3SE5000-0AK00		1	1 unit	41K
3SE5000- 3SE5000-	Levers	on, adjustable							
0AK00 0AA21	Twist levers 21 mm, stra	ight, type A, according to	EN 50047						
	 Metal lever 	Plastic roller	19	€	3SE5000-0AA21		1	1 unit	41K
		High-grade steel roller	30 19	\odot	3SE5000-0AA25 3SE5000-0AA22		1 1	1 unit 1 unit	41K 41K
		- With ball bearing	19	→	3SE5000-0AA23		i	1 unit	41K
	• High-grade steel lever		19	⊕	3SE5000-0AA31		1	1 unit	41K
	Twist levers 30 mm, str	High-grade steel roller	19	€	3SE5000-0AA32		1	1 unit	41K
8	Metal lever	Plastic roller	19	→	3SE5000-0AA24		1	1 unit	41K
0 0			30	€	3SE5000-0AA26		1	1 unit	41K
3SE5000- 3SE5000- 0AA60 0AA50	Twist levers 100 mm, ac	djustable length,							
-	with grid hole Metal lever	Plastic roller	19	→	3SE5000-0AA60		1	1 unit	41K
	- Miciai lovoi	r lastic folici	50		3SE5000-0AA67		i	1 unit	41K
		High-grade steel roller	19	⊕	3SE5000-0AA61		1	1 unit	41K
	High-grade steel lever	Rubber roller Plastic roller	50 19		3SE5000-0AA68 3SE5000-0AA62		1 1	1 unit 1 unit	41K 41K
	9 9	High-grade steel roller	19	€	3SE5000-0AA63		1	1 unit	41K
	Twist levers 100 mm, ac	-							
	Metal lever	Plastic roller	19 30		3SE5000-0AA50 3SE5000-0AA55		1 1	1 unit 1 unit	41K 41K
			50 50		3SE5000-0AA55		1	1 unit	41K
		High-grade steel roller	19		3SE5000-0AA51		1	1 unit	41K
3SE5000-0AA80	High-grade steel lever	Rubber roller Plastic roller	50 19		3SE5000-0AA58 3SE5000-0AA52		1 1	1 unit 1 unit	41K 41K
	ingii giade steel level	High-grade steel roller	19		3SE5000-0AA52		1	1 unit	41K
	Rod levers								
	Aluminum rod Continue and	Length 200 mm	6		3SE5000-0AA80		1	1 unit	41K
	Spring rodPlastic rod	Length 200 mm Length 200 mm	6 6		3SE5000-0AA81 3SE5000-0AA82		1 1	1 unit 1 unit	41K 41K
		Length 330 mm	6		3SE5000-0AA83		i	1 unit	41K

Positively driven actuator, necessary in safety circuits.

Siemens IC 10 · 2024

Steel clamp (spare part) for adjustable-length twist and rod levers, see page 12/52.

¹⁾ Can be clinch mounted (rotated 180°, rear of lever).

SIRIUS 3SE5 mechanical position switches 3SE5, plastic enclosures

Enclosure width 40 mm according to EN 50041

Selection and ordering data

Complete units

2 or 3 contacts \cdot Degree of protection IP66/IP67 \cdot Cable entry 1 x (M20 x 1.5)

	Version	Contacts	LEDs		Complete units		PU (UNIT,	PS*	PG
					Article No.	Price	SÉT, M)		
Complete uni	ts ¹⁾ · Enclosure width 40 mm				_	per PU			
Complete um	Plain plungers, according								
	With high-grade steel plunger								
	 Slow-action contacts 	1 NO + 1 NO		→	3SE5132-0BB01		1	1 unit	41K
		1 NO + 2 NO 2 NO + 1 NO		→	3SE5132-0KB01 3SE5132-0PB01		1	1 unit 1 unit	41K 41K
	Snap-action contacts	1 NO + 1 NO		⊕	3SE5132-0CB01		1	1 unit	41K
3SE5132-0BB01		1 NO + 2 NO		€	3SE5132-0LB01		1	1 unit	41K
	Rounded plungers, type B, With plastic plunger 10 mm	according to El	N 50041				ı		
	Slow-action contacts	1 NO + 1 N	C	→	3SE5132-0BC03		1	1 unit	41K
Laurione		1 NO + 2 NO		\odot	3SE5132-0KC03		1	1 unit	41K
	Snap-action contacts	2 NO + 1 NO 1 NO + 1 NO		→	3SE5132-0PC03 3SE5132-0CC03		1	1 unit 1 unit	41K 41K
	·	1 NO + 2 NO		⊙	3SE5132-0LC03		1	1 unit	41K
3SE5132-0BC03		andina ta FN 5	0044						
	Roller plungers, type C, ac With plastic roller 13 mm	coraing to EN 50	004 I						
	Slow-action contacts	1 NO + 1 N	C	→	3SE5132-0BD05		1	1 unit	41K
Liverson		1 NO + 2 NO		→	3SE5132-0KD05		1	1 unit	41K
	Snap-action contacts	2 NO + 1 NO 1 NO + 1 NO		→	3SE5132-0PD05 3SE5132-0CD05		1	1 unit 1 unit	41K 41K
	- Onap action contacts	1 NO + 2 NO		⊕	3SE5132-0LD05		1	1 unit	41K
3SE5132-0BD05									
	Roller levers, according to	EN 50041							
	With metal lever and plastic ro								
	Slow-action contacts	1 NO + 1 NO 1 NO + 2 NO		→	3SE5132-0BE05 3SE5132-0KE05		1	1 unit 1 unit	41K 41K
		2 NO + 1 NO		\odot	3SE5132-0PE05		i	1 unit	41K
	 Snap-action contacts 	1 NO + 1 NO		→	3SE5132-0CE05 3SE5132-0LE05		1 1	1 unit 1 unit	41K 41K
		1 NO + 2 NO	J	€	35E3132-ULEU3		'	i uniit	41K
3SE5132-0BE05									
	Angular roller levers, acco. With metal lever and plastic rol	-	41				l		
	Slow-action contacts	1 NO + 1 N	C	→	3SE5132-0BF05		1	1 unit	41K
E LINDY LONG	Snap-action contacts	1 NO + 1 NO	C	→	3SE5132-0CF05		1	1 unit	41K
		1 NO + 2 NO	C	\odot	3SE5132-0LF05		1	1 unit	41K
3SE5132-0BF05									
1	Spring rods ²⁾ , according to	EN 50041							
	Length 142.5 mm, with plastic	-	_						
	Snap-action contacts	1 NO + 1 NO 1 NO + 2 NO			3SE5132-0CR01 3SE5132-0LR01		1	1 unit 1 unit	41K 41K
		1110 1 2110	J		0020102 021101		'	1 dilit	7110
2									
									
D G C									
3SE5132-0CR01									
_	og according to IEC 60047 5 1. An	12 22 1							

[→] Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.

¹⁾ Popular versions.

²⁾ Degree of protection IP65/IP67.

SIRIUS 3SE5 mechanical position switches 3SE5, plastic enclosures

Enclosure width 40 mm according to EN 50041

2 or 3 contacts · Degree of protection IP66/IP67 · Cable entry 1 x (M20 x 1.5)

	Version	Contacts	LEDs		Complete units		PU (UNIT, SET, M)	PS*	PG
					Article No.	Price per PU			
Complete uni	ts ¹⁾ · Enclosure width 40 mm					p			
0	Twist levers, type A, accord	ding to EN 5004	1						
6	With metal lever 27 mm and pla	astic roller 19 mm							
	 Slow-action contacts 	1 NO + 1 N		\odot	3SE5132-0BJ01		1	1 unit	41K
AND INC.		1 NO + 2 N		→	3SE5132-0KJ01		1	1 unit	41K
		2 NO + 1 N		→	3SE5132-0PJ01		1	1 unit	41K
	 Snap-action contacts 	1 NO + 1 N 1 NO + 2 N		→	3SE5132-0CJ01 3SE5132-0LJ01		1	1 unit 1 unit	41K 41K
		1110 + 211	C	€	33E3132-0L301		'	i uiiit	411
3SE5132-0BJ01									
0	Twist levers, adjustable ler	•	to EN 50	U41					
8	With metal lever 100 mm, with plastic roller 19 mm	grid holes and							
	Snap-action contacts	1 NO + 1 N	C	→	3SE5132-0CJ60		1	1 unit	41K
91	•	1 NO + 2 N	C	→	3SE5132-0LJ60		1	1 unit	41K
3SE5132-0CJ60									
0020102 00000	With metal lever 100 mm and p	lastic roller 19 mn	1						
0	Snap-action contacts	1 NO + 1 N			3SE5132-0CJ50		1	1 unit	41K
	onap aonon comacto	1 NO + 2 N			3SE5132-0LJ50		1	1 unit	41K
3SE5132-0CJ50									
0020102 00000	Rod levers ²⁾ , type D accord	ling to FN 5004	1						
	With aluminum rod 200 mm	g to 2.1 000 1	-						
	Snap-action contacts	1 NO + 1 N	C		3SE5132-0CJ80		1	1 unit	41K
als.	With plastic rod 200 mm	1110 1 111	O		0020102 00000		'	1 dille	1110
3	Snap-action contacts	1 NO + 1 N	C		3SE5132-0CJ82		1	1 unit	41K
41	orap asilon contacto				5525 152 55552		·	, and	
3SE5132-0CJ80									

actuator, necessary in safety circuits.

If the device you require is not available as a complete unit, see "Modular system", page 12/23.

¹⁾ Popular versions.

²⁾ Degree of protection IP65/IP67.

SIRIUS 3SE5 mechanical position switches 3SE5, plastic enclosures

Enclosure width 40 mm according to EN 50041

Modular system

2 or 3 contacts · Degree of protection IP66/IP67 · Cable entry 1 x (M20 x 1.5)

	Version	Contacts	LEDs		Modular system		PU (UNIT, SET, M)	PS*	PG
					Article No.	Price per PU			
Basic switches · En	closure width 40 mm					•			
40	Rounded plungers, accord	rding to EN 5	0041		-				
	 Slow-action contacts 	1 NO + 1 NC		\odot	3SE5132-0BA00		1	1 unit	41K
		1 NO + 2 NC		\odot	3SE5132-0KA00		1	1 unit	41K
		2 NO + 1 NC		⊕	3SE5132-0PA00		1	1 unit	41K
	- With make-before-break	1 NO + 2 NC		⊕	3SE5132-0MA00		1	1 unit	41K
0055400 00400	 Snap-action contacts 	1 NO + 1 NC 1 NO + 2 NC		→	3SE5132-0CA00		1	1 unit 1 unit	41K 41K
3SE5132-0BA00	- Gold-plated contacts	1 NO + 2 NC		→	3SE5132-0LA00 3SE5132-0CA00-1AC1		1	1 unit 1 unit	41K 41K
~~	With increased corrosion prote			9	33L3132-00A00-1A01		'	1 UIIII	4110
	Slow-action contacts	1 NO + 1 NC		→	3SE5132-0BA00-1CA0		1	1 unit	41K
4 6	• Slow-action contacts	1 NO + 1 NC		→	3SE5132-0BA00-1CA0		1	1 unit	41K
		2 NO + 1 NC		⊕	3SE5132-0PA00-1CA0		1	1 unit	41K
	- With make-before-break	1 NO + 2 NC		⊙	3SE5132-0MA00-1CA0		1	1 unit	41K
	 Snap-action contacts 	1 NO + 1 NC		⊕	3SE5132-0CA00-1CA0		1	1 unit	41K
3SE5132-0BA00-1CA0	·	1 NO + 2 NC		→	3SE5132-0LA00-1CA0		1	1 unit	41K
4	With 2 LEDs, yellow/green								
	Slow-action contacts	1 NO + 2 NC	24 V DC	\odot	3SE5132-1KA00		1	1 unit	41K
		1 NO + 2 NC	230 V AC	€	3SE5132-3KA00		1	1 unit	41K
10.00	 Snap-action contacts 	1 NO + 2 NC	24 V DC	→	3SE5132-1LA00		1	1 unit	41K
	·	1 NO + 2 NC	230 V AC	→	3SE5132-3LA00		1	1 unit	41K
3SE5132-1KA00									
4	With M12 device plug, 4-pole ((250 V, 4 A) ²⁾							
	Slow-action contacts	1 NO + 1 NC		\odot	3SE5134-0BA00-1AC4		1	1 unit	41K
Leganore		2 NC		\odot	3SE5134-0KA00-1AE0		1	1 unit	41K
	 Snap-action contacts 	1 NO + 1 NC		→	3SE5134-0CA00-1AC4		1	1 unit	41K
		2 NC		→	3SE5134-0LA00-1AE0		1	1 unit	41K
3SE5134-0BA00-1AC4									
A Desitive enemine enem	ording to IEC 60047 5 1 Appear	or positival val	river N	loto:					

 [⊕]Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.
 Use corresponding high-grade steel lever.

Note:

For the selection aid, see page 12/14.

²⁾ For pin assignments, see page 12/13.

Position and safety switchesSIRIUS 3SE5 mechanical position switches 3SE5, plastic enclosures

Enclosure width 40 mm according to EN 50041

	Version		Diame ter	-	Modular system		PU (UNIT, SET, M)	PS*	PG
			mm		Article No.	Price per PU	. ,		
Actuators									
<u> </u>	Plain plunger								
3SE5000-0AB01	High-grade steel pl	unger	8.5	→	3SE5000-0AB01		1	1 unit	41K
	Rounded plunger, ty	pe B, according to EN 500	041						
	 Plastic plunger 		10	\odot	3SE5000-0AC03		1	1 unit	41K
3SE5000-0AC03									
a	Roller plungers, type	C, according to EN 50041							
	 Plastic plunger 	Plastic roller	13	\odot	3SE5000-0AD05		1	1 unit	41K
•		High-grade steel roller	13	\odot	3SE5000-0AD06		1	1 unit	41K
3SE5000-0AD05									
	Roller lever								
	 Metal lever 	Plastic roller	22	\odot	3SE5000-0AE05		1	1 unit	41K
3SE5000-0AE05									
	Angular roller lever								
	Metal lever	Plastic roller	22	\odot	3SE5000-0AF05		1	1 unit	41K
3SE5000-0AF05									
	Spring rods (for switches with sna	p-action contacts only)							
		tic, spring of high-grade stee	l: 7						
		(spring 50 mm, plunger 50			3SE5000-0AR01		1	1 unit	41K
		oring 23.5 mm, plunger 10 r (spring 150 mm, plunger 5			3SE5000-0AR03 3SE5000-0AR04		1 1	1 unit 1 unit	41K 41K
	•	made of high-grade steel:	,		33L3000-0A1104		'	1 unit	4110
		(spring 50 mm, plunger 50			3SE5000-0AR02		1	1 unit	41K
* *									
3SE5000- 3SE5000-									
0AR01 0AR02									

 $[\]begin{cal}\bigoplus$ Positively driven actuator, necessary in safety circuits.

SIRIUS 3SE5 mechanical position switches 3SE5, plastic enclosures

Enclosure width 40 mm according to EN 50041

	Version		Diame ter)-	Modular system		PU (UNIT, SET, M)	PS*	PG
			20.00		Article No.	Price	OL1, MI)		
Twist actuators			mm			per PU			
T WIST actuators	Twist actuator, for 40 m	m according to EN EN	044						
3SE5000-0AH00	For twist levers and roc switching right and/or I	l levers,		→	3SE5000-0AH00		1	1 unit	41K
	Levers								
	Twist levers 27 mm, off	set, type A, according	o EN 5	0041					
Q	Metal lever	Plastic roller	19	→	3SE5000-0AA01		1	1 unit	41K
			30		3SE5000-0AA05		1	1 unit	41K
0055000 04404			50		3SE5000-0AA07		1	1 unit	41K
3SE5000-0AA01		2 plastic rollers	19	€	3SE5000-0AA04		1	1 unit	41K
		High-grade steel roller	19	€	3SE5000-0AA02		1	1 unit	41K
		 With ball bearing Rubber roller 	19 50	→	3SE5000-0AA03 3SE5000-0AA08		1 1	1 unit 1 unit	41K 41K
	• I liab arada ataal lawar			→					
	 High-grade steel lever 	High-grade steel roller	19 10	→	3SE5000-0AA11 3SE5000-0AA12		1 1	1 unit 1 unit	41K 41K
	Twist levers 35 mm, off			_	JOEGOOD OAA12		'	i uiiit	711
	Metal lever	Plastic roller	19	⊕	2000000000000		1	1 unit	41K
	High-grade steel lever			→	3SE5000-0AA15		1	1 unit	
	0 0		19 		3SE5000-0AA16		ı	1 unit	41K
	Twist levers 30 mm, str		-						
	Metal lever	Plastic roller	19 30	→ →	3SE5000-0AA24 3SE5000-0AA26		1 1	1 unit 1 unit	41K 41K
3SE5000-0AA24									
	Twist levers 100 mm, ac	djustable length, with g	rid hol	е					
•	 Metal lever 	Plastic roller	19	\odot	3SE5000-0AA60		1	1 unit	41K
0		High-grade steel roller	19	\odot	3SE5000-0AA61		1	1 unit	41K
8		Rubber roller	50	\odot	3SE5000-0AA68		1	1 unit	41K
	 High-grade steel lever 		19	→	3SE5000-0AA62		1	1 unit	41K
		High-grade steel roller	19	→	3SE5000-0AA63		1	1 unit	41K
3SE5000-0AA60									
	Twist levers 100 mm, ac	djustable length							
•	 Metal lever 	Plastic roller	19		3SE5000-0AA50		1	1 unit	41K
			30		3SE5000-0AA55		1	1 unit	41K
		High-grade steel roller Rubber roller	19 50		3SE5000-0AA51 3SE5000-0AA58		1 1	1 unit	41K
	- I limb model at all laves							1 unit	41K
	High-grade steel lever	High-grade steel roller	19 19		3SE5000-0AA52 3SE5000-0AA53		1 1	1 unit 1 unit	41K 41K
3SE5000-0AA50									
1	Rod levers, type D, acc	ording to EN 50041							
	Aluminum rod	Length 200 mm	6		3SE5000-0AA80		1	1 unit	41K
	Spring rod	Length 200 mm	6		3SE5000-0AA81		1	1 unit	41K
	Plastic rod	Length 200 mm	6		3SE5000-0AA82		1	1 unit	41K
T.		Length 330 mm	6		3SE5000-0AA83		1	1 unit	41K

 $[\]ensuremath{\bigodot}$ Positively driven actuator, necessary in safety circuits.

Steel clamp (spare part) for adjustable-length twist and rod levers, see page 12/52.

¹⁾ Can be clinch mounted (rotated 180°, rear of lever).

SIRIUS 3SE5 mechanical position switches 3SE5, plastic enclosures

Enclosure width 50 mm

Selection and ordering data

Complete units

2 or 3 contacts · Degree of protection IP66/IP67 · Cable entry 2 x (M20 x 1.5) · Operating points according to EN 50047

	Version	Contacts	LEDs		Complete units		PU (UNIT, SET, M)	PS*	PG
					Article No.	Price per PU			
Complete units ¹⁾ · E	Inclosure width 50 mm								
	Rounded plungers								
	Slow-action contacts	1 NO + 1 NC		\odot	3SE5242-0BC05		1	1 unit	41K
		1 NO + 2 NC		\odot	3SE5242-0KC05		1	1 unit	41K
	VACATE COLORED TO SECURE TO SECURE	2 NO + 1 NC		→→→	3SE5242-0PC05		1	1 unit	41K
3SE5242-0BC05	- With make-before-break	1 NO + 2 NC		→	3SE5242-0MC05		1 1	1 unit	41K
	 Snap-action contacts 	1 NO + 1 NC 1 NO + 2 NC		•	3SE5242-0CC05 3SE5242-0LC05		1	1 unit 1 unit	41K 41K
	- Integrated ²⁾	1 NO + 1 NC			3SE5242-0HC05		1	1 unit	41K
	- Short stroke, integrated ²⁾	1 NO + 1 NC		€	3SE5242-0FC05		1	1 unit	41K
	- Contact distance 2 x 2 mm			€	3SE5242-0GC05		1	1 unit	41K
	With increased corrosion prote	ection ³⁾							
	 Slow-action contacts 	1 NO + 1 NC		\odot	3SE5242-0BC05-1CA0		1	1 unit	41K
The same of		1 NO + 2 NC		→→→	3SE5242-0KC05-1CA0		1	1 unit	41K
	- With make-before-break	2 NO + 1 NC		→	3SE5242-0PC05-1CA0		1 1	1 unit	41K
3SE5242-0BC05-1CA0		1 NO + 2 NC		→	3SE5242-0MC05-1CA0			1 unit	41K
	 Snap-action contacts Integrated²⁾ 	1 NO + 2 NC 1 NO + 1 NC		→	3SE5242-0LC05-1CA0 3SE5242-0HC05-1CA0		1 1	1 unit 1 unit	41K 41K
-0	With 2 LEDs, yellow/green	1110 1 1110		\odot	00E0E4E 011000 10A0		'	1 dilit	7110
	Slow-action contacts	1 NO + 2 NC	24 V DC	€	3SE5242-1KC05		1	1 unit	41K
9.	Slow-action contacts	1 NO + 2 NC		_	3SE5242-1KC05 3SE5242-3KC05		1	1 unit	41K
	Snap-action contacts	1 NO + 2 NC		⊙	3SE5242-1LC05		1	1 unit	41K
	Chap action contacto	1 NO + 2 NC			3SE5242-3LC05		1	1 unit	41K
3SE5242-1KC05									
	Roller plungers								
	With plastic roller 10 mm			_					
18	 Slow-action contacts 	1 NO + 1 NC		\odot	3SE5242-0BD03		1	1 unit	41K
	Snap-action contacts	1 NO + 2 NC		\odot	3SE5242-0LD03		1	1 unit	41K
3SE5242-0BD03	- Integrated ²⁾	1 NO + 1 NC		\odot	3SE5242-0HD03		1	1 unit	41K
35E3242-UBDU3	Dellas levera								
	Roller levers								
	With metal lever and plastic				0055040 00540		_	a 9	4417
	Slow-action contacts	1 NO + 1 NC		→	3SE5242-0BE10		1	1 unit	41K
	 Snap-action contacts Integrated²⁾ 	1 NO + 2 NC 1 NO + 1 NC		→	3SE5242-0LE10 3SE5242-0HE10		1 1	1 unit 1 unit	41K 41K
	With M12 device plug, 4-pole			€	33E3242-0HE10		,	i uiiit	411
3SE5242-0BE10	Snap-action contacts	2 NC	<u>)</u> '	→	3SE5244-0LE10-1AE0		1	1 unit	41K
	Twist levers	2110		•	33E3244-0LE10-TAE0		ı	1 unit	411
O ₂		mlastia vallav 16	·						
9	With metal lever 21 mm and	=			0055040 001/04			ata	441/
	Slow-action contacts	1 NO + 1 NC		→	3SE5242-0BK21		1	1 unit	41K
1000	 Snap-action contacts Integrated²⁾ 	1 NO + 2 NC 1 NO + 1 NC		→	3SE5242-0LK21 3SE5242-0HK21		1 1	1 unit 1 unit	41K 41K
	- integrated	1110 + 1110		€	33E3242-011K21		'	i uiiit	4111
3SE5242-0BK21									
	Twist lever, adjustable le	nath							
9	With metal lever 100 mm and	•	19 mm						
	Snap-action contacts,	1 NO + 1 NC			3SE5242-0HK50		1	1 unit	41K
	integrated ²⁾	2 1 1.10					·		
AL .									
3SE5242-0HK50									

- → Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.
- 1) Popular versions.
- 2) Subsequent replacement of contact blocks is not possible.
- 3) Use corresponding high-grade steel lever.
- 4) For pin assignments, see page 12/13.

Note:

If the device you require is not available as a complete unit, see "Modular system", page 12/27.

SIRIUS 3SE5 mechanical position switches 3SE5, plastic enclosures

Enclosure width 50 mm

Modular system

2 or 3 contacts · Degree of protection IP66/IP67 · Cable entry 2 x (M20 x 1.5) · Operating points according to EN 50047

	Version	Contacts	LEDs		Modular system		PU (UNIT, SET, M)	PS*	PG
					Article No.	Price per PU			
Basic switches · En	closure width 50 mm								
	Rounded plungers ¹⁾				•				
	Slow-action contacts	1 NO + 1 NC 1 NO + 2 NC 2 NO + 1 NC		→	3SE5242-0BC05 3SE5242-0KC05 3SE5242-0PC05		1 1 1	1 unit 1 unit 1 unit	41K 41K 41K
	- With make-before-break	1 NO + 2 NC		→	3SE5242-0MC05		1	1 unit	41K
3SE5242-0BC05	 Snap-action contacts Integrated²⁾ 	1 NO + 1 NC 1 NO + 2 NC 1 NO + 1 NC		→	3SE5242-0CC05 3SE5242-0LC05 3SE5242-0HC05		1 1 1	1 unit 1 unit 1 unit	41K 41K 41K
	 Short stroke, integrated²⁾ Contact distance 2 x 2 mm 	1 NO + 1 NC 1 NO + 1 NC		→→→	3SE5242-0FC05 3SE5242-0GC05		1 1	1 unit 1 unit	41K 41K
	With increased corrosion protect • Slow-action contacts	1 NO + 1 NC 1 NO + 2 NC 2 NO + 1 NC		→ →	3SE5242-0BC05-1CA0 3SE5242-0KC05-1CA0 3SE5242-0PC05-1CA0		1 1 1	1 unit 1 unit 1 unit	41K 41K 41K
3SE5242-0BC05-1CA0	 With make-before-break Snap-action contacts Integrated²⁾ 	1 NO + 2 NC 1 NO + 2 NC 1 NO + 1 NC		→→→	3SE5242-0MC05-1CA0 3SE5242-0LC05-1CA0 3SE5242-0HC05-1CA0		1 1 1	1 unit 1 unit 1 unit	41K 41K 41K
	With 2 LEDs, yellow/green ◆ Slow-action contacts	1 NO + 2 NC 1 NO + 2 NC	230 V AC	⊕	3SE5242-1KC05 3SE5242-3KC05		1 1	1 unit 1 unit	41K 41K
3SE5242-1KC05	Snap-action contacts	1 NO + 2 NC 1 NO + 2 NC		→	3SE5242-1LC05 3SE5242-3LC05		1 1	1 unit 1 unit	41K 41K

[→] Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.

Note:

For the selection aid, see page 12/14.

¹⁾ For enclosures with widths of 50 mm, the basic switch is a complete unit with rounded plungers.

²⁾ Subsequent replacement of contact blocks is not possible.

³⁾ Use corresponding high-grade steel lever.

SIRIUS 3SE5 mechanical position switches 3SE5, plastic enclosures

Enclosure width 50 mm

	Version		Diame- ter		Modular system		PU (UNIT, SET, M)	PS*	PG
			mm		Article No.	Price per PU			
Actuators									
-	Plain plunger								
3SE5000-0AB01	High-grade steel plung	ger	8.5	→	3SE5000-0AB01		1	1 unit	41K
	Roller plungers, type C	, according to EN 50047	7						
400	 Plastic roller 		10	→	3SE5000-0AD03		1	1 unit	41K
3SE5000-0AD03	 High-grade steel roller 		10	\odot	3SE5000-0AD04		1	1 unit	41K
<u> </u>	Roller plungers with ce	ntral fixing							
	 Plastic roller 		10	\odot	3SE5000-0AD10		1	1 unit	41K
3	 High-grade steel roller 		10	\odot	3SE5000-0AD11		1	1 unit	41K
3SE5000-0AD10									
35E3000-0AD 10	Roller levers, type E, ac	cording to FN 50047							
	Metal lever	Plastic roller	13	→	3SE5000-0AE10		1	1 unit	41K
	• Metal level	High-grade steel roller	13	⊙	3SE5000-0AE10		1	1 unit	41K
3SE5000-0AE10	High-grade steel lever		13	€	3SE5000-0AE12		1	1 unit	41K
	-	High-grade steel roller	13	€	3SE5000-0AE13		1	1 unit	41K
	Angular roller levers								
	 Metal lever 	Plastic roller	13	→	3SE5000-0AF10		1	1 unit	41K
3SE5000-0AF10	High-grade steel lever	High-grade steel roller	13 13	→	3SE5000-0AF11 3SE5000-0AF12		1 1	1 unit 1 unit	41K 41K
	Tilgii-giade steel level	High-grade steel roller	13	→	3SE5000-0AF13		1	1 unit	41K
	Spring rods (for switches with snap-a	<u> </u>							
	Plunger made of plastic.	• •	. 7						
		oring 50 mm, plunger 50			3SE5000-0AR01		1	1 unit	41K
		g 23.5 mm, plunger 10 m			3SE5000-0AR03		1	1 unit	41K
		oring 150 mm, plunger 50	,		3SE5000-0AR04		1	1 unit	41K
	 Plunger and spring ma Length 142.5 mm (sr 	ide of nign-grade steel: oring 50 mm, plunger 50 i	7 mm)		3SE5000-0AR02		1	1 unit	41K
	Longin 142.0 mm (ap	ning oo min, planger oo	,		0020000 0A1102			1 Gilli	7110
3SE5000- 3SE5000-									
0AR01 0AR03									

[→] Positively driven actuator, necessary in safety circuits.

SIRIUS 3SE5 mechanical position switches 3SE5, plastic enclosures

Enclosure width 50 mm

	Version		Diame- ter		Modular system		PU (UNIT, SET, M)	PS*	PG
			mm		Article No.	Price per PU			
t actuators						po o			
1	Twist actuator, for 31/50	mm, according to EN	50047		- 				
) 000-0AK00	 For twist levers and roc switching right and/or I 			→	3SE5000-0AK00		1	1 unit	41k
0, (00	Levers								
	Twist levers 21 mm, str	aight, type A, according	to EN 5	0047					
	 Metal lever 	Plastic roller	19	\odot	3SE5000-0AA21		1	1 unit	41K
			30	€	3SE5000-0AA25		1	1 unit	41K
		High-grade steel roller	19 19	→	3SE5000-0AA22		1 1	1 unit 1 unit	41K
	High-grade steel lever	- With ball bearing	19	→	3SE5000-0AA23 3SE5000-0AA31		1	1 unit	41K 41K
		High-grade steel roller	19	$\bigcirc \bigcirc $	3SE5000-0AA32		1	1 unit	41K
	Twist levers 30 mm, str	-							
	 Metal lever 	Plastic roller	19	→	3SE5000-0AA24		1	1 unit	41K
			30	→	3SE5000-0AA26		1	1 unit	41K
4									
	Twist levers 100 mm, ac			_					
	 Metal lever 	Plastic roller	19	⊕	3SE5000-0AA60		1	1 unit	41K
		High-grade steel roller	50 19	→	3SE5000-0AA67 3SE5000-0AA61		1 1	1 unit 1 unit	41K 41K
		Rubber roller	50	→	3SE5000-0AA61		1	1 unit	41K
	 High-grade steel lever 	Plastic roller	19		3SE5000-0AA62		1	1 unit	41K
		High-grade steel roller	19	→	3SE5000-0AA63		1	1 unit	41k
	Twist levers 100 mm, ad	diustable length							
	Metal lever	Plastic roller	19		3SE5000-0AA50		1	1 unit	41K
			30		3SE5000-0AA55		1	1 unit	41K
			50		3SE5000-0AA57		1	1 unit	41K
		High-grade steel roller	19 50		3SE5000-0AA51		1	1 unit	41K
	High-grade steel lever	Rubber roller	50 19		3SE5000-0AA58 3SE5000-0AA52		1 1	1 unit 1 unit	41K 41K
	riigir grado otooriovor	High-grade steel roller	19		3SE5000-0AA53		1	1 unit	41K
50									
VA30	Rod levers								
	 Aluminum rod 	Length 200 mm	6		3SE5000-0AA80		1	1 unit	41K
	 Spring rod 	Length 200 mm	6		3SE5000-0AA81		1	1 unit	41K
	 Plastic rod 	Length 200 mm	6 6		3SE5000-0AA82		1 1	1 unit	41K 41K
		Length 330 mm	O		3SE5000-0AA83		'	1 unit	411

[→] Positively driven actuator, necessary in safety circuits.

Steel clamp (spare part) for adjustable-length twist and rod levers, see page 12/52.

¹⁾ Can be clinch mounted (rotated 180°, rear of lever).

SIRIUS 3SE5 mechanical position switches 3SE5, metal enclosures

Enclosure width 31 mm according to EN 50047

Selection and ordering data

Complete units

2 or 3 contacts · Degree of protection IP66/IP67 · Cable entry 1 x (M20 x 1.5)

	Version	Contacts	LEDs		Complete units		PU (UNIT, SET, M)	PS*	PG
					Article No.	Price per PU	. ,		
Complete units ¹⁾ · E	inclosure width 31 mm								
46	Rounded plungers, type	B, according	to EN 50	047					
(b)	 Slow-action contacts 	1 NO + 1 NO		\odot	3SE5212-0BC05		1	1 unit	41K
(Empli		1 NO + 2 NO		→	3SE5212-0KC05		1	1 unit	41K
	- With make-before-break	2 NO + 1 NO 1 NO + 2 NO		→ →	3SE5212-0PC05 3SE5212-0MC05		1 1	1 unit 1 unit	41K 41K
	Snap-action contacts	1 NO + 1 NC		→	3SE5212-0MC05		1	1 unit	41K
3SE5212-0BC05	• Snap-action contacts	1 NO + 1 NC		→	3SE5212-0LC05		1	1 unit	41K
-0	With increased corrosion prote			9	0020212 02000		'	1 dilit	7110
	Slow-action contacts	1 NO + 1 NC		→	3SE5212-0BC05-1CA0		1	1 unit	41K
(85)	310W-action contacts	1 NO + 2 NO		⊕	3SE5212-0BC05-1CA0		1	1 unit	41K
1000		2 NO + 1 NO		⊕	3SE5212-0PC05-1CA0		1	1 unit	41K
	- With make-before-break	1 NO + 2 NO		\widecheck{ullet}	3SE5212-0MC05-1CA0		1	1 unit	41K
	 Snap-action contacts 	1 NO + 1 NO		\odot	3SE5212-0CC05-1CA0		1	1 unit	41K
3SE5212-0BC05-1CA0		1 NO + 2 NO		\odot	3SE5212-0LC05-1CA0		1	1 unit	41K
A 30	With 2 LEDs, yellow/green								
TAX	 Slow-action contacts 	1 NO + 2 NO		\odot	3SE5212-1KC05		1	1 unit	41K
		1 NO + 2 NO		\circ	3SE5212-3KC05		1	1 unit	41K
	 Snap-action contacts 	1 NO + 2 NO	24 V DC	\odot	3SE5212-1LC05		1	1 unit	41K
		1 NO + 2 NO	230 V AC	€	3SE5212-3LC05		1	1 unit	41K
3SE5212-1KC05	With M12 device plug, 5-pole (_					
	 Slow-action contacts 	1 NO + 1 NO		→	3SE5214-0BC05-1AC5		1	1 unit	41K
		2 NC		→	3SE5214-0KC05-1AE1		1	1 unit	41K
	 Snap-action contacts 	1 NO + 1 NC		→	3SE5214-0CC05-1AC5		1 1	1 unit	41K 41K
	With O I EDa valloudare en	2 NC		€	3SE5214-0LC05-1AE1		1	1 unit	41K
	With 2 LEDs, yellow/green	1 110 1 110	041/100		0055044450054450		_		4417
	Slow-action contacts	1 NO + 1 NC		→	3SE5214-1BC05-1AF3		1	1 unit	41K
	Snap-action contacts	1 NO + 1 NC		€	3SE5214-1CC05-1AF3		1	1 unit	41K
	Plain plungers, according		/						
	With high-grade steel plunge			_					
Imonous	 Slow-action contacts 	1 NO + 1 NO		→	3SE5212-0BB01		1	1 unit	41K
		1 NO + 2 NO		→	3SE5212-0KB01		1	1 unit	41K
	 Snap-action contacts 	1 NO + 1 NO 1 NO + 2 NO		→	3SE5212-0CB01 3SE5212-0LB01		1 1	1 unit 1 unit	41K 41K
3SE5212-0BB01		1 NO + 2 NO		€	35E3212-0LB01		'	i uiiit	411
	Roller plungers, type C, a	ccordina to	EN 50047	7					
	With plastic roller 10 mm	g							
	Slow-action contacts	1 NO + 1 NC	:	→	3SE5212-0BD03		1	1 unit	41K
Brances		1 NO + 2 NO		⊕	3SE5212-0KD03		1	1 unit	41K
	Snap-action contacts	1 NO + 1 NC		⊕	3SE5212-0CD03		1	1 unit	41K
	•	1 NO + 2 NO		⊕	3SE5212-0LD03		1	1 unit	41K
3SE5212-0BD03									
_									

[→] Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.

¹⁾ Popular versions.

²⁾ Use corresponding high-grade steel lever.

³⁾ For pin assignments, see page 12/13.

SIRIUS 3SE5 mechanical position switches 3SE5, metal enclosures

Enclosure width 31 mm according to EN 50047

2 or 3 contacts · Degree of protection IP66/IP67 · Cable entry 1 x (M20 x 1.5)

				Complete units		PU (UNIT, SET, M)	PS*	PG
				Article No.	Price per PU			
re width 31 mm	1				por r c			
	fixing, accordir	ng to EN	50047					
ller 10 mm			_					
ontacts	1 NO + 2 N	C	→	3SE5212-0KD10		1	1 unit	41K
s, type E, accor	ding to EN 5004	17						
er and plastic rol	ller 13 mm							
ontacts	1 NO + 1 N		→	3SE5212-0BE10		1	1 unit	41K
	1 NO + 2 N		→	3SE5212-0KE10		1	1 unit	41K
contacts	1 NO + 1 N 1 NO + 2 N		→	3SE5212-0CE10 3SE5212-0LE10		1 1	1 unit 1 unit	41K 41K
	11101211	O	•	0020212 02210		· ·	Tunit	7110
or lovers acce	rding to EN 500-	17						
er and plastic rol	•	+/						
ontacts	1 NO + 1 N	C	→	3SE5212-0BF10		1	1 unit	41K
o.naoto	1 NO + 2 N		⊕	3SE5212-0KF10		1	1 unit	41K
contacts	1 NO + 1 N		→	3SE5212-0CF10		1	1 unit	41K
	1 NO + 2 N	C	→	3SE5212-0LF10		1	1 unit	41K
	-!! 4 - FN 500	-						
	<i>ding to EN 5004</i> astic roller 19 mm	7						
er 21 mm and pie ontacts	1 NO + 1 N	C	€	3SE5212-0BK21		1	1 unit	41K
Ontacts	1 NO + 2 N		⊕	3SE5212-0KK21		1	1 unit	41K
contacts	1 NO + 1 N	C	⊕	3SE5212-0CK21		1	1 unit	41K
	1 NO + 2 N	C	\odot	3SE5212-0LK21		1	1 unit	41K
. adiustable ler	ngth, according	to EN 50	0047					
er 100 mm, with 9	•							
ontacts	1 NO + 2 N	C	\odot	3SE5212-0KK60		1	1 unit	41K
contacts			→	3SE5212-0CK60		1	1 unit	41K
			→	3SE5212-0LK60		1	1 unit	41K
•				20EE010 0BKE2			4 . mit	441/
						·		41K 41K
JUITAUIS						1		41K 41K
er on con	100 mm and p tacts tacts	1 NO + 2 N 100 mm and plastic roller 19 mm tacts 1 NO + 1 N tacts 1 NO + 1 N 1 NO + 2 N 60947-5-1, Annex K, or positively	1 NO + 2 NC 100 mm and plastic roller 19 mm tacts	1 NO + 2 NC 100 mm and plastic roller 19 mm tacts 1 NO + 1 NC tacts 1 NO + 1 NC 1 NO + 2 NC 60947-5-1, Annex K, or positively driven Note:	1 NO + 2 NC 3SE5212-0LK60 100 mm and plastic roller 19 mm tacts 1 NO + 1 NC 3SE5212-0BK50 1 NO + 2 NC 3SE5212-0CK50 3SE5212-0LK50 60947-5-1, Annex K, or positively driven Note:	1 NO + 2 NC 3SE5212-0LK60 100 mm and plastic roller 19 mm tacts 1 NO + 1 NC 3SE5212-0BK50 tacts 1 NO + 1 NC 1 NO + 2 NC 3SE5212-0CK50 3SE5212-0LK50 60947-5-1, Annex K, or positively driven Note:	1 NO + 2 NC 100 mm and plastic roller 19 mm tacts 1 NO + 1 NC 100 thacts 1 NO + 1 NC 100 thacts 1 NO + 2 NC 100 mm and plastic roller 19 mm tacts 1 NO + 1 NC 100 mm and plastic roller 19 mm tacts 1 NO + 2 NC 100 mm and plastic roller 19 mm 110 mm and plastic roller 1	1 NO + 2 NC 3SE5212-0LK60 1 1 unit 100 mm and plastic roller 19 mm tacts 1 NO + 1 NC 3SE5212-0BK50 1 1 unit 1 NO + 2 NC 3SE5212-0CK50 1 1 unit 1 unit 1 NO + 2 NC 3SE5212-0LK50 1 1 unit 1 unit 60947-5-1, Annex K, or positively driven Note:

actuator, necessary in safety circuits.

If the device you require is not available as a complete unit, see "Modular system", page 12/32.

¹⁾ Popular versions.

SIRIUS 3SE5 mechanical position switches 3SE5, metal enclosures

Enclosure width 31 mm according to EN 50047

Modular system

2 or 3 contacts · Degree of protection IP66/IP67 · Cable entry 1 × (M20 × 1.5)

	Version	Contacts	LEDs		Modular system		PU (UNIT, SET, M)	PS*	PG
					Article No.	Price per PU			
Basic switches · En	closure width 31 mm					· · · · · · · · · · · · · · · · · · ·			
Æla.	Rounded plungers ¹⁾ , type	B, accordin	g to EN 5	0047	-				
	 Slow-action contacts 	1 NO + 1 NC		\odot	3SE5212-0BC05		1	1 unit	41K
(Control of the Control of the Contr		1 NO + 2 NC		→	3SE5212-0KC05		1	1 unit	41K
	- With make-before-break	2 NO + 1 NC 1 NO + 2 NC		→	3SE5212-0PC05 3SE5212-0MC05		1 1	1 unit 1 unit	41K 41K
	Snap-action contacts	1 NO + 1 NC		→	3SE5212-0MC05		1	1 unit	41K
3SE5212-0BC05	Shap-action contacts	1 NO + 2 NC		⊕	3SE5212-0CC05		1	1 unit	41K
	With increased corrosion prote			•					
	Slow-action contacts	1 NO + 1 NC		→	3SE5212-0BC05-1CA0		1	1 unit	41K
(E)		1 NO + 2 NC		\odot	3SE5212-0KC05-1CA0		1	1 unit	41K
		2 NO + 1 NC		⊕	3SE5212-0PC05-1CA0		1	1 unit	41K
	- With make-before-break	1 NO + 2 NC		→	3SE5212-0MC05-1CA0		1	1 unit	41K
3SE5212-0BC05-1CA0	 Snap-action contacts 	1 NO + 1 NC		→	3SE5212-0CC05-1CA0		1	1 unit	41K
33L3212-0DC03-1CA0	W/II OLED II /	1 NO + 2 NC		€	3SE5212-0LC05-1CA0		1	1 unit	41K
6	With 2 LEDs, yellow/green	4 110 0 110	041/100		2055242 41/225		_		4417
(E) (E)	 Slow-action contacts 	1 NO + 2 NC 1 NO + 2 NC		→	3SE5212-1KC05 3SE5212-3KC05		1 1	1 unit 1 unit	41K 41K
	Snap-action contacts	1 NO + 2 NC		→	3SE5212-1LC05		1	1 unit	41K
	Shap-action contacts	1 NO + 2 NC			3SE5212-1LC05		1	1 unit	41K
				©					
3SE5212-1KC05									
6 3	With M12 device plug, 5-pole (<u> </u>		_					
	 Slow-action contacts 	1 NO + 1 NC		→	3SE5214-0BC05-1AC5		1	1 unit	41K
Butteriore	0	2 NC		→	3SE5214-0KC05-1AE1		1	1 unit	41K
	 Snap-action contacts 	1 NO + 1 NC 2 NC		→	3SE5214-0CC05-1AC5 3SE5214-0LC05-1AE1		1 1	1 unit 1 unit	41K 41K
		2110		9	00E0214 0E000 TAE1			1 dilit	7110
3SE5214-0BC05-1AC5									
	With 2 LEDs, yellow/green								
	Slow-action contacts	1 NO + 1 NC	24 V DC	→	3SE5214-1BC05-1AF3		1	1 unit	41K
⊕ (mounts)	Snap-action contacts	1 NO + 1 NC		⊙	3SE5214-1CC05-1AF3		1	1 unit	41K
u _u	onap dotton contacto	THETTINE	21780		SOCIOLITY (SOCIO IAI O		·	Tanic	****
3SE5214-1BC05-1AF3									
→ Positive opening acco	ording to IEC 60947-5-1, Annex K	, or positively d	riven N	lote:					

[→] Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.

Note:

For the selection aid, see page 12/14.

¹⁾ For enclosures with widths of 31 mm, the basic switch is a complete unit with rounded plungers.

²⁾ Use corresponding high-grade steel lever.

³⁾ For pin assignments, see page 12/13.

SIRIUS 3SE5 mechanical position switches 3SE5, metal enclosures

Enclosure width 31 mm according to EN 50047

					Enclosure width	31 1111111	accordin	g to EN	50047
	Version		Diame- ter		Modular system		PU (UNIT, SET, M)	PS*	PG
			mm		Article No.	Price per PU	, ,		
Actuators									
.a. 🛕	Plain plunger								
	High-grade steel plung	<u> </u>	8.5	€	3SE5000-0AB01		1	1 unit	41K
3SE5000- 3SE5000-		, according to EN 50047		_					
0AB01 0AD03	Plastic rollerHigh-grade steel roller		10 10	→	3SE5000-0AD03 3SE5000-0AD04		1	1 unit 1 unit	41K 41K
	Roller plungers with ce	ntral fiving	10	•	33E3000-0AD04		'	1 UIIII	4111
	Plastic roller	initial lixing	10	→	3SE5000-0AD10		1	1 unit	41K
	High-grade steel roller		10	€	3SE5000-0AD11		1	1 unit	41K
3SE5000- 3SE5000-	Roller levers, type E, ac	cording to EN 50047							
0AE10 0AF10	 Metal lever 	Plastic roller	13	€	3SE5000-0AE10		1	1 unit	41K
	High-grade steel lever	High-grade steel roller	13 13	→	3SE5000-0AE11 3SE5000-0AE12		1	1 unit 1 unit	41K 41K
•	Trigit-grade steer lever	High-grade steel roller	13	→	3SE5000-0AE12		1	1 unit	41K
	Angular roller levers								
	 Metal lever 	Plastic roller	13	€	3SE5000-0AF10		1	1 unit	41K
	a I Kada awa da aka al lawa	High-grade steel roller	13	⊕	3SE5000-0AF11		1	1 unit	41K
	High-grade steel lever	High-grade steel roller	13 13	→→→	3SE5000-0AF12 3SE5000-0AF13		1	1 unit 1 unit	41K 41K
	Spring rods	riigir grade eteerreiier		•	00=0000 07.11 10				
	(for switches with snap-a	action contacts only)							
		, spring of high-grade stee			0055000 04804				4417
		oring 50 mm, plunger 50 r g 23.5 mm, plunger 10 m			3SE5000-0AR01 3SE5000-0AR03		1	1 unit 1 unit	41K 41K
		oring 150 mm, plunger 50			3SE5000-0AR04		1	1 unit	41K
3SE5000- 3SE5000-	Plunger and spring ma		7						
0AR01 0AR03 Twist actuators	- Length 142.5 mm (sp	oring 50 mm, plunger 50 ı	mm)		3SE5000-0AR02		1	1 unit	41K
T WIST actuators	Twist actuator for 31/5/	mm, according to EN 5	50047						
	For twist levers and roc	•		€	3SE5000-0AK00		1	1 unit	41K
	switching right and/or I								
3SE5000- 3SE5000-	Levers								
0AK00 0AA21		aight, type A, according							
	Metal lever	Plastic roller	19 30	→	3SE5000-0AA21 3SE5000-0AA25		1	1 unit 1 unit	41K 41K
		High-grade steel roller	19	→	3SE5000-0AA22		1	1 unit	41K
		- With ball bearing	19	€	3SE5000-0AA23		1	1 unit	41K
	High-grade steel lever	Plastic roller High-grade steel roller	19 19		3SE5000-0AA31 3SE5000-0AA32		1	1 unit 1 unit	41K 41K
	Twist levers 30 mm, str		13	9	33E3000-0AA32		'	T GITT	4110
	Metal lever	Plastic roller	19	→	3SE5000-0AA24		1	1 unit	41K
			30	€	3SE5000-0AA26		1	1 unit	41K
	Twist levers 100 mm, ac	djustable length, with gr	id hole						
3SE5000- 3SE5000-	 Metal lever 	Plastic roller	19	€	3SE5000-0AA60		1	1 unit	41K
0AA60 0AA50		High-grade steel roller	50 19	→	3SE5000-0AA67 3SE5000-0AA61		1	1 unit 1 unit	41K 41K
1		Rubber roller	50	→	3SE5000-0AA68		1	1 unit	41K
	• High-grade steel lever		19		3SE5000-0AA62		1	1 unit	41K
		High-grade steel roller	19	€	3SE5000-0AA63		1	1 unit	41K
	Twist levers 100 mm, ac		40		0055000 04450			4 9	4417
	Metal lever	Plastic roller	19 30		3SE5000-0AA50 3SE5000-0AA55		1	1 unit 1 unit	41K 41K
			50		3SE5000-0AA57		1	1 unit	41K
		High-grade steel roller	19		3SE5000-0AA51		1	1 unit	41K
	High-grade steel lever	Rubber roller Plastic roller	50 19		3SE5000-0AA58 3SE5000-0AA52		1	1 unit 1 unit	41K 41K
	. ngir grade steel level	High-grade steel roller	19		3SE5000-0AA53		1	1 unit	41K
3SE5000-0AA80	Rod levers								
	Aluminum rod	Length 200 mm	6		3SE5000-0AA80		1	1 unit	41K
	Spring rod Diagtic rod	Length 200 mm	6		3SE5000-0AA81		1	1 unit	41K
	Plastic rod	Length 200 mm Length 330 mm	6 6		3SE5000-0AA82 3SE5000-0AA83		1	1 unit 1 unit	41K 41K
			-						

[→] Positively driven actuator, necessary in safety circuits.

Steel clamp (spare part) for adjustable-length twist and rod levers, see page 12/52.

¹⁾ Can be clinch mounted (rotated 180°, rear of lever).

SIRIUS 3SE5 mechanical position switches 3SE5, metal enclosures

Enclosure width 40 mm according to EN 50041

Selection and ordering data

Complete units

2 or 3 contacts · Degree of protection IP66/IP67 · Cable entry 1 x (M20 x 1.5)

	Version	Contacts	LEDs		Complete units		PU (UNIT, SET, M)	PS*	PG		
					Article No.	Price per PU					
Complete unit	s ¹⁾ · Enclosure width 40 mm					po o					
al-	Plain plungers, according to EN	50041									
	With high-grade steel plunger 8.5 mm	n									
. G.	Slow-action contacts	1 NO + 1 NC		\odot	3SE5112-0BB01		1	1 unit	41K		
		1 NO + 2 NC		\odot	3SE5112-0KB01		1	1 unit	41K		
	Snap-action contacts	1 NO + 1 NC		\odot	3SE5112-0CB01		1	1 unit	41K		
		1 NO + 2 NC		\odot	3SE5112-0LB01		1	1 unit	41K		
3SE5112-0BB01	With M12 device plug, 5-pole (125 V, 4										
	With pin assignment as for SIMATIC ET	200 ³⁾									
	Snap-action contacts	2 NC		€	3SE5114-0LB01-1AE3		1	1 unit	41K		
л	Rounded plungers, type B, acco	ording to EN	50041								
	With high-grade steel plunger 10 mm	n, with 3 mm c	vertravel								
LANGUAGE	Slow-action contacts	1 NO + 1 NC		€	3SE5112-0BC02		1	1 unit	41K		
		1 NO + 2 NC		\odot	3SE5112-0KC02		1	1 unit	41K		
	 Snap-action contacts 	1 NO + 1 NC		\odot	3SE5112-0CC02		1	1 unit	41K		
		1 NO + 2 NC		\odot	3SE5112-0LC02		1	1 unit	41K		
3SE5112-0BC02	 Increased operation/restoring force⁴⁾ 			\odot	3SE5112-0CC02-1AA7		1	1 unit	41K		
35E5112-0BC02	With M12 device plug, 4-pole (125 V, 4										
	Snap-action contacts	1 NO + 1 NC		€	3SE5114-0CC02-1AC4		1	1 unit	41K		
<u>a</u>	Roller plungers, type C, according to EN 50041										
	With high-grade steel roller 13 mm, v	vith 3 mm ove	ertravel								
	 Slow-action contacts 	1 NO + 1 NC		\odot	3SE5112-0BD02		1	1 unit	41K		
6 1		1 NO + 2 NC		→	3SE5112-0KD02		1	1 unit	41K		
CONTRACTOR	- Increased operation/restoring force ⁴⁾			⊕ ⊕	3SE5112-0PD02-1AA7		1	1 unit	41K		
	Snap-action contacts	1 NO + 1 NC 1 NO + 2 NC		→	3SE5112-0CD02 3SE5112-0LD02		1 1	1 unit 1 unit	41K 41K		
	 Increased operation/restoring force⁴⁾ 			→	3SE5112-0CD02-1AA7		1	1 unit	41K		
3SE5112-0BD02	moreacea speration, rectoring force	1 NO + 2 NC		⊕	3SE5112-0LD02-1AA7		1	1 unit	41K		
	With M12 device plug, 5-pole (125 V, 4	A) ²⁾		Ü							
	Snap-action contacts	 1 NO + 1 NC		→	3SE5114-0CD02-1AC5		1	1 unit	41K		
	 Increased operation/restoring force⁴⁾ 			Θ	3SE5114-0CD02-1AL0		1	1 unit	41K		
	With 2 LEDs, yellow/green			-							
	Snap-action contacts	1 NO + 1 NC	24 V DC	\odot	3SE5114-1CD02-1AF3		1	1 unit	41K		
	•	1 NO + 1 NC	24 V DC	→	3SE5114-1CD02-1AF5		1	1 unit	41K		
	With pin assignment as for SIMATIC ET	200 ³⁾									
	Snap-action contacts	2 NC		\odot	3SE5114-0LD02-1AE3		1	1 unit	41K		
A Dacitiva ananin	a coording to IEC 60047 F. 1. Appay K	or positivaly d	eli rom								

[→] Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.

¹⁾ Popular versions.

²⁾ For pin assignments, see page 12/13.

³⁾ The 3SE5114-.....1AE3 position switches, prewired with an M12 plug, 5-pole, have the same pin assignment as all fail-safe block I/O modules with a PROFINET connection in the SIMATIC ET 200eco PN and ET 200AL series with degree of protection IP65/IP67 for cabinet-free installation directly at the machine. For more information, see page 12/91 onwards.

⁴⁾ Increased operation or restoring force 30 N; only available as complete unit, no modular design

SIRIUS 3SE5 mechanical position switches 3SE5, metal enclosures

Enclosure width 40 mm according to EN 50041

2 or 3 contacts · Degree of protection IP66/IP67 · Cable entry 1 x (M20 x 1.5)

	Version	Contacts	LEDs		Complete units		PU	PS*	PG
	version	Contacts	LEDS		Complete units		(UNIT,	P5	PG
					Article No.	Price	SET, M)		
	1)					per PU			
Complete unit	s ¹⁾ · Enclosure width 40 mm	- 11 -0011							
	Roller levers, according to								
	With metal lever and plastic rol		_						
	 Slow-action contacts 	1 NO + 1 NO 1 NO + 2 NO		→	3SE5112-0BE01 3SE5112-0KE01		1	1 unit 1 unit	41K 41K
1 1 CO	Snap-action contacts	1 NO + 1 N		→	3SE5112-0CE01		1	1 unit	41K
	Griap-action contacts	1 NO + 2 N		⊙	3SE5112-0LE01		1	1 unit	41K
y and the				0					
0055440 00504									
3SE5112-0BE01	An analog wellow leaves a const	udin a to FN 500	44						
•	Angular roller levers, accor	-	41				ı		
400	With metal lever and plastic rol	1 NO + 1 N	0		20E5110 0DE01		4	4 . mit	441/
	Slow-action contactsSnap-action contacts	1 NO + 1 N		⊕	3SE5112-0BF01 3SE5112-0CF01		1	1 unit 1 unit	41K 41K
Laurence	Shap-action contacts	1 NO + 2 N		→	3SE5112-0LF01		1	1 unit	41K
				•	00_01.1_0_101		·		
3SE5112-0BF01									
0020112 08101	Spring rod ²⁾ , according to l	FN 50041							
	Length 142.5 mm, with plastic p								
	Snap-action contacts	1 NO + 1 N	C		3SE5112-0CR01		1	1 unit	41K
	•								
e C									
3SE5112-0CR01									
0-	Twist levers, type A, accord	-	1						
O	With metal lever 27 mm and pla								
	 Slow-action contacts 	1 NO + 1 No 1 NO + 2 No		→	3SE5112-0BH01 3SE5112-0KH01		1	1 unit 1 unit	41K 41K
[MINISTERNA	Snap-action contacts	1 NO + 1 N		→	3SE5112-0CH01		1	1 unit	41K
	- Grap action contacts	1 NO + 2 N		⊕	3SE5112-0LH01		1	1 unit	41K
	With M12 device plug, 5-pole (12	25 V, 4 A) ³⁾		•					
3SE5112-0BH01	Snap-action contacts	1 NO + 1 N	C	\odot	3SE5114-0CH01-1AC5		1	1 unit	41K
0020112 021101	With 2 LEDs, yellow/green								
	Snap-action contacts	1 NO + 1 N	C 24 V DC	\odot	3SE5114-1CH01-1AF3		1	1 unit	41K
	With pin assignment as for SIMAT	ΓΙC ET 200 ⁴⁾							
	 Snap-action contacts 	2 NC		\odot	3SE5114-0LH01-1AE3		1	1 unit	41K
	With metal lever 27 mm and hig	h-grade steel roll	er 19 mm						
3	 Slow-action contacts 	1 NO + 1 No	C	\odot	3SE5112-0BH02		1	1 unit	41K
	 Snap-action contacts 	1 NO + 1 No	C	\odot	3SE5112-0CH02		1	1 unit	41K
LIMINER	With M12 device plug, 5-pole (12	25 V, 4 A) ³⁾							
1000	With 2 LEDs, yellow/green								
	 Snap-action contacts 	1 NO + 1 No	C 24 V DC	\odot	3SE5114-1CH02-1AF3		1	1 unit	41K
	With metal lever 30 mm and pla		_						
3SE5114-1CH02-	Snap-action contacts	1 NO + 1 No	U	€	3SE5112-0CH24		1	1 unit	41K
1AF3									

[→] Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.

¹⁾ Popular versions.

²⁾ Degree of protection IP65/IP67.

³⁾ For pin assignments, see page 12/13.

⁴⁾ The 3SE5114-....-1AE3 position switches, prewired with an M12 plug, 5-pole, have the same pin assignment as all fail-safe block I/O modules with a PROFINET connection in the SIMATIC ET 200eco PN and ET 200AL series with degree of protection IP65/IP67 for cabinet-free installation directly at the machine. For more information, see page 12/91 onwards.

SIRIUS 3SE5 mechanical position switches 3SE5, metal enclosures

Enclosure width 40 mm according to EN 50041

2 or 3 contacts · Degree of protection IP66/IP67 · Cable entry 1 x (M20 x 1.5)

	Version	Contacts	LEDs		Complete units		PU (UNIT,	PS*	PG
					Article No.	Price per PU	SÈT, M)		
Complete unit	ts ¹⁾ · Enclosure width 40 mm					porro			
	Twist levers, adjustable length	, according to	o EN 500	41					
	With metal lever 100 mm, with grid plastic roller 19 mm								
	 Slow-action contacts 	1 NO + 1 NC	;	\odot	3SE5112-0BH60		1	1 unit	41K
	Snap-action contacts	1 NO + 1 NO 1 NO + 2 NO		⊕	3SE5112-0CH60 3SE5112-0LH60		1 1	1 unit 1 unit	41K 41K
	With M12 device plug, 5-pole (125 V,	4 A) ²⁾							
	With 2 LEDs, yellow/green								
	 Snap-action contacts 	1 NO + 1 NO	24 V DC	igordown	3SE5114-1CH60-1AF3		1	1 unit	41K
3SE5112-0BH60	high-grade steel roller 19 mm								
	With M12 device plug, 5-pole (125 V,				2055444 201104 44.05			4 "	4417
	Snap-action contacts	1 NO + 1 NC		€	3SE5114-0CH61-1AC5		1	1 unit	41K
0	With metal lever 100 mm and plasti				0055440 001150			4	441/
ñ	Slow-action contacts Chan action contacts	1 NO + 1 NO 1 NO + 1 NO			3SE5112-0BH50		1 1	1 unit	41K 41K
25	Snap-action contacts	1 NO + 2 NO			3SE5112-0CH50 3SE5112-0LH50		1	1 unit 1 unit	41K 41K
	With M12 device plug, 8-pole (30 V, 2	2 A) ²⁾							
	With 2 LEDs, yellow/green								
	Snap-action contacts	1 NO + 2 NC			3SE5114-1LH50-1AD4		1	1 unit	41K
	With metal lever 100 mm and high-	_							
3SE5112-0BH50	Snap-action contacts	1 NO + 1 NC	;		3SE5112-0CH51		1	1 unit	41K
	Fork levers, latching, according	g to EN 5004							
	With metal lever and 2 plastic roller	rs 19 mm							
3SE5112-0CT11	Snap-action contacts	1 NO + 1 NC	:	→	3SE5112-0CT11		1	1 unit	41K
1	Rod levers ³⁾ , type D according	to EN 50041							
	With aluminum rod 200 mm								
	Snap-action contacts	1 NO + 1 NC	;		3SE5112-0CH80		1	1 unit	41K
ela.	Nagara switch with M12 device plug,	5-pole (125 V, 4	4 A) ²⁾⁴⁾						
91	Snap-action contacts, short-stroke	1 NO + 1 NC			3SE5114-0NH82-1AM2		1	1 unit	41K
a e	With plastic rod 200 mm								
	Snap-action contacts	1 NO + 1 NC	:		3SE5112-0CH82		1	1 unit	41K
3SE5112-0CH80									
→ Positive opening	ng according to IEC 60947-5-1, Annex h	K, or positively d	Iriven [Note:			I		

- actuator, necessary in safety circuits.
- 1) Popular versions.
- 2) For pin assignments, see page 12/13.
- 3) Degree of protection IP65/IP67.
- 4) Start switch triggerable via one-hand operation (during operation).

If the device you require is not available as a complete unit, see "Modular system", page 12/37.

SIRIUS 3SE5 mechanical position switches 3SE5, metal enclosures

Enclosure width 40 mm according to EN 50041

Modular system

2 or 3 contacts · Degree of protection IP66/IP67 · Cable entry 1 x (M20 x 1.5)

	Version	Contacts	LEDs		Modular system		PU (UNIT, SET, M)	PS*	PG
					Article No.	Price per PU			
Basic switches · En	closure width 40 mm					•			
4	Rounded plungers, acco	rding to EN 5	50041		_				
•	 Slow-action contacts 	1 NO + 1 NC		\odot	3SE5112-0BA00		1	1 unit	41K
Tamping .		1 NO + 2 NO		→	3SE5112-0KA00		1	1 unit	41K
	- With make-before-break	2 NO + 1 NC 1 NO + 2 NC		→	3SE5112-0PA00 3SE5112-0MA00		1 1	1 unit 1 unit	41K 41K
	Snap-action contacts	1 NO + 1 NC		⊕	3SE5112-0CA00		1	1 unit	41K
3SE5112-0BA00	Chap action contacts	1 NO + 2 NC		⊕	3SE5112-0LA00		1	1 unit	41K
	- Gold-plated contacts			⊛	3SE5112-0CA00-1AC1		1	1 unit	41K
	With increased corrosion prote	ection ¹⁾							
Language	 Slow-action contacts 	1 NO + 1 NC		\odot	3SE5112-0BA00-1CA0		1	1 unit	41K
		1 NO + 2 NC		→	3SE5112-0KA00-1CA0		1	1 unit	41K
	- With make-before-break	2 NO + 1 NC 1 NO + 2 NC		→	3SE5112-0PA00-1CA0 3SE5112-0MA00-1CA0		1 1	1 unit 1 unit	41K 41K
0055440 00400 4040	Snap-action contacts	1 NO + 1 NC		→	3SE5112-0MA00-1CA0		1	1 unit	41K
3SE5112-0BA00-1CA0	Shap-action contacts	1 NO + 2 NC		⊕	3SE5112-0CA00-1CA0		1	1 unit	41K
	With 2 LEDs, yellow/green			0					
6 6	Slow-action contacts	1 NO + 2 NC	24 V DC	\odot	3SE5112-1KA00		1	1 unit	41K
On.		1 NO + 2 NC	230 V AC	→	3SE5112-3KA00		1	1 unit	41K
	 Snap-action contacts 	1 NO + 2 NC	24 V DC	\odot	3SE5112-1LA00		1	1 unit	41K
		1 NO + 2 NC	230 V AC	\odot	3SE5112-3LA00		1	1 unit	41K
3SE5112-1KA00	With M12 device plug, 5-pole	(125 V, 4 A) ²⁾							
	 Slow-action contacts 	1 NO + 1 NC		→	3SE5114-0BA00-1AC5		1	1 unit	41K
) e (2 NC		⊕	3SE5114-0KA00-1AE1		1	1 unit	41K
Emprove	 Snap-action contacts 	1 NO + 1 NC 2 NC		→	3SE5114-0CA00-1AC5 3SE5114-0LA00-1AE1		1 1	1 unit 1 unit	41K 41K
	With 2 LEDs, yellow/green	2 110		€	33E3114-0LA00-1AE1		'	i uiiit	411
	Slow-action contacts	1 NO + 1 NC	24 V DC	€	3SE5114-1BA00-1AF3		1	1 unit	41K
3SE5114-0BA00-1AC5	Snap-action contacts	1 NO + 1 NC		⊙	3SE5114-1CA00-1AF3		1	1 unit	41K
33L3114-0DA00-1AC3	With pin assignment as for SIM		2	0	002011110110011110		·		
	Snap-action contacts	1 NO + 2 NC		→	3SE5114-0LA00-1AE3		1	1 unit	41K
9	With device plug, 6-pole + PE	(250 V, 10 A) ²⁾							
	Slow-action contacts	1 NO + 2 NC	:	€	3SE5115-0KA00-1AD1		1	1 unit	41K
	 Snap-action contacts 	1 NO + 2 NC		→	3SE5115-0LA00-1AD1		1	1 unit	41K
	With quick-release device			-					
3SE5115-0KA00-1AD1	Snap-action contacts	1 NO + 1 NC		→	3SE5115-0CA00-1AD0		1	1 unit	41K
	With M12 device plug, 8-pole	(30 V, 2 A) ²⁾							
	With 2 LEDs, yellow/green	1 110 . 0 110	04.1/.00		2000114 11 400 1404			1 . mit	4412
0	 Snap-action contacts ording to IEC 60947-5-1, Annex I 	1 NO + 2 NC		√ote:	3SE5114-1LA00-1AD4		1	1 unit	41K

[→] Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.

For the selection aid, see page 12/14.

¹⁾ Use corresponding high-grade steel lever.

²⁾ For pin assignments, see page 12/13.

³⁾ The 3SE5114-....-1AE3 position switches, prewired with an M12 plug, 5-pole, have the same pin assignment as all fail-safe block I/O modules with a PROFINET connection in the SIMATIC ET 200eco PN and ET 200AL series with degree of protection IP65/IP67 for cabinet-free installation directly at the machine.
For more information, see page 12/91 onwards.

Note

Position and safety switchesSIRIUS 3SE5 mechanical position switches 3SE5, metal enclosures

Enclosure width 40 mm according to EN 50041

	Version		Diame ter)-	Modular system		PU (UNIT, SET, M)	PS*	PG
			mm		Article No.	Price per PU			
Actuators									
<u> </u>	Plain plunger								
3SE5000-0AB01	High-grade steel plung	er	8.5	€	3SE5000-0AB01		1	1 unit	41K
я	Rounded plunger, type	B, according to EN 50041	1						
	High-grade steel plunger	er, with 3 mm overtravel	10	→	3SE5000-0AC02		1	1 unit	41K
3SE5000-0AC02	Poller plunger type C	according to EN 500/1							
6)	Roller plunger, type C, according to EN 50041 • High-grade steel roller, with 3 mm overtravel		13	→	3SE5000-0AD02		1	1 unit	41K
3SE5000-0AD02									
	Roller levers								
	Metal lever	Plastic roller High-grade steel roller	22 22	→	3SE5000-0AE01 3SE5000-0AE02		1 1	1 unit 1 unit	41K 41K
3SE5000-0AE01	High-grade steel lever	Plastic roller High-grade steel roller	22 22	→	3SE5000-0AE03 3SE5000-0AE04		1 1	1 unit 1 unit	41K 41K
	Angular roller levers								
	Metal lever	Plastic roller High-grade steel roller	22 22	→	3SE5000-0AF01 3SE5000-0AF02		1 1	1 unit 1 unit	41K 41K
3SE5000-0AF01	High-grade steel lever	Plastic roller High-grade steel roller	22 22	→	3SE5000-0AF03 3SE5000-0AF04		1 1	1 unit 1 unit	41K 41K
		s with snap-action contact	,,						
		, spring of high-grade stee			0055000 04 D04			4	441/
		ring 50 mm, plunger 50 m g 23.5 mm, plunger 10 mm			3SE5000-0AR01 3SE5000-0AR03		1 1	1 unit 1 unit	41K 41K
I I		ring 150 mm, plunger 50 r			3SE5000-0AR04		1	1 unit	41K
	Plunger and spring made		7						
	- Length 142.5 mm (sp	ring 50 mm, plunger 50 m	m)		3SE5000-0AR02		1	1 unit	41K
3SE5000- 3SE5000- 0AR01 0AR02	-								
OAHUI UAHUZ									

[→] Positively driven actuator, necessary in safety circuits.

SIRIUS 3SE5 mechanical position switches 3SE5, metal enclosures

Enclosure width 40 mm according to EN 50041

AH00	 For twist levers and roo switching right and/or For fork levers, latching Levers	eft, adjustable	mm to EN 5	0041 ⊕	Article No.	Price per PU			
⊣00	For twist levers and roo switching right and/or For fork levers, latching Levers Twist levers 27 mm, off	d levers, eft, adjustable set, type A, according to	to EN 5						
	For twist levers and roo switching right and/or For fork levers, latching Levers Twist levers 27 mm, off	d levers, eft, adjustable set, type A, according to	to EN 5						
	switching right and/or • For fork levers, latching Levers Twist levers 27 mm, off	eft, adjustable		€					
	Levers Twist levers 27 mm, off	set, type A, according to			3SE5000-0AH00		1	1 unit	41k
	Twist levers 27 mm, off			→	3SE5000-0AT10		1	1 unit	41k
	•								
	Metal lever		EN 500	41					
		Plastic roller	19	→	3SE5000-0AA01		1	1 unit	41k
			30 50	→	3SE5000-0AA05 3SE5000-0AA07		1 1	1 unit 1 unit	41k 41k
		2 plastic rollers	19	→	3SE5000-0AA07		1	1 unit	41K
		High-grade steel roller	19	⊕	3SE5000-0AA02		1	1 unit	41k
		- With ball bearing	19	⊕	3SE5000-0AA03		1	1 unit	41K
		Rubber roller	50		3SE5000-0AA08		1	1 unit	41K
	 High-grade steel lever 	Plastic roller	19	→	3SE5000-0AA11		1	1 unit	41k
	T :	High-grade steel roller	19	→	3SE5000-0AA12		1	1 unit	41K
	·	set, type A, according to			0055000 04 445		_	a 0	4.417
	Metal lever	Plastic roller	19	→	3SE5000-0AA15		1	1 unit	41K
	High-grade steel lever	Plastic roller	19	→	3SE5000-0AA16		1	1 unit	41K
		aight ¹⁾ , type A, accordir Plastic roller			- 				
	 Metal lever 	Flastic foliel	19 30	→	3SE5000-0AA24 3SE5000-0AA26		1 1	1 unit 1 unit	41K 41K
	Twist lovers 100 mm a	djustable length, with gr		€	33E3000-0AA20			i uiiit	411
	Metal lever	Plastic roller	19		3SE5000-0AA60		1	1 unit	41K
	• Metal lever	Plastic folier	50	lacktriangle	3SE5000-0AA67		1	1 unit	41N
		High-grade steel roller	19	€	3SE5000-0AA61		1	1 unit	41K
		Rubber roller	50		3SE5000-0AA68		1	1 unit	41K
	High-grade steel lever	Plastic roller High-grade steel roller	19 19	→	3SE5000-0AA62 3SE5000-0AA63		1 1	1 unit 1 unit	41K 41K
	Twist levers 100 mm, a								
	 Metal lever 	Plastic roller	19 30		3SE5000-0AA50 3SE5000-0AA55		1 1	1 unit 1 unit	41K 41K
		High-grade steel roller	19		3SE5000-0AA55		1	1 unit	41N 41K
		Rubber roller	50		3SE5000-0AA58		1	1 unit	41K
	High-grade steel lever	Plastic roller High-grade steel roller	19 19		3SE5000-0AA52 3SE5000-0AA53		1 1	1 unit 1 unit	41K 41K
	Twist lever bent 150 mi	, ,							
	Metal lever	Plastic roller	22		3SE5000-0AA56		1	1 unit	41K
	Fork levers (for switcher	s with snap-action contac 2 plastic rollers 2 high-grade steel rollers	19	⊕	3SE5000-0AT01 3SE5000-0AT02		1 1	1 unit 1 unit	41k 41k
	• 2 high-grade steel levers	2 plastic rollers	19	\odot	3SE5000-0AT03		1	1 unit	41K
	Rod levers, type D, acc	ording to EN 50041							
	 Aluminum rod 	Length 200 mm	6		3SE5000-0AA80		1	1 unit	41k
	 Spring rod 	Length 200 mm	6		3SE5000-0AA81		1	1 unit	41K
	 Plastic rod 	Length 200 mm	6		3SE5000-0AA82		1	1 unit	41K
		Length 330 mm	6		3SE5000-0AA83		1	1 unit	411

[→] Positively driven actuator, necessary in safety circuits.

Steel clamp (spare part) for adjustable-length twist and rod levers, see page 12/52.

¹⁾ Can be clinch mounted (rotated 180°, rear of lever).

SIRIUS 3SE5 mechanical position switches 3SE5, metal enclosures

Enclosure width 56 mm

Selection and ordering data

Complete units

2 or 3 contacts · Degree of protection IP66/IP67 · Cable entry 3 x (M20 x 1.5) · Operating points according to EN 50041

	Version	Contacts	LEDs		Complete units		PU (UNIT, SET, M)	PS*	PG
					Article No.	Price per PU			
Complete unit	ts ¹⁾ · Enclosure width 56 mm					P 0 0			
	Plain plungers								
	With high-grade steel plunger 8.	5 mm							
Tuthories Co.	 Slow-action contacts 	1 NO + 1 N	C	\odot	3SE5122-0BB01		1	1 unit	41K
		1 NO + 2 N		\odot	3SE5122-0KB01		1	1 unit	41K
		2 NO + 1 N		→	3SE5122-0PB01		1	1 unit	41K
3SE5122-0BB01	 Snap-action contacts 	1 NO + 1 N		→	3SE5122-0CB01		1	1 unit	41K
33L3 122-0DD0 1		1 NO + 2 N	C	€	3SE5122-0LB01		1	1 unit	41K
<u> </u>	Rounded plungers								
	With high-grade steel plunger 10	•							
	 Slow-action contacts 	1 NO + 1 N		→	3SE5122-0BC02		1	1 unit	41K
(Section)		1 NO + 2 N 2 NO + 1 N		→	3SE5122-0KC02 3SE5122-0PC02		1 1	1 unit 1 unit	41K 41K
	• Coop action contacts			→			1		41K
	Snap-action contacts	1 NO + 1 N 1 NO + 2 N		→	3SE5122-0CC02 3SE5122-0LC02		1	1 unit 1 unit	41K 41K
3SE5122-0BC02	- Increased operation/restoring for			→	3SE5122-0CC02-1AA7		1	1 unit	41K
(a)	Roller plungers								
	With high-grade steel roller 13 n	nm. with 3 mm ov	/ertravel						
	Slow-action contacts	1 NO + 1 N		€	3SE5122-0BD02		1	1 unit	41K
# -	- Glow action contacts	1 NO + 2 N		⊙	3SE5122-0KD02		i	1 unit	41K
×11	Snap-action contacts	1 NO + 1 N		⊕	3SE5122-0CD02		1	1 unit	41K
	chap delien demade	1 NO + 2 N		€	3SE5122-0LD02		1	1 unit	41K
	- Increased operation/restoring for	orce ²⁾ 1 NO + 1 N	C	€	3SE5122-0CD02-1AA7		1	1 unit	41K
3SE5122-0BD02									
	Roller levers								
	With metal lever and plastic rolle	er 22 mm							
	Slow-action contacts	1 NO + 1 N	C	\odot	3SE5122-0BE01		1	1 unit	41K
•		1 NO + 2 N	C	→	3SE5122-0KE01		1	1 unit	41K
Lauren		2 NO + 1 N	C	\odot	3SE5122-0PE01		1	1 unit	41K
	 Snap-action contacts 	1 NO + 1 N		\odot	3SE5122-0CE01		1	1 unit	41K
		1 NO + 2 N	C	\odot	3SE5122-0LE01		1	1 unit	41K
3SE5122-0BE01	With metal lever and high-grade	steel roller 22 m	m						
	Snap-action contacts	1 NO + 1 N	C	→	3SE5122-0CE02		1	1 unit	41K
	Angular roller levers								
	With metal lever and plastic rolle	er 22 mm							
	 Slow-action contacts 	1 NO + 1 N	C	\odot	3SE5122-0BF01		1	1 unit	41K
1 6		2 NO + 1 N	C	\odot	3SE5122-0PF01		1	1 unit	41K
P	Snap-action contacts	1 NO + 1 N	C	→	3SE5122-0CF01		1	1 unit	41K
3SE5122-0BF01									
_									

[→] Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.

¹⁾ Popular versions.

Increased operation or restoring force 30 N; only available as complete unit, no modular design

SIRIUS 3SE5 mechanical position switches 3SE5, metal enclosures

Enclosure width 56 mm

2 or 3 contacts · Degree of protection IP66/IP67 · Cable entry 3 x (M20 x 1.5) · Operating points according to EN 50041

	Version	Contacts	LEDs		Complete units		PU (UNIT,	PS*	PG
							SET, M)		
					Article No.	Price per PU			
Complete unit	s ¹⁾ · Enclosure width 56 mm					ļ			
	Spring rod ²⁾								
- 1	Length 142.5 mm, with plastic plun	_							
	Snap-action contacts	1 NO + 1 No	O		3SE5122-0CR01		1	1 unit	41K
3SE5122-0CR01	Twist levers								
15	With metal lever 27 mm and plastic	roller 19 mm							
	Slow-action contacts	1 NO + 1 NO 1 NO + 2 NO 2 NO + 1 NO	0	⊕ ⊕	3SE5122-0BH01 3SE5122-0KH01 3SE5122-0PH01		1 1 1	1 unit 1 unit 1 unit	41K 41K 41K
	Snap-action contacts	1 NO + 1 NO		\odot	3SE5122-0CH01		1	1 unit	41K
0055400 00404	With metal lever 27 mm and high-g	1 NO + 2 No		€	3SE5122-0LH01		1	1 unit	41K
3SE5122-0BH01	Snap-action contacts	1 NO + 1 NO		→	3SE5122-0CH02		1	1 unit	41K
		1 NO + 2 NO		⊕	3SE5122-0LH02		1	1 unit	41K
•	Twist levers, adjustable length With metal lever 100 mm, with grid plastic roller 19 mm	holes and							
9P	Slow-action contacts	1 NO + 1 NO		→ →	3SE5122-0BH60		1	1 unit	41K
	Snap-action contacts	1 NO + 1 NO 1 NO + 2 NO		⊕	3SE5122-0CH60 3SE5122-0LH60		1 1	1 unit 1 unit	41K 41K
	With metal lever 100 mm and plasti			O					
	Slow-action contacts	1 NO + 1 NO	C		3SE5122-0BH50		1	1 unit	41K
	Snap-action contacts	1 NO + 1 NO			3SE5122-0CH50		1	1 unit	41K
3SE5122-0BH60	Fault lavou latebine	1 NO + 2 NO	J		3SE5122-0LH50		1	1 unit	41K
O	Fork lever, latching With metal lever and 2 plastic roller	re 10 mm							
O C LINEAR CONTRACTOR	Snap-action contacts	1 NO + 1 No	C	→	3SE5122-0CT11		1	1 unit	41K
3SE5122-0CT11	- 2)								
	Rod levers ²⁾ With aluminum rod 200 mm	1 NO . 1 N	2		3SE5122-0CH80			1 unit	441/
a la	Snap-action contacts With plastic rod 200 mm	1 NO + 1 NO	J		35E5122-0CH80		1	1 unit	41K
E LEWIS CONTRACTOR OF THE PARTY	Snap-action contacts	1 NO + 1 NO	0		3SE5122-0CH82		1	1 unit	41K
3SE5122-0CH80									

[→] Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.

Note:

If the device you require is not available as a complete unit, see "Modular system", page 12/42.

¹⁾ Popular versions.

²⁾ Degree of protection IP65/IP67.

SIRIUS 3SE5 mechanical position switches 3SE5, metal enclosures

Enclosure width 56 mm

Modular system

2 or 3 contacts · Degree of protection IP66/IP67 · Cable entry 3 x (M20 x 1.5) · Operating points according to EN 50041

	Version	Contacts	LEDs		Modular system		PU (UNIT, SET, M)	PS*	PG
					Article No.	Price per PU			
Basic switches · En	closure width 56 mm								
	Rounded plungers				-				
	Slow-action contacts	1 NO + 1 NC 1 NO + 2 NC		→ →	3SE5122-0BA00 3SE5122-0KA00		1 1	1 unit 1 unit	41K 41K
	- With make-before-break	2 NO + 1 NC 1 NO + 2 NC		⊕	3SE5122-0PA00 3SE5122-0MA00		1 1	1 unit 1 unit	41K 41K
3SE5122-0BA00	Snap-action contacts	1 NO + 1 NC 1 NO + 2 NC		→	3SE5122-0CA00 3SE5122-0LA00		1 1	1 unit 1 unit	41K 41K
	With increased corrosion protect	ction ¹⁾							
	Slow-action contacts	1 NO + 1 NC 1 NO + 2 NC 2 NO + 1 NC		→ →	3SE5122-0BA00-1CA0 3SE5122-0KA00-1CA0 3SE5122-0PA00-1CA0		1 1 1	1 unit 1 unit 1 unit	41K 41K 41K
	- With make-before-break	1 NO + 2 NC		⊕	3SE5122-0MA00-1CA0		1	1 unit	41K
3SE5122-0BA00-1CA0	Snap-action contacts	1 NO + 1 NC 1 NO + 2 NC		→	3SE5122-0CA00-1CA0 3SE5122-0LA00-1CA0		1 1	1 unit 1 unit	41K 41K
	With 2 LEDs, yellow/green								
	Slow-action contacts	1 NO + 2 NC 1 NO + 2 NC		→ →	3SE5122-1KA00 3SE5122-3KA00		1 1	1 unit 1 unit	41K 41K
	Snap-action contacts	1 NO + 2 NC 1 NO + 2 NC	24 V DC	⊕	3SE5122-1LA00 3SE5122-3LA00		1 1	1 unit 1 unit	41K 41K
3SE5122-1KA00									

[→] Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.

Note:

For the selection aid, see page 12/14.

	Version		Diame- ter		Modular system		PU (UNIT, SET, M)	PS*	PG
			mm		Article No.	Price per PU			
Actuators									
3SE5000-0AB01	Plain plunger • High-grade steel plung	jer	8.5	→	3SE5000-0AB01		1	1 unit	41K
A A	Rounded plunger, type • High-grade steel plung			→	3SE5000-0AC02		1	1 unit	41K
3SE5000- 0AC02 0AD02	Roller plunger, type C, a • High-grade steel roller,		13	→	3SE5000-0AD02		1	1 unit	41K
3SE5000-0AE01	Roller levers • Metal lever • High-grade steel lever	Plastic roller High-grade steel roller Plastic roller High-grade steel roller	22	• • •	3SE5000-0AE01 3SE5000-0AE02 3SE5000-0AE03 3SE5000-0AE04		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41K 41K 41K 41K
	Angular roller levers • Metal lever • High-grade steel lever	Plastic roller High-grade steel roller	22 22 22	⊕ ⊕	3SE5000-0AF01 3SE5000-0AF02 3SE5000-0AF03 3SE5000-0AF04		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41K 41K 41K 41K
	Length 76 mm (spring)Length 242.5 mm (spring)Plunger and spring ma	c, spring of high-grade oring 50 mm, plunger 50 g 23.5 mm, plunger 10 oring 150 mm, plunger 5	0 mm) mm) 60 mm) 7		3SE5000-0AR01 3SE5000-0AR03 3SE5000-0AR04 3SE5000-0AR02		1 1 1	1 unit 1 unit 1 unit 1 unit	41K 41K 41K 41K

[→] Positively driven actuator, necessary in safety circuits.

¹⁾ Use corresponding high-grade steel lever.

SIRIUS 3SE5 mechanical position switches 3SE5, metal enclosures

Enclosure width 56 mm

	Version		Diame-		Modular system		PU	PS*	PG
			ter				(UNIT, SET, M)		
			mm		Article No.	Price per PU			
Twist actuators									
	Twist actuators, for 40/5		to EN 50		0055000 041100			4	441/
	 For twist levers and rod switching right and/or le 			€	3SE5000-0AH00		1	1 unit	41K
3SE5000-0AH00	For fork levers, latching			€	3SE5000-0AT10		1	1 unit	41K
	Levers								
	Twist levers 27 mm, offs								
	Metal lever	Plastic roller	19 30	→	3SE5000-0AA01 3SE5000-0AA05		1	1 unit 1 unit	41K 41K
			50		3SE5000-0AA07		1	1 unit	41K
3SE5000-0AA01		2 plastic rollers	19	⊕	3SE5000-0AA04		1	1 unit	41K
		High-grade steel roller	19	€	3SE5000-0AA02		1	1 unit	41K
		- With ball bearing	19	→	3SE5000-0AA03		1	1 unit	41K
	• I liab arada ataal layar	Rubber roller	50	→	3SE5000-0AA08		1	1 unit	41K
3SE5000-0AA24	High-grade steel lever	Plastic roller High-grade steel roller	19 19	→	3SE5000-0AA11 3SE5000-0AA12		1 1	1 unit 1 unit	41K 41K
	Twist levers 35 mm, offs	0 0	EN 5004	_					
9	 Metal lever 	Plastic roller	19	\odot	3SE5000-0AA15		1	1 unit	41K
8	 High-grade steel lever 	Plastic roller	19	\odot	3SE5000-0AA16		1	1 unit	41K
8	Twist levers 30 mm, stra	iight ¹⁾ , type A, according	g to EN 5	0041					
	 Metal lever 	Plastic roller	19	\odot	3SE5000-0AA24		1	1 unit	41K
-			30	\odot	3SE5000-0AA26		1	1 unit	41K
8	Twist levers 100 mm, ad			_					
2055000 04400	 Metal lever 	Plastic roller	19 50	→	3SE5000-0AA60 3SE5000-0AA67		1	1 unit	41K 41K
3SE5000-0AA60		High-grade steel roller	19	→	3SE5000-0AA61		1	1 unit 1 unit	41K 41K
		Rubber roller	50	⊕	3SE5000-0AA68		1	1 unit	41K
	High-grade steel lever	Plastic roller	19	€	3SE5000-0AA62		1	1 unit	41K
		High-grade steel roller	19	\odot	3SE5000-0AA63		1	1 unit	41K
	Twist levers 100 mm, ad								
	 Metal lever 	Plastic roller	19		3SE5000-0AA50		1	1 unit	41K
		High-grade steel roller Plastic roller	19 30		3SE5000-0AA51 3SE5000-0AA55		1	1 unit 1 unit	41K 41K
U		i lastic foliei	50		3SE5000-0AA57		1	1 unit	41K
3SE5000-0AA50		Rubber roller	50		3SE5000-0AA58		1	1 unit	41K
	 High-grade steel lever 	Plastic roller	19		3SE5000-0AA52		1	1 unit	41K
9		High-grade steel roller	19		3SE5000-0AA53		1	1 unit	41K
g .	Twist lever bent 150 mm		00						4417
200500000000000000000000000000000000000	Metal lever	Plastic roller	22		3SE5000-0AA56		1	1 unit	41K
3SE5000-0AA56	Fork levers								
	(for switches with snap-a	ction contacts only)							
	2 metal levers	2 plastic rollers	19	€	3SE5000-0AT01		1	1 unit	41K
3SE5000-0AT01		2 high-grade steel rollers		€	3SE5000-0AT02		1	1 unit	41K
0020000 0/1101	2 high-grade steel levers	2 plastic rollers2 high-grade steel rollers	19 19	→	3SE5000-0AT03 3SE5000-0AT04		1	1 unit 1 unit	41K 41K
	Rod levers								
	Aluminum rod	Length 200 mm	6		3SE5000-0AA80		1	1 unit	41K
	• Spring rod	Length 200 mm	6		3SE5000-0AA81		1	1 unit	41K
	Plastic rod	Length 200 mm Length 330 mm	6 6		3SE5000-0AA82 3SE5000-0AA83		1	1 unit 1 unit	41K 41K
		20.194.1 000 11111			002000 0 11.00		·		
3SE5000-0AA80									

[→] Positively driven actuator, necessary in safety circuits.

Steel clamp (spare part) for adjustable-length twist and rod levers, see page 12/52.

¹⁾ Can be clinch mounted (rotated 180°, rear of lever).

SIRIUS 3SE5 mechanical position switches 3SE5, metal enclosures

Enclosure width 56 mm, XL

Selection and ordering data

Complete units

4 or 5 contacts · Degree of protection IP66/IP67 · Cable entry 3 x (M20 x 1.5) · Operating points according to EN 50041

	Version	Contacts	LEDs		Complete units		PU (UNIT,	PS*	PG
					Article No.	Price	SET, M)		
Complete unit	s ¹⁾ · Enclosure width 56 mm,	XL			_	per PU			
	Plain plunger				_				
•	With high-grade steel plunger 8.5								
[REDIEN	Snap-action contacts	2 × (1 NO + 1 NC	;)	→	3SE5162-0CB01		1	1 unit	41K
3SE5162-0CB01									
	Rounded plunger								
9	With high-grade steel plunger 10 • Slow-action contacts	1 NO + 1 NC	vertravei		2000162 00000		1	1 unit	41K
	Slow-action contacts and Slow-action contacts with make-before-break, 2 mm travel difference	1 NO + 2 NC		→	3SE5162-0EC02		'	i unit	411
3SE5162-0EC02	Roller plungers								
	With high-grade steel roller 13 m	m. with 3 mm ove	rtravel						
	Slow-action contacts	2 × (1 NO + 1 NC		→	3SE5162-0BD02		1	1 unit	41K
	Snap-action contacts	2 × (1 NO + 1 NC	*	€	3SE5162-0CD02		1	1 unit	41K
3SE5162-0BD02									
33L3102-0BD02	Roller levers								
	With metal lever and plastic rolle	er 22 mm							
	Slow-action contacts	2 × (1 NO + 1 NO		\odot	3SE5162-0BE01		1	1 unit	41K
D 4	Snap-action contacts	2 × (1 NO + 1 NO		\odot	3SE5162-0CE01		1	1 unit	41K
	With metal lever and high-grade			_					
	Snap-action contacts	2 × (1 NO + 1 NC	;)	→	3SE5162-0CE02		1	1 unit	41K
3SE5162-0BE01									
	Angular roller lever With metal lever and plastic rolle	ar 22 mm					ı		
	Snap-action contacts	2 × (1 NO + 1 NC	>)	→	3SE5162-0CF01		1	1 unit	41K
3SE5162-0CF01									
On	Twist levers With metal lever 27 mm and plas	tic roller 10 mm							
9	Snap-action contacts	2 x (1 NO + 1 NC)	→	3SE5162-0CH01		1	1 unit	41K
	With high-grade steel lever 27 m roller 19 mm	m and high-grade	•	•					
	With increased corrosion protection		`		0055400 001110 45				4217
	Snap-action contacts (gold contacts) Truist lever adjustable length	, ,)	€	3SE5162-0CH12-1CC1		1	1 unit	41K
3SE5162-0CH01	Twist lever, adjustable length With high-grade steel lever 100 m high-grade steel roller 19 mm		and						
	With increased corrosion protection • Snap-action contacts (gold contacts			uded →	3SE5162-0CH63-1AN4		1	1 unit	41K
	g according to IEC 60947-5-1, Annesary in safety circuits.			⊌ Note:	30E0102 001103-1AN4		'	i dilit	7117

actuator, necessary in safety circuits.

If the device you require is not available as a complete unit, see "Modular system", page 12/45.

¹⁾ Popular versions.

²⁾ Use corresponding high-grade steel lever.

SIRIUS 3SE5 mechanical position switches 3SE5, metal enclosures

Enclosure width 56 mm, XL

Modular system

4 or 6 contacts · Degree of protection IP66/IP67 · Cable entry 3 x (M20 x 1.5) · Operating points according to EN 50041

+ OF O COFFIACES		n IP66/IP67 · Cable entr	y 3 X (I	VIZU X I	.o, Operating points a	Coording	IO LIN SU	1041	
	Version	Contacts	LEDs		Modular system		PU (UNIT, SET, M)	PS*	PG
					Article No.	Price per PU			
Basic switche	es · Enclosure width 56	6 mm, XL							
	Rounded plungers								
	 Slow-action contacts With make-before-bream 	2 × (1 NO + 1 NC)		→	3SE5162-0BA00 3SE5162-0DA00		1 1	1 unit 1 unit	41K 41K
Toppick	Snap-action contacts	2 x (1 NO + 2 NC) 2 x (1 NO + 1 NC)		→ →	3SE5162-0DA00		1	1 unit	41K
	With increased corrosion	,		•	0020102 00A00			T GITTE	1111
	Slow-action contacts	2 × (1 NO + 1 NC)		\odot	3SE5162-0BA00-1CA0		1	1 unit	41K
3SE5162-0BA00	- With make-before-bre	,		→	3SE5162-0DA00-1CA0		1	1 unit	41K
_	Snap-action contacts	2 × (1 NO + 1 NC)		€	3SE5162-0CA00-1CA0		1	1 unit	41K
Positive openin	ng according to IEC 60947- ssary in safety circuits.	5-1, Annex K, or positively dr	riven	Note:					
1) Use correspond	ding high-grade steel leve	r.		For the	e selection aid, see page	e 12/14.			
	Version		Diame)-	Modular system		PU	PS*	PG
			ter				(UNIT, SET, M)		
					Article No.	Price	OL1, WI)		
			mm			per PU			
Actuators	-						I		
	Plain plungerHigh-grade steel plung	er	8.5	→	3SE5000-0AB01		1	1 unit	41K
3SE5000-0AB01				0					
.3.	, , ,	B, according to EN 50041					,		
4	High-grade steel plung	er, with 3 mm overtravel	10	€	3SE5000-0AC02		1	1 unit	41K
3SE5000-0AC02									
<u> </u>	Roller plunger, type C, a	<u> </u>	40	_	0055000 04500				4417
	High-grade steel roller,	with 3 mm overtravei	13	→	3SE5000-0AD02		1	1 unit	41K
0055000 04500									
3SE5000-0AD02	Roller levers								
	Metal lever	Plastic roller	22	→	3SE5000-0AE01		1	1 unit	41K
	- I link on de de district	High-grade steel roller	22	→	3SE5000-0AE02		1	1 unit	41K
2055222 24524	High-grade steel lever	Plastic roller High-grade steel roller	22 22	⊕ ⊕	3SE5000-0AE03 3SE5000-0AE04		1 1	1 unit 1 unit	41K 41K
3SE5000-0AE01	Angular roller levers								
	Metal lever	Plastic roller	22	→	3SE5000-0AF01		1	1 unit	41K
4		High-grade steel roller	22	⊕	3SE5000-0AF02		1	1 unit	41K
3SE5000-0AF01	High-grade steel lever	Plastic roller High-grade steel roller	22 22	→	3SE5000-0AF03 3SE5000-0AF04		1 1	1 unit 1 unit	41K 41K
	Spring rods	r light grade electrone.		•	00_0000 07.11 0 1		<u> </u>		
	(for switches with snap-a		7						
		c, spring of high-grade steel: ring 50 mm, plunger 50 mm)			3SE5000-0AR01		1	1 unit	41K
	- Length 76 mm (spring	g 23.5 mm, plunger 10 mm)			3SE5000-0AR03		1	1 unit	41K
	 Length 242.5 mm (sp Plunger and spring mag 	ring 150 mm, plunger 50 mm	n) 7		3SE5000-0AR04		1	1 unit	41K
		ring 50 mm, plunger 50 mm)			3SE5000-0AR02		1	1 unit	41K
	- \	. 5 ,							
3SE5000-0AR01									

[→]Positively driven actuator, necessary in safety circuits.

SIRIUS 3SE5 mechanical position switches 3SE5, metal enclosures

Enclosure width 56 mm, XL

Enclosure main c									
	Version		Diame-		Modular system		PU	PS*	PG
			ter				(UNIT, SET, M)		
					Article No.	Price	021, 111,		
			mm			per PU			
Twist actuators									
	 Twist actuators, for 40/5 For twist levers and rod 	66/56 mm XL, according	to EN 50	041 →	3SE5000-0AH00		1	1 unit	41K
(a)	switching right and/or le				33L3000-0A1100		'	1 unit	4111
3SE5000-0AH00	 For fork levers, latching 			€	3SE5000-0AT10		1	1 unit	41K
	Levers								
	Twist levers 27 mm, offs	set, type A, according to	EN 5004	1					
	 Metal lever 	Plastic roller	19 30	→	3SE5000-0AA01 3SE5000-0AA05		1 1	1 unit 1 unit	41K 41K
			50	$ \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc$	3SE5000-0AA05		1	1 unit	41K
3SE5000-0AA01		2 plastic rollers	19	\widecheck{ullet}	3SE5000-0AA04		1	1 unit	41K
		High-grade steel roller	19	→	3SE5000-0AA02		1	1 unit	41K
		 With ball bearing Rubber roller 	19 50	→	3SE5000-0AA03 3SE5000-0AA08		1 1	1 unit 1 unit	41K 41K
	 High-grade steel lever 	Plastic roller	19	⊕	3SE5000-0AA11		1	1 unit	41K
		High-grade steel roller	19	\odot	3SE5000-0AA12		1	1 unit	41K
	Twist levers 35 mm, offsMetal lever	set, type A, according to Plastic roller			3SE5000-0AA15		1	1 . mit	441/
	High-grade steel lever	Plastic roller	19 19	→ →	3SE5000-0AA15		1	1 unit 1 unit	41K 41K
	Twist levers 30 mm, stra		to EN 5						
9	 Metal lever 	Plastic roller	19	\odot	3SE5000-0AA24		1	1 unit	41K
			30	€	3SE5000-0AA26		1	1 unit	41K
3SE5000-0AA24									
	Twist levers 100 mm, ac	ljustable length, with gri	d hole						
•	 Metal lever 	Plastic roller	19	→	3SE5000-0AA60		1	1 unit	41K
		High-grade steel roller	50 19	→	3SE5000-0AA67 3SE5000-0AA61		1 1	1 unit 1 unit	41K 41K
8		Rubber roller	50	→→→	3SE5000-0AA68		1	1 unit	41K
3	 High-grade steel lever 	Plastic roller	19	Θ	3SE5000-0AA62		1	1 unit	41K
		High-grade steel roller	19	→	3SE5000-0AA63		1	1 unit	41K
8									
3SE5000-0AA60									
	Twist levers 100 mm, ac	ljustable length							
•	 Metal lever 	Plastic roller	19		3SE5000-0AA50		1	1 unit	41K
		High-grade steel roller Plastic roller	19 30		3SE5000-0AA51 3SE5000-0AA55		1 1	1 unit 1 unit	41K 41K
			50		3SE5000-0AA57		1	1 unit	41K
- X	• I limb arodo ataal lawar	Rubber roller Plastic roller	50		3SE5000-0AA58 3SE5000-0AA52		1 1	1 unit	41K
	High-grade steel lever	High-grade steel roller	19 19		3SE5000-0AA52 3SE5000-0AA53		1	1 unit 1 unit	41K 41K
U		9 9							
3SE5000-0AA50									
	Fork levers								
	(for switches with snap-a2 metal levers	ction contacts only) 2 plastic rollers	19		3SE5000-0AT01		1	1 unit	41K
	Z motal lovoro	2 high-grade steel rollers		⊕	3SE5000-0AT02		1	1 unit	41K
3SE5000-0AT01	 2 high-grade steel levers 		19	⊕ ⊕	3SE5000-0AT03		1	1 unit	41K
	Rod levers, type D, acco	2 high-grade steel rollers	19	€	3SE5000-0AT04		1	1 unit	41K
	Aluminum rod	Length 200 mm	6		3SE5000-0AA80		1	1 unit	41K
	 Spring rod 	Length 200 mm	6		3SE5000-0AA81		1	1 unit	41K
	 Plastic rod 	Length 200 mm	6 6		3SE5000-0AA82 3SE5000-0AA83		1 1	1 unit 1 unit	41K 41K
		Length 330 mm	O		35E3000-0AA63		I	i unii	411
al .									
3SE5000-0AA80									

 $igoplus \mathsf{Positively}$ driven actuator, necessary in safety circuits.

Steel clamp (spare part) for adjustable-length twist and rod levers, see page 12/52.

¹⁾ Can be clinch mounted (rotated 180°, rear of lever).

Position and safety switches 3SE5 mechanical position switches

SIRIUS 3SE5 mechanical position switches 3SE5, metal enclosures

Compact design

Overview



Compact design in width 30 mm

Particularly in harsh environments or on equipment with limited space, the small 3SE54 position switches in compact design with a depth of 16 mm and a weight of only 80 g (without cable) are ideal. Above all the versions with molded cable can be mounted in the most confined spaces.

3SE54 compact position switches are available in two different widths as complete units:

- The 3SE5413 series complies with the EU standard and features a 30 mm wide enclosure with drilled holes at a spacing of 20 mm.
- The 3SE5423 series meets the requirements of the US market and features a 40 mm wide enclosure with drilled holes at a spacing of 25 mm.

Both the enclosure and the actuator head are made of metal and comply with the high degree of protection IP67.

The following actuators are available:

- · Rounded plungers
- Rounded plungers with central fixing
- Rounded plungers with external seal
- Roller plungers
- · Roller plungers with central fixing
- Twist levers
- Twist levers with a smaller mounting depth and lower height
- Twist levers, adjustable length

The contact block is designed with snap-action contacts 1 NO + 1 NC. The NC contact complies with the requirements for positive opening according to IEC 60947-5-1.

Connection:

- With molded cable, length 2 m or 5 m
- With M12 device plug and connecting cable, M12 socket, 5-pole, with open end, length 5 m

Safety circuits

Standard IEC 60947-5-1 requires positive opening of the NC contacts. In other words, for the purposes of personal safety, the assured opening of NC contacts is expressly stipulated for the electrical equipment of machines in all safety circuits and marked according to the standard IEC 60947-5-1 with the symbol $\widehat{\Phi}$.

SIL 1 according to IEC 62061/IEC 61508 or PL c according to ISO 13849-1 can be attained with the 3SE5 position switches with → if the corresponding fail-safe evaluation units are selected and correctly installed (e.g. the 3SK safety relays or matching devices from the ASIsafe, SIMATIC or SINUMERIK product ranges).

If a second 3SE5 position switch with $\ensuremath{\ensuremath{\ensuremath{\Theta}}}$ is used, SIL 3/PL e can be attained.

Benefits

- Very compact yet with the same rating as the 3SE51 standard switches, for notable space savings in confined installation conditions
- · Various actuator versions available
- Roller plungers can be rotated 90°
- Twist levers can be rotated 180°; twist levers can be adjusted in 15° increments
- Time is saved when mounting the fully assembled unit
- With metal enclosure of degree of protection IP67, ideal for use in rough industrial environments
- Insensitive to electromagnetic interference

SIRIUS 3SE5 mechanical position switches 3SE5, metal enclosures

Compact design

Selection and ordering data

2 snap-action contacts 1 NO + 1 NC · Degree of protection IP67 · With connecting cable or M12 device plug

	Actuator	Enclosure width		Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		mm						
Complete units · En	closure width 30 or 40 mm							
3	Rounded plungers Standard mounting							
ه و	With connecting cable, 2 m	30	€	3SE5413-0CC20-1EA2		1	1 unit	41K
SIEMENS	- With connecting cable, 2 m	40	⊙	3SE5423-0CC20-1EA2		1	1 unit	41K
	With connecting cable, 5 m	30	⊕	3SE5413-0CC20-1EA5		1	1 unit	41K
3SE5413-0CC20-1EA2	With M12 device plug, 5-pole	30	⊕	3SE5413-0CC20-1EB1		1	1 unit	41K
	1 0, 1	40	€	3SE5423-0CC20-1EB1		1	1 unit	41K
20	With central fixing M12 x 1		_					
	With connecting cable, 2 m	30	\odot	3SE5413-0CC21-1EA2		1	1 unit	41K
	,	40	€	3SE5423-0CC21-1EA2		1	1 unit	41K
SECCE _{NS}								
3SE5413-0CC21-1EA2	With sytemal and							
in the second	With external seal	30	→	3SE5413-0CC22-1EA2		1	1 unit	41K
	With connecting cable, 2 m	40	→	3SE5423-0CC22-1EA2		1	1 unit	41K
MEGICALS.		40	•	35E3423-UCC22-TEA2		ı	i uriit	41N
3SE5413-0CC22-1EA2								
	Roller plungers							
	Standard mounting		_					
10 e	 With connecting cable, 2 m 	30	→	3SE5413-0CD20-1EA2		1	1 unit	41K
PARTHERS		40	→	3SE5423-0CD20-1EA2		1	1 unit	41K
10	 Actuator head rotated 90° 	30	€	3SE5413-0CD23-1EA2		1	1 unit	41K
	 With connecting cable, 5 m 	30	→	3SE5413-0CD20-1EA5		1	1 unit	41K
3SE5413-0CD20-1EA2	 With M12 device plug, 5-pole 	30	→	3SE5413-0CD20-1EB1		1	1 unit	41K
1		40	\odot	3SE5423-0CD20-1EB1		1	1 unit	41K
	With central fixing M12 x 1							
20 e	 With connecting cable, 2 m 	30	€	3SE5413-0CD21-1EA2		1	1 unit	41K
SATSHENIA!		40	→	3SE5423-0CD21-1EA2		1	1 unit	41K
3SE5413-0CD23-1EA2	Toriot Invaria							
a	Twist levers							
COAC.	Standard mounting	20		2005442 00N00 4EA0		4	4 conit	4412
	With connecting cable, 2 m	30	→	3SE5413-0CN20-1EA2		1	1 unit	41K
6	- Mills	40	→	3SE5423-0CN20-1EA2		1	1 unit	41K
SIERRA	With connecting cable, 5 m	30	→	3SE5413-0CN20-1EA5		1	1 unit	41K
	 With M12 device plug, 5-pole 	30	→	3SE5413-0CN20-1EB1		1	1 unit	41K
		40	€	3SE5423-0CN20-1EB1		1	1 unit	41K
3SE5413-0CN20-1EA2	Twist lever with a smaller mounting and lower height • With connecting cable, 2 m	ng deptn 30	→	3SE5413-0CP20-1EA2		1	1 unit	41K
	Twist lever, adjustable length							
	With connecting cable, 2 m	30	→	3SE5413-0CQ20-1EA2		1	1 unit	41K
Connecting cables								
	Connecting cable With M12 socket, 5-pole, open end, length 5 m			3SX5601-3SB55		1	1 unit	41K
3SX5601-3SB55								

[→] Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.

Position and safety switches SIRIUS 3SE5 mechanical position switches 3SE5, open-type design

Enclosure width 30 mm

Overview



Open-type design

Their compact design makes these switches particularly suitable for use in confined conditions. The mountings and operating points comply with EN 50047.

The switches are equipped with two or three contacts in snap-action, slow-action or slow-action with make-before-break versions. The stroke is 6 mm.

The empty enclosure can be equipped with all contact block versions (see page 12/52).

Improved version

The switches have a robust metal plunger with increased abrasion resistance (instead of the rounded plunger). This enables the switch to be approached from a 30° angle.

Selection and ordering data

2 or 3 contacts · Degree of protection IP20¹⁾ (2 contacts), IP10 (3 contacts) · Mounting and operating points according to EN 50047

		·					
	Version	Contacts	Article No.	Price er PU	PU (UNIT, SET, M)	PS*	PG
Diagtic analog	ures · Enclosure width 30 mm						
Plastic enclos							
	With metal plungers • Slow-action contacts	1 NO . 1 NO @	3SE5250-0BC05			at counts	41K
	Slow-action contacts	1 NO + 1 NC →			1	1 unit	
0.0		1 NO + 2 NC →	3SE5250-0KC05		1	1 unit	41K
	Men I I C I I	2 NO + 1 NC 🕞	3SE5250-0PC05		1	1 unit	41K
9 6	- With make-before-break	1 NO + 2 NC →	3SE5250-0MC05		1	1 unit	41K
3SE5250-0BC05	Snap-action contacts	1 NO + 1 NC → 1 NO + 2 NC →	3SE5250-0CC05 3SE5250-0LC05		1 1	1 unit 1 unit	41K 41K
3SE5250-0KC05	Empty enclosures without contact block	→	3SE5250-0AC05		1	1 unit	41K
0 0	Contact blocks with 2 contacts For open-type design ² • Slow-action contacts • Snap-action contacts	1 NO + 1 NC → 1 NO + 1 NC	3SE5050-0BA00		1	1 unit	41K
3SE5050-0BA00	- Standard	€	3SE5050-0CA00		1	1 unit	41K
2220000 02/100	- Contact distance 2 x 2 mm	€	3SE5050-0GA00		1	1 unit	41K
	- Short stroke	→	3SE5050-0NA00		1	1 unit	41K

[→] Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.

¹⁾ With the conductor connected and the clamping screw tightened.

²⁾ Contact blocks with 3 contacts, see page 12/52.

SIRIUS 3SE5 mechanical position switches Accessories and spare parts

Accessories

Selection and ordering data

The quick-release devices and plug-in connections are used for fast installation and replacement of position switches.

	Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Service box for position swi	tches					
	Contents: • Three basic switches with rounded plunger in plastic version in enclosure widths 31, 40, 50 mm • Various actuator heads: - Plain plunger - Roller plunger - Roller lever - Angular roller lever - Spring rod	3\$X5110-0BK		1	1 unit	41K
3SX5110-0BK	 Twist actuator with various lever versions Accessories: M12 device plug, cover yellow, protective cap, two contact blocks SIRIUS 3SE brochure in German and English 					
	For more information, see flyer.					
Quick-release devices for er	nclosure width 40 mm					
	Intermediate plate with screws	3SY3110		1	1 unit	41K
3SY3110 3SY3027	Base plate with locking lever	3SY3027		1	1 unit	41K
Plug-in connections for M20	x 1.5 connection threads					
3SY3131 3SX5100-1SS05	Device plug (6-pole + PE), for M20 x 1.5 For max. 250 V, 10 A, With connecting cable 0.75 mm ² , plastic, degree of protection IP65, ambient temperature -40 to +90 °C	3SY3131		1	1 unit	41K
W. W.	M12 device plugs, plastic, for M20 x 1.5					
	 4-pole, for max. 250 V, 4 A, U_{imp} = 2 500 V 	3SY3127		1	1 unit	41K
	 5-pole, for max. 125 V, 4 A, U_{imp} = 1 500 V Yellow/green cable for PE on pin 5 Gray cable on pin 5, without PE 	3SY3128 3SX5100-1SS05		1 1	1 unit 1 unit	41K 41K
3SX5100-1SS51 3SX5100-1SS08	• 5-pole ¹⁾ , for max. 60 V, 1.5 A, U_{imp} = 800 V	3SX5100-1SS51		1	1 unit	41K
	• 8-pole, for max. 30 V, 1.5 A, U_{imp} = 800 V	3SX5100-1SS08		1	1 unit	41K
3SX5601-2GA03	Connecting cables • With M12 socket, 8-pole, straight, open end, rated voltage 30 V, rated current 2 A - Length 3 m	3SX5601-2GA03		1	1 unit	41K
	- Length 5 m - Length 10 m - Length 15 m	3SX5601-2GA05 3SX5601-2GA10 3SX5601-2GA15		1 1 1 1	1 unit 1 unit 1 unit	41K 41K 41K
	 with M12 socket, open end, length 5 m 4-pole 5-pole 	3SX5601-3SB54 3SX5601-3SB55		1 1	1 unit 1 unit	41K 41K
3SX5601-3SB54						
3\$X5601-3\$V15	Connecting cable With M12 socket, 5-pole and M12 plug, 5-pole, length 1 m	3SX5601-3SV15		1	1 unit	41K
	ET 200 Y-cable ¹⁾ for connecting 2 x 1-channel sensors With M12 plug, 5-pole on 2 x M12 sockets, 5-pole, length 200 mm	6ES7194-6KB00-0XA0		1	1 unit	250

Suitable for wiring sensors that are connected to all fail-safe block I/O modules in the SIMATIC ET 200eco PN and ET 200AL series. For more information, see page 12/91 onwards.

Position and safety switches SIRIUS 3SE5 mechanical position switches Accessories and spare parts

Α		\sim	Δ	e		a	м	Δ	G
-	U	u	C	2	\mathbf{c}	u	ш	C	c

	Version	Article No.	Price	PU	PS*	PG
			per PU	(UNIT, SET, M)		
Plug-in connections for M	120 x 1.5 connection threads					
	Cable box M12 Angled, 4-pole,	3RK1902-4CA00-4AA0		1	1 unit	42D
	max. 4 A with cable connection space,					
3RK1902-4CA00-4AA0	max. 0.75 mm ²					
3111(1302-40A00-4AA0	M12 plugs, 5-pole					
	Straight, separate item	3RK1902-4BA00-5AA0		1	1 unit	42D
3RK1902-4BA00-5AA0	Angled, separate item	3RK1902-4DA00-5AA0		1	1 unit	42D
	ls for M20 x 1.5 connection threads					
	Adapters according to @, @ and 🕦					
	For cable entry from M20 x 1.5 to NPT 1/2					
	Metal	3SX9917		1	1 unit	41K
3SX9917						
	• Plastic	3SX9918		1	1 unit	41K
0000010						
3SX9918	Cable glands M20 x 1.5					
	Plastic					
	 Degree of protection IP67 	3SX9926		1	1 unit	41K
3SX9926						
	 High degree of protection IP69, IEC 60529 	3SX5601-1A		1	1 unit	41K
3SX5601-1A						

SIRIUS 3SE5 mechanical position switches Accessories and spare parts

Optional accessories and spare parts

Selection and ord	dering data					
	Version	Color/ contacts		Price PU er PU (UNIT, SET, M)	PS*	PG
Optional accesso	ries for 3SE51, 3SE52					
3SE5000-0AC30	Protective cap For rounded plunger according to EN 50047, 3SE5C05	Black	3SE5000-0AC30	1	1 unit	41K
3SX5100-3B	Adapter with screws ¹⁾ For an increase in the mounting depth on the 3SE5000-0AH00 twist actuator, in combination with twist lever with adjustable length or rod lever		3SX5100-3B	1	1 unit	41K
3SX5100-1A	Mounting plate Suitable for 3SE523. and 3SE521. position switches with a width of 31 mm (in particular for control cabinet types)		3SX5100-1A	1	1 unit	41K
Spare parts for 35	SE50					
3SE5000-0AA71	Clamp made of steel For adjustable length twist and rod lever (1 pack = 5 units)		3SE5000-0AA71	1	5 units	41K
Spare parts for 39	SE51, 3SE52					
Description of the Particular	Empty enclosures, plastic • Enclosure width 31 mm - With increased corrosion protection ²⁾ • Enclosure width 40 mm	Turquoise	3SE5232-0AC05 3SE5232-0AC05-1CA0 3SE5132-0AA00	1 1 1	1 unit 1 unit 1 unit	41K 41K 41K
3SE5232-0AC05	Enclosure width 50 mm With increased corrosion protection ²⁾		3SE5242-0AC05 3SE5242-0AC05-1CA0	1 1	1 unit 1 unit	41K 41K
45	Empty enclosures, metal	Turquoise				
The Landson	 Enclosure width 31 mm With increased corrosion protection²⁾ Enclosure width 40 mm 		3SE5212-0AC05 3SE5212-0AC05-1CA0 3SE5112-0AA00	1 1 1	1 unit 1 unit 1 unit	41K 41K 41K
	 With increased corrosion protection²⁾ Enclosure width 56 mm 		3SE5112-0AA00-1CA0 3SE5122-0AA00	1 1	1 unit 1 unit	41K 41K
3SE5212-0AC05	 With increased corrosion protection²⁾ Enclosure width 56 mm, XL³⁾ 		3SE5122-0AA00-1CA0 3SE5162-0AA00	1	1 unit 1 unit	41K 41K
	Contact blocks with 2 contacts ⁴⁾					
S S	 Slow-action contacts Snap-action contacts Standard Gold-plated contacts 	1 NO + 1 NC → 1 NO + 1 NC →	3SE5000-0BA00 3SE5000-0CA00 3SE5000-0CA00-1AC1	1 1 1	1 unit 1 unit 1 unit	41K 41K 41K
3SE5000-0BA00	- Contact distance 2 x 2 mm - Short stroke	⊕	3SE5000-0GA00 3SE5000-0NA00	1 1	1 unit 1 unit	41K 41K 41K
8 6	Contact blocks with 3 contacts Slow-action contacts	1 NO + 2 NC → 2 NO + 1 NC →	3SE5000-0KA00 3SE5000-0PA00	1 1	1 unit 1 unit	41K 41K
39E5000 0K 400	With make-before-breakSnap-action contacts	1 NO + 2 NC → 1 NO + 2 NC →	3SE5000-0MA00 3SE5000-0LA00	1	1 unit 1 unit	41K 41K
3SE5000-0KA00	Contact blocks for XL enclosure ³⁾	. 110 1 2 110 9	32000 02400		1 dilit	TIIX
a a	Slow-action contactsWith make-before-break	1 NO + 1 NC → 1 NO + 2 NC →	3SE5060-0BA00 3SE5060-0MA00	1 1	1 unit 1 unit	41K 41K
3SE5060-0BA00	Snap-action contacts	1 NO + 1 NC →	3SE5060-0CA00	1	1 unit	41K

- igoplus Positive opening according to IEC 60947-5-1, Annex K.
- 1) Possibly required for the conversion from 3SE21 to 3SE51.
- 2) Use corresponding high-grade steel lever.
- 3) XL enclosures may only be equipped with combinations of contact elements, see pages 12/13, 12/44 and 12/45.
- 4) Unsuitable for open-type position switches, see page 12/49.

Position and safety switches SIRIUS 3SE5 mechanical position switches

Optional accessories and spare parts

Accessories and spare parts

	Version	Rated voltage	Article No.	Price	PU	PS*	PG
	VOISION	LEDs	A HOIC 140.	per PU	(UNIT, SET, M)	10	1 0
Chara harta far 20	FE1 20FE2	V					
Spare parts for 3S	Covers for plastic enclosures, v	width 21 mm			ı		
_6	Turquoise with LED	24 DC	3SE5230-1AA00		1	1 unit	41K
STEATERS	- rarquoise with EEB	230 AC	3SE5230-3AA00		1	1 unit	41K
000	• Yellow		3SE5230-0AA00-1AG0		1	1 unit	41K
	- With LED	24 DC	3SE5230-1AA00-1AG0		1	1 unit	41K
		230 AC	3SE5230-3AA00-1AG0		1	1 unit	41K
3SE5230-1AA00							
	Covers for plastic enclosures,		0055400 4 4 4 00			4 0	4417
6	Turquoise with LED	24 DC	3SE5130-1AA00		1	1 unit	41K
(Ame)	- V-II	230 AC	3SE5130-3AA00		1	1 unit	41K
	• Yellow	 24 DO	3SE5130-0AA00-1AG0		1	1 unit	41K
	- With LED	24 DC 230 AC	3SE5130-1AA00-1AG0 3SE5130-3AA00-1AG0		1	1 unit 1 unit	41K 41K
3SE5130-1AA00-1AG	0	230 AC	35E3130-3AA00-1AG0		'	i uiiit	411
	Covers for plastic enclosures, v	width 50 mm					
99	Turquoise with LED	24 DC	3SE5240-1AA00		1	1 unit	41K
		230 AC	3SE5240-3AA00		1	1 unit	41K
	• Yellow		3SE5240-0AA00-1AG0		1	1 unit	41K
3SE5240-1AA00	- With LED	24 DC	3SE5240-1AA00-1AG0		1	1 unit	41K
00202 10 17 11 100		230 AC	3SE5240-3AA00-1AG0		1	1 unit	41K
	Covers for metal enclosures, w	idth 31 mm					
-0	 Turquoise with LED 	24 DC	3SE5210-1AA00		1	1 unit	41K
OOO		230 AC	3SE5210-3AA00		1	1 unit	41K
100	Yellow		3SE5210-0AA00-1AG0		1	1 unit	41K
	- With LED	24 DC	3SE5210-1AA00-1AG0		1	1 unit	41K
3SE5210-1AA00		230 AC	3SE5210-3AA00-1AG0		1	1 unit	41K
33L3210-1AA00	Covers for metal enclosures, w	idth 40 mm					
_ 0	Turquoise with LED	24 DC	3SE5110-1AA00		1	1 unit	41K
STRATEANS	raiquoise with EEB	230 AC	3SE5110-3AA00		1	1 unit	41K
000	• Yellow		3SE5110-0AA00-1AG0		1	1 unit	41K
	- With LED	24 DC	3SE5110-1AA00-1AG0		1	1 unit	41K
		230 AC	3SE5110-3AA00-1AG0		1	1 unit	41K
2055442 44422							
3SE5110-1AA00	O f	:-UL FC					
	Covers for metal enclosures, w	24 DC	3SE5120-1AA00		1	4 . mit	41K
NEW TON	Turquoise with LED	24 DC 230 AC	3SE5120-1AA00 3SE5120-3AA00			1 unit	
100	• Yellow	230 AC	3SE5120-0AA00-1AG0		1	1 unit 1 unit	41K 41K
	- With LED	24 DC	3SE5120-1AA00-1AG0		1	1 unit	41K
	- With LLD	230 AC	3SE5120-3AA00-1AG0		1	1 unit	41K
3SE5120-0AA00-1AG	0	200710	OOLOTZU OAAUU TAGU		'	T dilit	7117
	Cover for XL metal enclosures,	width 56 mm					
SOUTH	• Yellow		3SE5160-0AA00-1AG0		1	1 unit	41K

3SE5160-0AA00-1AG0

SIRIUS 3SE5, 3SE2 mechanical safety switches With separate actuator

General data

Overview

More information

Homepage, see www.siemens.com/sirius-position-switches

SiePortal, see www.siemens.com/product?3SE

Configurator, see www.siemens.com/sirius/configurators

Safety switches with separate actuator are used where the position of doors, covers or protective grilles must be monitored for safety reasons.

3SE5 safety switches with separate actuator have the same enclosures as the 3SE5 position switches (modular system).



3SE5 safety switches with head for separate actuator

Design

Enclosure sizes

The 3SE5 safety switches are available in four different enclosure sizes:

- Plastic enclosures according to EN 50047, 31 mm wide, IP65, 1 cable entry
- Metal enclosures according to EN 50047, 31 mm wide, IP66/IP67, 1 cable entry
- Plastic and metal enclosures according to EN 50041, 40 mm wide, IP66/IP67, 1 cable entry
- Plastic enclosures, 50 mm wide, IP66/IP67, 2 cable entries
- Metal enclosures, 56 mm wide, IP66/IP67, 3 cable entries

Also available are safety switches in the 3SE2 series which have been developed in this form according to general market requirements:

 Molded-plastic enclosures outside of the standards, enclosure width 52 mm, IP67

Enclosure versions

Various basic versions can be selected for the enclosures of the 3SE5 series:

- Available with 2- or 3-pole contact blocks designed as slow-action contacts
- · Optional LED status display
- With mounted 4- or 5-pole M12 device plug, also for connection to field modules, such as SIMATIC ET 200 (available for the wide enclosures as an accessory for self-assembly)
- With 6-pole device plug + PE on the metal enclosures
- Similarly with a combination of plug and LED displays
- AS-Interface version with integrated ASIsafe electronics for all enclosure designs (see page 12/108)

For a description of the basic switches, see page 12/5.

Configuration Manual, see

https://support.industry.siemens.com/cs/ww/en/view/43920150

Operation

The actuator head is included in the scope of supply. For actuation from four directions it can be adjusted through $4 \times 90^{\circ}$. The switches can also be approached from above.

The actuator heads of the 3SE2243 and 3SE2257 switches with special enclosures cannot be changed. The switches can be approached from the two broad sides and from above.

The actuator is not included in the scope of supply of the safety switches and must be ordered separately from a choice of different versions to suit the application (see page 12/61).

The actuator is encoded. Simple overruling by hand or auxiliary devices is impossible.

Radius actuators

The safety switches with radius actuators are particularly suitable for rotary protective devices. The movable actuation key allows even small radii to be approached. Damage to the switch and the actuator due to inaccurate approach is prevented.

Locking devices

A high-grade steel blocking insert for attaching up to eight padlocks is available for even more security (see page 12/72).



Blocking insert with padlock

Dust protection

For use in dusty environments, a protective cap made of rubber is offered that protects the actuator entries of the actuator head from contamination (see page 12/72).

Contact reliability

The contact blocks ensure an extremely high contact stability. This applies even when the devices are switching low voltages and currents

Positive opening →

The NC contacts of the switch are forced open mechanically, positively driven and reliably by the plunger. This is referred to as "positive opening".

SIRIUS 3SE5, 3SE2 mechanical safety switches
With separate actuator

General data

Benefits

The 3SE5 safety switches with separate actuator differ from the previous series through the following new properties:

- All enclosure sizes with increased corrosion protection are optionally available with an LED signaling indicator.
- The 3-pole contact block 1 NO + 2 NC is available for all enclosure sizes.
- The plastic enclosure has simple and fast wiring equipment which makes it possible to save approx. 20 to 25% of the time when connecting.
- The ASIsafe electronics are integrated in the enclosure for the versions with AS-Interface connection (see page 12/108); an additional adapter is not required.

Application

Safety switches with separate actuator are used where the position of doors, covers or protective grilles must be monitored for safety reasons.

For more information about protective door monitoring applications, see flyer.

The safety switch can only be operated with the matching coded actuator. Simple overruling by hand or auxiliary devices is impossible.

Devices are available with enclosure versions to suit the particular ambient conditions. The high-grade steel actuator is suitable for extreme ambient conditions down to -40 °C. Different control tasks can be performed with the contact blocks best suited for the particular purpose. Dimensions and fixing points of the enclosure are according to EN 50041 or EN 50047 standards. The devices are suitable for use in any climate.

Standards

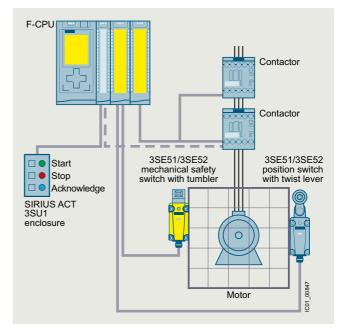
The switches comply with IEC 60947-5-1 (Electromechanical Control Circuit Devices).

The protective measure of "total insulation" by the plastic enclosure is ensured by the use of plastic screw glands.

Safety position switches

For controls according to IEC 60204-1 the devices can be used as a safety position switch. These comply with ISO 14119. A TÜV certificate is available. To secure position switches against changes in their position, positively-driven techniques must be employed on installation.

Application example



Protective door monitoring up to SIL 3/PL e with a 3SE5 safety switch with separate actuator, a 3SE5 position switch and a fail-safe SIMATIC S7-1500 controller

For a detailed description of this application example, see https://support.industry.siemens.com/cs/ww/en/view/21331363.

Safety circuits

Standard IEC 60947-5-1 requires positive opening of the NC contacts. In other words, for the purposes of personal safety, the assured opening of NC contacts is expressly stipulated for the electrical equipment of machines in all safety circuits and marked according to the standard IEC 60947-5-1 with the symbol $\widehat{\Phi}$.

SIL 2 according to IEC 62061/IEC 61508 or PL d according to ISO 13849-1 can be attained with a safety switch with a separate actuator with ⊕ if the corresponding fail-safe evaluation units are selected and correctly installed (e.g. the 3SK safety relays or matching devices from the ASIsafe, SIMATIC or SINUMERIK product ranges).

If a second 3SE5 safety switch with \odot is used, SIL 3/PL e can be attained.

Evaluation of safety functions

Safety Evaluation in the TIA Selection Tool

The safety evaluation for the IEC 62061 and ISO 13849-1 standards is performed quickly and easily, directly in the TIA Selection Tool. In addition to the fast and safe calculation of machine safety functions – from the definition of the system structure to the selection of components – this enables shared data management during all project phases. Take the next step in the digital design of machinery and equipment with Safety Evaluation in the TIA Selection Tool.

In addition, the functionalities of the proven Safety Evaluation Tool are still available. It determines the achieved safety integrity (SIL/PL) step-by-step. You receive the results as a standards-compliant report that can be integrated in the documentation as proof of safety.

For more information, see www.siemens.com/safety-evaluation-tool.

SIRIUS 3SE5, 3SE2 mechanical safety switches With separate actuator

The coparate as

General data

Technical specifications

Туре		3SE51V, 3SE52V	3SE2257X	X	3SE2243X	(X
General data			_			
Standards		IEC 60947-5-1, ISO 14119				
Rated insulation voltage U _i	V	400	500			
Degree of pollution according to IEC 60664-1		Class 3	Class 3			
Rated impulse withstand voltage <i>U</i> _{imp}	kV	6				
Rated operational voltage $U_{\rm e}$	V	400 AC; over 300 V AC same potential only	500 AC; ove same poten			
Conventional thermal current I_{th}	Α	6	10			
Rated operational current I _e			1-pole		3-pole	
 With alternating current 50/60 Hz At 24 V At 120 V At 240 V At 400 V At 500 V 	A A A A	I _e /AC-15 6 6 4 4	I _e /AC-12 10 10 10 10 10	I _e /AC-15 10 10 6 4 3	I _e /AC-12 10 10 10 10 10	I _e /AC-15 10 10 4 4 3
 With direct current At 24 V At 125 V At 250 V 	A A A	<i>I_e</i> /DC-13 3 0.55 0.27	I _e /DC-12 10 	I _e /DC-13 10 	I _e /DC-12 10 	I _e /DC-13 10
- At 110 V - At 220 V - At 400 V - At 440 V	A A A	 0.12	4 1 0.5	1 0.4 0.2	4 1 0.5	1 0.4 0.2
Short-circuit protection						
With DIAZED fuse links, operational class gG	Α	6	6			
With fuse links, quick	Α		10			
• With miniature circuit breaker, C characteristic (I _{K< 400 A})	Α	1				
Mechanical endurance		1 x 10 ⁶ operating cycles				
 Electrical endurance For utilization category AC-15 when switching off I_e/AC-15 at 240 V 		100 000 operating cycles	500 000 op	erating cycles		
Minimum pull-out force for positive opening	N	20	10		30	

SIRIUS 3SE5, 3SE2 mechanical safety switches With separate actuator

3SE5, plastic enclosures > Enclosure width 31 mm according to EN 50047

Selection and ordering data

2 or 3 contacts \cdot 5 directions of approach \cdot Degree of protection IP65 \cdot Cable entry 1 \times (M20 \times 1.5) \cdot With increased corrosion protection

	Version ¹⁾	Contacts	LEDs		Complete units		PU (UNIT, SET, M)	PS*	PG
					Article No.	Price per PU			
Enclosure width 31	mm according to EN 50047	,				po			
	Slow-action contacts	1 NO + 1 NC		→	3SE5232-0RV40		1	1 unit	41K
		1 NO + 2 NC		€	3SE5232-0QV40		1	1 unit	41K
3SE5232-0RV40									
	With 2 LEDs, yellow/green								
	 Slow-action contacts 	1 NO + 1 NC	24 V DC	\odot	3SE5232-1RV40		1	1 unit	41K
		1 NO + 1 NC	230 V AC	\odot	3SE5232-3RV40		1	1 unit	41K
■ ⊕ ■	With increased minimum pull-or	ut force 30 N							
111	Slow-action contacts	1 NO + 2 NC		→	3SE5232-0QV40-1AA1		1	1 unit	41K
3SE5232-1RV40									
	With M12 device plug, 4-pole	(250 V, 4 A) ²⁾							
	 Slow-action contacts 	1 NO + 1 NC		\odot	3SE5234-0RV40-1AC4		1	1 unit	41K
		2 NC		\odot	3SE5234-0QV40-1AE0		1	1 unit	41K
4 6 6	With M12 device plug, 5-pole	(125 V, 4 A) ²⁾							
	With pin assignment as for SIM	ATIC ET 200 ³⁾							
	 Slow-action contacts 	2 NC		\odot	3SE5234-0QV40-1AE2		1	1 unit	41K
	With 2 LEDs, yellow/green								
3SE5234-0RV40-1AC4	Slow-action contacts	1 NO + 1 NC	24 V DC	→	3SE5234-1RV40-1AF3		1	1 unit	41K

[→] Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.

¹⁾ Supplied without actuator. Please order separately (see page 12/61).

²⁾ For pin assignments, see page 12/13.

³⁾ The 3SE5234-....-1AE2 position switches, prewired with an M12 plug, 5-pole, have the same pin assignment as all fail-safe block I/O modules with a PROFINET connection in the SIMATIC ET 200eco PN and ET 200AL series with degree of protection IP65/IP67 for cabinet-free installation directly at the machine. For more information, see page 12/91 onwards.

SIRIUS 3SE5, 3SE2 mechanical safety switches With separate actuator

3SE5, plastic enclosures > Enclosure width 40 mm according to EN 50041/50 mm

Selection and ordering data

2 or 3 contacts · 5 directions of approach · Degree of protection IP66/IP67 · With increased corrosion protection

	Version ¹⁾	Contacts	LEDs		Complete units		PU (UNIT, SET, M)	PS*	PG
					Article No.	Price per PU			
Enclosure wid	th 40 mm according to EN 50041	· Cable enti	y 1 x (M2						
Linearce	Slow-action contacts	1 NO + 2 NC		€	3SE5132-0QV20		1	1 unit	41K
3SE5132-0QV20									
	With 2 LEDs, yellow/green								
	Slow-action contacts	1 NO + 2 NC 1 NO + 2 NC		-	3SE5132-1QV20 3SE5132-3QV20		1 1	1 unit 1 unit	41K 41K
3SE5132-1QV20		1110 1 2110	250 V/10	© .	5025102 0 4 720		, ,	T dillit	7110
Enclosure wid	th 50 mm · Cable entry 2 x (M20 x								
	• Slow-action contacts With increased minimum pull-out force	1 NO + 2 NC 30 N		→	3SE5242-0QV40		1	1 unit	41K
3SE5242-0QV40	Slow-action contacts	1 NO + 1 NC		→	3SE5242-0RV40-1AA1		1	1 unit	41K
33E3242-0QV40	With 2 LEDs, yellow/green								
	Slow-action contacts	1 NO + 2 NC	24 V DC	→	3SE5242-1QV40		1	1 unit	41K
To large to the second		1 NO + 2 NC	230 V AC	→	3SE5242-3QV40		1	1 unit	41K
3SE5242-1QV40									

[→] Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.

¹⁾ Supplied without actuator. Please order separately (see page 12/61).

SIRIUS 3SE5, 3SE2 mechanical safety switches With separate actuator

3SE5, metal enclosures > Enclosure width 31 mm according to EN 50047

Selection and ordering data

2 or 3 contacts \cdot 5 directions of approach \cdot Degree of protection IP66/IP67 \cdot Cable entry 1 \times (M20 \times 1.5) \cdot With increased corrosion protection

	Version ¹⁾	Contacts	LEDs		Complete units		PU (UNIT, SET, M)	PS*	PG
					Article No.	Price per PU			
Enclosure wid	th 31 mm according to EN 50047								
	Slow-action contacts	1 NO + 1 NC		→	3SE5212-0RV40		1	1 unit	41K
		1 NO + 2 NC		\odot	3SE5212-0QV40		1	1 unit	41K
	With 2 LEDs, yellow/green								
	Slow-action contacts	1 NO + 1 NC	24 V DC	\odot	3SE5212-1RV40		1	1 unit	41K
Processor Company		1 NO + 1 NC	230 V AC	→	3SE5212-3RV40		1	1 unit	41K
3SE5212-1RV40									

[→] Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.

¹⁾ Supplied without actuator. Please order separately (see page 12/61).

SIRIUS 3SE5, 3SE2 mechanical safety switches With separate actuator

3SE5, metal enclosures > Enclosure width 40 mm according to EN 50041/56 mm

Selection and ordering data

2 or 3 contacts · 5 directions of approach · Degree of protection IP66/IP67 · With increased corrosion protection

	Version ¹⁾	Contacts	LEDs		Complete units		PU (UNIT,	PS*	PG
							SET, M)		
					Article No.	Price per PU			
Enclosure width 40	mm according to EN 50041	· Cable enti	y 1 x (M2	20 x 1.5)		perro			
	Slow-action contacts	1 NO + 2 NC		→	3SE5112-0QV10		1	1 unit	41K
	With increased minimum pull-ou	ut force 30 N							
	 Slow-action contacts 	1 NO + 2 NC		\odot	3SE5112-0QV10-1AA7		1	1 unit	41K
Tanasana .									
3SE5112-0QV10									
0020112 0QV10	With 2 LEDs, yellow/green								
	Slow-action contacts	1 NO + 2 NC	24 V DC	€	3SE5112-1QV10		1	1 unit	41K
		1 NO + 2 NC	230 V AC	→	3SE5112-3QV10		1	1 unit	41K
• •									
THE CONTRACTOR OF THE CONTRACT									
0055110.101/10									
3SE5112-1QV10	With M12 device plug, 5-pole ((10E V 4 A)2)							
	Slow-action contacts	1 NO + 1 NC		→	3SE5114-0RV10-1AC5		1	1 unit	41K
	- Glow action contacts	2 NC		⊕	3SE5114-0QV10-1AE1		1	1 unit	41K
) e	With 2 LEDs, yellow/green			Ü					
Address:	Slow-action contacts	1 NO + 1 NC	24 V DC	\odot	3SE5114-1RV10-1AF3		1	1 unit	41K
	With pin assignment as for SIMA	ATIC ET 200 ³⁾							
	 Slow-action contacts 	2 NC		\odot	3SE5114-0QV10-1AE3		1	1 unit	41K
3SE5114-0RV10-1AC5	With device plug, 6-pole + PE								
- 1 111 -0	Slow-action contacts	1 NO + 2 NC		€	3SE5115-0QV10-1AD1		1	1 unit	41K
Enclosure width 56	mm · Cable entry 3 x (M20)				0055400 001/40			4	4417
	 Slow-action contacts With increased minimum pull-out 	1 NO + 2 NC		€	3SE5122-0QV10		1	1 unit	41K
	Slow-action contacts	1 NO + 2 NC		€	3SE5122-0QV10-1AA7		1	1 unit	41K
•	- Glow action contacts	1110 1 2110		©	OCEUTEE OGVIO TAAT		'	1 dilit	7110
IND TENS									
3SE5122-0QV10	With O.I. FDo. velloudaroon								
	With 2 LEDs, yellow/green • Slow-action contacts	1 NO + 2 NC	24 V DC		3SE5122-1QV10		1	1 unit	41K
	- GIOW-ACTION CONTACTS	1 NO + 2 NC		-	3SE5122-1QV10		1	1 unit	41K
0		1.10 1 2 110	200 V /40	<u> </u>	JOEDILL OUT IO		'	1 dilit	7111
Marian Company									
0055400 401440									
3SE5122-1QV10									

[→] Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.

¹⁾ Supplied without actuator. Please order separately (see page 12/61).

²⁾ For pin assignments, see page 12/13.

^{The 3SE5114-....-1AE3 position switches, prewired with an M12 plug, 5-pole, have the same pin assignment as all fail-safe block I/O modules.} with a PROFINET connection in the SIMATIC ET 200eco PN and ET 200AL series with degree of protection IP65/IP67 for cabinet-free installation directly at the machine. For more information, see page 12/91 onwards.

SIRIUS 3SE5, 3SE2 mechanical safety switches With separate actuator

Accessories

Selection and ord	ering data					
	Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Actuators with de	gree of protection IP66/IP67 for 3SE5					
	Standard actuators					
	• Length 75.6 mm	3SE5000-0AV01		1	1 unit	41K
3SE5000-0AV01						
	With vertical fixing, length 53 mm	3SE5000-0AV02		1	1 unit	41K
3SE5000-0AV02						
	With transverse fixing					
	- Length 47 mm	3SE5000-0AV03		1	1 unit	41K
3SE5000-0AV03	L	0055000 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0			4	441/
	- Length 40 mm, plastic ¹⁾	3SE5000-0AW11		1	1 unit	41K
3SE5000-0AW11						
440	High-grade steel actuators ²⁾					
3SE5000-0AW51	• Length 75.6 mm	3SE5000-0AW51		1	1 unit	41K
33L3000-0AW31	With vertical fixing, length 53 mm	3SE5000-0AW52		1	1 unit	41K
	,g,g,g			·		
3SE5000-0AW52	With transverse fixing, length 47 mm	3SE5000-0AW53		1	1 unit	41K
3SE5000-0AW53	• With transverse fixing, length 47 min	33E3000-0AW33		ı	Turiit	4IK
A	Radius actuators					
Alexander of the second	• Length 51 mm					
	- Direction of approach from the left	3SE5000-0AV04		1	1 unit	41K
3SE5000-0AV06	- Direction of approach from the right	3SE5000-0AV06		1	1 unit	41K
n	Universal radius actuators					
-	• Length 77 mm	3SE5000-0AV05		1	1 unit	41K
	- Tab rotated 90°	3SE5000-0AV05-1AA6		1	1 unit	41K
3SE5000-0AV05-1AA6						
000000 07 1000 17 17 10	Universal radius actuators, heavy duty					
	• Length 67 mm	3SE5000-0AV07-1AK2		1	1 unit	41K
3SE5000-0AV07-1AK2	2					
	• Length 77 mm	3SE5000-0AV07		1	1 unit	41K
3SE5000-0AV07						
	- High-grade steel actuators ²⁾	3SE5000-0AW57		1	1 unit	41K
3SE5000-0AW57						
	- High-grade steel actuators ²⁾	3SE5000-0AW57		1	1 unit	4

¹⁾ Not suitable for safety switches with tumbler.

²⁾ Suitable for extreme environmental conditions such as -40 °C.

Position and safety switches SIRIUS 3SE5, 3SE2 mechanical safety switches With separate actuator

Accessories

	Version	Article No. Pr	CE PU (UNIT, SET, M)	PS*	PG
Optional accessorie	es for 3SE5				
	Protective cap Made of black rubber, for actuator head, to protect the actuator openings from contamination	3SE5000-0AV08-1AA2	1	1 unit	41K
3SE5000-0AV08-1AA2	(Only for enclosure width 40 mm or 56 mm)				
3SE5000-0AV08-1AA3	Blocking insert Made of high-grade steel, for actuator head, for up to eight padlocks	3SE5000-0AV08-1AA3	1	1 unit	41K
Connections for 3S	E5, 3SE2				
	Device plugs, M12, fixed, for M20 x 1.5 With connecting cable 0.25 mm ² , plastic, degree of protection IP67				
	 4-pole, for max. 250 V, 4 A 	3SY3127	1	1 unit	41K
	• 5-pole, for max. 125 V, 4 A	3SY3128	1	1 unit	41K
3SY3127	• 5-pole ¹⁾ , for max. 60 V, 4 A	3SX5100-1SS51	1	1 unit	41K
	Connecting cable with M12 socket, 5-pole and M12 plug, 5-pole	3SX5601-3SV15	1	1 unit	41K
	Cable gland M20 x 1.5 Plastic	3SX9926	1	1 unit	41K
3SX9926					

¹⁾ Suitable for wiring sensors that are connected to all fail-safe block I/O modules in the SIMATIC ET 200eco PN and ET 200AL series. For more information, see page 12/91 onwards.

For more accessories, see page 12/72.

SIRIUS 3SE5, 3SE2 mechanical safety switches
With separate actuator

3SE2, plastic enclosures > Special width 52 mm

Selection and ordering data

1 or 3 contacts · 3 directions of approach · Degree of protection IP67

	is · 3 directions of approach · Degree						
	Version	Operation	Complete units		PU (UNIT, SET, M)	PS*	PG
			Article No.	Price per PU			
Plastic enclo	sures in special width of 52 mm						
	Lateral and front-end actuation ¹⁾	6 mm stroke					
-	 Cable entry 3 x (M20 x 1.5) 						
SHEATERS	- Slow-action contacts	Holding force 5 N →	3SE2243-0XX40		1	1 unit	41K
STATE OF THE STATE	1 NO + 2 NC	Holding force 30 N →	3SE2243-0XX		1	1 unit	41K
		With automatic ejection	3SE2243-0XX30		1	1 unit	41K
	- Slow-action contacts	Holding force 5 N →	3SE2257-6XX40		1	1 unit	41K
0	1 NC	Holding force 30 N →	3SE2257-6XX		1	1 unit	41K
3SE2243	 Cable entry 3 x (M16 x 1.5) 						
	 Slow-action contacts 1 NO + 2 NC 	Holding force 30 N →	3SE2243-0XX18		1	1 unit	41K
Accessories							
10 TO 1	Actuators						
3SX3218	• Standard actuator (r_{min} = 150 mm), length 28 mm		3SX3218		1	1 unit	41K
33,3210	 Universal radius actuator (r_{min} = 45 mm), length 34 mm 		3SX3228		1	1 unit	41K
3SX3228	 Radius actuator, adjustable radius, length 34 mm 		3SX3256		1	1 unit	41K
3SX3256							
200047	 Ball locating, force adjustable up to max. 100 N by two adjustable screws, length 28 mm 		3SX3217		1	1 unit	41K
3SX3217	Actuator, length 34 mm, with dust protection and slit cover		3SX3234		1	1 unit	41K
0000004							
3SX3234	Slit covers (spare part)						
3SX3233	(1 set = 3 units) for sealing unused operating slots for 3SE22 devices		3SX3233		1	3 units	41K

[→] Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.

¹⁾ Supplied without actuator.

SIRIUS 3SE5, 3SE2 mechanical safety switches With tumbler

General data

Overview

The safety switches with tumbler are exceptional safety-related devices which prevent an unforeseen or intentional opening of protective doors, protective grilles or other covers as long as a dangerous situation is present (i.e. follow-on motion of the switched-off machine).



3SE5 safety switch with tumbler

The safety switches with tumbler are comprised of a switch part with electromechanical tumbler and a mechanical actuator which has to be ordered separately.

They are rugged protective devices that enable the greatest possible safety for man and machine.

The safety switches with tumbler are offered in plastic or metal enclosures.

Dimensions (W x H x D): 54 mm x 185 mm x 43.5 mm

Operation

The actuator head is included in the scope of supply. For actuation from four directions it can be adjusted through $4 \times 90^{\circ}$. The switches can also be approached from above.

The actuator is not included in the scope of supply of the safety switches and must be ordered separately from a choice of different versions to suit the application (see page 12/71).

Actuation data:

- Maximum actuating speed $v_{\text{max}} = 1.5 \text{ m/s}$
- Minimum actuating speed $v_{min} = 0.4 \text{ mm/s}$
- Minimum force in the direction of actuation $F_{min} = 30 \text{ N}$

The actuator is encoded. Simple overruling by hand or auxiliary devices is impossible.

Radius actuators

The safety switches with radius actuators are particularly suitable for rotary protective devices. The movable actuation key allows even small radii to be approached. Damage to the switch and the actuator due to inaccurate approach is prevented.

Locking devices

A high-grade steel blocking insert for attaching up to eight padlocks is available for even more security (see page 12/72).

Dust protection

For use in dusty environments, a protective cap made of rubber is offered that protects the actuator entries of the actuator head from contamination (see page 12/72).

Tumbler

There are two versions for interlocking the actuator:

- Spring-actuated lock (closed-circuit principle) with various release mechanisms
- Solenoid-locked (open-circuit principle)

The spring-actuated lock switch is equipped with an auxiliary release for emergency situations or setup mode. Available as options:

- Escape release or
- Emergency release

Contact blocks

The safety switches with tumbler have one switching block each for:

- Monitoring the actuator or the position of the protective door
- Monitoring the position of the solenoid

The mechanical design of the switch corresponds to the requirements of the fail-safe principle according to ISO 14119.

Optical signaling equipment

The safety switches with tumbler are available with an optional optical signaling device.

The signaling device indicates the switch position of the interlock and the protective device optically by means of two LEDs on the front.

Protective device	Tumbler	Display	Meaning
Closed	Released	* *	Actuator able to be pulled
Closed	Locked	*	Actuator locked
Open	Released	\	Actuator pulled

Internal wiring:

- The yellow LED is pre-wired to the solenoid monitoring NO contact.
- The green LED is pre-wired to the actuator monitoring NC contact.
- LED ground is pre-wired to the ground of the solenoid.

Notes

- The operational voltage must be connected to the corresponding contacts by the customer.
- This voltage for the LEDs must match the operational voltage of the solenoid (same potential).

SIRIUS 3SE5, 3SE2 mechanical safety switches
With tumbler

General data

Benefits

The 3SE53 safety switches provide:

- More safety through higher locking forces:
 - 1 300 N with plastic enclosure
 - 2 600 N with metal enclosure
- Various release mechanisms: lock release, escape release and emergency release
- Two contact blocks each with three contacts as standard equipment, hence fewer versions needed
- Same dimensions for all enclosure versions: plastic, metal or with integrated ASIsafe
- An extensive range of actuators
- An optional LED status display 24 V DC, 115 V or 230 V AC for all switch versions
- Devices with ASIsafe electronics integrated in the enclosure/ wired to 8-pole M12 device plug (see page 12/113)
- 3SE5322-1S.21-1AG4 series with high degree of protection IP69 according to IEC 60529, cover with foamed seal

Application

The safety switches with tumbler are exceptional safety-related devices which prevent an unforeseen or intentional opening of protective doors, protective grilles or other covers as long as a dangerous situation is present (i.e. follow-on motion of the switched-off machine).

The safety switches with tumbler have the following functions:

- Enabling the machine or process with closed and locked protective device
- Locking the machine or process with opened protective device
- · Position monitoring of the protective device and tumbler

Standards

The switches comply with IEC 60947-1 (Low-Voltage Switchgear and Controlgear, General) and IEC 60947-5-1 (Electromechanical Control Circuit Devices).

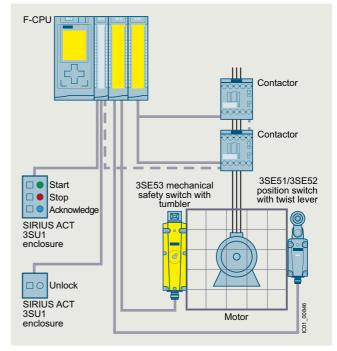
The mechanical design of the switches corresponds to the requirements of the fail-safe principle according to ISO 14119.

Approvals

The switches are approved for use with locking devices according to ISO 14119 and EN 292, Parts 1 and 2.

These switches are approved according to UL 508, UL 50 and UL 746-C.

Application example



Protective door monitoring up to SIL 3/PL e with a 3SE53 safety switch with tumbler, a 3SE5 position switch and a fail-safe SIMATIC S7-1500 controller

For a detailed description of this application example, see https://support.industry.siemens.com/cs/ww/en/view/21063946.

Safety circuits

Standard IEC 60947-5-1 requires positive opening of the NC contacts. In other words, for the purposes of personal safety, the assured opening of NC contacts is expressly stipulated for the electrical equipment of machines in all safety circuits and marked according to the standard IEC 60947-5-1 with the symbol $\widehat{\oplus}$.

SIL 2 according to IEC 62061/IEC 61508 or PL d according to ISO 13849-1 can be attained with a safety switch with a tumbler with *❸* if the corresponding fail-safe evaluation units are selected and correctly installed (e.g. the 3SK safety relays or matching devices from the ASIsafe, SIMATIC or SINUMERIK product ranges).

If a second 3SE5 safety switch with $\ensuremath{\ensuremath{oldsymbol{\ominus}}}$ is used, SIL 3/PL e can be attained.

SIRIUS 3SE5, 3SE2 mechanical safety switches With tumbler

General data

Evaluation of safety functions

Safety Evaluation in the TIA Selection Tool

The safety evaluation for the IEC 62061 and ISO 13849-1 standards is performed quickly and easily, directly in the TIA Selection Tool. In addition to the fast and safe calculation of machine safety functions – from the definition of the system structure to the selection of components – this enables shared data management during all project phases. Take the next step in the digital design of machinery and equipment with Safety Evaluation in the TIA Selection Tool.

In addition, the functionalities of the proven Safety Evaluation Tool are still available. It determines the achieved safety integrity (SIL/PL) step-by-step. You receive the results as a standards-compliant report that can be integrated in the documentation as proof of safety.

For more information, see www.siemens.com/safety-evaluation-tool.

Tumbler

The separate actuator works like a key using coding and protects against manipulation. It transmits the locking force to the protective device and helps to monitor its position.

There are two versions of locking:

Spring-actuated lock (closed-circuit principle)

- In the standard version, the safety switch locks by means of spring force and releases by means of electromagnetic force.
 In the case of power failure, it reliably prevents the protective device from opening when machine parts are still moving.
- The switch is equipped with an auxiliary release for emergency situations or setup mode.
- An auxiliary release which can be secured with a lock to prevent misuse is available as a version.





Auxiliary release

Auxiliary release with lock

The 3SE53 safety switches are also available with an escape release or emergency release.

- Personnel working inside the hazard zone can use the escape release feature to manually release the tumbler without tools from the escape side (hazardous area side) so that they can exit the hazard area. An intentional act (in this case pulling the gray actuator) is required to release the locking mechanism and restore the normal operating state.
- The emergency release enables someone in an emergency situation to manually release the tumbler without tools from the access side (outside the hazardous area). Releasing the lock and restoring the normal operating state must require effort which is comparable to repair activity: in this case disassembly of the red actuator and resetting of the mechanical lock.





Escape release from the front

Emergency release from the back

Solenoid-locked (open-circuit principle)

 The second version offers locking by means of electromagnetic force and release by means of spring force.
 This version has an advantage when it is necessary to quickly access the machine after a power failure occurs, or in the case of very short coasting times.

Examples of door interlocking



X-Lock door interlocking from Axelent



Door interlocking from Brühl

For more information on door interlock manufacturers, see

- AXELENT GmbH Internet: www.axelent.de
- Brühl Safety GmbH Internet: https://www.bruehl-safety.com/en/manufacturer/siemens

SIRIUS 3SE5, 3SE2 mechanical safety switches With tumbler

General data

Technical specifications

Туре		3SE5322	3SE5312
General data			
Standards		IEC 60947-5-	1, ISO 14119, IEC 62061/IEC 61508
Rated insulation voltage U _i	V	250	
Degree of pollution according to IEC 60664-1		Class 3	
Rated impulse withstand voltage U _{imp}	kV	4	
Rated operational voltage U _e			
• DC	V	24	
• 50/60 Hz AC	V	230	
Conventional thermal current I_{th}	Α	6	
Rated operational current I _e			
 With alternating current 50/60 Hz 		$I_{\rm e}/{\rm AC}$ -15 or B	3300
- At 24 V - At 120 V - At 240 V	A A A	6 6 3	
With direct current		I _e /DC-13 or C	2300
- At 24 V - At 125 V - At 250 V	A A A	3 0.55 0.27	
Solenoid			
Locking force, max.	N	1 300	2 600
 Locking force according to ISO 14119 	N	1 000	2 000
$ullet$ Power consumption at $U_{ m C}$	W	3.5	
Short-circuit protection ¹⁾			
 With DIAZED fuse links, operational class gG 	Α	6	
With miniature circuit breaker, characteristic C	Α	0.5	
Mechanical endurance	Operating cycles	1 x 10 ⁶	
Electrical endurance			
For utilization category AC-15 when switching off $I_{\rm e}/{\rm AC}\text{-}15$ at 230 V	Operating cycles	100 000	
 For utilization category DC-12/DC-13 		With direct cu	urrent depending on the loading of the switch
Shock resistance according to IEC 60068-2-27	g/ms	30/11	

¹⁾ Without any welds according to IEC 60947-5-1.

Position and safety switchesSIRIUS 3SE5, 3SE2 mechanical safety switches With tumbler

3SE5, plastic enclosures with locking force greater than 1 200 N

Selection and ordering data

6 slow-action contacts · 5 directions of approach · Degree of protection IP66/IP67 · Cable entry 3 x (M20 x 1.5) · ISO 14119

	Tumbler ¹⁾	LEDs	Solenoid, rated operational voltage		Complete units Position monitoring: Actuators: 1 NO + 2 NC Solenoid: 1 NO + 2 NC		PU (UNIT, SET, M)	PS*	PG
			V		Article No.	Price per PU			
1 300 N lockin	ıg force · Enclosure width 54 ı	nm	·			perro			
	Spring-actuated locks								
	With auxiliary release		24 DC 115 AC	→	3SE5322-0SD21 3SE5322-0SD22		1	1 unit 1 unit	41K 41K
AB))6:			230 AC	→	3SE5322-0SD22 3SE5322-0SD23		1 1	1 unit	41K
W as all		Yellow/green	24 DC	→	3SE5322-1SD21		1	1 unit	41K
		Yellow/green		\odot	3SE5322-2SD22 3SE5322-3SD23		1 1	1 unit	41K 41K
	- With M12 plug, 8-pole ²⁾ ,	Yellow/green	230 AC	€	35E3322-35D23		ı	1 unit	41K
3SE5322-0SD21	monitoring: 1 x door, 1 x interlocking		24 DC		3SE5324-0SD21-1AE4		1	1 unit	41K
	2 x door		24 DC	→	3SE5324-0SD21-1AE5		1	1 unit	41K
	With auxiliary release		24 DC	→	3SE5322-0SE21		1	1 unit	41K
	with lock		115 AC 230 AC	→	3SE5322-0SE22 3SE5322-0SE23		1 1	1 unit 1 unit	41K 41K
796		Yellow/green		→	3SE5322-1SE21		1	1 unit	41K
		Yellow/green	115 AC	\odot	3SE5322-2SE22		1	1 unit	41K
		Yellow/green	230 AC	→	3SE5322-3SE23		1	1 unit	41K
3SE5322-0SE21	With escape release		24 DC	→	3SE5322-0SF21		1	1 unit	41K
THE STATE OF THE S	from the front		115 AC	€	3SE5322-0SF22		i	1 unit	41K
- C-			230 AC	\odot	3SE5322-0SF23		1	1 unit	41K
		Yellow/green Yellow/green		→	3SE5322-1SF21 3SE5322-2SF22		1 1	1 unit 1 unit	41K 41K
		Yellow/green		⊕	3SE5322-3SF23		1	1 unit	41K
3SE5322-0SF21	With escape release from the front and emergency release from the back		24 DC	€	3SE5322-0SL21		1	1 unit	41K
	With escape release from the		24 DC	•	3SE5322-0SG21		1	1 unit	41K
	back and auxiliary release from the front		115 AC 230 AC	→	3SE5322-0SG22 3SE5322-0SG23		1 1	1 unit 1 unit	41K 41K
		Yellow/green		<u> </u>	3SE5322-1SG21		1	1 unit	41K
b 6		Yellow/green	115 AC	→→	3SE5322-2SG22		1	1 unit	41K
	- Arri	Yellow/green			3SE5322-3SG23		1	1 unit	41K
	 With escape release from the back and auxiliary release with 		24 DC	€	3SE5322-0SH21		1	1 unit	41K
3SE5322-0SG21	lock from the front - With M12 plug, 8-pole ²⁾ , monitoring: 1 x door, 1 x interlocking		24 DC	•	3SE5324-0SH21-1AE4		1	1 unit	41K
-	With emergency release from the		24 DC	⊕	3SE5322-0SJ21		1	1 unit	41K
	back and auxiliary release from the front		115 AC 230 AC	→	3SE5322-0SJ22 3SE5322-0SJ23		1 1	1 unit 1 unit	41K 41K
100		Yellow/green	24 DC	€	3SE5322-1SJ21		1	1 unit	41K
		Yellow/green Yellow/green		\odot	3SE5322-2SJ22		1 1	1 unit	41K 41K
3SE5324-0SH21- 1AE4		reliow/green	230 AC	→	3SE5322-3SJ23		'	1 unit	41K
	Solenoid-locked								
			24 DC 115 AC	→	3SE5322-0SB21 3SE5322-0SB22		1 1	1 unit 1 unit	41K 41K
			230 AC	→	3SE5322-0SB23		1	1 unit	41K
P) 96		Yellow/green		€	3SE5322-1SB21		1	1 unit	41K
		Yellow/green Yellow/green		→	3SE5322-2SB22 3SE5322-3SB23		1 1	1 unit 1 unit	41K 41K
Constitution of the second	With M12 plug, 8-pole		24 DC	→	3SE5324-0SB21-1AC8		1	1 unit	41K
3SE5322-1SB21	- Head rotated clockwise by 90°		24 DC	⊕	3SE5324-0SB21-1AP0		i	1 unit	41K

[→] Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.

¹⁾ Supplied without actuator. Please order separately (see page 12/71).

²⁾ Suitable for connection, e.g. to fail-safe field modules of the SIMATIC ET 200eco PN and the SIMATIC ET 200AL with connection accessories 3SX5601-3SV18 and Y-cable 6ES7194-6KC00-0XA0, see page 12/72. For more information, see page 12/91 onwards.

SIRIUS 3SE5, 3SE2 mechanical safety switches
With tumbler

3SE5, plastic enclosures with locking force greater than 1 200 N

6 slow-action contacts \cdot 5 directions of approach \cdot Degree of protection IP69 \cdot Cable entry 3 x (M20 x 1.5) \cdot With foamed seal and special cover

	Tumbler ¹⁾	LEDs	Solenoid, rated operational voltage		Complete units Position monitoring: Actuators: 1 NO + 2 NC Solenoid: 1 NO + 2 NC		PU (UNIT, SET, M)	PS*	PG
			V		Article No.	Price per PU			
1 300 N locking forc	e · Enclosure width 54 m	m · Degree	of protectio	n IP69					
	Spring-actuated locks								
	With auxiliary release	Yellow/ green	24 DC	€	3SE5322-1SD21-1AG4		1	1 unit	41K
3SE5322-1SD21-1AG4	14.00		0.4.50						
	With auxiliary release with lock	Yellow/ green	24 DC	⊕	3SE5322-1SE21-1AG4		1	1 unit	41K
3SE5322-1SE21-1AG4									
20FE200 10F01 1A0A	With escape release from the front	Yellow/ green	24 DC	€	3SE5322-1SF21-1AG4		1	1 unit	41K
3SE5322-1SF21-1AG4	With escape release from the back and auxiliary release from the front	Yellow/ green	24 DC	€	3SE5322-1SG21-1AG4		1	1 unit	41K

[→] Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.

For cable gland for degree of protection IP69 and more accessories, see page 12/72.

¹⁾ Supplied without actuator. Please order separately (see page 12/71).

Position and safety switches SIRIUS 3SE5, 3SE2 mechanical safety switches With tumbler

3SE5, metal enclosures with locking force greater than 2 000 N

Selection and ordering data

6 slow-action contacts · 5 directions of approach · Degree of protection IP66/IP67 · Cable entry 3 x (M20 x 1.5) · ISO 14119

	Tumbler ¹⁾	LEDs	Solenoid, rated operational voltage		Complete units Position monitoring: Actuators: 1 NO + 2 NC Solenoid: 1 NO + 2 NC		PU (UNIT, SET, M)	PS*	PG
			٧		Article No.	Price per PU			
2 600 N lockin	ng force · Enclosure width 54 n	nm	•						
	Spring-actuated locks				_				
	With auxiliary release		24 DC	\odot	3SE5312-0SD11		1	1 unit	41K
			115 AC 230 AC	→	3SE5312-0SD12 3SE5312-0SD13		1	1 unit	41K
-		 		<u>→</u>			1	1 unit	41K
** a (9)		Yellow/green Yellow/green		→	3SE5312-1SD11 3SE5312-2SD12		1 1	1 unit 1 unit	41K 41K
		Yellow/green		€	3SE5312-3SD13		1	1 unit	41K
3SE5312-0SD11			24.50						
	 With auxiliary release with lock 		24 DC 115 AC	→	3SE5312-0SE11 3SE5312-0SE12		1 1	1 unit 1 unit	41K 41K
			230 AC	⊕	3SE5312-0SE13		1	1 unit	41K
1-17		Yellow/green		→ →	3SE5312-1SE11		1	1 unit	41K
		Yellow/green Yellow/green		→	3SE5312-2SE12 3SE5312-3SE13		1 1	1 unit 1 unit	41K 41K
100		reliow/green	230 AC	€	33E331Z-33E13		'	i uiiit	411
3SE5312-0SE11									
	With escape release from		24 DC	€	3SE5312-0SF11		1	1 unit	41K
	the front		115 AC 230 AC	→	3SE5312-0SF12		1	1 unit	41K
- w -				→	3SE5312-0SF13		1	1 unit	41K
		Yellow/green Yellow/green	115 AC	→	3SE5312-1SF11 3SE5312-2SF12		1 1	1 unit 1 unit	41K 41K
		Yellow/green		€	3SE5312-3SF13		1	1 unit	41K
3SE5312-0SF11	With escape release from the		24 DC	•	0055040 00044		_	4	41K
	back and auxiliary release from		115 AC	→	3SE5312-0SG11 3SE5312-0SG12		1 1	1 unit 1 unit	41K 41K
	the front		230 AC	→	3SE5312-0SG13		1	1 unit	41K
		Yellow/green		→	3SE5312-1SG11		1	1 unit	41K
#) () ()		Yellow/green Yellow/green		→	3SE5312-2SG12 3SE5312-3SG13		1 1	1 unit 1 unit	41K 41K
		rollow/groom	200710	•	0023012 00010			1 dilit	7110
3SE5312-0SG11									
	With escape release from the		24 DC	€	3SE5312-0SH11		1	1 unit	41K
	back and auxiliary release with lock from the front								
- L	With emergency release from the		24 DC	€	3SE5312-0SJ11		1	1 unit	41K
**	back and auxiliary release from the front		115 AC	\odot	3SE5312-0SJ12		1	1 unit	41K
• V.V	the none		230 AC	→	3SE5312-0SJ13		1	1 unit	41K
		Yellow/green Yellow/green		→	3SE5312-1SJ11 3SE5312-2SJ12		1 1	1 unit 1 unit	41K 41K
3SE5312-0SJ11		Yellow/green	230 AC	€	3SE5312-3SJ13		1	1 unit	41K
00L001Z-00011	Solenoid-locked								
	COLONOIG IOUNGU		24 DC	→	3SE5312-0SB11		1	1 unit	41K
-			115 AC	igotarrow	3SE5312-0SB12		1	1 unit	41K
-			230 AC	€	3SE5312-0SB13		1	1 unit	41K
E. 29		Yellow/green Yellow/green		→	3SE5312-1SB11 3SE5312-2SB12		1 1	1 unit 1 unit	41K 41K
		Yellow/green		→	3SE5312-3SB13		1	1 unit	41K
		-		_					
3SE5312-0SB11									

[→] Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.

¹⁾ Supplied without actuator. Please order separately (see page 12/71).

²⁾ Suitable for connection, e.g. to fail-safe field modules of the SIMATIC ET 200eco PN and the SIMATIC ET 200AL with connection accessories 3SX5601-3SV18 and Y-cable 6ES7194-6KC00-0XA0, see page 12/72. For more information, see page 12/91 onwards.

SIRIUS 3SE5, 3SE2 mechanical safety switches With tumbler

Accessories

Selection and ordering data Version Article No. Price PS* PG per PU (UNIT, SÈT, M) Actuators with degree of protection IP66/IP67 for 3SE5 Standard actuators • Length 75.6 mm 3SE5000-0AV01 1 unit 41K ----3SE5000-0AV01 · With vertical fixing, 3SE5000-0AV02 1 unit 41K length 53 mm 3SE5000-0AV02 3SE5000-0AV03 41K · With transverse fixing, 1 unit length 47 mm 3SE5000-0AV03 High-grade steel actuators • Length 75.6 mm 3SE5000-0AW51 1 unit 41K - 00 3SE5000-0AW51 • With vertical fixing, length 53 mm 3SE5000-0AW52 1 unit 41K 3SE5000-0AW52 3SE5000-0AW53 • With transverse fixing, length 47 mm 41K 1 unit 3SE5000-0AW53 Radius actuators • Length 51 mm - Direction of approach from the left 3SE5000-0AV04 41K 1 unit - Direction of approach from the right 3SE5000-0AV06 1 unit 41K 3SE5000-0AV06 Universal radius actuators • Length 77 mm 3SE5000-0AV05 1 unit 41K - Tab rotated 90° 3SE5000-0AV05-1AA6 1 unit 41K 3SE5000-0AV05-1AA6 Universal radius actuators, heavy duty • Length 67 mm 3SE5000-0AV07-1AK2 41K 1 unit 3SE5000-0AV07-1AK2 • Length 77 mm 3SE5000-0AV07 1 unit 41K 3SE5000-0AV07 - High-grade steel actuators¹⁾ 3SE5000-0AW57 1 unit 41K 3SE5000-0AW57

For further plug versions, see page 12/50.

¹⁾ Suitable for extreme environmental conditions such as -40 °C.

Position and safety switchesSIRIUS 3SE5, 3SE2 mechanical safety switches With tumbler

Accessories

	V :	A .: 1 A1	D :	DIII	D0*	DO.
	Version	Article No.	Price per PU	PU (UNIT,	PS*	PG
			perro	SET, M)		
				021, 111,		
Optional accessorie	as for 2SEE					
Optional accessorie		2055222 241/22 4442			a	4417
	Protective cap Made of black rubber, for actuator head,	3SE5000-0AV08-1AA2		1	1 unit	41K
	to protect the actuator openings from contamination					
3SE5000-0AV08-1AA2						
33L3000-0AV00-1AA2	Blocking insert	3SE5000-0AV08-1AA3		1	1 unit	41K
2222	Made of high-grade steel, for actuator head,	33E3000-0AV00-1AA3		'	i uiiit	4111
	for up to eight padlocks					
3SE5000-0AV08-1AA3						
Spare parts for 3SE	5					
	Spare key for key type RONIS SH115	3SX5100-1F		1	1 unit	41K
Connection access	ories for 3SE5					
- //	M12 device plugs, plastic, for M20 x 1.5					
	• 4-pole, for max. 250 V, 4 A, U_{imp} = 2 500 V	3SY3127		1	1 unit	41K
	• 5-pole, for max. 125 V, 4 A, $U_{imp} = 1500 \text{ V}$	3SY3128		1	1 unit	41K
	• 5-pole ¹⁾ , for max. 60 V, 4 A, U_{imp} = 800 V	3SX5100-1SS51		1	1 unit	41K
3SX5100-1SS51	• 8-pole ¹⁾ , for max. 30 V, 1.5 A, U_{imp} = 800 V	3SX5100-1SS08		1	1 unit	41K
	Cable glands M20 x 1.5					
	Plastic					
	Degree of protection IP67	3SX9926		1	1 unit	41K
3SX9926						
	 High degree of protection IP69, IEC 60529 	3SX5601-1A		1	1 unit	41K
3SX5601-1A						
33/300 I- IA	Connecting cobles					
	Connecting cables with M12 socket, open end, length 5 m					
	• 4-pole	3SX5601-3SB54		1	1 unit	41K
	• 5-pole	3SX5601-3SB55		1	1 unit	41K
	o polo	00,0001 00200			1 dilit	1111
3SX5601-3SB55						
33A300 I-33D33	O-marating ashle	20VEC04 20V/42			4	441/
	Connecting cable with M12 socket, 8-pole and M12 plug, 8-pole,	3SX5601-3SV18		1	1 unit	41K
	length 1 m					
3SX5601-3SV18						
00/10001 00110	Connecting cables					
	With M12 socket, 8-pole, straight, open end					
	rated voltage 30 V,					
	rated current 2 A					
3SX5601-2GA03	• Length 3 m	3SX5601-2GA03		1	1 unit	41K
	• Length 5 m	3SX5601-2GA05		1	1 unit	41K
	Length 10 m	3SX5601-2GA10		1	1 unit	41K
	• Length 15 m	3SX5601-2GA15		1	1 unit	41K
	M12 plugs, 8-pole	6GT2090-0BE00		1	5 units	572
	Straight					
6CT2000 0DF00						
6GT2090-0BE00	ET 000 V kl-1)	0507404 01/000 01/4			4	050
	ET 200 Y-cable ¹⁾ For connecting 1 x 2-channel sensor	6ES7194-6KC00-0XA0		1	1 unit	250
AV STATE OF THE PARTY OF THE PA	With M12 socket, 8-pole on 2 x M12 plugs, 5-pole,					
0.10	length 200 mm					
6ES7194-6KC00-0XA0						
4)						

¹⁾ Suitable for wiring sensors that are connected to all fail-safe block I/O modules in the SIMATIC ET 200eco PN and ET 200AL series. For more information, see page 12/91 onwards.

For further plug versions, see page 12/50.

SIRIUS 3SE5, 3SE2 mechanical safety hinge switches

General data

Overview

3SE5 hinge switches have the same enclosures as the 3SE5 position switches (modular system).



Hinge switches

Design

Enclosure sizes

The 3SE5 switches are available as complete units in two enclosure sizes:

- Plastic enclosures according to EN 50047, 31 mm wide, IP65, 1 cable entry
- Metal enclosures according to EN 50047, 31 mm wide, IP66/IP67, 1 cable entry
- Plastic and metal enclosures according to EN 50041, 40 mm wide, IP66/IP67, 1 cable entry

Enclosure versions

Various basic versions can be selected for the enclosures:

- With 2- or 3-pole contact blocks, designed as snap-action contacts
- AS-Interface version with integrated ASIsafe electronics for all enclosure designs (see page 12/117)

For a description of the basic switches, see page 12/5.

Actuato

The hinge switches are provided for mounting on hinges. The actuator head is included in the scope of supply. There are two versions:

- Actuator with hollow shaft, inner diameter 8 mm, outer 12 mm
- Actuator with solid shaft, diameter 10 mm

3SE2283 hinge switches

The 3SE2283 hinge switches with integrated hinge are available in a special design. They are particularly suitable for use in machine doors and flaps.

Benefits

The 3SE5 hinge switches differ from the previous series through the following new characteristics:

- All actuators can be rotated around the axis in increments of 22.5° (see Mounting, page 12/7).
- The new 3-pole contact block 1 NO + 2 NC is available for all enclosure sizes (see Diverse contact types, page 12/6).
- The plastic enclosure with a width of 31 mm has simple and fast wiring equipment which makes it possible to save approx. 20 to 25% of the time when connecting (see Quick-connect technology, page 12/7).
- The ASIsafe electronics are integrated in the enclosure for the versions with AS-Interface connection (see page 12/99); an additional adapter is not required.

Application

The hinge switches are used in those areas where the position of swiveling protective devices such as doors or flaps must be monitored. With these switches, the position of the doors and flaps is converted into electric signals. The switches allow shutdown and signaling without delay in the event of a small opening angle through the snap-action contacts with an actuating angle of 10°.

Devices are available with enclosure versions to suit the particular ambient conditions. Different control tasks can be performed with the contact blocks best suited for the particular purpose. Dimensions and fixing points of the enclosures are according to EN 50041 or EN 50047 standards.

The devices are suitable for use in any climate.

Standards

The switches comply with IEC 60947-5-1 (Electromechanical Control Circuit Devices).

The protective measure of "total insulation" by the plastic enclosure is ensured by the use of plastic screw glands.

Safety position switches

For controls according to IEC 60204-1 the devices can be used as a safety position switch. To secure position switches against changes in their position, positively-driven techniques must be employed on installation.

Safety circuits

Standard IEC 60947-5-1 requires positive opening of the NC contacts. In other words, for the purposes of personal safety, the assured opening of NC contacts is expressly stipulated for the electrical equipment of machines in all safety circuits and marked according to IEC 60947-5-1 with the symbol $\widehat{\oplus}$.

SIL 2 according to IEC 62061/IEC 61508 or PL d according to ISO 13849-1 can be attained with a 3SE5 safety hinge switch with \odot if the corresponding fail-safe evaluation units are selected and correctly installed (e.g. the 3SK safety relays or matching devices from the ASIsafe, SIMATIC or SINUMERIK product ranges).

If a second 3SE5 position switch with \odot is used, SIL 3/PL e can be attained.

SIRIUS 3SE5, 3SE2 mechanical safety hinge switches

3SE5, plastic enclosures > Enclosure width 31 mm according to EN 50047/40 mm according to EN 50041

Evaluation of safety functions

Safety Evaluation in the TIA Selection Tool

The safety evaluation for the IEC 62061 and ISO 13849-1 standards is performed quickly and easily, directly in the TIA Selection Tool. In addition to the fast and safe calculation of machine safety functions – from the definition of the system structure to the selection of components – this enables shared data management during all project phases. Take the next step in the digital design of machinery and equipment with Safety Evaluation in the TIA Selection Tool.

In addition, the functionalities of the proven Safety Evaluation Tool are still available. It determines the achieved safety integrity (SIL/PL) step-by-step. You receive the results as a standards-compliant report that can be integrated in the documentation as proof of safety.

For more information, see www.siemens.com/safety-evaluation-tool.

Technical specifications

The technical specifications are the same as for the standard switches (see page 12/12).

Selection and ordering data

Complete units

2 or 3 contacts · Degree of protection IP65 (31 mm) or IP66/IP67 (40 mm) · Cable entry 1 x (M20 x 1.5)

	Version	Snap-action contacts		Complete units		PU (UNIT, SET, M)	PS*	PG
				Article No.	Price per PU			
Enclosure width 3	1 mm according to EN 50047				po: · · ·			
	With hollow shaft		_					
PRESERVE	 Actuating angle 10° 	1 NO + 1 NC ¹⁾ 1 NO + 2 NC	⊕	3SE5232-0HU21 3SE5232-0LU21		1 1	1 unit 1 unit	41K 41K
3SE5232-0HU21								
	With solid shaft • Actuating angle 10°	1 NO + 1 NC ¹⁾ 1 NO + 2 NC	⊕	3SE5232-0HU22 3SE5232-0LU22		1 1	1 unit 1 unit	41K 41K
3SE5232-0HU22								
Enclosure width 4	0 mm according to EN 50041							
	With hollow shaft							
Laure	 Actuating angle 10° 	1 NO + 2 NC	→	3SE5132-0LU21		1	1 unit	41K
3SE5132-0LU21								
C Language	With solid shaft • Actuating angle 10°	1 NO + 2 NC	⊕	3SE5132-0LU22		1	1 unit	41K
3SE5132-0LU22								

[→] Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.

¹⁾ Contact blocks permanently integrated, replacement not available.

SIRIUS 3SE5, 3SE2 mechanical safety hinge switches

3SE5, plastic enclosures > Enclosure width 31 mm according to EN 50047/40 mm according to EN 50041

Spare parts Price per PU PU (UNIT, SET, M) PS* PG Version Article No. Actuator heads With hollow shaft 3SE5000-0AU21 Actuating angle 10° 41K 1 unit 3SE5000-0AU21 With solid shaft Actuating angle 10° 3SE5000-0AU22 1 unit 41K 3SE5000-0AU22

Note:

The respective actuator heads are included in the scope of supply for the complete units.

SIRIUS 3SE5, 3SE2 mechanical safety hinge switches

3SE5, metal enclosures > Enclosure width 31 mm according to EN 50047/40 mm according to EN 50041

Selection and ordering data

Complete units

3 contacts \cdot Degree of protection IP66/IP67 \cdot Cable entry 1 x (M20 x 1.5)

	Version	Snap-action contacts		Complete units		PU (UNIT, SET, M)	PS*	PG
				Article No.	Price per PU	, <i>,</i>		
Enclosure width	31 mm according to EN 50047				1			
	With hollow shaft		_					
D. Britania	 Actuating angle 10° 	1 NO + 2 NC	€	3SE5212-0LU21		1	1 unit	41K
3SE5212-0LU21								
	With solid shaft		_					
	 Actuating angle 10° 	1 NO + 2 NC	€	3SE5212-0LU22		1	1 unit	41K
3SE5212-0LU22	40 mm according to EN 50041							
Enclosure width	With hollow shaft							
3SE5112-0LU21	Actuating angle 10°	1 NO + 2 NC	€	3SE5112-0LU21		1	1 unit	41K
35E5112-0L021	With solid shaft							
Lamas	Actuating angle 10°	1 NO + 2 NC	€	3SE5112-0LU22		1	1 unit	41K
3SE5112-0LU22								
Positive opening ac	coording to IEC 60947-5-1 Annex K o	r nositively driven						

[→] Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.

Spare parts

	Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Actuator heads						
	With hollow shaft					
	Actuating angle 10°	3SE5000-0AU21		1	1 unit	41K
3SE5000-0AU21						
	With solid shaft					
	Actuating angle 10°	3SE5000-0AU22		1	1 unit	41K
3SE5000-0AU22						

Note:

The respective actuator heads are included in the scope of supply for the complete units.

SIRIUS 3SE5, 3SE2 mechanical safety hinge switches

3SE2, plastic enclosures > With integrated hinge

Overview

The 3SE2283 hinge switches with integrated hinge are particularly suitable for use in doors and flaps of machines that must be closed to ensure the safety of operating personnel. Their thin profile and the compact design allow them to be directly mounted on a hinged protective cover and the stable frame.

Benefits

- Easy mounting through use of versions with integrated hinge
- Versions with small actuating angle of 4° or 8°
- Protection against personal injury provided by positively driven NC contacts according to IEC 60947-5-1
- Simultaneous shutdown and signaling by 1 NO + 2 NC contacts

Technical specifications

Туре		3SE2283
Rated insulation voltage Ui	V	250
Conventional thermal current <i>I</i> _{th}	А	2.5
Rated operational current I _e		
• At AC-15, 120 V	Α	4.2
• At AC-15, 250 V	Α	2
• At DC-13, 24 V	Α	1
Min. make-break capacity	V/mA	> 5/1
Short-circuit protection		
Operational class gG	Α	2
Mechanical endurance	Operating cycles	> 1 x 10 ⁶
Frequency of operation	Operating cycles/h	1 200
Positive opening		2 mm after opening point
Enclosure material		Plastic
Degree of protection		IP65
Ambient temperature	°C	-25 +65
Shock resistance	g/ms	30/8
Resistance to vibrations	g	20/0 200 Hz
Cable entry		2 x (M20 x 1.5)
Screw terminals	mm ²	0.5 1.5/AWG 15

Selection and ordering data

3 contacts · Degree of protection IP65 · Cable entry 2 x (M20 x 1.5)

3 contacts · Degree	of protection IP65 · Cable entry 2	2 x (M20 x 1.5)						
	Version	Slow-action contacts		Complete units		PU (UNIT, SET, M)	PS*	PG
				Article No.	Price per PU			
With integrated hing	ge							
	Scope of supply includes additional hi accessories	nge and fixing						
	Aluminum hinge							
NI NI NI NI NI NI NI NI NI NI NI NI NI N	- 4° actuating angle	1 NO + 2 NC 3 NC	→	3SE2283-0GA43 3SE2283-6GA43		1 1	1 unit 1 unit	41K 41K
	- 8° actuating angle	1 NO + 2 NC 3 NC	→	3SE2283-0GA53 3SE2283-6GA53		1 1	1 unit 1 unit	41K 41K
3SE2283	 High-grade steel hinge 							
	 4° actuating angle 	1 NO + 2 NC	igotharpoons	3SE2283-0GA44		1	1 unit	41K
→ Positive opening accordant actuator, necessary in	ording to IEC 60947-5-1, Annex K, or pos safety circuits.	itively driven						
	Version			Article No.	Price per PU	PU (UNIT,	PS*	PG

Accessories



Additional hinge

(Scope of supply includes fixing accessories)

• Made of aluminum

3SX3225

1 unit 41K

SET, M)

^{*} You can order this quantity or a multiple thereof. Illustrations are approximate

SIRIUS 3SE5 mechanical position switches for ambient temperatures down to -40 °C Shock and vibration test

SIRIUS 3SE5 mechanical position switches > 3SE5, plastic enclosures

Selection and ordering data

Enclosure width 31 mm according to EN 50047

Complete units

2 or 3 contacts \cdot Degree of protection IP65 \cdot Cable entry 1 \times (M20 \times 1.5) \cdot With increased corrosion protection

Z OI O COITIACIS DE	gree of protection if 05 Cable entry 1.	^ (IVIZU ^	1.0) V		ii piotec	LIOIT		
	Version	Contacts		Complete units		PU (UNIT, SET, M)	PS*	PG
				Article No.	Price per PU	, ,		
Complete units ¹⁾ · E	Enclosure width 31 mm				perio			
On	Twist lever, 21 mm long, type A, according to EN 50047			•				
2	With plastic roller 19 mm							
	Snap-action contacts	1 NO + 2 NC	→	3SE5232-0LK21-1AY0		1	1 unit	41K
3SE5232-0LK21-1AY0	Roller lever, type E, according to EN	E0047	 -					
	With plastic roller 13 mm	00047						
trouve	Snap-action contacts	1 NO + 2 NC	→	3SE5232-0LE10-1AY0		1	1 unit	41K
3SE5232-0LE10-1AY0								
0000202 00010 17110	Rod lever, according to EN 50047							
	With plastic rod, length 200 mm							
and the same of th	Snap-action contacts	1 NO + 1 NC		3SE5232-0HK82-1AY0		1	1 unit	41K
3SE5232-0HK82-1AY0								
•	Spring rod ²⁾ , according to EN 50047							
1	Length 142.5 mm, with plastic plunger 50 n							
3SE5232-0HR01-1AY0	• Snap-action contacts	1 NO + 1 NC		3SE5232-0HR01-1AY0		1	1 unit	41K
A Positive energing sees	ording to IEC 60047 E 1 Appear K or positively d	lei, com						

[→] Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.

¹⁾ Popular versions.

²⁾ Degree of protection IP65/IP67.

SIRIUS 3SE5 mechanical position switches for ambient temperatures down to -40 °C Shock and vibration test

SIRIUS 3SE5 mechanical safety switches with tumbler > 3SE5, plastic enclosures

Selection and ordering data

Enclosure width 54 mm

6 slow-action contacts · 5 directions of approach · Degree of protection IP66/IP67 · Cable entry 3 x (M20 x 1.5) · ISO 14119

Tumbler ¹⁾	Solenoid, rated operational voltage	Complete units Position monitoring: Actuators: 1 NO + 2 NC Solenoid: 1 NO + 2 NC		PU (UNIT, SET, M)	PS*	PG
	V	Article No.	Price per PU			
ce · Enclosure width 54 mm						
Spring-actuated lock						

1 300 N locking

• With front auxiliary release

24 DC

3SE5322-0SD21-1AY0

1 unit

41K

3SE5322-0SD21-1AY0

¹⁾ Supplied without actuator. Please order separately.

	Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Accessories		_				
	Standard actuator					
3SE5000-0AV01	• Length 75.6 mm	3SE5000-0AV01		1	1 unit	41K
	High-grade steel actuators, standard ¹⁾					
- 100	• Length 75.6 mm	3SE5000-0AW51		1	1 unit	41K
3SE5000-0AW51						
-1	With vertical fixing, length 53 mm	3SE5000-0AW52		1	1 unit	41K
3SE5000-0AW52						
- 60	With transverse fixing, length 47 mm	3SE5000-0AW53		1	1 unit	41K
3SE5000-0AW53						
	 Universal radius actuator, heavy duty High-grade steel actuator¹⁾, length 77 mm 	3SE5000-0AW57		1	1 unit	41K
3SE5000-0AW57						

¹⁾ Suitable for extreme environmental conditions such as -40 °C.

[→] Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.

SIRIUS 3SE5 mechanical position switches for ambient temperatures down to -40 °C Shock and vibration test

SIRIUS 3SE5 mechanical safety hinge switches > 3SE5, plastic enclosures

Selection and ordering data

Enclosure width 31 mm according to EN 50047

2 contacts · Degree	of protection IP65 \cdot Cable entry 1 \times (M	20 × 1.5)	· With i	ncreased corrosion pr	otection			
	Version	Contacts		Complete units		PU (UNIT, SET, M)	PS*	PG
				Article No.	Price per PU			
Complete units · Er	nclosure width 31 mm							
	Hinge switch, according to EN 50047 With hollow shaft D = 8 mm, actuating angle	e 10°						
Prince	Snap-action contacts	1 NO + 1 NC	→	3SE5232-0HU21-1AY0		1	1 unit	41K
3SE5232-0HU21-1AY0								

[→] Positive opening according to IEC 60947-5-1, Annex K.

SIRIUS 3SE5 mechanical position switches for ambient temperatures down to -40 °C Shock and vibration test according to railway standard

SIRIUS 3SE5 mechanical position switches > 3SE5, plastic enclosures

Selection and ordering data

Enclosure width 31 mm according to EN 50047/50 mm

Complete units

2 or 3 contacts · Degree of protection IP65 (31 mm) or IP66/IP67 (50 mm) · With increased corrosion protection

Z OF 3 COFFIGURS - De(gree of protection IP65 (31 mm) or IP66)/IFU/ (3C		vviiii iiicieaseu comosion	Protection	Cuon		
	Version	Contacts		Complete units	PU (UNIT, SET, M)	PS*	PG	
				Article No.	Price er PU			
Complete units ¹⁾ · E Cable entry 1 x (M2	Enclosure width 31 mm · 0 x 1.5)							
	Roller plunger, type C, according to B With plastic roller 10 mm With M12 device plug, 4-pole (250 V, 4 A) ²⁾	EN 50047						
200.000	Snap-action contacts	1 NO + 1 NC	→	3SE5234-0CD03-1AJ1	1	1 unit	41K	
3SE5234-0CD03-1AJ1								
A	Roller plunger with central fixing accor • Snap-action contacts	rding to El 1 NO +	N 50047 →	3SE5232-0CD10-1AJ0	1	1 unit	41K	
	• Shap-action contacts	1 NC	•	33E3232-UCD 10-1AJU	1	i unit	411	
3SE5232-0CD10-1AJ0	Twist lever, type A, according to EN 5	50047						
	With high-grade steel lever 21 mm and place		9 mm					
Description of the state of the	Snap-action contacts	1 NO + 1 NC	→	3SE5232-0CK31-1AJ0	1	1 unit	41K	
3SE5232-0CK31-1AJ0	Twist levers, adjustable length, accor	dina to E	N 50047	•				
3)	With high-grade steel lever 100 mm, with g and plastic roller 19 mm							
	Snap-action contacts	1 NO + 1 NC	\odot	3SE5232-0CK62-1AJ0	1	1 unit	41K	
		1 NO + 2 NC	€	3SE5232-0LK62-1AJ0	1	1 unit	41K	
3SE5232-0CK62-1AJ0 Complete units ¹⁾ · E	Enclosure width 50 mm ·							
Cable entry 2 x (M2	0 x 1.5) · Operating points according to Twist lever	EN 5004	1					
	With metal lever 21 mm and plastic roller 1	9 mm						
	• Snap-action contacts, integrated ³⁾	1 NO + 1 NC	⊕	3SE5242-0HK21-1AJ0	1	1 unit	41K	
3SE5242-0HK21-1AJ0								
	Twist lever, adjustable length With high-grade steel lever 100 mm, with g and plastic roller 19 mm	rid hole						
	• Snap-action contacts, integrated ³⁾	1 NO + 1 NC	→	3SE5242-0HK62-1AJ0	1	1 unit	41K	
3SE5242-0HK62-1AJ0								
Positivo oponing acce	ording to IEC 60947-5-1. Appey K. or positively of	drivon 1	Moto:					

[→] Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.

²⁾ For pin assignments, see page 12/13.

If the device you require is not available as a complete unit, see "Modular system", page 12/82.

¹⁾ Popular versions.

³⁾ Subsequent replacement of contact blocks is not possible.

Note:

SIRIUS 3SE5 mechanical position switches for ambient temperatures down to -40 °C Shock and vibration test according to railway standard

SIRIUS 3SE5 mechanical position switches > 3SE5, plastic enclosures

Modular system

2 or 3 contacts · Degree of protection IP65 (31 mm) or IP66/IP67 (50 mm) · With increased corrosion protection

	Version	Contacts		Modular system		PU (UNIT, SET, M)	PS*	PG
				Article No.	Price per PU			
Basic switches · Er Cable entry 1 x (M2	nclosure width 31 mm · 20 x 1.5)							
Alba .	Rounded plungers ¹⁾ , type B, acco	rding to EN 5	0047	-				
BERTEIN	Slow-action contacts	1 NO + 2 NC	→	3SE5232-0KC05-1AJ0		1	1 unit	41K
	Snap-action contacts	1 NO + 1 NC	€	3SE5232-0CC05-1AJ0		1	1 unit	41K
3SE5232-0CC05-1AJ0		1 NO + 2 NC	€	3SE5232-0LC05-1AJ0		1	1 unit	41K
Basic switches · Er Cable entry 2 x (M2	nclosure width 50 mm · 20 x 1.5)							
	Rounded plungers ¹⁾ , according to	EN 50047		•				
E-MANAGENT	Slow-action contacts	1 NO + 1 NC	€	3SE5242-0BC05-1AJ0		1	1 unit	41K
	• Snap-action contacts, integrated ²⁾	1 NO + 1 NC	€	3SE5242-0HC05-1AJ0		1	1 unit	41K
3SE5242-0BC05-1AJ0								
_								

[→] Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.

1) For enclosures with widths of 31 and 50 mm, the basic switch is a complete unit with rounded plungers.

Note:

For the selection aid, see page 12/14.

					Modular system		PU (UNIT, SET, M)	PS*	PG
			mm		Article No.	Price per PU			
tuators						•			
A	Roller plunger, type C,	according to EN 5004	7						
	 Plastic roller 		10	\odot	3SE5000-0AD03-1AJ0		1	1 unit	41k
5000-0AD03-1AJ0									
	Roller levers, type E, a	ccording to EN 50047							
	 Metal lever 	Plastic roller	13	\odot	3SE5000-0AE10-1AJ0		1	1 unit	41k
	High-grade steel lever	Plastic roller	13	\odot	3SE5000-0AE12-1AJ0		1	1 unit	41k
		High-grade steel roller	13	\odot	3SE5000-0AE13-1AJ0		1	1 unit	41k
	Angular roller levers								
	 Metal lever 	Plastic roller	13	\odot	3SE5000-0AF10-1AJ0		1	1 unit	41k
	High-grade steel lever	Plastic roller	13	\odot	3SE5000-0AF12-1AJ0		1	1 unit	41K
5000-0AF10-1AJ0									
ist actuators									
	Twist actuator, for 31/5	, •	N 50047	_					
	 Switching right and/or 	left, adjustable		€	3SE5000-0AK00-1AJ0		1	1 unit	41k
5000 0AK00 1A IO									
5000-0AK00-1AJ0	Levers								
	Twist levers 21 mm, st	raight type A accordi	na to EN 5	0047					
3	Metal lever	Plastic roller	19 19	⊕	3SE5000-0AA21-1AJ0		1	1 unit	41K
E5000-0AA21-1AJ0	High-grade steel lever		19	€	3SE5000-0AA31-1AJ0		1	1 unit	41K
	- Tilgit grade steerlever	High-grade steel roller		€	3SE5000-0AA32-1AJ0		1	1 unit	41K
	Twist levers 100 mm, a	0 0		0	0020000 071102 17100		·		
	Metal lever	Plastic roller	19	€	3SE5000-0AA60-1AJ0		1	1 unit	41K
	High-grade steel lever	Plastic roller	19	€	3SE5000-0AA62-1AJ0		1	1 unit	41K
3	J.: g 2.221 10101		-	_			·		

→ Positively driven actuator, necessary in safety circuits.

Steel clamp (spare part) for adjustable-length twist and rod levers, see page 12/52.

3SE5000-0AA60-1AJ0

SIRIUS 3SE5 mechanical position switches for ambient temperatures down to -40 °C Shock and vibration test according to railway standard

SIRIUS 3SE5 mechanical position switches > 3SE5, plastic enclosures

Enclosure width 40 mm according to EN 50041

Modular system

2 or 3 contacts \cdot Degree of protection IP66/IP67 \cdot Cable entry $1 \times (M20 \times 1.5)$ \cdot With increased corrosion protection

`	- '		, (·				
	Version		Contacts		Modular system		PU (UNIT, SET, M)	PS*	PG
					Article No.	Price per PU	. ,		
Basic switches · En	closure width 40 m	nm							
400	. •	rs, according to EN		_					
Lineyeas	Slow-action contac		1 NO + 2 NC	→	3SE5132-0KA00-1AJ0		1	1 unit	41K
	Snap-action contact	ets	1 NO + 1 NC	→	3SE5132-0CA00-1AJ0		1	1 unit	41K
3SE5132-0CA00-1AJ0			1 NO + 2 NC	€	3SE5132-0LA00-1AJ0		1	1 unit	41K
Positive opening acco	ording to IEC 60947-5-1	, Annex K, or positively	-	Note:					
,			F	or the	selection aid, see page	12/14.			
	Version		Diame- ter		Modular system		PU (UNIT, SET, M)	PS*	PG
			mm		Article No.	Price per PU	SL1, IVI)		
Actuators						po o			
•	Rounded plunger, ty	/pe B, according to El	N 50041						
A	Plastic plunger, wit	h 3 mm overtravel	10	€	3SE5000-0AC03-1AJ0		1	1 unit	41K
3SE5000-0AC03-1AJ0									
<u> </u>	Roller plunger, type	C, according to EN 50	0041						
A	Plastic plunger	Plastic roller	13	→	3SE5000-0AD05-1AJ0		1	1 unit	41K
3SE5000-0AD05-1AJ0									
	Roller lever								
	 Metal lever with plastic base 	Plastic roller	22	→	3SE5000-0AE05-1AJ0		1	1 unit	41K
3SE5000-0AE05-1AJ0 Twist actuators				_					
TWIST dottdators	Twist actuator, for 4	0/56/56 mm XL, accor	ding to EN 5	0041					
	Switching right and			→	3SE5000-0AH00-1AJ0		1	1 unit	41K
3SE5000-0AH00-1AJ0									
	Levers								
0	Twist levers 27 mm,	offset, type A, accord	ling to EN 50	0041					
	 Metal lever 	Plastic roller	19	\odot	3SE5000-0AA01-1AJ0		1	1 unit	41K
3SE5000-0AA01-1AJ0	 High-grade steel lever 	Plastic roller	19	→	3SE5000-0AA11-1AJ0		1	1 unit	41K
•	Twist levers 100 mm with grid hole								
0	 Metal lever 	Plastic roller	19	→	3SE5000-0AA60-1AJ0		1	1 unit	41K
	High-grade steel lever	Plastic roller	19	→	3SE5000-0AA62-1AJ0		1	1 unit	41K
3SE5000-0AA60-1AJ0									
0-									

→Positively driven actuator, necessary in safety circuits.

Steel clamp (spare part) for adjustable-length twist and rod levers, see page 12/52.

SIRIUS 3SE5 mechanical position switches for ambient temperatures down to -40 °C Shock and vibration test according to railway standard

SIRIUS 3SE5 mechanical position switches > 3SE5, metal enclosures

Selection and ordering data

Enclosure width 31 mm according to EN 50047

Complete units

2 or 3 contacts · Degree of protection IP66/IP67 · Cable entry 1 × (M20 × 1.5) · With increased corrosion protection

	Version	Contacts		Modular system		PU (UNIT, SET, M)	PS*	PG
				Article No.	Price per PU			
Complete units · En	closure width 31 mm							
Ælæ.	Rounded plungers, type B, according	to EN 50	0047	_				
177	Slow-action contacts	1 NO + 2 NC	→	3SE5212-0KC05-1AJ0		1	1 unit	41K
	Snap-action contacts	1 NO + 1 NC	→	3SE5212-0CC05-1AJ0		1	1 unit	41K
3SE5212-0CC05-1AJ0		1 NO + 2 NC	€	3SE5212-0LC05-1AJ0		1	1 unit	41K
6 5	With M12 device plug, 5-pole (250 V, 4 A) ¹⁾							
ET CONTRACTOR OF THE PROPERTY	Snap-action contacts	1 NO + 1 NC	→	3SE5214-0CC05-1AJ2		1	1 unit	41K
3SE5214-0CC05-1AJ2								
	Twist lever, type A, according to EN 3 With metal lever 21 mm and high-grade sta 19 mm, with twist actuator with enclosure width 40	eel roller						
	Snap-action contacts	1 NO + 1 NC	€	3SE5212-0CH22-1AJ0		1	1 unit	41K
3SE5212-0CH22-1AJ0								
(A) D	U 150 000 17 5 1 1 1/ W 1							

[→] Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.

Note:

If the device you require is not available as a complete unit, see "Modular system", page 12/85.

¹⁾ For pin assignments, see page 12/13.

SIRIUS 3SE5 mechanical position switches for ambient temperatures down to -40 °C Shock and vibration test according to railway standard

SIRIUS 3SE5 mechanical position switches > 3SE5, metal enclosures

Modular system

2 or 3 contacts · Degree of protection IP66/IP67 · Cable entry 1 × (M20 × 1.5) · With increased corrosion protection

	Version	Contacts	Modular system		PU (UNIT, SET, M)	PS*	PG
			Article No.	Price per PU			
Basic switches · Er	closure width 31 mm						
Æba	Rounded plungers ¹⁾ , accordii	ng to EN 50047					
	Slow-action contacts	1 NO + → 2 NC	3SE5212-0KC05-1AJ0		1	1 unit	41K
	Snap-action contacts	1 NO + → 1 NC	3SE5212-0CC05-1AJ0		1	1 unit	41K
3SE5212-0CC05-1AJ0		1 NO + → 2 NC	3SE5212-0LC05-1AJ0		1	1 unit	41K

actuator, necessary in safety circuits.

1) For enclosures with widths of 31 mm, the basic switch is a complete unit with rounded plungers.

For the selection aid, see page 12/14.

	Version		Diameter		Modular system		PU (UNIT, SET, M)	PS*	PG
			mm		Article No.	Price per PU			
Actuators									
Δ.	Roller plunger, type C,	according to EN 5004	7						
48.	 Plastic roller 		10	\odot	3SE5000-0AD03-1AJ0		1	1 unit	41K
SE5000-0AD03-1AJ0									
<u> </u>	Roller levers, type E, ac	cording to EN 50047							
	Metal lever	Plastic roller	13	→	3SE5000-0AE10-1AJ0		1	1 unit	41K
	High-grade steel lever	Plastic roller	13	→	3SE5000-0AE12-1AJ0		1	1 unit	41K
SE5000-0AE10-1AJ0		High-grade steel roller	13	→	3SE5000-0AE13-1AJ0		1	1 unit	41K
	Angular roller levers								
•	 Metal lever 	Plastic roller	13	\odot	3SE5000-0AF10-1AJ0		1	1 unit	41K
SE5000-0AF10-1AJ0	• High-grade steel lever	Plastic roller	13	\odot	3SE5000-0AF12-1AJ0		1	1 unit	41K
Twist actuators									
	Twist actuator, for 31/50	mm, according to E	N 50047						
9	Switching right and/or l	eft, adjustable		€	3SE5000-0AK00-1AJ0		1	1 unit	41K
SE5000-0AK00-1AJ0									
	Levers								
	Twist levers 21 mm, str	aight, type A, accordi	ng to EN	50047					
	 Metal lever 	Plastic roller	19	\odot	3SE5000-0AA21-1AJ0		1	1 unit	41K
SE5000-0AA21-1AJ0	High-grade steel lever	Plastic roller	19	→	3SE5000-0AA31-1AJ0		1	1 unit	41K
	Twist levers 100 mm, ac	djustable length, with	grid hole						
J	 Metal lever 	Plastic roller	19	\odot	3SE5000-0AA60-1AJ0		1	1 unit	41K
7	High-grade steel lever	Plastic roller	19	→	3SE5000-0AA62-1AJ0		1	1 unit	41K
SE5000-0AA60-1AJ0									

→ Positively driven actuator, necessary in safety circuits.

Steel clamp (spare part) for adjustable-length twist and rod levers, see page 12/52.

SIRIUS 3SE5 mechanical position switches for ambient temperatures down to -40 °C Shock and vibration test according to railway standard

SIRIUS 3SE5 mechanical position switches > 3SE5, metal enclosures

Enclosure width 40 mm according to EN 50041/56 mm, XL

Complete units

2, 3 or 4 contacts \cdot Degree of protection IP66/IP67 \cdot With increased corrosion protection

_,								
	Version	Contacts		Complete units		PU (UNIT, SET, M)	PS*	PG
				Article No.	Price per PU	02.,,		
Complete units · En Cable entry 1 x (M20	closure width 40 mm · 0 x 1.5)				<u> </u>			
<u> </u>	Rounded plunger, type B, accord	_						
	With high-grade steel plunger 10 mm,							
3SE5112-0CC02-1AJ0	Snap-action contacts	1 NO + 1 NC	→	3SE5112-0CC02-1AJ0		1	1 unit	41K
33L3112-0CC02-1A00	Roller plunger, type C, according	to EN 50041						
	With high-grade steel plunger 13 mm,		travel					
3SE5112-0LD02-1AJ0	Snap-action contacts	1 NO + 2 NC	→	3SE5112-0LD02-1AJ0		1	1 unit	41K
0020112 02202 1700	Twist lever, type A, according to	EN 50041						
	With high-grade steel lever 27 mm and		9 mm					
G. Identity	Snap-action contacts	1 NO + 2 NC	→	3SE5112-0LH11-1AJ0		1	1 unit	41K
3SE5112-0LH11-1AJ0								
3	Twist lever, adjustable length, ac With high-grade steel lever 100 mm, wand plastic roller 19 mm	-	50041					
	Snap-action contacts	1 NO + 1 NC	→	3SE5112-0CH62-1AJ0		1	1 unit	41K
3SE5112-0CH62-1AJ0								
	closure width 56 mm, XL · 0 x 1.5) · Operating points accordi	ng to EN 5004 ⁻	1					
	Twist lever With high-grade steel lever 27 mm and	d biab arodo						
	steel roller 19 mm	u mgn-grade						
	Snap-action contacts	2 x (1 NO + 1 NC)	→	3SE5162-0CH12-1AN5		1	1 unit	41K
3SE5162-0CH12-1AN5								
•	Twist levers, adjustable length With metal lever 100 mm, with grid ho plastic roller 19 mm	les and						
	Snap-action contacts	2 x	→	3SE5162-0CH60-1AJ0		1	1 unit	41K
	With high-grade steel lever 100 mm ar steel roller 19 mm	(1 NO + 1 NC) nd high-grade						
	Snap-action contacts	2 x (1 NO + 1 NC)	→	3SE5162-0CH63-1AN6		1	1 unit	41K
3SE5162-0CH60-1AJ0								
Positive opening acco	ording to IEC 60947-5-1. Appendix K or po	nsitively N	lote:					

[→] Positive opening according to IEC 60947-5-1, Appendix K or positively driven actuator, necessary in safety circuits.

Note: If the device you require is not available as a complete unit, see "Modular system", page 12/87.

SIRIUS 3SE5 mechanical position switches for ambient temperatures down to -40 °C Shock and vibration test according to railway standard

SIRIUS 3SE5 mechanical position switches > 3SE5, metal enclosures

Enclosure width 40 mm according to EN 50041/56 mm/56 mm, XL

Modular system

2, 3 or 4 contacts · Degree of protection IP66/IP67 · With increased corrosion protection

				·				
	Version	Contacts		Modular system		PU (UNIT, SET, M)	PS*	PG
				Article No.	Price per PU			
Basic switches · I Cable entry 1 x (N	Enclosure width 40 mm · 120 x 1.5)							
Ab	Rounded plungers, according	ng to EN 50041		_				
0	Slow-action contacts	1 NO + 2 NC	\odot	3SE5112-0KA00-1AJ0		1	1 unit	41K
Laurens .	 Snap-action contacts 	1 NO + 1 NC	\odot	3SE5112-0CA00-1AJ0		1	1 unit	41K
		1 NO + 2 NC	\odot	3SE5112-0LA00-1AJ0		1	1 unit	41K
3SE5112-0CA00-1AJ0	0							
Basic switches · I Cable entry 3 x (N	Enclosure width 56 mm ·							
Cable entry 5 x (IV	Rounded plungers, operating	a nointe						
	according to EN 50041	g points						
	Slow-action contacts	1 NO + 2 NC	\odot	3SE5122-0KA00-1AJ0		1	1 unit	41K
	 Snap-action contacts 	1 NO + 1 NC	\odot	3SE5122-0CA00-1AJ0		1	1 unit	41K
		1 NO + 2 NC	\odot	3SE5122-0LA00-1AJ0		1	1 unit	41K
3SE5122-0CA00-1AJ0	0							
Basic switches · I	Enclosure width 56 mm, XL ·							
Cable entry 3 x (N								
	Rounded plungers, operating according to EN 50041	g points						
[MD/KDA	Slow-action contacts	2 × (1 NO + 1 NC)	→	3SE5162-0BA00-1AJ0		1	1 unit	41K
	Snap-action contacts	2 × (1 NO + 1 NC)	→	3SE5162-0CA00-1AJ0		1	1 unit	41K
3SE5162-0BA00-1AJ0	0							

[→] Positive opening according to IEC 60947-5-1, Appendix K or positively driven actuator, necessary in safety circuits.

Note:

For the selection aid, see page 12/14.

SIRIUS 3SE5 mechanical position switches for ambient temperatures down to -40 °C Shock and vibration test according to railway standard

SIRIUS 3SE5 mechanical position switches > 3SE5, metal enclosures

	Version		Diameter		Modular system		PU (UNIT,	PS*	PG
					Article No.	Price	SÈT, M)		
Actuators			mm			per PU			
101441019	Rounded plunger, type B, a	according to EN 50	0041						
	High-grade steel plunger,	3	10	\odot	3SE5000-0AC02-1AJ0		1	1 unit	41K
	with 3 mm overtravel								
SE5000-0AC02-1AJ0									
9	Roller plunger, type C, acco	•							
	 High-grade steel roller, with 	n 3 mm overtravel	10	€	3SE5000-0AD02-1AJ0		1	1 unit	41k
SE5000-0AD02-1AJ0									
	Roller levers								
-0		lastic roller	13	→	3SE5000-0AE01-1AJ0		1	1 unit	41k
055000 04504 4440	High-grade steel lever P	lastic roller	13	→	3SE5000-0AE03-1AJ0		1	1 unit	41k
SE5000-0AE01-1AJ0	A								
	Angular roller levers • Metal lever	lastic roller	13	→	3SE5000-0AF01-1AJ0		1	1 unit	411
		lastic roller	13	→	3SE5000-0AF01-1AJ0		1	1 unit	41r 41k
SE5000-0AF01-1AJ0	Tilgri-grade steerlever	lastic folier	10	•	33E3000-0AF03-1A00			i uiiit	411
wist actuators									
	Twist actuator, for 40/56/56	XL mm, EN 50041							
	 Switching right and/or left, 	adjustable		\odot	3SE5000-0AH00-1AJ0		1	1 unit	41k
SE5000-0AH00-1AJ0									
	Levers								
	Twist levers 27 mm, offset,								
		lastic roller	19	→	3SE5000-0AA01-1AJ0		1	1 unit	41k
SE5000-0AA01-1AJ0		lastic roller	19	€	3SE5000-0AA11-1AJ0		1	1 unit	41k
a	Twist levers 100 mm, adjus		-		0055000 04450 44 10			4	441
		lastic roller lastic roller	19 19	→	3SE5000-0AA60-1AJ0 3SE5000-0AA62-1AJ0		1 1	1 unit 1 unit	41k 41k
	High-grade steel lever P.	lastic roller	19	•	35E5000-0AA02-1AJ0		I	i unit	41r
SE5000-0AA60-1AJ0									

 $[\]ensuremath{\bigodot}$ Positively driven actuator, necessary in safety circuits.

Steel clamp (spare part) for adjustable-length twist and rod levers, see page 12/52.

SIRIUS 3SE5 mechanical position switches for ambient temperatures down to -40 °C Shock and vibration test according to railway standard

SIRIUS 3SE5 mechanical safety switches with separate actuator > 3SE5, plastic enclosures/metal enclosures

Selection and ordering data

Enclosure width 31 mm according to EN 50047

Complete units

2 contacts \cdot 5 directions of approach \cdot Degree of protection IP65 \cdot Cable entry 1 \times (M20 \times 1.5) \cdot With increased corrosion protection

				, ,				
	Version	Contacts		Complete units		PU (UNIT, SET, M)	PS*	PG
				Article No.	Price per PU			
Plastic enclosures ·	Enclosure width 31 mm according to I	EN 50047						
	Slow-action contacts	1 NO + 1 NC	→	3SE5232-0RV40-1AJ0		1	1 unit	41K
3SE5232-0RV40-1AJ0								
Metal enclosures · E	Enclosure width 40 mm according to El	V 50041						
	With M12 device plug, 5-pole (125 V, 4 A) ¹⁾							
	Slow-action contacts	2 NC	→	3SE5114-0QV10-1AJ4		1	1 unit	41K
3SE5114-0QV40-1AJ4								
_								

[→] Positive opening according to IEC 60947-5-1, Annex K.

¹⁾ For pin assignments, see page 12/13.

	Version	Article No. Price per Pl		PS*	PG
Accessories					
	Standard actuator				
	 With transverse fixing, plastic, length 40 mm 	3SE5000-0AW11	1	1 unit	41K
3SE5000-0AW11					
0020000 07 117 1	High-grade steel actuators ¹⁾				
-	• Length 75.6 mm	3SE5000-0AW51	1	1 unit	41K
	· ·				
3SE5000-0AW51					
	With vertical fixing, length 53 mm	3SE5000-0AW52	1	1 unit	41K
3SE5000-0AW52					
-	With transverse fixing, length 47 mm	3SE5000-0AW53	1	1 unit	41K
3SE5000-0AW53					
	Universal radius actuator, heavy duty • High-grade steel actuator ¹⁾ , length 77 mm	3SE5000-0AW57	1	1 unit	41K
3SE5000-0AW57					

¹⁾ Suitable for extreme environmental conditions such as -40 °C.

SIRIUS 3SE5 mechanical position switches for ambient temperatures down to -40 °C Shock and vibration test according to railway standard

SIRIUS 3SE5 mechanical safety switches with tumbler > 3SE5, plastic enclosures

Selection and ordering data

Enclosure width 54 mm

6 slow-action contacts \cdot 5 directions of approach \cdot Degree of protection IP66/IP67 \cdot Cable entry 3 x (M20 x 1.5)

	Tumbler ¹⁾	Solenoid, rated operational voltage		Complete units Position monitoring: Actuators: 1 NO + 2 NC Solenoid: 1 NO + 2 NC		PU (UNIT, SET, M)	PS*	PG
		V		Article No.	Price per PU			
1 300 N locking force	e · Enclosure width 54 mm accor	ding to ISO 141	19					
	Spring-actuated locks							
	With escape release from the front and emergency release from the back	24 DC	→	3SE5322-0SL21-1AJ0		1	1 unit	41K
Lenning	With auxiliary release			3SE5322-0SD21-1AJ0		1	1 unit	41K
	 With escape release from the back and auxiliary release from the front, head rotated 180° 			3SE5322-0SG21-1AM5		1	1 unit	41K
3SE5322-0SL21-1AJ0								

[→] Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.

¹⁾ Supplied without actuator. Please order separately.

	Version	Article No. Price per PU	PU (UNIT, SET, M)	PS*	PG
Accessories					
- 00	Standard actuator				
	• Length 75.6 mm	3SE5000-0AV01	1	1 unit	41K
3SE5000-0AV01					
	High-grade steel actuators ¹⁾				
-100	• Length 75.6 mm	3SE5000-0AW51	1	1 unit	41K
3SE5000-0AW51					
0020000 0/1/101	With vertical fixing, length 53 mm	3SE5000-0AW52	1	1 unit	41K
	- With Voltical lixing, length 50 min	COLOGO VANOE	,	runt	7110
3SE5000-0AW52					
- 0	With transverse fixing, length 47 mm	3SE5000-0AW53	1	1 unit	41K
3SE5000-0AW53					
H	Universal radius actuator, heavy duty				
2005000 000057	 High-grade steel actuator¹⁾, length 77 mm 	3SE5000-0AW57	1	1 unit	41K
3SE5000-0AW57					

¹⁾ Suitable for extreme environmental conditions such as -40 °C.

SIRIUS 3SE safety switches and 3SU1 EMERGENCY STOP enclosures for PROFIsafe connection

Safety cabling in the field with IP67

Overview

SIRIUS sensors and SIMATIC ET 200

SIRIUS sensors are connected in the field using the M12 connection method via the fail-safe field modules of the SIMATIC ET 200eco PN and SIMATIC ET 200AL. The signals are forwarded to the higher-level controller via PROFINET/PROFIsafe.

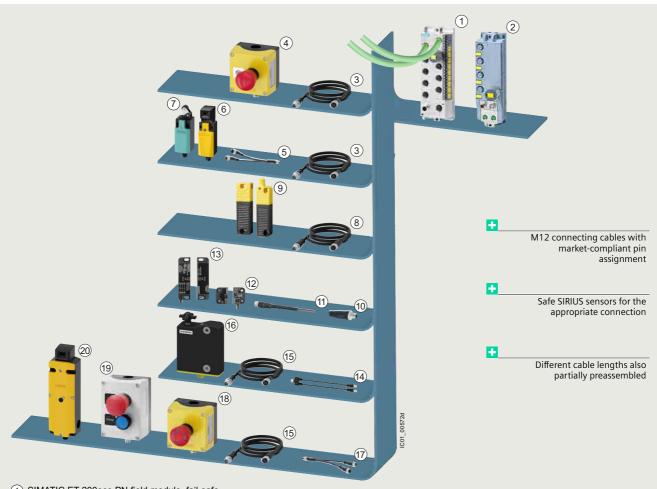
For more information, see also page 12/11.

Advantages

- Identical pin assignment on the modules, connecting cables and sensors enables simple and fast connection and prevents connection errors and their consequences.
- · Safe system technology in the field from the sensor to the field module

Configurator, see

www.siemens.com/SIMATIC-ET200-safety-sensor-configurator.



- (1) SIMATIC ET 200eco PN field module, fail-safe, 6ES7146-6FF00-0AB0
- (2) SIMATIC ET 200AL field module, fail-safe, 6ES7146-5FF00-0AB0
- (3) Connecting cables, 5-pole, 3SX5601-3SV15
- 4 SIRIUS ACT enclosure, EMERGENCY STOP, (11) Connecting cable with open end, with M12 plug, 5-pole, 3SU1801-0NH00-4NB2
- (5) Y-cable, 5-pole to 2 x 5-pole, 6ES7194-6KB00-0XA0
- (6) Safety switch with separate actuator, without tumbler, with M12 plug, 5-pole, 3SE5114/3SE5234
- (7) Position switch, with M12 plug, 5-pole, 3SE5114/3SE5234
- Adapter cable, with M12 socket, 8-pole and M12 plug, 5-pole, 3SX5601-3SV00-1AK3

- (9) RFID non-contact safety switches, 8-pole, 3SF63
- (10) M12 plug, 5-pole, 3RK1902-4BA00-5AA0
- 6-pole or 4-pole, 3SX5601-.GA05
- (12) Magnetically operated switches, 6-pole, 3SE66/3SE67
- (13) Magnetically operated switches, 4-pole, 3SE66/3SE67
- Y-cable, 8-pole to 2 x 5-pole, 3SX5601-3SY00-1AK4
- Connecting cable, 8-pole, 3SX5601-3SV18

- (6) RFID non-contact safety switch with tumbler 3SE64
- (17) Y-cable, 8-pole to 2 x 5-pole, 6ES7194-6KC00-0XA0
- 18 SIRIUS ACT enclosure, EMERGENCY STOP, illuminated, with M12 plug, 8-pole, 3SU1801-0NV00-4SA2
- (19) SIRIUS ACT enclosure, EMERGENCY STOP and pushbutton, with M12 plug, 8-pole, 3SU1802-0NE00-4SB1
- (20) Safety switch with tumbler, with M12 plug, 8-pole, 3SE5324

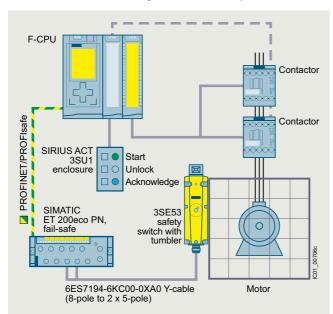
Safety field system composed of SIRIUS sensors and SIMATIC ET 200 with the M12 connection method

SIRIUS 3SE safety switches and 3SU1 EMERGENCY STOP enclosures for PROFIsafe connection

Safety cabling in the field with IP67

Application examples

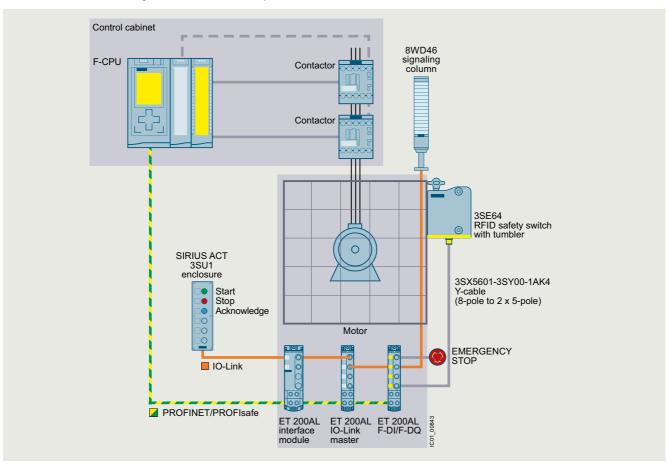
Protective door monitoring with 3SE53 safety switch with tumbler for the field level to ET 200eco PN-F



For a detailed description of this application example, see https://support.industry.siemens.com/cs/ww/en/view/109778289.

Protective door monitoring with 3SE53 safety switch with tumbler on the fail-safe field module of the SIMATIC ET 200eco PN with Y-cable

• Protective door monitoring with 3SE64 RFID safety switch for the field level to ET 200AL-F



Protective door monitoring with 3SE64 RFID safety switch on the fail-safe field module of the SIMATIC ET 200AL with Y-cable

For a detailed description of this application example, see https://support.industry.siemens.com/cs/ww/en/view/109818115.

SIRIUS 3SE safety switches and 3SU1 EMERGENCY STOP enclosures for PROFIsafe connection

Fail-safe field	modules	Туре	SIL				
	SIMATIC ET 200eco PN fail-safe F-DI 8x24 V/F-DQ 3x24 V 2A, M12, PROFIsafe, up to PL e (ISO 13849), up to SIL 3 (IEC 61508), degree of protection IP65/67	6ES7146-6FF00-0AB0	3				
enenene i	SIMATIC ET 200AL fail-safe F-DI 4+F-DQ 2x24 V DC/2 A, 4 x M12, PROFIsafe, up to PL e (ISO 13849), up to SIL 3 (IEC 61508), degree of protection IP67	6ES7146-5FF00-0BA0	3				
Sensors with	M12 plugs	Туре	SIL	Connection a M12 method,		Туре	Cable length
SIRIUS ACT	enclosure, EMERGENCY STO	P					
0	Enclosure plastic, yellow, with 1 command point,	3SU1801-0NH00-4NB2 (see page 13/105)	3		Connecting cable with M12 socket, 5-pole and M12 plug, 5-pole	3SX5601-3SV15 (see page 12/50)	1 m
	A = EMERGENCY STOP mushroom pushbutton, red,				or		
	M12 plug (5-pole)			5 5	Connecting cable with M12 socket, 5-pole, open end	3SX5601-3SB55 (see page 12/50)	5 m
					and		
					M12 plug 5-pole, straight, separate item	3RK1902-4BA00-5AA0 (see page 12/51)	

SIRIUS 3SE safety switches and 3SU1 EMERGENCY STOP enclosures for PROFIsafe connection

Sensors with	M12 plugs	Туре	SIL	Connection a		Туре	Cable length
Mechanical	safety switches						
Plastic 31 m	m						
	Basic switch with rounded plunger for modular design with M12 plug, 5-pole + actuator head (order separately), e.g. roller lever 3SE5000-0AE10	3SE5234-0LC05-1AE2 (basic switches, see page 12/19, actuator heads, see page 12/20)	1				
	Position switch, roller plunger with M12 plug, 5-pole	3SE5234-0LD03-1AE2 (see page 12/17)	1				
	Position switch, roller lever with M12 plug, 5-pole	3SE5234-0LE11-1AE2 (see page 12/17)	2				
	Safety switch with separate actuator without tumbler	3SE5234-0QV40-1AE2 (see page 12/57)	2		Connecting cable with M12 socket, 5-pole and M12 plug, 5-pole	3SX5601-3SV15 (see page 12/50)	1 m
₩ 00	with M12 plug, 5-pole + actuator (order separately), e.g. standard 3SE5000-0AV01	Actuators (see page 12/61)			or Connecting cable	3SX5601-3SB55	5 m
Metal, 40 mi	n			3	with M12 socket, 5-pole, open end	(see page 12/50)	
	Basic switch for modular design with M12 plug, 5-pole + actuator head (order separately), e.g. roller plunger 3SE5000-0AD02	3SE5114-0LA00-1AE3 (basic switches see page 12/37, actuator heads see page 12/38)	1		and M12 plug 5-pole, straight, separate item	3RK1902-4BA00-5AA0 (see page 12/51)	
	Position switch, roller plunger with M12 plug, 5-pole	3SE5114-0LD02-1AE3 (see page 12/34)	1		Separate nom		
	Position switch, twist lever with M12 plug, 5-pole	3SE5114-0LH01-1AE3 (see page 12/35)	1				
	Position switch, plain plunger with M12 plug, 5-pole	3SE5114-0LB01-1AE3 (see page 12/34)	1	-			
	Safety switch with separate actuator without tumbler with M12 plug, 5-pole + actuators (order separately), e.g. standard 3SE5000-0AV01	3SE5114-0QV10-1AE3 (see page 12/60) Actuators (see page 12/61)	2				
Combination	ns (examples)						
	Position switch + safety switch with separate actuator, without tumbler Actuators (order separately),	3SE5114-0LH01-1AE3 (see page 12/35)+ 3SE5234-0QV40-1AE2 (see page 12/57) Actuators	3	11	ET 200 Y-cable for connecting 2 x 1-channel sensors with M12 plug, 5-pole on 2 x M12 sockets, 5-pole	6ES7194-6KB00-0XA0 (see page 12/50)	0.2 m
	e.g. standard 3SE5000-0AV01	(see page 12/61)			Extend if necess	sary with	
	2 x safety switches with separate actuator, without tumbler	3SE5234-0QV40-1AE2, 3SE5234-0QV40-1AE2 (see page 12/57)	3		Connecting cable with M12 socket, 5-pole and M12 plug, 5-pole	3SX5601-3SV15 (see page 12/50)	1 m
	Actuators (order separately), e.g. standard 3SE5000-0AV01	Actuators (see page 12/61)			or	201/502 / 20055	
3, 2	2 x position switches	3SE5114-0LH01-1AE3 (see page 12/35)	3	54	Connecting cable with M12 socket, 5-pole, open end	3SX5601-3SB55 (see page 12/50)	5 m
		3SE5234-0LE11-1AE2 (see page 12/17)			and M12 plug 5-pole, straight, separate item	3RK1902-4BA00-5AA0 (see page 12/51)	

SIRIUS 3SE safety switches and 3SU1 EMERGENCY STOP enclosures for PROFIsafe connection

Sensors with	M12 plugs	Туре	SIL	Connection a		Туре	Cable
Non-contac	t safety switches (examples)		-	M12 method,	A-coded		length
	RFID safety switch family-coded + actuator	3SE6315-0BB01-1AP0 (see page 12/127) 3SE6310-0BC01 (see page 12/127)	3				
	RFID safety switch individually coded, programmable several times + actuator	3SE6315-0BB02-1AP0 (see page 12/127) 3SE6310-0BC01	3		Adapter cable with M12 socket, 8-pole on M12 plug, 5-pole	3SX5601-3SV00-1AK3 (see page 12/127)	0.5 m
	RFID safety switch individually coded, programmable once	(see page 12/127) 3SE6315-0BB03-1AP0 (see page 12/127)	3		Extend if neces Connecting cable with M12 socket, 5-pole and M12 plug, 5-pole	3SX5601-3SV15 (see page 12/50)	1 m
	+ actuator	3SE6310-0BC01 (see page 12/127)					
16	Magnetically operated switch (cable 3 m) + switching solenoid	3SE6605-2BA (see page 12/122) 3SE6704-2BA	3		M12 plug 5-pole, straight, separate item	3RK1902-4BA00-5AA0 (see page 12/51)	
	(25 x 88 mm), coded	(see page 12/122)		or	M12 plug 5-pole, angled, separate item	3RK1902-4DA00-5AA0 (see page 12/51)	
	Magnetically operated switch (25 x 88 mm), M8 plug, 4-pole + LED, door hinge left, 2 NC	3SE6614-4CA01 (see page 12/122)	3	6	Connecting cable with M8 socket, 4-pole, open end and	3SX5601-3GA05 (see page 12/50)	5 m
	+ switching solenoid (25 x 88 mm), coded	3SE6714-2CA (see page 12/122)			M12 plug 5-pole, straight,	3RK1902-4BA00-5AA0 (see page 12/51)	
	Magnetically operated switch (25 x 88 mm), M8 plug, 4-pole + LED, door hinge right, 2 NC	3SE6624-4CA01 (see page 12/123)	3	or	M12 plug 5-pole, angled, separate item	3RK1902-4DA00-5AA0 (see page 12/51)	
	+ switching solenoid (25 x 88 mm), coded	3SE6714-2CA (see page 12/122)			зерагате неті		
	Magnetically operated switch (25 x 88 mm), 8 mm Ø latching connection, plug, 6-pole, door hinge left, 2 NC + 1 NC signaling contact	3SE6617-2CA01 (see page 12/122)	3				
	+ switching solenoid (25 x 88 mm), coded	3SE6714-2CA (see page 12/122)					
	Magnetically operated switch (25 x 88 mm), 8 mm Ø latching connection, plug, 6-pole, door hinge right, 2 NC + 1 NC signaling contact	3SE6627-2CA01 (see page 12/123)	3		Connecting cable with socket 8 mm, latching connection, 6-pole, open end and	3\$X5601-4GA05 (see page 12/50)	5 m
	+ switching solenoid (25 x 88 mm), coded	3SE6714-2CA (see page 12/122)			M12 plug 5-pole, straight,	3RK1902-4BA00-5AA0 (see page 12/51)	
	Magnetically operated switch (26 x 36 mm), 8 mm Ø latching connection, plug, 6-pole, door hinge left,	3SE6617-3CA01 (see page 12/122)	3	or	M12 plug 5-pole, angled,	3RK1902-4DA00-5AA0 (see page 12/51)	
	2 NC + 1 NC signaling contact + switching solenoid (26 x 36 mm), coded	3SE6714-3CA (see page 12/122)			separate item		
	Magnetically operated switch (26 x 36 mm), 8 mm Ø latching connection, plug, 6-pole, door hinge right, 2 NC + 1 NC signaling contact	3SE6627-3CA01 (see page 12/123)	3				
	+ switching solenoid (26 x 36 mm), coded	3SE6714-3CA (see page 12/122)					

SIRIUS 3SE safety switches and 3SU1 EMERGENCY STOP enclosures for PROFIsafe connection

Sensors with	M12 plugs	Туре	SIL	Connection a M12 method,		Туре	Cable length
Mechanical	safety switches with tumbler						
	Safety switch with tumbler, with solenoid monitoring, with auxiliary release	3SE5324-0SD21-1AE4 (see page 12/68)	2		Connecting cable with M12 socket, 8-pole and M12 plug, 8-pole and	3SX5601-3SV18 (see page 12/72)	1 m
	M12 plug, 8-pole, monitoring 1 x door + 1 x interlocking, connection to an F-DI input and an F-DQ output via a Y-cable	A-1		1	ET 200 Y-cable for connecting 1 x 2-channel sensor with M12 socket, 8-pole on 2 x M12 plugs,	6ES7194-6KC00-0XA0 (see page 12/72)	0.2 m
== 00	+ actuators (order separately), e.g. standard 3SE5000-0AV01,	Actuators (see page 12/61)			5-pole		
	stainless steel 3SE5000-0AW51				or		_
					Connecting cables with M12 socket, 8-pole,	3SX5601-2GA03 (see page 12/72)	3 m
					straight, open end	3SX5601-2GA05 (see page 12/72)	5 m
<u></u>	Safety switch with tumbler,	3SE5324-0SH21-1AE4 (see page 12/68)	2			3SX5601-2GA10 (see page 12/72)	10 m
	with solenoid monitoring, with escape release from the back and auxiliary release with					3SX5601-2GA15 (see page 12/72)	15 m
100	lock from the front				and		
,,)	M12 plug, 8-pole, monitoring 1 x door + 1 x interlocking, connection to an F-DI input and an			3	M12 plug 8-pole, straight	6GT2090-0BE00 (see page 12/72)	
	F-DQ output via a Y-cable				and		
F	+ actuators (order separately), e.g. standard 3SE5000-0AV01, stainless steel 3SE5000-0AW51	Actuators (see page 12/61)		4	ET 200 Y-cable for connecting 1 x 2-channel sensor with M12 socket, 8-pole on 2 x M12 plugs, 5-pole	6ES7194-6KC00-0XA0 (see page 12/72)	0.2 m
					or		
<u>-</u>	Safety switch with tumbler,	3SE5324-0SD21-1AE5 (see page 12/68)	2		Connecting cables with M12 socket, 8-pole,	3SX5601-2GA03 (see page 12/72)	3 m
	without solenoid monitoring, with auxiliary release M12 plug, 8-pole,			•	straight, open end	3SX5601-2GA05 (see page 12/72)	5 m
	monitoring 2 x door + 0 x interlocking,					3SX5601-2GA10 (see page 12/72)	10 m
	connection to an F-DI input and an F-DQ output via a Y-cable					3SX5601-2GA15 (see page 12/72)	15 m
= 100	+ actuators (order separately),	Actuators			and		
	e.g. standard 3SE5000-0AV01, stainless steel 3SE5000-0AW51	(see page 12/61)			2 x M12 plug 5-pole, straight, separate item	3RK1902-4BA00-5AA0 (see page 12/51)	
				or	2 x M12 plug 5-pole, angled, separate item	3RK1902-4DA00-5AA0 (see page 12/51)	

SIRIUS 3SE safety switches and 3SU1 EMERGENCY STOP enclosures for PROFIsafe connection

Sensors wit	th M12 plugs	Туре	SIL	Connection a M12 method,		Туре	Cable length
RFID non-	contact safety switches with tu	mbler					
Only suita	ble for process protection, see	Note on page 12/13	1				
	RFID safety switches with tumbler, M12 plug 8-pole, connection to an F-DI input and an	3SE6415-1AB01 (see page 12/133)	2		Connecting cable with M12 socket, 8-pole and M12 plug, 8-pole and	3SX5601-3SV18 (see page 12/134)	1 m
•	F-DQ output via a Y-cable Closed-circuit principle with auxiliary release Family-coded	3SE6415-1BB01 (see page 12/133)			ET 200 Y-cable for connecting 1 x 2-channel sensor with M12 socket, 8-pole on 2 x M12 plugs, 5-pole	3SX5601-3SY00-1AK4 (see page 12/134)	0.2 m
	 Individually coded, programmable several times 	3SE6415-1BB02 (see page 12/133)			o-pole or		
	Open-circuit principle with auxiliary release	(000 00 00 00			Connecting cables with M12 socket, 8-pole,	3SX5601-2GA03 (see page 12/134)	3 m
	- Family-coded	3SE6415-1AB01 (see page 12/133)		•	straight, open end	3SX5601-2GA05 (see page 12/134)	5 m
	- Individually coded, programmable several times	3SE6415-1AB02 (see page 12/133)				3SX5601-2GA10 (see page 12/134)	10 m
	Closed-circuit principle with escape release	205245 40524				3SX5601-2GA15 (see page 12/134)	15 m
	- Family-coded	3SE6415-1CB01 (see page 12/133)			and	0070000 00500	
P	+ RFID actuator (order separately)	3SE6410-1AC01 (see page 12/133)	2	3	M12 plug 8-pole, straight	6GT2090-0BE00 (see page 12/134)	_
					and	00//5004 00//00 44//4	0.0
•					ET 200 Y-cable for connecting 1 x 2-channel sensor with M12 socket, 8-pole on 2 x M12 plugs, 5-pole	3SX5601-3SY00-1AK4 (see page 12/134)	0.2 m
					or		
					Connecting cables with M12 socket, 8-pole, straight, open end	3SX5601-2GA03 (see page 12/134)	3 m
					straight, open end	3SX5601-2GA05 (see page 12/134)	5 m
						3SX5601-2GA10 (see page 12/134)	10 m
						3SX5601-2GA15 (see page 12/134)	15 m
					and		
					2 x M12 plug 5-pole, straight, separate item	3RK1902-4BA00-5AA0 (see page 12/134)	
				or	2 x M12 plug 5-pole, angled, separate item	3RK1902-4DA00-5AA0 (see page 12/134)	

SIRIUS 3SE safety switches and 3SU1 EMERGENCY STOP enclosures for PROFIsafe connection

Sensors with	Sensors with M12 plugs Typ		SIL	Connection accessories M12 method, A-coded		Туре	Cable length
SIRIUS ACT	「enclosures						
0	Enclosure plastic, yellow, with 1 command point, A = EMERGENCY STOP	3SU1801-0NV00-4SA2 (see page 13/105)	3		Connecting cable with M12 socket, 8-pole and M12 plug, 8-pole	3SX5601-3SV18 (see page 12/72)	1 m
	mushroom pushbutton, red,				and		
	M12 plug (8-pole), connection to an F-DI input and an F-DQ output via a Y-cable	-	ET 200 Y-cable for connecting 1 x 2-channel sensor with M12 socket, 8-pole on 2 x M12 plugs, 5-pole	6ES7194-6KC00-0XA0 (see page 12/72)	0.2 m		
					or		
					with M12 socket, 8-pole,	3SX5601-2GA03 (see page 12/72)	3 m
	Enclosure 3SU1802-0NE00-4SB1 3 (see page 13/105)			straight, open end	3SX5601-2GA05 (see page 12/72)	5 m	
0 0				3SX5601-2GA10 (see page 12/72)	10 m		
	with 2 command points, B = EMERGENCY STOP mushroom pushbutton, red,					3SX5601-2GA15 (see page 12/72)	15 m
	A = pushbutton, blue,				and		
u v	M12 plug (8-pole), two connections to two F-DI inputs via a Y-cable			3	M12 plug 8-pole, straight	6GT2090-0BE00 (see page 12/72)	
					and		
				(Fred)	ET 200 Y-cable for connecting 1 x 2-channel sensor with M12 socket, 8-pole on 2 x M12 plugs, 5-pole	6ES7194-6KC00-0XA0 (see page 12/72)	0.2 m

SIRIUS 3SF1 mechanical safety switches for AS-Interface

General data

Overview

More information

Homepage, see www.siemens.com/sirius-position-switches

SiePortal, see www.siemens.com/product?3SF

Configurator, see www.siemens.com/sirius/configurators

Configuration Manual, see

https://support.industry.siemens.com/cs/ww/en/view/43920150

The 3SF1 position switches with safety-related communication can be directly connected using the AS-Interface bus system. The safety functions no longer have to be wired up conventionally.

With the 3SF1 position switches the ASIsafe electronics are integrated in the switch enclosure.



Examples of selection options in the modular system

Modular system

The position switches of the 3SF11.4 and 3SF12.4 series are designed as a modular system comprising different versions of the basic switch and an actuator which must be ordered separately. Thanks to the modular design of the switch the end users can select the right solution for their application from numerous versions and install it themselves in a very short time.

Design

The 3SF1 switches are available in four different enclosure sizes:

- Plastic and metal enclosures according to EN 50047, 31 mm wide, with M12 device plug
- Metal enclosures according to EN 50041, 40 mm wide, with M12 device plug
- Plastic enclosures, 50 mm wide, with M12 device plug and M12 socket
- Metal enclosures, 56 mm wide, with M12 device plug and M12 socket

Display

The switches have a status display with three LEDs:

- LED 1 (yellow): F-IN1LED 2 (yellow): F-IN2
- LED 3 (green/red): AS-i/FAULT

Connection

Connection to the AS-Interface is by means of a 4-pole M12 device plug (plastic version) connected to the yellow AS-Interface bus cable.

The wide enclosures (50 or 56 mm) also have an M12 socket for connecting a second position switch. In this way, SIL 3 according to IEC 62061/IEC 61508 or PL e according to ISO 13849-1 is reached.

Benefits

The 3SF1 safety switches provide:

- ASIsafe electronics integrated in the enclosure, with low power consumption < 60 mA
- An extensive range of actuators
- Status display with three LEDs
- Can be integrated easily via TIA Portal

SIRIUS 3SF1 mechanical safety switches for AS-Interface

General data

Application

With the standard position switches, mechanical positions of moving machine parts are converted into electrical signals. Through their modular and uniform design and large number of versions, the devices can comply with practically all requirements in industry.

Devices are available with enclosure versions to suit the particular ambient conditions. Different control tasks can be performed with the contact blocks best suited for the particular purpose. And many different actuator versions are available to match the mechanical configuration of the moving machine parts. Dimensions, fixing points and characteristics are largely according to the EN 50041 or EN 50047 standards.

The devices are suitable for use in any climate.

Standards

The switches comply with IEC 60947-1 (Low-Voltage Switchgear and Controlgear, General) and IEC 60947-5-1 (Electromechanical Control Circuit Devices).

The mechanical design of the switch corresponds to the requirements of the fail-safe principle according to ISO 14119.

Approvals

AS-Interface according to IEC 62026-2

The 3SF1 position switches are approved according to UL 508, UL 50 and UL 746-C.

Safety circuits

Standard IEC 60947-5-1 requires positive opening of the NC contacts. In other words, for the purposes of personal safety, the assured opening of NC contacts is expressly stipulated for the electrical equipment of machines in all safety circuits and marked according to the standard IEC 60947-5-1 with the symbol Θ .

With a 3SF1 safety switch with ⊕, SIL 2 according to IEC 62061/IEC 61508 or PL c according to ISO 13849-1 can be attained if the corresponding fail-safe evaluation units are selected from the ASIsafe program and correctly installed.

If a second 3SF1 safety switch with $\ensuremath{\ensuremath{\ensuremath{\Theta}}}$ is used, SIL 3/PL e can be attained.

Evaluation of safety functions

Safety Evaluation in the TIA Selection Tool

The safety evaluation for the IEC 62061 and ISO 13849-1 standards is performed quickly and easily, directly in the TIA Selection Tool. In addition to the fast and safe calculation of machine safety functions – from the definition of the system structure to the selection of components – this enables shared data management during all project phases. Take the next step in the digital design of machinery and equipment with Safety Evaluation in the TIA Selection Tool.

In addition, the functionalities of the proven Safety Evaluation Tool are still available. It determines the achieved safety integrity (SIL/PL) step-by-step. You receive the results as a standards-compliant report that can be integrated in the documentation as proof of safety.

For more information, see www.siemens.com/safety-evaluation-tool.

SIRIUS 3SF1 mechanical safety switches for AS-Interface

General data

Technical specifications

Туре		3SF11, 3SF12
General data		
Standards		IEC 60947-5-1, ISO 14119
According to AS-Interface specification		
 I/O configuration/ID configuration ID1 code/ID2 code (hex) Power consumption, overall 	mA	0/B F/F ≤ 60
Inputs		
Low signal rangeHigh signal range		Contact open Contact closed, I_{in} dynamic ($I_{peak} \ge 5 \text{ mA}$)
Status display		Green/red dual LED
Rated impulse withstand voltage U _{imp}	kV	0.6
EMC strength		
• IEC 61000-1-2 • IEC 61000-4-3 • IEC 61000-4-4 (A/B)	kV V/m kV	4 10 1/2
Mechanical endurance		
Basic switchWith separate actuator, 3SF1V		15×10^6 operating cycles 1×10^6 operating cycles
PFH value		
Probability of failure upon request of the safety function, with 1 actuation per hour and $B10 = 5 \times 10^6$		
Basic switch	1/h	4 x 10 ⁻⁹
With separate actuator, 3SF1VHinge switch, 3SF1U	1/h 1/h	2 x 10 ⁻⁹ 2 x 10 ⁻⁹
Shock resistance according to IEC 60068-2-27		30 g/11 ms

Туре		3SF1234	3SF1134	3SF1244	3SF1214	3SF1114	3SF1124
Enclosures							
Enclosure							
Material		Ultramid A3X	2G7		Zinc die-casti	ng GD-ZnAl4Cu	1
• Width	mm	31	40	50	31	40	56
 Dimensions according to EN 		EN 50047	EN 50041		EN 50047	EN 50041	
Degree of protection according to IEC 60529		IP65	IP66/IP67				
Ambient temperature							
During operation	°C	-25 +60					
Storage, transport	°C	-40 +80					
Mounting position		Any					

Pin assignments

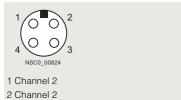
M12 device plug, 4-pole



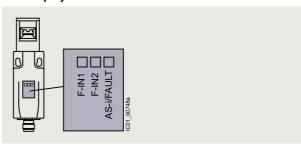
- 1 ASi +
- 2 Not assigned
- 3 ASi -
- 4 Not assigned

3 Not assigned4 Not assigned

M12 socket, 4-pole



LED displays



3SF1 safety switches with AS-i and LED status displays

Status display (operating state)

	• • •	•		
LED	No voltage on AS-Interface chip	Communication OK		Slave has address "0"
AS-i/Fault (GN/RD/YE)		*	*	\

Safe inputs

Sare inputs				
LED	Not actuated	Actuated		
F-IN1 (YE)	0	\	 	
F-IN2 (YE)	0	\	 	

SIRIUS 3SF1 mechanical safety switches for AS-Interface

3SF1, plastic enclosures > Enclosure width 31 mm according to EN 50047/50 mm

Selection and ordering data

Modular system

For the ASIsafe version of the position switch, the basic switch and actuator must be ordered separately.

1 or 2 contacts · 3 LEDs · Degree of protection IP65 (31 mm) or IP66/IP67 (50 mm) · M12 device plug

	Version	Contacts	LEDs		Modular system		PU (UNIT, SET, M)	PS*	PG
					Article No.	Price per PU			
Basic switches · End Degree of protection	closure width 31 mm accordii n IP65	ng to EN 5	50047 ·						
AD	Rounded plungers ¹⁾						_		
	With M12 device plug, 4-pole								
(100 mgs	Channel 1 on NC contact, channel 2 on NC contact								
	 Slow-action contacts 	2 NC	24 V DC	\odot	3SF1234-1KC05-1BA1		1	1 unit	42A
	 Snap-action contacts 	2 NC	24 V DC	\odot	3SF1234-1LC05-1BA1		1	1 unit	42A
3SF1234-1KC05-1BA1									
Basic switches · End Operating points acc	closure width 50 mm · Degree cording to EN 50047	of protec	ction IP66	6/IP67 ·					
	Rounded plungers ¹⁾				_				
	With M12 device plug, 4-pole								
	Channel 1 on NC contact, channel 2 on M12 socket, right								
3SF1244-1KC05-1BA2	 Slow-action contacts 	1 NC	24 V DC	\odot	3SF1244-1KC05-1BA2		1	1 unit	42A
	 Snap-action contacts 	1 NC	24 V DC	\odot	3SF1244-1LC05-1BA2		1	1 unit	42A
Positive opening accor	ding to IEC 60947-5-1 Annex K or	nositively d	riven 1	Vlote:					

[→] Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, for use in safety circuits.

For the selection aid, see page 12/14.

¹⁾ For enclosures with widths of 31 mm and 50 mm, the basic switch is a complete unit with rounded plungers.

SIRIUS 3SF1 mechanical safety switches for AS-Interface

3SF1, plastic enclosures > Enclosure width 31 mm according to EN 50047/50 mm

!	Version		Roller		Modular system		PU	PS*	PG
			diame	ter			(UNIT, SET, M)		
			mm		Article No.	Price per PU	OL 1, 111)		
Actuators			111111			perio			
A	Plain plunger								
3SE5000-0AB01	High-grade steel plung	ger	8.5	→	3SE5000-0AB01		1	1 unit	41K
A	Roller plungers, type C	, according to EN 50047							
4	 Plastic roller 		10	\odot	3SE5000-0AD03		1	1 unit	41K
3SE5000-0AD03	High-grade steel roller		10	\odot	3SE5000-0AD04		1	1 unit	41K
<u> </u>	Roller plungers with ce	ntral fixing							
<u></u>	 Plastic roller 		10	\odot	3SE5000-0AD10		1	1 unit	41K
3	High-grade steel roller		10	igotharpoons	3SE5000-0AD11		1	1 unit	41K
3SE5000-0AD10									
	Roller levers, type E, ac	cording to EN 50047							
	Metal lever	Plastic roller	13	\odot	3SE5000-0AE10		1	1 unit	41K
		High-grade steel roller	13	→	3SE5000-0AE11		1	1 unit	41K
3SE5000-0AE10	High-grade steel lever		13	→	3SE5000-0AE12		1	1 unit	41K
	Angular roller levers	High-grade steel roller	13	→	3SE5000-0AE13		I	1 unit	41K
	Metal lever	Plastic roller	13	→	3SE5000-0AF10		1	1 unit	41K
	motal love.	High-grade steel roller	13	⊙	3SE5000-0AF11		1	1 unit	41K
3SE5000-0AF10	• High-grade steel lever		13	→	3SE5000-0AF12		1	1 unit	41K
		High-grade steel roller	13	→	3SE5000-0AF13		1	1 unit	41K
Twist actuator			0.47						
	 Switching right or left, a 	mm, according to EN 50	047	→	3SE5000-0AK00		1	1 unit	41K
9	• Switching right or left, a	aujustable		9	33E3000-0AK00		1	i unit	411
3SE5000-0AK00									
	Levers								
•	Twist levers, type A, ac	cording to EN 50047							
	 Metal lever 	Plastic roller	19	\odot	3SE5000-0AA21		1	1 unit	41K
3SE5000-0AA21		I Kala anada atau ballan	30	→	3SE5000-0AA25		1	1 unit	41K
		High-grade steel roller - With ball bearing	19 19	⊕	3SE5000-0AA22 3SE5000-0AA23		1	1 unit 1 unit	41K 41K
	High-grade steel lever	•	19	⊕	3SE5000-0AA31		1	1 unit	41K
	g g. aas sassassas	High-grade steel roller	19	⊙	3SE5000-0AA32		1	1 unit	41K
•	Twist levers 30 mm, str	aight ¹⁾							
	 Metal lever 	Plastic roller	19	→	3SE5000-0AA24		1	1 unit	41K
_	Turiet levere 100 mm e	diatabla lawathith avia	30	€	3SE5000-0AA26		1	1 unit	41K
	Metal lever	djustable length, with grid Plastic roller	19	→	3SE5000-0AA60		1	1 unit	41K
	- IVICIAI ICVCI	i idolio iolioi	50	⊕	3SE5000-0AA67		1	1 unit	41K
8		High-grade steel roller	19	→→→	3SE5000-0AA61		1	1 unit	41K
S_		Rubber roller	50	→	3SE5000-0AA68		1	1 unit	41K
	High-grade steel lever		19	⊕	3SE5000-0AA62		1	1 unit	41K
		High-grade steel roller Rubber roller	19 50	→→→	3SE5000-0AA63 3SE5000-0AA68		1	1 unit 1 unit	41K 41K
				G					

[→] Positively driven actuator, for use in safety circuits.

Steel clamp (spare part) for adjustable-length twist and rod levers, see page 12/52.

¹⁾ Can be clinch mounted (rotated 180°, rear of lever).

SIRIUS 3SF1 mechanical safety switches for AS-Interface

3SF1, metal enclosures > Enclosure width 31 mm according to EN 50047

Selection and ordering data

Modular system

For the ASIsafe version of the position switch, the basic switch and actuator must be ordered separately.

2 contacts · 3 LEDs · Degree of protection IP66/IP67 · M12 device plug

Version	Contacts LEDs	Modular system		PU (UNIT, SET, M)	PS*	PG
		Article No.	Price per PU			

Basic switches · Enclosure width 31 mm according to EN 50047



Rounded plungers¹⁾

With M12 device plug, 4-pole

Channel 1 on NC contact, channel 2 on NC contact

 Slow-action contacts 2 NC 24 V DC → Snap-action contacts

2 NC 24 V DC → 3SF1214-1KC05-1BA1 3SF1214-1LC05-1BA1

1 unit 42A 42A 1 unit

3SF1214-1KC05-1BA1

→ Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, for use in safety circuits.

1) For enclosures with widths of 31 mm, the basic switch is a complete unit with rounded plungers.

Note:

For the selection aid, see page 12/14.

SIRIUS 3SF1 mechanical safety switches for AS-Interface

3SF1, metal enclosures > Enclosure width 31 mm according to EN 50047

	Version		Roller diameter		Modular system		PU (UNIT, SET, M)	PS*	PG
			mm		Article No.	Price per PU			
Actuators						рогто			
A.	Plain plunger								
SE5000-0AB01	High-grade steel plung	ger	8.5	→	3SE5000-0AB01		1	1 unit	41K
SESUUU-UABU I	Roller plungers, type C	, according to EN 50047							
	Plastic roller	,	10	→	3SE5000-0AD03		1	1 unit	41k
SE5000-0AD03	High-grade steel roller		10	→	3SE5000-0AD04		1	1 unit	41k
A	Roller plungers with ce	entral fixing							
	Plastic roller		10	→	3SE5000-0AD10		1	1 unit	41k
≥	High-grade steel roller		10	€	3SE5000-0AD11		1	1 unit	41k
SE5000-0AD10									
SE3000-0AD 10	Roller levers, type E, ac	cording to EN 50047							
	Metal lever	Plastic roller	13	→	3SE5000-0AE10		1	1 unit	41k
	metal level	High-grade steel roller	13	⊕	3SE5000-0AE11		1	1 unit	411
SE5000-0AE10	• High-grade steel lever	Plastic roller	13	\odot	3SE5000-0AE12		1	1 unit	41k
		High-grade steel roller	13	€	3SE5000-0AE13		1	1 unit	41k
	Angular roller levers	Di ii ii	40		2055222 24542			4 0	441
0	Metal lever	Plastic roller High-grade steel roller	13 13	→ →	3SE5000-0AF10 3SE5000-0AF11		1	1 unit 1 unit	41k 41k
SE5000-0AF10	High-grade steel lever		13	→	3SE5000-0AF12		1	1 unit	411
	riigir graac clock love.	High-grade steel roller	13	⊕	3SE5000-0AF13		1	1 unit	41K
wist actuator	rs								
		0 mm, according to EN 50	047	_					
(a)	Switching right or left, ad	ljustable		€	3SE5000-0AK00		1	1 unit	41k
SE5000-0AK00									
<u> </u>	Levers								
9	Twist levers, type A, ac	cording to EN 50047							
	 Metal lever 	Plastic roller	19	\odot	3SE5000-0AA21		1	1 unit	41k
SE5000-0AA21			30	Θ	3SE5000-0AA25		1	1 unit	41k
		High-grade steel roller - With ball bearing	19 19	⊕	3SE5000-0AA22 3SE5000-0AA23		1	1 unit 1 unit	41k 41k
	High-grade steel lever	0	19	→	3SE5000-0AA31		1	1 unit	411
	riigir graac oloci lovor	High-grade steel roller	19	⊕	3SE5000-0AA32		1	1 unit	41
	Twist levers 30 mm, str	aight ¹⁾							
	 Metal lever 	Plastic roller	19	→	3SE5000-0AA24		1	1 unit	411
	Ti.a.t.la		30	€	3SE5000-0AA26		1	1 unit	411
•	Metal lever	djustable length, with grid Plastic roller	i noie 19		3SE5000-0AA60		1	1 unit	41k
	• Ivietai levei	riastic foliel	50	→	3SE5000-0AA67			1 unit	411
0		High-grade steel roller	19	⊕	3SE5000-0AA61		1	1 unit	411
8		Rubber roller	50	⊕	3SE5000-0AA68		1	1 unit	411
	High-grade steel lever		19	→	3SE5000-0AA62		1	1 unit	411
		High-grade steel roller	19	igoredow	3SE5000-0AA63		1	1 unit	41k
SE5000-0AA60									

 $[\]begin{cal} \bigodot \end{cal}$ Positively driven actuator, for use in safety circuits.

Steel clamp (spare part) for adjustable-length twist and rod levers, see page 12/52.

¹⁾ Can be clinch mounted (rotated 180°, rear of lever).

SIRIUS 3SF1 mechanical safety switches for AS-Interface

3SF1, metal enclosures > Enclosure width 40 mm according to EN 50041/56 mm

Selection and ordering data

Modular system

For the ASIsafe version of the position switch, the basic switch and actuator must be ordered separately.

1 or 2 contacts \cdot 3 LEDs \cdot Degree of protection IP66/IP67 \cdot M12 device plug

	Version	Contacts	LEDs		Modular system		PU (UNIT, SET, M)	PS*	PG
					Article No.	Price per PU			
Basic switches · Er	nclosure width 40 mm accordi	ng to EN ${}^{\mbox{!}}$	50041						
	Rounded plungers				-				
	With M12 device plug, 4-pole								
Laurence (Laurence Laurence La	Channel 1 on NC contact, channel 2 on NC contact								
	 Slow-action contacts 	2 NC	24 V DC	\odot	3SF1114-1KA00-1BA1		1	1 unit	42A
	 Snap-action contacts 	2 NC	24 V DC	\odot	3SF1114-1LA00-1BA1		1	1 unit	42A
3SF1114-1KA00-1BA1									
	nclosure width 56 mm · ccording to EN 50041								
	Rounded plungers				_				
•	With M12 device plug, 4-pole								
Limitage	Channel 1 on NC contact, channel 2 on M12 socket, right								
	 Slow-action contacts 	1 NC	24 V DC	\odot	3SF1124-1KA00-1BA2		1	1 unit	42A
	 Snap-action contacts 	1 NC	24 V DC	\odot	3SF1124-1LA00-1BA2		1	1 unit	42A
3SF1124-1KA00-1BA2									

[→] Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, for use in safety circuits.

Note:

For the selection aid, see page 12/14.

SIRIUS 3SF1 mechanical safety switches for AS-Interface

3SF1, metal enclosures > Enclosure width 40 mm according to EN 50041/56 mm

	Version		Diameter		Modular system		PU (UNIT,	PS*	PG
							SET, M)		
			mm		Article No.	Price per PU			
Actuators						p o · · · o			
.0.	Plain plunger								
	High-grade steel plung	jer	8.5	\odot	3SE5000-0AB01		1	1 unit	41K
3SE5000-0AB01									
<u>A</u>		B, according to EN 50041							
4	High-grade steel plung	ger, with 3 mm overtravel	10	€	3SE5000-0AC02		1	1 unit	41K
3SE5000-0AC02									
<u> </u>	Roller plunger, type C,	=							
	 High-grade steel roller, 	with 3 mm overtravel	13	€	3SE5000-0AD02		1	1 unit	41K
4									
3SE5000-0AD02									
	Roller levers								
	Metal lever	Plastic roller	22	→	3SE5000-0AE01		1	1 unit	41K
	High-grade steel lever	High-grade steel roller	22 22	→	3SE5000-0AE02 3SE5000-0AE03		1 1	1 unit 1 unit	41K 41K
3SE5000-0AE01	- riigii grade steeriever	High-grade steel roller	22	⊕	3SE5000-0AE04		1	1 unit	41K
	Angular roller levers								
	 Metal lever 	Plastic roller	22	\odot	3SE5000-0AF01		1	1 unit	41K
	a I Cala ana da aka di lawa	High-grade steel roller	22	→	3SE5000-0AF02		1	1 unit	41K
3SE5000-0AF01	High-grade steel lever	High-grade steel roller	22 22	→	3SE5000-0AF03 3SE5000-0AF04		1	1 unit 1 unit	41K 41K
Twist actuator	rs	3 3 *** * * * * * * * * * * * * * * * *							
	Twist actuators, for 40/	56/56 XL mm, EN 50041							
	 For twist levers, 			\odot	3SE5000-0AH00		1	1 unit	41K
2	switching right and/or I only for enclosure widt								
3SE5000-0AH00	For fork levers, latching			\odot	3SE5000-0AT10		1	1 unit	41K
	Levers								
Q	Twist levers 27 mm, off	set, type A, according to El	N 50041						
	 Metal lever 	Plastic roller	19	→	3SE5000-0AA01		1	1 unit	41K
3SE5000-0AA01			30 50	→	3SE5000-0AA05 3SE5000-0AA07		1	1 unit 1 unit	41K 41K
		2 plastic rollers	19	→	3SE5000-0AA04		1	1 unit	41K
		High-grade steel roller	19	\odot	3SE5000-0AA02		1	1 unit	41K
		- With ball bearing	19	→	3SE5000-0AA03		1	1 unit	41K
	High-grade steel lever	Rubber roller	50 19	→ →	3SE5000-0AA08 3SE5000-0AA11		1	1 unit 1 unit	41K 41K
	- riigii grade steeriever	High-grade steel roller	19	⊕	3SE5000-0AA12		1	1 unit	41K
	Twist levers 35 mm, off	set, type A, according to El	N 50041						
	Metal lever	Plastic roller	19	→	3SE5000-0AA15		1	1 unit	41K
	High-grade steel lever Twick levers 20 mm str	aight ¹⁾ , type A, according to	19	→	3SE5000-0AA16		1	1 unit	41K
	Metal lever	Plastic roller	19		3SE5000-0AA24		1	1 unit	41K
			30	→	3SE5000-0AA26		1	1 unit	41K
	Twist levers 100 mm, ac	djustable length, with grid h	nole						
•	 Metal lever 	Plastic roller	19	\odot	3SE5000-0AA60		1	1 unit	41K
0		High-grade steel roller	50 19	→	3SE5000-0AA67 3SE5000-0AA61		1	1 unit 1 unit	41K 41K
8		Rubber roller	50	→	3SE5000-0AA61		1	1 unit	41K
	• High-grade steel lever		19		3SE5000-0AA62		1	1 unit	41K
-1		High-grade steel roller	19	\odot	3SE5000-0AA63		1	1 unit	41K
8									
3SE5000-0AA60		20 2 2							
	 Fork levers (for switches) 2 metal levers 	s with snap-action contacts on 2 plastic rollers	nly) 19		3SE5000-0AT01		1	1 unit	41K
	2 motal 10 vol 3	2 high-grade steel rollers	19	<u>→</u>	3SE5000-0AT01		1	1 unit	41K
	• 2 high-grade steel	2 plastic rollers	19	⊕ ⊕	3SE5000-0AT03		1	1 unit	41K
3SE5000-0AT01	levers	2 high-grade steel rollers	19	€	3SE5000-0AT04		1	1 unit	41K
(3			_						

[→] Positively driven actuator, for use in safety circuits.

Steel clamp (spare part) for adjustable-length twist and rod levers, see page 12/52.

¹⁾ Can be clinch mounted (rotated 180°, rear of lever).

SIRIUS 3SF1 mechanical safety switches for AS-Interface With separate actuator

General data

Overview

The 3SF1 safety switches with safety-related communication can be directly connected using the AS-Interface bus system. The safety functions no longer have to be wired up conventionally.

With the 3SF1 safety switches the ASIsafe electronics are integrated in the switch enclosure.



3SF1 safety switches with head for separate actuator and with integrated ASIsafe electronics

3SF1 safety switches with separate actuator have the same enclosures as the 3SF1 position switches.

Operation

The actuator head is included in the scope of supply. For actuation from four directions it can be adjusted through $4 \times 90^{\circ}$. The switches can also be approached from above.

The actuator is not included in the scope of supply of the safety switches and must be ordered separately from a choice of different versions to suit the application (see page 12/112).

The actuator is encoded. Simple overruling by hand or auxiliary devices is impossible.

Locking devices

A high-grade steel blocking insert for attaching up to eight padlocks is available for even more security (see page 12/112).

Dust protection

For use in dusty environments, a protective cap made of rubber is offered that protects the actuator entries of the actuator head from contamination (see page 12/112).

Display

The switches have a status display with three LEDs:

- LED 1 (yellow): F-IN1
- LED 2 (yellow): F-IN2
- LED 3 (green/red): AS-i/FAULT

Connection

Connection to the AS-Interface is by means of a 4-pole M12 device plug (plastic version) connected to the yellow AS-Interface bus cable.

The wide enclosures (50 or 56 mm) also have an M12 socket for connecting a second safety switch. In this way, SIL 3 according to IEC 62061/IEC 61508 or PL e according to ISO 13849-1 is reached

Benefits

The 3SF1 safety switches with separate actuator provide:

- ASIsafe electronics integrated in the enclosure, with low power consumption < 60 mA
- An extensive range of actuators
- Status display with three LEDs

SIRIUS 3SF1 mechanical safety switches for AS-Interface With separate actuator

General data

Application

Safety switches with separate actuator are used where the position of doors, covers or protective grilles must be monitored for safety reasons.

The safety switch can only be operated with the matching coded actuator. Simple overruling by hand or auxiliary devices is impossible.

Devices are available with enclosure versions to suit the particular ambient conditions. Different control tasks can be performed with the contact blocks best suited for the particular purpose. Dimensions and fixing points of the enclosure are according to EN 50041 or EN 50047 standards.

The devices are suitable for use in any climate.

Standards

The switches comply with IEC 60947-1 (Low-Voltage Switchgear and Controlgear, General) and IEC 60947-5-1 (Electromechanical Control Circuit Devices).

The mechanical design of the switch corresponds to the requirements of the fail-safe principle according to ISO 14119.

Approvals

AS-Interface according to IEC 62026-2

The 3SF1 safety switches are approved according to UL 508, UL 50 and UL 746-C.

Safety circuits

Standard IEC 60947-5-1 requires positive opening of the NC contacts. In other words, for the purposes of personal safety, the assured opening of NC contacts is expressly stipulated for the electrical equipment of machines in all safety circuits and marked according to the standard IEC 60947-5-1 with the symbol $\widehat{\oplus}$.

With a 3SF1 safety switch with ⊕, SIL 2 according to IEC 62061/IEC 61508 or PL d according to ISO 13849-1 can be attained if the corresponding fail-safe evaluation units are selected from the ASIsafe program and correctly installed.

If a second 3SF1 safety switch with \odot is used, SIL 3/PL e can be attained.

Evaluation of safety functions

Safety Evaluation in the TIA Selection Tool

The safety evaluation for the IEC 62061 and ISO 13849-1 standards is performed quickly and easily, directly in the TIA Selection Tool. In addition to the fast and safe calculation of machine safety functions – from the definition of the system structure to the selection of components – this enables shared data management during all project phases. Take the next step in the digital design of machinery and equipment with Safety Evaluation in the TIA Selection Tool.

In addition, the functionalities of the proven Safety Evaluation Tool are still available. It determines the achieved safety integrity (SIL/PL) step-by-step. You receive the results as a standards-compliant report that can be integrated in the documentation as proof of safety.

For more information, see www.siemens.com/safety-evaluation-tool.

SIRIUS 3SF1 mechanical safety switches for AS-Interface With separate actuator

3SF1, plastic enclosures > Enclosure width 31 mm according to EN 50047/50 mm

Overview

- Contacts: 1 or 2 slow-action contacts
- Status display with three LEDs 24 V DC:
 - LED 1: F-IN1 LED 2: F-IN2

 - LED 3: AS-i/FAULT

- Degree of protection IP65 (31 mm) or IP66/IP67 (50 mm)
- 5 directions of approach
- M12 device plugs

Selection and ordering data

	Version ¹⁾	Contacts		Complete units		PU (UNIT, SET, M)	PS*	PG
				Article No.	Price per PU			
Enclosure width	31 mm according to EN 50047							
	With M12 device plug, 4-pole							
	Channel 1 on NC contact, channel 2 on NC contact							
	Slow-action contacts	2 NC	→	3SF1234-1QV40-1BA1		1	1 unit	42A
3SF1234-1QV40-1B	3A1							
Enclosure width	1 50 mm							
	With M12 device plug, 4-pole Channel 1 on NC contact, channel 2 on M12 socket, right							
The same of the sa	Slow-action contacts	1 NC	→	3SF1244-1QV40-1BA2		1	1 unit	42A
3SF1244-1QV40-1B	3A2							
Positive opening	according to IEC 60947-5-1. Anney K. or nosi	tively driven				•		

[→] Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.

¹⁾ Supplied without actuator. Please order separately (see page 12/112).

SIRIUS 3SF1 mechanical safety switches for AS-Interface
With separate actuator

3SF1, metal enclosures > Enclosure width 31 mm according to EN 50047/40 mm according to EN 50041/56 mm

Overview

- Contacts: 1 or 2 slow-action contacts
- Status display with three LEDs 24 V DC:
 - LED 1: F-IN1
 - LED 2: F-IN2
 - LED 3: AS-i/FAULT

- Degree of protection IP66/IP67
- 5 directions of approach
- M12 device plugs

Selection and ordering data

	Version ¹⁾	Contacts		Complete units		PU (UNIT, SET, M)	PS*	PG
				Article No.	Price per PU			
Enclosure width 31	mm according to EN 50047							
	With M12 device plug, 4-pole Channel 1 on NC contact, channel 2 on NC contact • Slow-action contacts	2 NC	€	3SF1214-1QV40-1BA1		1	1 unit	42A
3SF1214-1QV40-1BA1								
Enclosure width 40	mm according to EN 50041							
in the second se	With M12 device plug, 4-pole Channel 1 on NC contact, channel 2 on NC contact • Slow-action contacts	2 NC	€	3SF1114-1QV10-1BA1		1	1 unit	42A
3SF1114-1QV10-1BA1								
Enclosure width 56	mm							
E Litterage (17)	With M12 device plug, 4-pole Channel 1 on NC contact, channel 2 on M12 socket, right • Slow-action contacts	1 NC	€	3SF1124-1QV10-1BA2		1	1 unit	42A
3SF1124-1QV10-1BA2								

[→] Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.

¹⁾ Supplied without actuator. Please order separately (see page 12/112).

SIRIUS 3SF1 mechanical safety switches for AS-Interface With separate actuator

Accessories

Selection and order	ing data					
	Version	Article No.	Price er PU	PU (UNIT, SET, M)	PS*	PG
				OL 1, 1VI)		
Actuators						
	Standard actuators	0055000 041/04			4	4417
	Length 75.6 mm	3SE5000-0AV01		1	1 unit	41K
3SE5000-0AV01						
()	With vertical fixing, length 53 mm	3SE5000-0AV02		1	1 unit	41K
3SE5000-0AV02						
	With transverse fixing					
	- Length 47 mm	3SE5000-0AV03		1	1 unit	41K
3SE5000-0AV03						
	- Length 40 mm, plastic ¹⁾	3SE5000-0AW11		1	1 unit	41K
3SE5000-0AW11						
	Radius actuators					
A	 Length 51 mm Direction of approach from the left 	3SE5000-0AV04		1	1 unit	41K
	Silection of approach from the left	COLOGO DAVOT		'	Turne	7111
3SE5000-0AV04	D: " (2055222 241/22		_		4412
£,	- Direction of approach from the right	3SE5000-0AV06		1	1 unit	41K
3SE5000-0AV06						
1	Universal radius actuators • Length 77 mm	3SE5000-0AV05		1	1 unit	41K
2	- Tab rotated 90°	3SE5000-0AV05-1AA6		1	1 unit	41K
3SE5000-0AV05-1AA6						
	Universal radius actuators, heavy duty	200000000000000000000000000000000000000			1 . mit	411/
	Length 67 mm	3SE5000-0AV07-1AK2		1	1 unit	41K
3SE5000-0AV07-1AK2		0055000 041/07				4417
	Length 77 mm	3SE5000-0AV07		1	1 unit	41K
3SE5000-0AV07						
Optional accessorie	Protective cap	3SE5000-0AV08-1AA2		1	1 unit	41K
	Made of black rubber, for actuator head, to protect the actuator openings from contamination	JOE JULIU - JAY UG- IAMZ		ı	i uilit	7111
3SE5000-0AV08-1AA2	(Only for enclosure width 40 mm or 56 mm)					
3SE5000-0AV08-1AA3	Blocking insert Made of high-grade steel, for actuator head, for up to eight padlocks	3SE5000-0AV08-1AA3		1	1 unit	41K
1020000 0/1/00 1/1/10						

¹⁾ Not suitable for safety switches with tumbler.

Further versions for high-grade steel, see page 12/76.

SIRIUS 3SF1 mechanical safety switches for AS-Interface
With tumbler

General data

Overview

The 3SF1 safety switches with safety-related communication can be directly connected using the AS-Interface bus system. The safety functions no longer have to be wired up conventionally.

With the 3SF1 safety switches the ASIsafe electronics are integrated in the switch enclosure.



3SF1 safety switch with tumbler and with integrated ASIsafe electronics

Operation

The actuator head is included in the scope of supply. For actuation from four directions it can be adjusted through $4\times90^\circ$. The switches can also be approached from above.

The actuator is not included in the scope of supply of the safety switches and must be ordered separately from a choice of different versions to suit the application (see page 12/112).

The actuator is encoded. Simple overruling by hand or auxiliary devices is impossible.

Locking devices

A high-grade steel blocking insert for attaching up to eight padlocks is available for even more security (see page 12/112).

Dust protection

For use in dusty environments, a protective cap made of rubber is offered that protects the actuator entries of the actuator head from contamination (see page 12/112).

Tumbler

There are two versions for interlocking the actuator:

- Spring-actuated lock (closed-circuit principle) with various release mechanisms
- Solenoid-locked (open-circuit principle)

For more explanations, see page 12/66.

Display

The switches have a status display with four LEDs:

LED 1 (green): AS-iLED 2 (red): FAULTLED 3 (yellow): F-IN1LED 4 (yellow): F-IN2

Connection

Connection to the AS-Interface is by means of a 4-pole M12 device plug (plastic version) connected to the yellow AS-Interface bus cable (no additional supply of auxiliary power is required thanks to the low current consumption of the solenoid of max. 170 mA).

Benefits

The 3SF13 safety switches with tumbler provide:

- More safety through higher locking forces:
 - 1 300 N for the plastic version
 - 2 600 N for the metal version
- Various release mechanisms: lock release, escape release and emergency release
- ASIsafe electronics integrated in the enclosure; connected through 4-pole M12 device plug
- Current consumption of the solenoid no more than 170 mA
- Two contact blocks as standard equipment, hence fewer versions needed
- Same dimensions for all enclosure versions: plastic, metal
- An extensive range of actuators
- Status display with four LEDs
- 3SF1324-1S.21-1BK4 series with high degree of protection IP69 according to IEC 60529, cover with foamed seal

SIRIUS 3SF1 mechanical safety switches for AS-Interface With tumbler

General data

Application

The safety switches with tumbler are exceptional safety-related devices which prevent an unforeseen or intentional opening of protective doors, protective grilles or other covers as long as a dangerous situation is present (i.e. follow-on motion of the switched-off machine).

The safety switches with tumbler have the following functions:

- Enabling the machine or process with closed and locked protective device
- Locking the machine or process with opened protective device
- Position monitoring of the protective device and tumbler

Standards

The switches comply with IEC 60947-1 (Low-Voltage Switchgear and Controlgear, General) and IEC 60947-5-1 (Electromechanical Control Circuit Devices).

The mechanical design of the switch corresponds to the requirements of the fail-safe principle according to ISO 14119.

Approvals

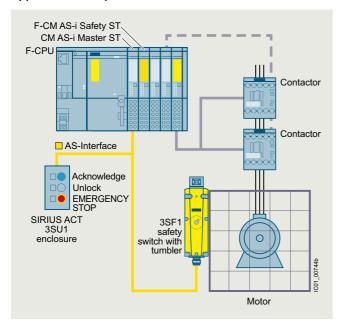
AS-Interface according to IEC 62026-2

The switches are approved for use with locking devices according to ISO 14119 and ISO 12100.

3SF13 safety switches with tumbler have a VDE test mark.

The 3SF1 safety switches are approved according to UL 508, UL 50 and UL 746-C.

Application example



EMERGENCY STOP shutdown and protective door monitoring with a 3SF1 safety switch with tumbler and AS-Interface in the SIMATIC ET 200SP

For a detailed description of this example, see https://support.industry.siemens.com/cs/ww/en/view/109769506.

Safety circuits

Standard IEC 60947-5-1 requires positive opening of the NC contacts. In other words, for the purposes of personal safety, the assured opening of NC contacts is expressly stipulated for the electrical equipment of machines in all safety circuits and marked according to the standard IEC 60947-5-1 with the symbol $\widehat{\oplus}$.

With a 3SF13 safety switch with ⊕, SIL 2 according to IEC 62061/IEC 61508 or PL d according to ISO 13849-1 can be attained if the corresponding fail-safe evaluation units are selected from the ASIsafe program and correctly installed.

If a second 3SF1 safety switch with $\ensuremath{\ensuremath{\ensuremath{\Theta}}}$ is used, SIL 3/PL e can be attained.

Evaluation of safety functions

Safety Evaluation in the TIA Selection Tool

The safety evaluation for the IEC 62061 and ISO 13849-1 standards is performed quickly and easily, directly in the TIA Selection Tool. In addition to the fast and safe calculation of machine safety functions – from the definition of the system structure to the selection of components – this enables shared data management during all project phases. Take the next step in the digital design of machinery and equipment with Safety Evaluation in the TIA Selection Tool.

In addition, the functionalities of the proven Safety Evaluation Tool are still available. It determines the achieved safety integrity (SIL/PL) step-by-step. You receive the results as a standards-compliant report that can be integrated in the documentation as proof of safety.

For more information, see www.siemens.com/safety-evaluation-tool.

SIRIUS 3SF1 mechanical safety switches for AS-Interface
With tumbler

3SF1, plastic enclosures with locking force greater than 1 200 N

Overview

Versions

- -1BA1: ASIsafe channel 1 on 1 NC contact from the actuator, and channel 2 on 1 NC contact from the solenoid
- -1BA3: ASIsafe channel 1 on the first NC contact from the actuator and channel 2 on the second NC contact from the actuator
- -1BA4: ASIsafe channel 1 on 2 NC contacts (2-channel) from the actuator, and channel 2 on 1 NC contact from the solenoid.
 The position switch transfers the information of actuators to a transfer channel because the discrepancy of the two actuator contacts is already evaluated in the switch.

The 3SF1324-1S.21-1BA4 safety switches are also recommended where there are several protective door tumblers and reliable diagnostics and quick restart capability of equipment is required.

- A response is received from the solenoid.
- No opening of the doors required after the solenoid is unlocked.

In connection with an ET 200SP module F-CM AS-i Safety ST, it is possible to achieve SIL 2 according to IEC 62061/IEC 61508 or PL d according to ISO 13849-1. They comply with the standard ISO 14119. A TÜV certificate is available.

Features

- Slow-action contacts
- 5 directions of approach
- Solenoid: Rated operational voltage 24 V DC
- 1 300 N locking force
- Degree of protection IP66/IP67, IP69
- Status display with four LEDs 24 V DC:
 - LED 1: AS-i
- LED 2: FAULT
- LED 3: F-IN1
- LED 4: F-IN2
- M12 device plugs

Comparison of versions

Safety switches	Contacts	Achievable safety level	Diagnostics	Reclosing condition after unlocking the solenoid
Type	Actuator/solenoid		Feedback from the solenoid	(depending on the type of evaluation)
3SF1324-1S.21-1BA1	1 NC/1 NC	SIL 1/PL c	✓	Door does not have to be opened
	1 NC/1 NC	SIL 2/PL d	✓	Door must be opened
3SF1324-1S.21-1BA3	2 NC/	SIL 2/PL d		Door does not have to be opened
3SF1324-1S.21-1BA4	2 NC/1 NC	SIL 2/PL d	✓	Door does not have to be opened
3SF1324-1S.21-1BK4 (IP69)	2 NC/1 NC	SIL 2/PL d	✓	Door does not have to be opened

[✓] Available -- Not available

Selection and ordering data

	Tumbler ¹⁷	Contacts Actuator/solenoid		Complete units		PU (UNIT, SET, M)	PS*	PG
				Article No.	Price per PU	, ,		
1 300 N locking for	ce · Enclosure width 54 mm accordir	ig to ISO 14119						
	Spring-actuated locks							
	With M12 device plug, 4-pole							
	 With auxiliary release 	1 NC/1 NC	\odot	3SF1324-1SD21-1BA1		1	1 unit	42A
D. 2000		2 NC/	→	3SF1324-1SD21-1BA3		1	1 unit	42A
• •		2 NC/1 NC		3SF1324-1SD21-1BA4		1	1 unit	42A
	 Degree of protection IP69 according to IEC 60529 (IP69 according to DIN 40050) 	2 NC/1 NC	→	3SF1324-1SD21-1BK4		1	1 unit	42A
3SF1324-1SD21-1BA1	With auxiliary release with lock	1 NC/1 NC	→	3SF1324-1SE21-1BA1		1	1 unit	42A
	With escape release from the front	1 NC/1 NC	\odot	3SF1324-1SF21-1BA1		1	1 unit	42A
	·	2 NC/1 NC	\odot	3SF1324-1SF21-1BA4		1	1 unit	42A
	 Degree of protection IP69 according to IEC 60529 (IP69 according to DIN 40050) 	2 NC/1 NC	→	3SF1324-1SF21-1BK4		1	1 unit	42A
A.	With escape release from the back	1 NC/1 NC	\odot	3SF1324-1SG21-1BA1		1	1 unit	42A
	and auxiliary release from the front	2 NC/1 NC	\odot	3SF1324-1SG21-1BA4		1	1 unit	42A
	 Degree of protection IP69 according to IEC 60529 (IP69 according to DIN 40050) 	2 NC/1 NC	→	3SF1324-1SG21-1BK4		1	1 unit	42A
3SF1324-1SF21-1BA1	With emergency release from the back and auxiliary release from the front	1 NC/1 NC	→	3SF1324-1SJ21-1BA1		1	1 unit	42A
	Solenoid-locked							
	With M12 device plug, 4-pole	1 NC/1 NC	\odot	3SF1324-1SB21-1BA1		1	1 unit	42A
M (8.)		2 NC/	→	3SF1324-1SB21-1BA3		1	1 unit	42A
9 B								

[→] Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.

3SF1324-1SB21-1BA1

Supplied without actuator. Please order separately. For actuators and optional accessories, see page 12/71.

SIRIUS 3SF1 mechanical safety switches for AS-Interface With tumbler

3SF1, metal enclosures with locking force greater than 2 000 N

Overview

Version

1BA1: ASIsafe channel 1 on 1 NC contact from the actuator, and channel 2 on 1 NC contact from the solenoid

Features

- Slow-action contacts
- Solenoid: Rated operational voltage 24 V DC
- 2 600 N locking force
- Degree of protection IP66/IP67
- Status display with four LEDs 24 V DC:
 - LED 1: AS-i
 - LED 2: FAULT
 - LED 3: F-IN1
- LED 4: F-IN2M12 device plugs

Comparison of versions

	_			
Safety switches	Contacts	Achievable safety level	Diagnostics	Reclosing condition after unlocking the solenoid
Туре	Actuator/solenoid		Feedback from the solenoid	(depending on the type of evaluation)
3SF1314-1S.11-1BA1	1 NC/1 NC	SIL 1/PL c	✓	Door does not have to be opened
	1 NC/1 NC	SIL 2/PL d	√	Door must be opened

[✓] Available

Selection and ordering data

	Tumbler ¹⁾	Contacts Actuator/solenoid		Complete units		PU (UNIT, SET, M)	PS*	PG
				Article No.	Price per PU			
2 600 N locking forc	e · Enclosure width 54 mm acco	rding to ISO 141	19					
	Spring-actuated locks			_				
	With M12 device plug, 4-pole							
* • •	With auxiliary release	1 NC/1 NC	\odot	3SF1314-1SD11-1BA1		1	1 unit	42A
	With auxiliary release with lock	1 NC/1 NC	→	3SF1314-1SE11-1BA1		1	1 unit	42A
3SF1314-1SD11-1BA1								
	• With escape release from the front	1 NC/1 NC	\odot	3SF1314-1SF11-1BA1		1	1 unit	42A
	With escape release from the back and auxiliary release from the front	1 NC/1 NC	→	3SF1314-1SG11-1BA1		1	1 unit	42A
	With escape release from the back and auxiliary release with lock from the front	1 NC/1 NC	→	3SF1314-1SH11-1BA1		1	1 unit	42A
3SF1314-1SF11-1BA1	With emergency release from the back and auxiliary release from the front	1 NC/1 NC	→	3SF1314-1SJ11-1BA1		1	1 unit	42A
	Solenoid-locked							
	With M12 device plug, 4-pole	1 NC/1 NC	€	3SF1314-1SB11-1BA1		1	1 unit	42A
3SF1314-1SB11-1BA1								

[→] Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.

For actuators and optional accessories, see page 12/71.

¹⁾ Supplied without actuator. Please order separately.

SIRIUS 3SF1 mechanical safety switches for AS-Interface Safety hinge switches

3SF1, plastic enclosures > Enclosure width 31 mm according to EN 50047/50 mm

Overview

The 3SF1 safety hinge switches with safety-related communication can be directly connected using the AS-Interface bus system. The safety functions no longer have to be wired up conventionally.

With the 3SF1 hinge switches the ASIsafe electronics are integrated in the switch enclosure.

The hinge switches are provided for mounting on hinges. There are two actuator versions here:

- Hollow shaft, inner diameter 8 mm, outer 12 mm
- Solid shaft, diameter 10 mm

For the ASIsafe version of the hinge switch, the basic switch and actuator head must be ordered separately. The basic switches correspond to the 3SF1 position switches (use only versions with snap-action contacts).

The provisions and approvals are the same as for the 3SF1 standard switches (see page 12/99).

Selection and ordering data

Modular system

1 or 2 contacts · 3 LEDs · Degree of protection IP65 (31 mm) or IP66/IP67 (50 mm) · M12 device plug

	Version	Contacts	LEDs		Modular system		PU (UNIT,	PS*	PG
					Article No.	Price per PU	SÉT, M)		
Basic switches · En	closure width 31 mm accordin	g to EN 5	0047			po. 1 0			
Alm	Rounded plunger								
	With M12 device plug, 4-pole								
OCCI.	Channel 1 on NC contact, channel 2 on NC contact								
	Snap-action contacts	2 NC	24 V DC	→	3SF1234-1LC05-1BA1		1	1 unit	42A
3SF1234-1LC05-1BA1									
	closure width 50 mm · cording to EN 50047								
	Rounded plunger								
	With M12 device plug, 4-pole								
	Channel 1 on NC contact, channel 2 on M12 socket, right								
3SF1244-1LC05-1BA2	 Snap-action contacts 	1 NC	24 V DC	\odot	3SF1244-1LC05-1BA2		1	1 unit	42A
Actuator heads									
	With hollow shaft								
	 Actuating angle 10° 				3SE5000-0AU21		1	1 unit	41K
3SE5000-0AU21									
	With solid shaft								
	 Actuating angle 10° 				3SE5000-0AU22		1	1 unit	41K
3SE5000-0AU22									

→ Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.

Accessories, see page 12/53.

SIRIUS 3SF1 mechanical safety switches for AS-Interface Safety hinge switches

3SF1, metal enclosures > Enclosure width 31 mm according to EN 50047/40 mm according to EN 50041/56 mm

Overview

The 3SF1 safety hinge switches with safety-related communication can be directly connected using the AS-Interface bus system. The safety functions no longer have to be wired up conventionally.

With the 3SF1 hinge switches the ASIsafe electronics are integrated in the switch enclosure.

The hinge switches are provided for mounting on hinges. There are two actuator versions here:

- Hollow shaft, inner diameter 8 mm, outer 12 mm
- · Solid shaft, diameter 10 mm

For the ASIsafe version of the hinge switch, the basic switch and actuator head must be ordered separately. The basic switches correspond to the 3SF1 position switches (use only versions with snap-action contacts).

The provisions and approvals are the same as for the 3SF1 standard switches (see page 12/99).

Selection and ordering data

Modular system

1 or 2 contacts · 3 LEDs · Degree of protection IP66/IP67 · M12 device plug

	Version	Contacts	LEDs		Modular system		PU (UNIT, SET, M)	PS*	PG
					Article No.	Price per PU	OL 1, 101)		
Basic switches · En	closure width 31 mm accordin	g to EN 5	0047			· · · · · · · · · · · · · · · · · · ·			
PARTIES	Rounded plunger With M12 device plug, 4-pole Channel 1 on NC contact,								
in	channel 2 on NC contact • Snap-action contacts	2 NC	24 V DC	→	3SF1214-1LC05-1BA1		1	1 unit	42A
3SF1214-1LC05-1BA1									
Basic switches · End	closure width 40 mm accordin	g to EN 5	0041						
	Rounded plunger								
Constant Con	With M12 device plug, 4-pole Channel 1 on NC contact, channel 2 on NC contact								
3SF1114-1LA00-1BA1	Snap-action contacts	2 NC	24 V DC	→	3SF1114-1LA00-1BA1		1	1 unit	42A
Basic switches · En	closure width 56 mm								
	Rounded plunger								
D. Company	With M12 device plug, 4-pole Channel 1 on NC contact, channel 2 on M12 socket, right						·		
	Snap-action contacts	1 NC	24 V DC	€	3SF1124-1LA00-1BA2		1	1 unit	42A
3SF1124-1LA00-1BA2									
Actuator heads									-
	Hollow shaft								
40	 Actuating angle 10° 				3SE5000-0AU21		1	1 unit	41K
3SE5000-0AU21									
A	Solid shaft • Actuating angle 10°				3SE5000-0AU22		1	1 unit	41K
3SE5000-0AU22									

Positive opening according to IEC 60947-5-1, Annex K, or positively driven actuator, necessary in safety circuits.

Position and safety switches SIRIUS 3SE6 non-contact safety switches

3SE66, 3SE67 magnetically operated switches

Overview

More information

Homepage, see www.siemens.com/sirius-position-switches SiePortal, see www.siemens.com/product?3SE



3SE66 contact blocks and 3SE67 switching solenoids



3SE66 contact blocks and 3SE67 switching solenoids, supplementary range in new design

Configuration Manual, see

https://support.industry.siemens.com/cs/ww/en/view/43920150

A magnetically operated switch comprises a coded switching solenoid and a contact block (sensor unit). The switch must be connected to a safety relay, e.g. SIRIUS 3SK1, or a bus system, e.g. SIMATIC ET 200SP, for evaluation. The switches use reed contacts as mechanical contacts. The status of the contacts is monitored using an evaluation unit.

Safety relays

3SK safety relays can be used worldwide since they possess all the required certification. Since they satisfy the most exacting safety requirements, they are suitable for all kinds of safety applications.

The following can be selected:

- 3SK1 Standard basic units: Simple and compact to satisfy all the essential requirements of safety sensor monitoring systems
- 3SK1 Advanced basic units: Multifunctional series with relay enabling circuits, semiconductor outputs or time-delayed outputs
- 3SK2 basic units:
 Multifunctional series whose functionality is parameterized
 using software. The basic units have semiconductor outputs.
 Relay outputs from the 3SK1 portfolio can also be connected
 via device connectors.
- Expansion units for inputs and outputs

Benefits

Standard range

- Non-contact round, rectangular, small (25 mm x 33 mm) and larger (25 mm x 88 mm) versions
- · Small, compact, safe
- Simple mounting with alignment of sensor and actuator, and concealed installation also easy
- Suitable for restricted spaces

Supplementary range

- Modern design for rectangular shape
- · More functionality
- Greater operating distances and a larger horizontal or vertical displacement
- Various mounting positions possible (e.g. at 90° offset)
- SIL 3 and PL e diagnostics possible because there are two safety contacts and one signaling contact
- LED version
- Fast connection possible using plug-in versions

Position and safety switches SIRIUS 3SE6 non-contact safety switches

3SE66, 3SE67 magnetically operated switches

Application

SIRIUS 3SE6 magnetically operated switches are designed for mounting on movable protective guards (hoods, hinged flaps, doors, etc.). Evaluation can be performed by means of a safety relay or through connection to a bus system.

For more information on protective door monitoring applications, see flyer.

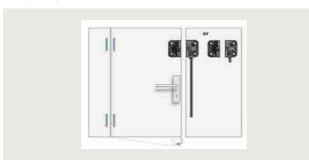
The 3SE66 non-contact, magnetically operated safety switches stand out due to their enclosed design with high degree of protection IP67. Since they are coded, they do not have to be concealed when installed. They are particularly suitable therefore for areas exposed to contamination, cleaning or disinfecting.

A solenoid monitoring system comprises one or more magnetically operated switches and an evaluation unit, e.g. a safety relay.

When contact blocks 1 NO + 1 NC (+ 1 NC signaling contact) or 2 NC (+ 1 NC signaling contact) are used, the 3SK safety relay, for example, provides a high degree of protection against manipulation and can be installed in safety circuits up to SIL 3 according to IEC 62061/IEC 61508 and PL e according to ISO 13849-1.

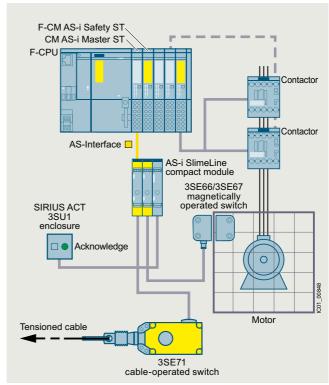


Non-contact safety magnetically operated switches (with plug or cable) for right-hinged door



Non-contact safety magnetically operated switches (with plug or cable) for left-hinged door

Application example



Protective door monitoring using 3SE66 non-contact safety switches (magnetically operated switches) and EMERGENCY STOP shutdown using 3SE71 cable-operated switch up to SIL 3/PL e by means of AS-i ET 200SP Master and AS-i SlimLine compact modules

For a detailed description of this application example, see https://support.industry.siemens.com/cs/ww/en/view/109747653.

Evaluation of safety functions

Safety Evaluation in the TIA Selection Tool

The safety evaluation for the IEC 62061 and ISO 13849-1 standards is performed quickly and easily, directly in the TIA Selection Tool. In addition to the fast and safe calculation of machine safety functions – from the definition of the system structure to the selection of components – this enables shared data management during all project phases. Take the next step in the digital design of machinery and equipment with Safety Evaluation in the TIA Selection Tool.

In addition, the functionalities of the proven Safety Evaluation Tool are still available. It determines the achieved safety integrity (SIL/PL) step-by-step. You receive the results as a standards-compliant report that can be integrated in the documentation as proof of safety.

For more information, see www.siemens.com/safety-evaluation-tool.

SIRIUS 3SE6 non-contact safety switches

3SE66, 3SE67 magnetically operated switches

Combination of monitoring units and magnetically operated switches

Monitoring units		Magnetically operated s	switches (contact block +	switching solenoid)	Achievable
		1 NO + 1 NC 3SE6605BA	2 NC 3SE6604-2BA 1 NO + 2 NC 3SE6606-2BA04 3SE6704-2BA	-	Safety Integrity Level (IEC 62061/ IEC 61508) Performance Level (ISO 13849-1)
		1 NO + 1 NC (+ 1 NC signaling contact) 3SE6616-3CA01 3SE6626-3CA01	2 NC; 2 NC (+1 NC signaling contact) 3SE6614-4CA01 3SE6624-4CA01 3SE6627-2CA01 3SE6627-2CA01 3SE6617-2CA04 3SE6627-2CA04	2 NC (+1 NC signaling contact) 3SE6617-3CA01 3SE6627-3CA01 3SE6627-3CA04 3SE6627-3CA04	
		3SE6714-3CA 3SE6724-3CA	3SE6714-2CA 3SE6724-2CA	3SE6714-3CA 3SE6724-3CA	
Relay outputs	001/4404				OIL O/DI
SIRIUS safety relays	3SK1121	/	/	V	SIL 3/PL e
Solid-state outputs					
SIRIUS safety relays	3SK1112, 3SK1122	✔	/	/	SIL 3/PL e
	3SK2112, 3SK2122	,	/	'	SIL 3/PL e
ASIsafe compact safety modules	3RK1205, 3RK1405		√	/	SIL 3/PL e
SIMATIC S7-1200	0505000 0D 400 0VD0				OU O/DI
• F-DI 16 x 24 V DC	6ES7226-6BA32-0XB0, 6AG1226-6BA32-5XB0 (SIPLUS)	✓	✓	1	SIL 3/PL e
SIMATIC S7-1500/ET 200MP				_	
• F-DI 16 x 24 V DC	6ES7526-1BH00-0AB0, 6AG1526-1BH00-2AB0 (SIPLUS)	✓	1	1	SIL 3/PL e
SIMATIC ET 200SP					
• F-DI 8 x 24 V DC	6ES7136-6BA00-0CA0, 6AG1136-6BA00-2CA0 (SIPLUS)	✓	✓	✓	SIL 3/PL e
• F-PM-E 24 V DC/8 A PPM	6ES7136-6PA00-0BC0, 6AG1136-6PA00-2BC0 (SIPLUS)	1	/	/	SIL 3/PL e
SIMATIC ET 200pro	0F07140 4F400 04F0	,			CIL O/DL -
 8/16 F-DI 24 V DC 4/8 F-DI 24 V DC + 4 F-DO 24 V DC/2 A 	6ES7148-4FA00-0AB0 6ES7148-4FC00-0AB0	<i>'</i>	✓	✓ ✓	SIL 3/PL e SIL 3/PL e
• F-SWITCH	6ES7148-4FS00-0AB0	1	✓	1	SIL 3/PL e
SIMATIC ET 200eco PN • F-DI 8 x 24 V DC + F-DQ 3 x 24 V DC/2 A	6ES7146-6FF00-0AB0	✓	✓	✓	SIL 3/PL e
SIMATIC ET 200AL					
• F-DI 4 x 24 V DC + F-DQ 2 x 24 V DC/2 A	6ES7146-5FF00-0BA0	✓	✓	✓	SIL 3/PL e

- ✓ Suitable magnetically operated switch
- -- Not available

SIRIUS 3SE6 non-contact safety switches

3SE66, 3SE67 magnetically operated switches

Selection and orde	ring data							
	Version	Size	Contacts	Article No.	Price	PU	PS*	PG
	VCIOIOII	OIZC	Contacts	7 II II OIG TAG.	per PU	(UNIT,	10	ı a
						SET, M)		
Ctandard range D	annel concernito	mm						
Standard range – R		Mao		2056704 184			d . mit	441/
3SE6704-1BA	Switching solenoid (coded)	M30		3SE6704-1BA		1	1 unit	41K
0020701 1271	Contact blocks							
	• With cable 3 m	M30	1 NO + 1 NC	3SE6605-1BA		1	1 unit	41K
	 With M12 plug, 4-pole 	M30	1 NO + 1 NC	3SE6605-1BA02		1	1 unit	41K
3SE6605-1BA								
Standard range - R	ectangular sensor units							
O'stall I	Switching solenoids (coded)							
820	 Operating distance 5 mm 	25 x 88		3SE6704-2BA		1	1 unit	41K
	 Operating distance 8 mm 	25 x 88		3SE6701-2BA		1	1 unit	41K
3SE6704-2BA								
	Contact blocks							
	 With cable 3 m 	25 x 88	1 NO + 1 NC	3SE6605-2BA		1	1 unit	41K
			2 NC	3SE6604-2BA		1	1 unit	41K
	Mari 11 40	05 00	1 NO + 2 NC	3SE6606-2BA04		1	1 unit	41K
205222 204	 With cable 10 m 	25 x 88	1 NO + 1 NC 2 NC	3SE6605-2BA10 3SE6604-2BA10		1 1	1 unit 1 unit	41K 41K
3SE6602BA	• With M8 plug, 4-pole	25 x 88	1 NO + 1 NC	3SE6605-2BA01		1	1 unit	41K
	via. iiie piag, i peie	20 % 00	2 NC	3SE6604-2BA01		1	1 unit	41K
METALISM SHES TO STANK	Switching solenoid (coded)	25 x 33		3SE6704-3BA		1	1 unit	41K
3SE6704-3BA								
	Contact blocks							
	 With cable 3 m 	25 x 33	1 NO + 1 NC	3SE6605-3BA		1	1 unit	41K
SEE 05 3EA	 With cable 5 m 	25 x 33	1 NO + 1 NC	3SE6605-3BA05		1	1 unit	41K
	 With cable 10 m 	25 x 33	1 NO + 1 NC	3SE6605-3BA10		1	1 unit	41K
3SE6605-3BA Supplementary range	ge –							
Rectangular sénsoi	runits for left-hinged door							
	Switching solenoids (coded)							
	Same level	25 x 88		3SE6714-2CA		1	1 unit	41K
	• 90° offset	25 x 88		3SE6724-2CA		1	1 unit	41K
3SE6714-2CA								
	Contact blocks							
	 With M8 plug, 4-pole, with LED 	25 x 88	2 NC	3SE6614-4CA01		1	1 unit	41K
T T	 Ø 8 mm, latching connection, plug, 6-pole 		2 NC + 1 NC ¹⁾	3SE6617-2CA01		1	1 unit	41K
	With cable 3 m	25 x 88	2 NC + 1 NC ¹⁾	3SE6617-2CA04		1	1 unit	41K
3SE6614-4CA01								
	Switching solenoids (coded)							
1.00	Same level	26 x 36		3SE6714-3CA		1	1 unit	41K
2.60	• 90° offset	26 x 36		3SE6724-3CA		1	1 unit	41K
3SE6714-3CA								
	Contact blocks • Ø 8 mm, latching connection,	26 x 36	1 NO + 1 NC +	3SE6616-3CA01		1	1 unit	41K
	plug, 6-pole		1 NC ¹⁾	3SE6617-3CA01		4	4	4412
3SE6616-3CA01	• With cable 3 m	26 x 36	2 NC + 1 NC ¹⁾ 2 NC + 1 NC ¹⁾	3SE6617-3CA04		1 1	1 unit 1 unit	41K 41K

¹⁾ The NC is a signaling contact, not a safety contact.

Position and safety switches SIRIUS 3SE6 non-contact safety switches

3SE66, 3SE67 magnetically operated switches

	Version	Size	Contacts	Article No. Price		PS*	PG
				per PL	UNIT, SET, M)		
		mm					
Supplementary range	ge – · units for right-hinged do						
nectaligular sellsol	Switching solenoids	001					
	(coded)						
	Same level	25 x 88		3SE6714-2CA	1	1 unit	41K
	• 90° offset	25 x 88		3SE6724-2CA	1	1 unit	41K
2050744 2004							
3SE6714-2CA	Contact blocks						
	With M8 plug, 4-pole,	25 x 88	2 NC	3SE6624-4CA01	1	1 unit	41K
	with LED		1)				
•	 Ø 8 mm, latching connection, plug, 6-pole 	25 x 88	2 NC + 1 NC ¹⁾	3SE6627-2CA01	1	1 unit	41K
	With cable 3 m	25 x 88	2 NC + 1 NC ¹⁾	3SE6627-2CA04	1	1 unit	41K
3SE6624-4CA01	Switching solenoids						
160	(coded)						
	Same level	26 x 36		3SE6714-3CA	1	1 unit	41K
3SE6714-3CA	• 90° offset	26 x 36		3SE6724-3CA	1	1 unit	41K
	Contact blocks						
	 Ø 8 mm, latching connection, plug, 6-pole 	26 x 36	1 NO + 1 NC + 1 NC ¹⁾	3SE6626-3CA01	1	1 unit	41K
	connection, plug, 6-pole		2 NC + 1 NC ¹⁾	3SE6627-3CA01	1	1 unit	41K
3SE6626-3CA01	With cable 3 m	26 x 36	2 NC + 1 NC ¹⁾	3SE6627-3CA04	1	1 unit	41K
Accessories for sta	ndard range						
	Spacers	25 x 88		3SX3260	1	1 unit	41K
3SX3260							
00/10/200		25 x 33		3SX3261	1	1 unit	41K
(2)							
0							
3SX3261							
Accessories for sup	pplementary range						
	Spacers	25 x 88		3SX5600-2GA01	1	1 unit	41K
20							
3SX5600-2GA01							
		26 x 36		3SX5600-2GA02	1	1 unit	41K
200							
0000000000000							
3SX5600-2GA02	Connecting cables						
	Length 5 m						
	• With M8 socket, 4-pole			3SX5601-3GA05	1	1 unit	41K
00VE004 00 40E	 With Ø 8 mm socket, 8 mm latching connection, 			3SX5601-4GA05	1	1 unit	41K
3SX5601-3GA05	6-pole						
	M12 plugs, 5-pole			ODK4000 4D400 5440		4	405
	Straight, separate itemAngled, separate item			3RK1902-4BA00-5AA0 3RK1902-4DA00-5AA0	1	1 unit	42D 42D
3RK1902-4BA00-5AA0	- Angieu, separate item			311K 1302-4DA00-3AA0	'	1 unit	42D

 $^{^{1)}\,}$ The second NC is a signaling contact, not a safety contact.

SIRIUS 3SE6 non-contact safety switches

3SE66, 3SE67 magnetically operated switches

	Version	Rated control voltage	Num- ber of sen- sors	Enabling/ signaling circuits	A	rticle No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Monitoring ur	nits				•					
Firm	3SK1 safety relays									
777	Standard or Advanced	basic units								
	 With relay output 	24 V DC	6 ¹⁾	3 NO/1 NC	3	SK1121-1AB40		1	1 unit	41L
3SK1121-1AB40	With semiconductor output	24 V DC	1	2 x F-DQ/1 QM	3	SK1112-1BB40		1	1 unit	41L
00K1121 1/1D40	3SK2 safety relays									
777	Basic units									
THE REAL PROPERTY.	With semiconductor	24 V DC	5	2 x F-DQ/1 QM	3	SK2112-1AA10		1	1 unit	41L
	output		10	4 x F-DQ/2 QM	3	SK2122-1AA10		1	1 unit	41L
3SK2112-1AA10										

¹⁾ Only when up to five 3SK1220 input expansion units are used, see page 11/28.

For further monitoring units, see pages 8/1, 9/1 and 11/1.

Position and safety switches SIRIUS 3SE6 non-contact safety switches

3SE63 RFID safety switches

Overview

More information

Homepage, see www.siemens.com/sirius-position-switches SiePortal, see www.siemens.com/product?3SE

Equipment Manual, see

https://support.industry.siemens.com/cs/ww/en/view/52233535



RFID non-contact safety switch with maximum tamper resistance

3SE63 RFID non-contact safety switches comply with the highest safety requirements, SIL 3, for monitoring the positions of movable protective devices.

An RFID safety switch consists of a coded RFID switch with an 8-pole M12 connection plug and an identical RFID actuator.

The switch is available in several versions:

- Family-coded with M12 plug or with additional 18 N magnetic catch as an option
- Individually coded, programmable once, with M12 plug or with additional 18 N magnetic catch as an option
- Individually coded, programmable more than once (an unlimited number of times), with M12 plug or version with additional 18 N magnetic catch

The actuator is therefore available in two versions:

- Standard
- With 18 N magnetic catch

The magnetic catch keeps doors and flaps closed with permanent magnets.

Mounting and maintenance

Various options for mounting save on enclosure versions:

- · Mounting of the switch on the right or left side
- The actuator can be mounted on all sides

Quick and easy mounting thanks to universal mounting holes:

- Standard gauge/holes for 3SE6 magnetically operated switches
- Fine adjustment thanks to slotted holes

Little adjustment or maintenance required:

- Threshold indication by LED display on the switch for quick and easy adjustment during mounting and maintenance
- Molded switch allows it to be used as an end stop for small and medium-sized doors

Notes:

- Keep metal parts and cuttings away from the vicinity of the switch
- Minimum distance between two switches 100 mm

Optional accessories (mounting)

- Covers for sealing mounting holes, also suitable for tamperproofing screw fixings
- Spacers (approx. 3 mm high) to facilitate cleaning under the installation surface when using high-pressure cleaners, for example

Coding

Family-coded

These safety switches are delivered ready to use, i. e. no programming is necessary.

Individually coded, programmable once

The assignment of safety switch and actuator thus created is irreversible.

The actuator is programmed by a simple routine during startup, thus permanently preventing any form of tampering by means of a replacement actuator.

Individually coded, programmable several times

Programming procedure:

- 1. Apply operational voltage to safety sensor
- 2. Move actuator into detection range: red LED lights up, yellow LED flashes (1 Hz)
- 3. After 10 s it changes to a shorter flashing frequency (3 Hz). In this state switch off operational voltage.
- 4. After the next time the operational voltage is switched on, the actuator is detected again to activate the programmed actuator code. The activated code is thus stored permanently.

The procedure for programming a new actuator can be repeated an unlimited number of times. When a new actuator is programmed the previous code becomes invalid. A protected coding process allows new actuators to be programmed for service purposes.

After this, a ten-minute lockout provides enhanced tamper protection. The green LED flashes until the lockout time has ended and the new actuator has been detected. If the operational voltage is interrupted during this time, the ten-minute guard time is restarted.

Diagnostics

The RFID safety switch indicates its operating state including faults by means of the LED display in the switch and the short-circuit-proof diagnostics output. The signals can then be used for central displays or non-safety-related control tasks.

There are the following diagnostics functions:

- · Cross-circuit monitoring
- · Open-circuit monitoring
- External voltage monitoring
- Ambient temperature too high
- Wrong or defective actuator
- Operating distance threshold identification with LED display

The signal combination "diagnostics output switched off" and "safety outputs still switched on" can be used to move the machine into a controlled stop position.

Any cross-circuit or a fault that is not currently compromising the safe function of a safety switch results in the disconnection of the safety channels after a 30-minute delay. However, the diagnostics output switches off instantaneously.

Position and safety switches SIRIUS 3SE6 non-contact safety switches

3SE63 RFID safety switches

Mode of operation of the diagnostics LEDs

The safety switch indicates not only its operating state, but also faults by means of LEDs in three colors at the ends of the RFID switch.

- The green LED indicates readiness for operation when the control supply voltage is connected.
- The yellow LED indicates that there is an actuator in detection range. If the actuator is in the operating distance threshold, this is indicated by flashing. This flashing can be used to identify a change in the distance between sensor and actuator at an early stage (e.g. as a result of the sagging of a protective door). The installation should be tested before the distance increases any further. Otherwise, the safety outputs will be switched off and the machine will stop.
- The red LED indicates the individual causes of the fault by means of defined flashing frequencies.

Benefits

- Maximum tamper resistance by means of individual coding of switches and actuators at the highest safety level
- Plastic enclosure with integrated plug
- Two solid-state short-circuit-proof safety outputs, each 250 mA
- Integrated cross-circuit, open-circuit and external voltage monitoring, with series circuit as far as the control cabinet
- Safety and diagnostics signals can be connected in series
- Series connection of safety circuits according to SIL 3/PL e
- LED status indication including operating distance threshold indication for quick and easy adjustment during installation and maintenance
- · Short-circuit-proof conventional diagnostics output
- Optional version with magnetic catch for interlocking hinge flaps or small doors even when de-energized
- Highly rugged thanks to the use of tested enclosure materials, resistant to aggressive cleaning products, with a degree of protection of up to IP69.

IP69 does not automatically mean that it can be used outdoors.

The devices must be installed with corresponding protection for this purpose. UV radiation additionally affects the enclosure.

- · Fine adjustment thanks to slotted holes
- · Little adjustment or maintenance required
- Molded switch allows it to be used as an end stop for small and medium-sized doors

Application

RFID non-contact safety switches are designed for use in safety circuits, and are used to monitor the positions of movable protective devices. They monitor the positions of rotating, laterally sliding or removable protective devices using the coded electronic actuator.

For more information on protective door monitoring applications, see flyer.

Their high degree of protection IP69 and the use of cleaningproduct-resistant materials means that these switches are optimized for use under extreme environmental conditions.

Their electronic operating principle makes these switches ideal for metalworking machinery.

The switches have a larger operating distance and switching displacement than mechanical switches, improve the mounting tolerance of the protective door, and offer a wide range of diagnostics options.

The RFID switches can be connected to all standard evaluation units suitable for solid-state inputs and in which the built-in cross-circuit monitoring function can be deactivated, e.g.:

Monitoring units	Туре
Relay outputs	
SIRIUS safety relays	3SK1111AB30, 3SK1121
Solid-state outputs	
SIRIUS safety relays	3SK1112, 3SK1122, 3SK2112, 3SK2122
SIMATIC S7-1200	
• F-DI 16 x 24 V DC	6ES7226-6BA32-0XB0, 6AG1226-6BA32-5XB0 (SIPLUS)
SIMATIC S7-1500/ET 200MP	
• F-DI 16 x 24 V DC	6ES7526-1BH00-0AB0, 6AG1526-1BH00-2AB0 (SIPLUS)
SIMATIC ET 200SP	
• F-DI 8 x 24 V DC	6ES7136-6BA00-0CA0, 6AG1136-6BA00-2CA0 (SIPLUS)
• F-PM-E 24 V DC/8 A PPM	6ES7136-6PA00-0BC0, 6AG1136-6PA00-2BC0 (SIPLUS)
SIMATIC ET 200pro	
• 8/16 F-DI 24 V DC	6ES7148-4FA00-0AB0
• 4/8 F-DI 24 V DC + 4 F-DO 24 V DC/2 A	6ES7148-4FC00-0AB0
• F-SWITCH	6ES7148-4FS00-0AB0
SIMATIC ET 200eco PN	
• F-DI 8 x 24 V DC + F-DQ 3 x 24 V DC/2 A	6ES7146-6FF00-0AB0
SIMATIC ET 200AL	_
• F-DI 4 x 24 V DC + F-DQ 2 x 24 V DC/2 A	6ES7146-5FF00-0BA0

These safety categories can be achieved in safety circuits:

- SIL 3 according to IEC 62061/IEC 61508
- PL e according to ISO 13849-1

Evaluation of safety functions

Safety Evaluation in the TIA Selection Tool

The safety evaluation for the IEC 62061 and ISO 13849-1 standards is performed quickly and easily, directly in the TIA Selection Tool. In addition to the fast and safe calculation of machine safety functions – from the definition of the system structure to the selection of components – this enables shared data management during all project phases. Take the next step in the digital design of machinery and equipment with Safety Evaluation in the TIA Selection Tool.

In addition, the functionalities of the proven Safety Evaluation Tool are still available. It determines the achieved safety integrity (SIL/PL) step-by-step. You receive the results as a standards-compliant report that can be integrated in the documentation as proof of safety.

For more information, see www.siemens.com/safety-evaluation-tool.

Position and safety switches SIRIUS 3SE6 non-contact safety switches

3SE63 RFID safety switches

Selection and ordering data

With M12 connection plug, 8-pole

with will connec	tion plug, 8-pole						
	Version		Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
3SE63 rectangula	ar safety switches ¹⁾						
	RFID safety switches						
	Actuator 3SE6310 must be ord	ered separately.					
	 Family-coded 	Without catch	3SE6315-0BB01-1AP0		1	1 unit	41K
		With 18 N magnetic catch	3SE6315-1BB01-1AP0		1	1 unit	41K
	 Individually coded, 	Without catch	3SE6315-0BB02-1AP0		1	1 unit	41K
	programmable several times	With 18 N magnetic catch	3SE6315-1BB02-1AP0		1	1 unit	41K
	 Individually coded, 	Without catch	3SE6315-0BB03-1AP0		1	1 unit	41K
3SE6315BB0.	programmable once	With 18 N magnetic catch	3SE6315-1BB03-1AP0		1	1 unit	41K
	RFID actuators						
(C) 1	 Standard 	Without catch	3SE6310-0BC01		1	1 unit	41K
3SE6310BC01		With 18 N magnetic catch	3SE6310-1BC01		1	1 unit	41K
1) Not connectable vi	ia AS-i modules.	For m	onitoring units, see page	s 8/1 9/	1 and 11/	1	
		1 01 111	oo, ooo page	0 0, 1, 0,		• •	

Accessories

	Version	Length	Article No. Price per Pl		PS*	PG
Optional accessorie	es					
1	Covers and spacers		3SX5600-1G	1	1 unit	41K
00 000	One pack (1 unit) contains 8 covers and 4 spacers					
3SX5600-1G						
	Connecting cables	3 m	3SX5601-2GA03	1	1 unit	41K
	With M12 socket, 8-pole,	5 m	3SX5601-2GA05	1	1 unit	41K
6	straight, open end, rated voltage 30 V,	10 m	3SX5601-2GA10	1	1 unit	41K
3SX5601-2GA03	rated current 2 A	15 m	3SX5601-2GA15	1	1 unit	41K
6GT2090-0BE00	M12 plugs, 8-pole Straight		6GT2090-0BE00	1	5 units	572
	Adapter cable ¹⁾	0.5 m	3SX5601-3SV00-1AK3	1	1 unit	41K
3SX5601-3SV00-1AK3	With M12 socket, 8-pole on M12 plug 5-pole, for connection, e.g., to fail-safe field modules of SIMATIC ET 200eco PN and SIMATIC ET 200AL					

¹⁾ Extend if necessary with connecting cable 3SX5601-3SV15, length 1 m, see page 12/50.

Suitable for wiring sensors that are connected to all fail-safe block I/O modules in the SIMATIC ET 200eco PN and ET 200AL series.
 For more information, see page 12/91 onwards.

SIRIUS 3SE6 non-contact safety switches

3SE64 RFID safety switches with tumbler

NEW

Overview



3SE64 RFID non-contact safety switch with actuator (right-hand switch with escape release)

3SE64 RFID non-contact safety switches comply with the highest safety requirements and tamper protection according to ISO 14119 for monitoring the positions of movable protective devices.

The operating principle using a rotating shaft and star handle is unique. This allows the protective door to be pulled into its end position with almost zero backlash and simultaneous guard locking, even acting as a door stop. No additional door stop is therefore required.

Integrated latching, adjustable from 25 to 50 N with the aid of a star handle, ensures that the protective door remains closed after the tumbler has been released.

The 3SE64 safety switch consists of a coded RFID switch with an 8-pole M12 connection plug and an RFID actuator. They can be ordered family-coded or individually coded (programmable several times).

The two versions differ in the principle by which the guard locking function is activated:

Version 1

The 3SE6415-1.B0. version operates according to the closed-circuit principle and is spring-locked.

- PL e applies to the interlocking function, corresponding to SIL 3.
- PL d applies to the guard locking function, corresponding to SIL 2.
- In this version, the tumbler is monitored and consequently the DC required to achieve SIL 2/PL d is reached.
- Used to protect personnel

Version 2

The 3SE6415-1AB0. version operates according to the open-circuit principle and is solenoid-locked.

- PL e applies to the interlocking function, corresponding to SIL 3.
- In this case, the guard locking function does not have a SIL level or PL level.
- Used to protect the process

One actuator is available for all versions.

A blocking insert protects operating personnel against inadvertently being closed in during maintenance and repair work.

An escape release allows the hazard zone to be exited from the inside if the protective door has accidentally been closed.

More information

 $Homepage, see {\it www.siemens.com/sirius-position-switches}$

SiePortal, see www.siemens.com/product?3SE

Equipment Manual, see

https://support.industry.siemens.com/cs/ww/en/view/109808156

Operating Instructions, see

https://support.industry.siemens.com/cs/ww/en/view/109811041



Video: Mount, connect and teach in 3SE6415 SIRIUS RFID safety switch with tumbler

Mounting and maintenance



3SE64 RFID non-contact safety switch with actuators from three directions

- Various options for mounting save on enclosure versions:
 - Mounting of the switch on the right or left side of rotating or sliding doors, simple installation on profile systems
 - Mounting of the actuator from three sides (narrow, front and rear side of the switch), see figure above
- Quick and easy mounting thanks to universal mounting holes
- Little adjustment or maintenance required:
 - Threshold indication by LED display on the switch for quick and easy adjustment during mounting and maintenance
 - Dampers in the actuator allow it to be used as an end stop for small and medium-sized doors

Notes:

- Keep metal parts and cuttings away from the vicinity of the switch.
- Minimum distance between two switches 250 mm (depending on the mounting position)

Optional accessories (mounting)

- Mounting plate for doors so that they are flush with the door frame
- Blocking insert for padlocks to prevent the door from being closed
- Triangular key to unlock the escape release
- Protection plate (masking plate) for the RFID actuator when used on glass and plastic doors
- Connecting cables in various lengths

Position and safety switches SIRIUS 3SE6 non-contact safety switches

NEW 3SE64 RFID safety switches with tumbler

Coding

Family-coded

These safety switches are delivered ready to use, i. e. no programming is necessary.

Individually coded, programmable several times

Programming procedure:

- 1. Apply operational voltage to safety sensor
- 2. Move actuator into detection range: red LED lights up, yellow LED flashes (1 Hz)
- 3. After 10 s it changes to a shorter flashing frequency (3 Hz). In this state switch off operational voltage.
- 4. After the next time the operational voltage is switched on, the actuator is detected again to activate the programmed actuator code. The activated code is thus stored permanently.

The procedure for programming a new actuator can be repeated an unlimited number of times. When a new actuator is programmed the previous code becomes invalid. A protected coding process allows new actuators to be programmed for service purposes.

After this, a ten-minute lockout provides enhanced tamper protection. The green LED flashes until the lockout time has ended and the new actuator has been detected. If the operational voltage is interrupted during this time, the ten-minute guard time is restarted.

Diagnostics

The RFID safety switch indicates its operating state including faults by means of the LED display in the switch and the shortcircuit-proof diagnostics output. The signals can then be used for central displays or non-safety-related control tasks.

There are the following diagnostics functions:

- Cross-circuit monitoring
- Open-circuit monitoring
- · External voltage monitoring
- · Ambient temperature too high
- · Wrong or defective actuator
- · Operating distance threshold identification with LED display

The signal combination "diagnostics output switched off" and "safety outputs still switched on" can be used to move the machine into a controlled stop position.

Any cross-circuit or a fault that is not currently compromising the safe function of a safety switch results in the disconnection of the safety channels after a 30-minute delay. However, the diagnostics output switches off instantaneously.

LED display



3SE64 RFID safety switch with LED display, auxiliary release and 8-pole M12 plua

Simple diagnostics with three colored LEDs:

- Green = Power
- Yellow = Status
- Red = Fault

Mode of operation of the diagnostics LEDs

The safety switch indicates not only its operating state, but also faults by means of LEDs in three colors located in the yellow cover of the RFID switch.

- The green LED indicates readiness for operation when the control supply voltage is connected.
- The yellow LED indicates that there is an actuator in detection range. If the actuator is in the operating distance threshold, this is indicated by flashing. This flashing can be used to identify a change in the distance between sensor and actuator at an early stage (e.g. as a result of the sagging of a protective door). The installation should be tested before the distance increases any further. Otherwise, the safety outputs will be switched off and the machine will stop.
- The red LED indicates the individual causes of the fault by means of defined flashing frequencies.

SIRIUS 3SE6 non-contact safety switches

3SE64 RFID safety switches with tumbler NEW

Benefits

- Maximum or requirements-oriented protection against tampering thanks to RFID technology
- Hygiene-compliant design ideal for food & beverage industries, degree of protection IP69
- Variable options for mounting on rotating or sliding doors, simple installation on profile systems
- · Guard locking possible from three sides (three directions of actuation) by means of a star handle
- High actuator tolerances, see Fig. 1:
 - Longitudinal direction ± 3.5 mm
 - Transverse direction ± 2 mm
- Simple adjustment of latching force: By rotating the star handle through 180°, the latching force can be increased from 25 N (position I) to 50 N (position II),
- LED display, simple diagnostics with 3-colored LEDs
- Auxiliary release, M12 plug, 8-pole, A-coded, see LED display on page 12/129
- Actuator can be used for a door stop using the integrated damper
- Controlled shutdown process in the event of a cross-circuit: The controller first receives the fault signal, and is only disconnected after 30 minutes.



Fig. 1: Actuator tolerance



Fig. 2: Star handle for adjustment of latching force

Application

Whether for grids, covers or doors, rotating, laterally sliding or removable protective devices - safety tumblers ensure that moving guards cannot be opened until hazardous states such as over-travel movements of rollers, chains, shafts, etc. have ended. They are suitable for protecting both the personnel and the process.

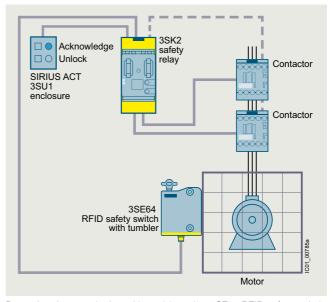
When the protective door is closed and the tumbler locked, the safety outputs are activated.

The actuator design for 3SE64 RFID safety switches with tumbler differs from the 3SE53 mechanical safety switches with tumbler in that it is based on an operating principle involving a rotating shaft and a star handle. The advantage is that, during closing, the protective door is pulled into its end position and kept closed with almost zero backlash. The tumbler can be approached from three sides, making the switch universally deployable.

Thanks to the high degree of protection IP69 and hygienic design, the 3SE64 RFID safety switch is preferred for hygienesensitive areas - for example in food production or the packaging and pharmaceutical industry.

The switches have a larger operating distance and switching displacement than mechanical switches, improve the mounting tolerance of the protective door, and offer a wide range of diagnostics options.

Application examples



Protective door monitoring with tumbler using 3SE64 RFID safety switch up to SIL 3/PL e with a 3SK2 safety relay

For a detailed description of this application example, see https://support.industry.siemens.com/cs/ww/en/view/109811081.

Other application examples:

- Protective door monitoring using 3SE64 RFID safety switch with tumbler and ET 200SP, see https://support.industry.siemens.com/cs/ww/en/view/109811981
- Protective door monitoring using 3SE64 RFID safety switch with tumbler for the field level, see https://support.industry.siemens.com/cs/ww/en/view/109818115

See also page 12/92.

Position and safety switches SIRIUS 3SE6 non-contact safety switches

NEW 3SE64 RFID safety switches with tumbler

The RFID switches can be connected to all standard evaluation units suitable for solid-state inputs and in which the built-in cross-circuit monitoring function can be deactivated, e.g.:

Monitoring units	Туре	_	Safety assessment of the		
	Version	SIPLUS version	interlocking function	guard locking function	
Solid-state outputs					
SIRIUS safety relays					
• 3SK2	3SK2112, 3SK2122		SIL 3/PL e	SIL 2/PL d	
• 3SK1	3SK1111AB30, 3SK1112, 3SK112., 3SK1220		SIL 3/PL e		
SIMATIC S7-1200					
• F-DI 16 x 24 V DC	6ES7226-6BA32-0XB0	6AG1226-6BA32-5XB0	SIL 3/PL e		
SIMATIC S7-1500/ET 200MP					
• F-DI 16 x 24 V DC	6ES7526-1BH00-0AB0	6AG1526-1BH00-2AB0	SIL 3/PL e		
• F-DQ 8 x 24 V DC/2A PPM	6ES7526-2BF00-0AB0	6AG1526-2BF00-2AB0		SIL 2/PL d	
SIMATIC ET 200SP					
• F-DI 8 x 24 V DC	6ES7136-6BA00-0CA0	6AG1136-6BA00-2CA0	SIL 3/PL e		
• F-DQ 8 x 24 V DC/0.5A PP	6ES7136-6DC00-0CA0	6AG1136-6DC00-2CA0		SIL 2/PL d	
• F-PM-E 24 V DC/8A	6ES7136-6PA00-0BC0	6AG1136-6PA00-2BC0	SIL 3/PL e		
SIMATIC ET 200pro					
• F-DI 8/16 24 V DC	6ES7148-4FA00-0AB0		SIL 3/PL e		
• F-DI 4/8 24 V DC + 4 F-DQ 24 V DC/2A PM	6ES7148-4FC00-0AB0		SIL 3/PL e		
SIMATIC ET 200eco PN					
• F-DI 8 x 24 V DC + F-DQ 3 x 24 V DC/2A PM	6ES7146-6FF00-0AB0		SIL 3/PL e		
SIMATIC ET 200AL					
• F-DI 4 x 24 V DC + F-DQ 2 x 24 V DC/2A PM	6ES7146-5FF00-0BA0		SIL 3/PL e		

These safety categories can be achieved in safety circuits:

- SIL 3 according to IEC 62061/IEC 61508
- PL e according to ISO 13849-1

Note:

In order to achieve the maximum achievable safety level (SIL 2 or PL d) of the guard locking function of the 3SE64 RFID safety switch, fail-safe PP-switching outputs of the safety relay or fail-safe controller must be used. When the tumbler of the 3SE64 is connected to standard SIMATIC output modules (DQ) and to fail-safe SIMATIC output modules with the PM switching principle (F-DQ PM-switching), no safety level (SIL or PL) can be reached. In this case, the guard locking function of the 3SE64 can only be used to protect the process.

Evaluation of safety functions

Safety Evaluation in the TIA Selection Tool

The safety evaluation for the IEC 62061 and ISO 13849-1 standards is performed quickly and easily, directly in the TIA Selection Tool. In addition to the fast and safe calculation of machine safety functions – from the definition of the system structure to the selection of components – this enables shared data management during all project phases. Take the next step in the digital design of machinery and equipment with Safety Evaluation in the TIA Selection Tool.

In addition, the functionalities of the proven Safety Evaluation Tool are still available. It determines the achieved safety integrity (SIL/PL) step-by-step. You receive the results as a standards-compliant report that can be integrated in the documentation as proof of safety.

For more information, see www.siemens.com/safety-evaluation-tool.

SIRIUS 3SE6 non-contact safety switches

3SE64 RFID safety switches with tumbler NEW

Technical specifications

Туре		3SE6415
General data		
Standards		IEC 60947-5-3, IEC 62061/IEC 61508, ISO 14119, ISO 13849-1
Enclosure material		Plastic, glass-fiber reinforced thermoplastic, self-extinguishing
Ambient temperature		
 During operation 	°C	0 +60
 During storage, transport 	°C	-10 +90
Shock resistance		30 <i>g</i> /11 ms
Vibration resistance		10 150 Hz, amplitude 0.35 mm
Operating principle		RFID
Coding level according to ISO 14119		
Individually coded, programmable several times		High
• Family-coded		Low
Series connection		Number of devices unlimited, ensure external line protection
Length of sensor chain		Max. 200 m (cable length and cable cross-section change the voltage drop in relation to the output current)
Mechanical data		
Locking force F _{Zh}	N	1 150
Latching force	N	25 or 50
Mechanical endurance	Opera- ting cycles	≥ 1 000 000
Connection type		Integrated socket M12, 8-pole, A-coded
Degree of protection		IP66, IP67, IP69 according to IEC 60529
Safety assessment of the interlocking function		
Standards		ISO 13489-1, IEC 62061/IEC 61508
PL		Up to e
Category		Up to 4
PFHD at high demand rate		5.2 x 10 ⁻¹⁰ /h
PFD _{avg} at low demand rate		4.5 x 10 ⁻⁵
SIL		Suitable for applications in SIL 3
Mission time	Years	20
Safety assessment of the locking function	guard	
Standards		ISO 13489-1, IEC 62061/IEC 61508
PL		Up to d
Category		Up to 2
PFHD at high demand rate		2.0 x 10 ⁻⁹ /h
PFD _{avg} at low demand rate		4.5 x 10 ⁻⁴
SIL		Suitable for applications in SIL 2
Mission time	Years	20

Pin assignment

M12 device plug, 8-pole



1	WH = White	-	A1	
2	BN = Brown	-	X1	
3	GN = Green	-	A2	
4	YE = Yellow	-	OSSD1	
5	GY = Grey	-	OUT	
6	PK = Pink	-	X2	82
7	BU = Blue	-	OSSD2	00882
8	RD = Red	-	IN	2

Position and safety switches SIRIUS 3SE6 non-contact safety switches

NEW 3SE64 RFID safety switches with tumbler

Selection and ordering data

Plastic enclosures · With M12 connection plug, 8-pole · Locking force 1 150 N

Plastic enclosur	es · with MT2 connection plug, 8-pole · Locking force T 150	IN				
	Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
20524 DEID						
3SE64 RFID sat	ety switches with tumbler ¹⁾			ı		
	Three LEDs for displaying the operating states (24 V DC), three directions of actuation, latching force adjustable with star handle: 25 N or 50 N, actuator 3SE6410 must be ordered separately.					
49-	Closed-circuit principle with auxiliary release (tumbler monitored)					
0	- Family-coded	3SE6415-1BB01		1	1 unit	41K
	 Individually coded, programmable several times 	3SE6415-1BB02		1	1 unit	41K
200	 Open-circuit principle with auxiliary release (actuator monitored) 					
0	- Family-coded	3SE6415-1AB01		1	1 unit	41K
3SE6415-1.B0.	 Individually coded, programmable several times 	3SE6415-1AB02		1	1 unit	41K
times O	 Closed-circuit principle with escape release (tumbler monitored), lever handle included as separate item, can be mounted on either side 					
•	- Family-coded	3SE6415-1CB01		1	1 unit	41K
3SE6415-1CB01						
RFID actuator						
	With stainless steel bracket, can be used as door stop	3SE6410-1AC01		1	1 unit	41K
3SE6410-1AC01						
4)				1		

¹⁾ Not connectable via AS-i modules.

Monitoring units, see from pages 8/1, 9/1 and 11/1 onwards.

SIRIUS 3SE6 non-contact safety switches

3SE64 RFID safety switches with tumbler NEW

Accessories							
	Version	Length	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		m					
Optional access	sories						
	Mounting plate		3SX5600-1F		1	1 unit	41K
	For doors so that they are flush with the door frame						
	To compensate for the height between the safety						
3SX5600-1F	switch and the RFID actuator						
3,5000-11	Blocking insert		3SX5600-2F		1	1 unit	41K
;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;	This is inserted into the actuator bracket to prevent the door from closing. For 1 to 6 padlocks (not included in the scope of supply), bracket diameter max. 6 mm		- CO. CO. CO. CO. CO. CO. CO. CO. CO. CO.		,	Tanic	
SX5600-2F							
	Triangular key		3SX5600-3F		1	1 unit	41K
	For 3SE6415-1CB01 safety switches To unlock the escape release when the red lever is missing.						
3SX5600-3F							
3SX5600-4F	Protection plate (masking plate) For the RFID actuator 3SE6410-1AC01 For use on glass and plastic doors on machinery, Material: Aluminum, Aluminum thread heads with M6 thread including rubber washers		3SX5600-4F		1	1 unit	41K
	Connecting cable	1	3SX5601-3SV18		1	1 unit	41K
SX5601-3SV18	With M12 socket, 8-pole and M12 plug, 8-pole						
	ET 200 Y-cable	0.2	3SX5601-3SY00-1AK4		1	1 unit	41K
SX5601-3SY00- AK4	With M12 socket, 8-pole on 2 x M12 plug, 5-pole, length 200 mm, for connection, e.g., to fail-safe field modules of SIMATIC ET 200eco PN and SIMATIC ET 200AL						
	For more information, see page 12/91 onwards.						
	Connecting cables	3	3SX5601-2GA03		1	1 unit	41K
	With M12 socket, 8-pole,	5	3SX5601-2GA05		1	1 unit	41K
59	straight, open end, rated voltage 30 V,	10	3SX5601-2GA10		1	1 unit	41K
SX5601-2GA03	rated current 2 A	15	3SX5601-2GA15		1	1 unit	41K
3	M12 plugs, 8-pole Straight		6GT2090-0BE00		1	5 units	572
GT2090-0BE00							
	M12 plugs, 5-pole		0DK4000 4D400 5440		_	40	400
	 Straight, separate item 		3RK1902-4BA00-5AA0		1	1 unit	42D

1 unit

42D

3RK1902-4DA00-5AA0

3RK1902-4BA00-5AA0

• Angled, separate item

13

Commanding and signaling devices





		Price groups PG 41J, 41K, 42C, 42D, 42K, 572		Accessories Labels
ŀ	10/0		13/107	- Insert labels
Į	13/2	Introduction		- Label holders for labeling plates
		SIRIUS ACT pushbuttons and		- Labeling plates
		indicator lights		- Labeling plates for enclosures
	13/6	General data		- Labels for laser printers
		Actuators and indicators, 22 mm,		- Other labels
	10/05	round, plastic, black		Protection/Access protection
	13/25	Complete units		Actuators
	13/33	Compact units		Enclosures
	13/35	Actuating and signaling elements		Miscellaneous accessories
		Actuators and indicators, 22 mm, metal, shiny	-,	
	13/48	Complete units		SIRIUS 3SB2 pushbuttons and indicator lights, 16 mm
	13/56	Compact units	13/140	
	13/58	Actuating and signaling elements		Complete units
	10,00	Actuators and indicators, flat, 30 mm,		Actuating and signaling elements
		metal, matte		
1	13/70	Actuating and signaling elements	13/147	
		Actuators and indicators,	13/1/0	Accessories and spare parts Insert labels and insert caps
		customized designs		Backing plates
	13/74	Special locks	13/154	<u> </u>
	13/75	Laser inscriptions	10/104	
		<u>Holders</u>		SIRIUS 3SE7 cable-operated
	13/76	Holders without module		switches
	13/77	Holders with module	,	3SE7 metal enclosures
		Modules	13/160	Accessories
	13/79	Contact modules		SIRIUS 3SE2, 3SE3 foot switches
	13/84	LED modules	13/162	Plastic and metal enclosures
	13/88	AS-Interface modules		SIRIUS 8WD4 signaling columns
	13/89	Electronic modules for IO-Link	13/164	
	13/90	Electronic modules for ID key-operated		8WD46 signaling columns,
	10/01	switches		70 mm diameter NEW
	13/91	Modules for PROFINET		8WD42 and 8WD44 signaling columns
	13/92	Support terminals	13/171	
	10/00	Enclosures	13/174	8WD42 signaling columns,
	13/93	General data		50 mm diameter
	13/94	Empty enclosures	13/177	8WD44 signaling columns, 70 mm diameter
	13/95	Pushbuttons and indicator lights in the enclosure		
	13/100			SIRIUS 8WD5 integrated signal lamps
	10, 100	in the enclosure for AS-Interface	13/182	
	13/103	Pushbuttons and indicator lights		70 mm diameter
		in the enclosure for IO-Link		
	13/104			Note:
		in the enclosure for connection to SIMATIC ET 200	13/17	SIRIUS ACT pushbuttons and indicator
	12/106			lights can also be ordered in practical,
	13/106	Two-hand operation consoles		environment-friendly multi-unit packaging.
				Example:
				3SU1000-1AA10-0AA0-Z X90;
				pack of 50

Introduction

Overview



	3SU1.0		
Pushbuttons and indicator lights			
Designs			
Nominal diameter	22 mm		
Version	Plastic		
	Complete units	Compact units	Actuating/ signaling elements
Actuators			
Pushbuttons	✓ see p. 13/25		✓ see p. 13/35
Illuminated pushbuttons	✓ see p. 13/25		✓ see p. 13/36
Mushroom pushbuttons	✓ see p. 13/27		✓ see p. 13/38
EMERGENCY STOP mushroom pushbuttons	✓ see p. 13/28		✓ see p. 13/39
Selector switches	✓ see p. 13/29		✓ see p. 13/41
Key-operated switches	✓ see p. 13/30		✓ see p. 13/43
ID key-operated switches			✓ see p. 13/45
Twin pushbuttons			✓ see p. 13/37
Quadruple pushbuttons			✓ see p. 13/37
Toggle switches			✓ see p. 13/40
Coordinate switches	✓ see p. 13/31		✓ see p. 13/46
Potentiometers		✓ see p. 13/33	
Pushbuttons with extended stroke		✓ see p. 13/34	
Indicators			
Indicator lights	✓ see p. 13/32		✓ see p. 13/46
Indicator lights in illuminated pushbutton design			✓ see p. 13/46
Acoustic signaling devices		✓ see p. 13/33	
Modules			
Contact modules	✓ see p. 13/79 to 13/83		
LED modules	✓ see p. 13/84 to 13/87		
AS-Interface modules	✓ see p. 13/88		
Electronic modules for IO-Link	✓ see p. 13/89		
Electronic modules for ID key-operated switches	✓ see p. 13/90		
Modules for PROFINET	✓ see p. 13/91		
Support terminals	✓ see p. 13/92		
Connections			
Screw terminals	✓	1	✓
Spring-loaded terminals	✓		✓
Solder pins			✓
AS-Interface	✓		✓
IO-Link			✓
PROFINET			✓

- ✓ Available
- -- Not available

Introduction







	3SU1.5			3SU1.6			3SB2
Pushbuttons and indica	tor lights						
Designs							
Nominal diameter Version	22 mm Metal, shiny			30 mm Metal, matte, fla	t		16 mm Plastic, round
	Complete units	Compact units	Actuating/ signaling elements	Complete units	Compact units	Actuating/ signaling elements	Complete units, actuating/ signaling elements
Actuators							
Pushbuttons Illuminated pushbuttons Mushroom pushbuttons EMERGENCY STOP mushroom pushbuttons	✓ see p. 13/48 ✓ see p. 13/50 ✓ see p. 13/51	 	✓ see p. 13/62		 	✓ see p. 13/70 ✓ see p. 13/70 	✓ see p. 13/145 ✓ see p. 13/145 ✓ see p. 13/145
Selector switches Key-operated switches	✓ see p. 13/53 ✓ see p. 13/54					✓ see p. 13/71 ✓ see p. 13/72	✓ see p. 13/145 ✓ see p. 13/146
Twin pushbuttons Toggle switches Coordinate switches	 ✓ see p. 13/54	 	✓ see p. 13/60 ✓ see p. 13/64 ✓ see p. 13/68	 			
Potentiometers Pushbuttons with extended stroke		✓ see p. 13/56 ✓ see p. 13/57					
Indicators							
Indicator lights Acoustic signaling devices	✓ see p. 13/55	 ✓ see p. 13/56	✓ see p. 13/68			✓ see p. 13/72	✓ see p. 13/144
Modules							
Contact modules LED modules	✓ see p. 13/79 t ✓ see p. 13/84 t						
Wedge bases AS-Interface modules	 ✓ see p. 13/88						✓ see p. 13/154
Electronic modules for IO-Link	✓ see p. 13/89						
Electronic modules for ID key-operated switches	✓ see p. 13/90						
Modules for PROFINET	✓ see p. 13/91						
Support terminals Connections	✓ see p. 13/92						
Plug-in connection							1
Screw terminals Spring-loaded terminals Solder pins AS-Interface	<i>I I I</i>	√ √ √	<i>I I I</i>	<i>I I I</i>	√ √ √	<i>y y y</i>	✓
IO-Link PROFINET	✓ 	✓ 	<i>y</i>	✓ 	✓ 	<i>y</i>	

[✓] Available

Note:

Safety characteristics, see page 16/9.

⁻⁻ Not available

Introduction





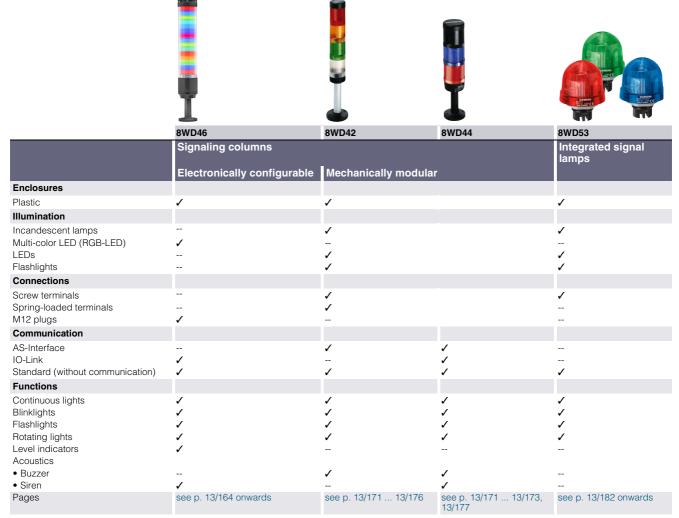




	3SU18	3SU18	3SE7	3SE29, 3SE39
	Enclosures	Two-hand operation consoles	Cable-operated switches	Foot switches
Enclosures				
Plastic	✓	1		✓
Metal	✓	1	✓	✓
Actuators				
Pushbuttons	1		1	1
Illuminated pushbuttons				
Mushroom pushbuttons	✓	✓		
EMERGENCY STOP mushroom pushbuttons	✓	✓	✓	
Selector switches	✓			
Key-operated switches	✓			
Cable-operated switches			✓	
Indicators				
Indicator lights	1		1	
Acoustic signaling devices	✓			
Modules (see p. 13/83 to 13/92)				
1-pole/2-pole	√/	✓	/-	/ √
3-pole/4-pole			✓	✓
Connections				
Screw terminals	✓	1	✓	1
AS-Interface	✓			
IO-Link	✓			
PROFINET	✓			
Pages	see p. 13/93	see p. 13/106	see p. 13/156	see p. 13/162

- ✓ Available
- -- Not available

Introduction



- ✓ Available
- -- Not available

SIRIUS ACT pushbuttons and indicator lights

General data

Overview



SIRIUS ACT pushbuttons and indicator lights

SIRIUS ACT - commanding and signaling

SIRIUS ACT is a modular system of pushbuttons and indicator lights for front plate mounting and rear-mounted electrical modules. Thanks to SIRIUS ACT with PROFINET, commanding and signaling devices can be connected directly via PROFINET to the controller and HMI devices – including with safety functions. Engineering and commissioning are simplified by the TIA Portal.

Extensive portfolio

- Customized versions, e.g. special locks, inscriptions, equipped enclosures
- Communication-capable thanks to direct interfacing to AS-Interface, IO-Link or PROFINET

Diverse possible applications

- National and international approvals
- Many trade approvals
- · Short delivery times thanks to global availability

Standards

- IEC 60947-1
- IEC 60947-5-1
- IEC 60947-5-5 for EMERGENCY STOP devices

More information

Homepage, see www.siemens.com/sirius-act

SiePortal, see www.siemens.com/product?3SU1

Configurator, see www.siemens.com/sirius-act/configurator.

Conversion tool, see www.siemens.com/conversion-tool

System Manual, see

https://support.industry.siemens.com/cs/ww/en/view/107542462

TIA Portal, see www.siemens.com/TIA

TIA Selection Tool Cloud (TST Cloud), see www.siemens.com/tstcloud/?node=SiriusActConfigurator



Video: SIRIUS ACT - Teaser trailer

Commanding and signaling devices SIRIUS ACT pushbuttons and indicator lights

General data

Configurator



- Fast and simple selection by intuitive navigation through clearly-organized menus using drag & drop
- Image preview of selected components
- Inscription of pushbuttons and labeling plates using the interactive inscription tools
- Once created, a configuration can be ordered as often as required using the customer-specific article number and the CIN (Configuration Identification Number)
- Everything at a glance: Product data sheets, certificates, dimensional drawings, list prices, inscription tool



Video: SIRIUS ACT - Configurator

SIRIUS ACT pushbuttons and indicator lights

General data

Benefits

Design



Video: SIRIUS ACT - Design



SIRIUS ACT is available in three design lines.

Ruggedness



Video: SIRIUS ACT - Ruggedness



Degree of protection IP66, IP67, IP69 (IP69K)		
IP66		
6 = Protection against the ingress of dust	6 = Protection against powerful splashwater	
IP	67	
6 = Protection against the ingress of dust	7 = Protection against temporary immersion	

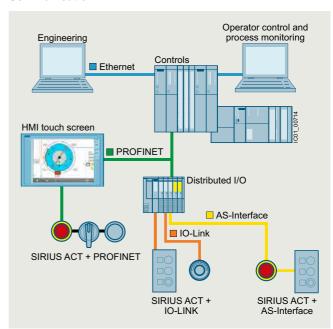
IP69 (IP69K)

6 = Protection against the ingress of dust

9 (9K) = Protection against water in high-pressure cleaning (approx. 80 bar) and high water jet temperatures (approx. 80 °C)

- Service life of 100 000 hours thanks to use of LEDs
- Media resistance (chemicals) thanks to solid stainless steel and high-grade plastics
- Mechanical endurance of 10 x 10⁶ operating cycles
- Suitable for use in extreme environments
- · Reliable, friction-locked fixing with just one screw
- Design stability according to use
- Simple geometry for mounting holes

Communication

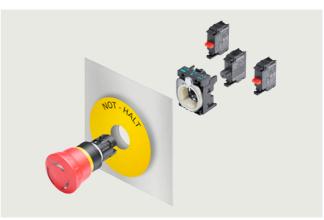


- Direct connection of the enclosure to AS-Interface or IO-Link
- Direct connection in the control cabinet to PROFINET, IO-Link or AS-Interface
- Easy integration possible via the TIA Portal

Simple installation



Video: SIRIUS ACT - Installation

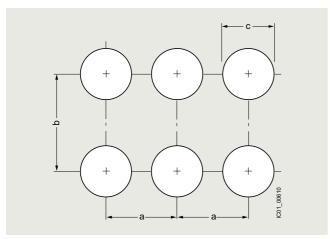


- Self-holding function of the actuator when mounting
- Twist prevention integrated into patented holder design
- Stackable contact modules
- Self-explanatory and fast installation using one hand
- Components can be mounted with holder removed
- No special tools required, simple size 2 screwdriver (cross-tip ISO 87641PZD1, flat-head ISO 2380-1 A/B 1x4.5) is sufficient

Commanding and signaling devices SIRIUS ACT pushbuttons and indicator lights

General data

Mounting dimensions



Version	Minimum clearance		
	а	b	С
	mm	mm	mm
22 mm, plastic, black 22 mm, metal, shiny For front panel thickness 1 6 mm			
3-slot holder	30	40	22.3+0.4
4-slot holder	40	40	22.3+0.4
30 mm, metal, matte For front panel thickness 1 4 mm			
3-slot holder	40	45	30.5+0.5

Versions

SIRIUS ACT is a modular system of pushbuttons and indicator lights with which customized versions can be configured flexibly.

One command point comprises:

- An actuating or signaling element in front of the control panel
- A holder for securing behind the control panel
- Up to six contact modules and/or one LED module (mounted on the holder), 1-pole contacts can be stacked
- A comprehensive range of accessories for inscription/marking

Complete units

Complete units made up of an actuating or signaling element, holder and contact modules and/or LED modules are offered for the most frequent application cases. The electrical parts are integrated and only have to be wired.



Complete units	Pages
Plastic, black	13/25
Metal, shiny	13/48

Compact units

Signaling devices, pushbuttons with extended stroke and potentiometers are available as compact units. The electronic circuitry is already integrated in these devices, i.e. it is not necessary to snap on a contact or LED module.

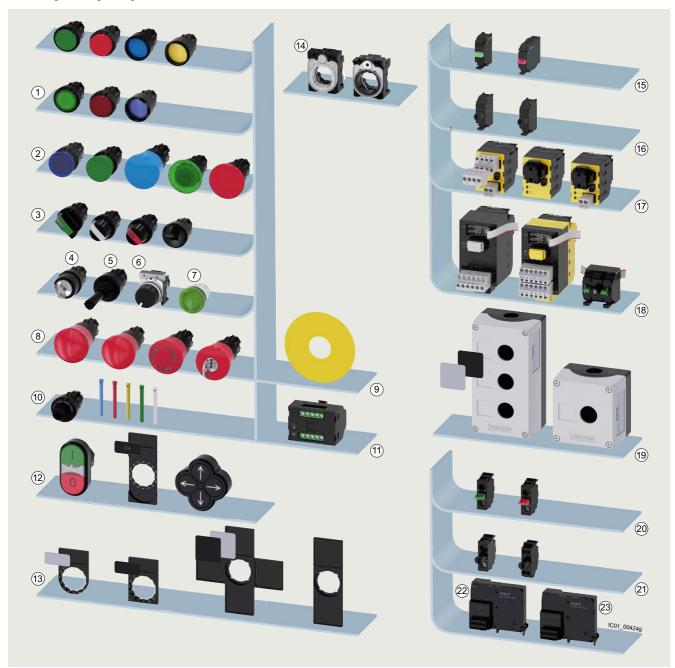


Compact units	Pages
Plastic, black	13/33
Metal, shiny	13/56

SIRIUS ACT pushbuttons and indicator lights

General data

Actuating and signaling elements



System overview of SIRIUS ACT pushbuttons and indicator lights from the plastic design line, pushbuttons and indicator lights available in three design lines.

Actua	ating and signaling elements	Pages	Modu	ules for front plate mounting	Pages
1	Pushbuttons, illuminated pushbuttons	13/25	(15)	Contact modules	From 13/79
2	Mushroom pushbuttons	13/27	16	LED modules	From 13/84
3	Selector switches, toggle switches	13/40, 13/41	17)	AS-Interface modules	13/88
45	Key-operated switches, coordinate switches	13/43, 13/46	23	Electronic modules for IO-Link	13/89
67	Potentiometers, indicator lights	13/33, 13/46	18	Modules for PROFINET: Interface modules,	13/91
89	EMERGENCY STOP mushroom pushbuttons, backing plates	13/28		fail-safe interface modules, terminal modules	
10	 ID key-operated switches, ID keys Electronic modules for ID key-operated switches 13/45 13/90 		Enclo	osures	Pages
(11)		13/90	(19)	Enclosures	From 13/93
12	guadrunle nuchhuttone		Modu	ules for base mounting	Pages
			20	Contact modules	From 13/83
Holde	ers and labels	Pages	21)	LED modules	From 13/86
(13)	Label holders, labeling plates	From 13/110	22	AS-Interface modules	13/88
(14)	Holders	From 13/76	23	Electronic modules for IO-Link	13/89

Commanding and signaling devices SIRIUS ACT pushbuttons and indicator lights

General data

SIRIUS ACT with PROFINET

SIRIUS ACT with PROFINET connects pushbuttons and indicator lights directly via PROFINET to the controller and HMI devices – including with Safety functions.

With this solution designed for the control panel, up to 21 SIRIUS ACT devices can be connected to the controller via PROFINET. Integration of the EMERGENCY STOP mushroom pushbutton (SIL 3/PL e) is possible via PROFIsafe.

Non-SIRIUS ACT devices, e.g. position switches, can additionally be connected via the open, digital/analog interfaces (DI, DQ, AI).

The system is entirely integrated into TIA Portal and does not require any further addressing apart from the IP address for PROFINET.

Quick and easy installation with flat ribbon cables without special tools significantly saves on wiring outlay.



Video: SIRIUS ACT, Communication/PROFINET



Interface modules/fail-safe interface mod	dules		
	Interface modules for PROFINET, 24 V DC 1 to 20 terminal modules can be connected	3SU1400-1L□10-□AA1	See page 13/91
Terminal modules			0 40/04
	Terminal modules with two contacts	3SU1400-1MA□0-1□A1 3SU1401-1MC□0-1□A1	See page 13/91
	Terminal modules with two contacts and integrated LED Terminal modules with integrated LED	3SU1401-1ME□0-1□A1	
Accessories			
	Memory modules For backing up the complete parameterization of the safety system without a PC/PG through the system interface	3RK3931-0AA00	See page 13/91
	LED modules for mounting on printed circuit boards	3SU1401-3BA□0-5AA0	See page 13/87
	Flat ribbon cables	00114000 014000 05 5	0 40/:22
	7 cores, length 5 m 7 cores, length 10 m	3SU1900-0KQ80-0AA0 3SU1900-0KP80-0AA0	See page 13/139

SIRIUS ACT pushbuttons and indicator lights

General data

ID key-operated switches

Groups of employees or individuals can be authenticated by means of the ID key-operated switch. The ID key-operated switch is electronic and has four switch positions that are selected by keys with different codes. Using the four ID keys with different codes, it is possible to select 1 to 4 positions. The ID keys are color-coded (yellow, blue, red, green, white) so that they can be clearly differentiated at a glance and used flexibly thanks to four function levels.



Video: SIRIUS ACT ID key-operated switches

RFID authentication solutions

Groups of employees or individuals can be authenticated by means of the ID key-operated switch. Color-coded keys for easy distinction between users.

Different versions of ID key-operated switches are available depending on the following features:

- · Front ring material
- Conventional version: 1 + 4 non-isolated outputs
- · Version with IO-Link: Option of individual coding

Operation:

Insert ID key, turn key to select the position. Standard keys can also be used in conjunction with the electronic module for ID key-operated switches with IO-Link function. The white ID key is supplied without coding.







3SU1000-4WS10-0AA0 Plastic, black 3SU1500-0AA10-0AA0 Holder, plastic

3SU1550-0AA10-0AA0 Holder universal

	Plastic, black	Holder, plastic	Holder, universal
ID key-operated switches			
Number of switch positions	4		
Actuating angle	45°		
Operating principle	Latching		
Switch position for key removal	Key removal possible in all four posi	tions	
Color	Black		
Pages	13/45		





	3SU1400-1GC10-1AA0	3SU1400-1GD10-1AA0	
Electronic modules for ID key-operated switches			
Type of power supply		Via IO-Link master	
Protocol is supported		IO-Link protocol	
Number of NO contacts	5	5	
IO-Link transfer rate		COM2 (38.4 kBaud)	
Pages	13/90	13/90	





	3SU1900-0FU60-0AA0	3SU1900-0FV40-0AA0 3SU1900-0FW30-0AA0 3SU1900-0FX20-0AA0 3SU1900-0FY50-0AA0	
	ID keys ID group individual	ID keys	
ID keys			
Material	Plastic	Plastic	
Version of RFID coding	Individually coded, programmable several times	ID group 1 ID group 2	

		, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
Version of RFID coding	Individually coded, programmable several times	ID group 1 ID group 2 ID group 3 ID group 4
Color	White	Green Yellow Red Blue
Pages	13/135	13/135

General data

SIRIUS ACT pushbuttons and indicator lights

Article number schemes

Device types



Actuating and signaling elements

Product versions		Article number				
SIRIUS ACT pushbuttons and i	ndicator lights	3SU1 000-0000-000				
Device type	Actuating and signaling elements	0				
Material (front ring)	Plastic, black Metal, shiny Metal, matte	0 5 6				
Illumination	Non-illuminated Illuminated/transparent Illuminated/non-illuminated	0 1 2				
Type of actuator/indicator	Pushbutton Mushroom pushbutton/EMERGENCY STOP mushroom pushbutton Selector switch Twin pushbutton, toggle switch, quadruple pushbutton Key-operated switch Indicator light/acoustic signaling device Coordinate switch	0 1 2 3 4/5 6 7				
Design of the actuator/lock	e.g. A = Flat					
Function	e.g. B = Momentary contact					
Color/key removal position	e.g. 10 = Black, 20 = Red					
Connection type	None	0				
Module/holder equipment	e.g. A = Without module, without holder					
Marking	e.g. A = None, C = "I", D = "O", R = "R"					
Ambient condition	Standard ATEX Zone 1-2: Intrinsic safety	0 2				
Example		3SU1 0 0 0 - 0 A B 1 0 - 0 A A 0				

Note:

The article number scheme shows an overview of product versions for better understanding of the logic behind the article numbers.

Commanding and signaling devicesSIRIUS ACT pushbuttons and indicator lights

General data

Complete units

Product versions		Article	number			
SIRIUS ACT pushbuttons and indic	ator lights	3SU1				
Device type	Complete units		1			
Material (front ring)	Plastic, black Metal, shiny Metal, matte		0 5 6			
Illumination	Non-illuminated Illuminated (with/without LED, various voltages)		0 1 8			
Type of actuator/indicator	Pushbuttons Mushroom pushbutton/EMERGENCY STOP mushroom pushbutton Selector switch Twin pushbutton, toggle switch Key-operated switch Indicator light/acoustic signaling device Coordinate switch			0 1 2 3 4/5 6 7		
Design of the actuator/lock	e.g. A = Flat					
Function	e.g. B = Momentary contact]	
Color/key removal position	e.g. 10 = Black, 20 = Red					
Connection type	Screw terminals Spring-loaded terminals					1 3
Module/holder equipment including contact material	e.g. A = Without module, with holder B = 1 NO contact with holder C = 1 NC contact with holder					
Marking	e.g. A = None, C = "I", D = "O", R = "R"					
Ambient condition	Standard ATEX Zone 1-2: Intrinsic safety					0 2
Example		3SU1	1 0 0 -	0 A E	3 1 0 -	1 B A 0

Compact units

Product versions		Article number	
SIRIUS ACT pushbuttons and indic	cator lights	3SU1	
Device type	Compact units	2	
Material (front ring)	Plastic, black Metal, shiny Metal, matte	0 5 6	
Illumination	Non-illuminated Illuminated/non-illuminated	0 1	
Type of actuator/indicator	Pushbuttons Potentiometers Acoustic signaling device	0 2 6	
Design of the actuator/lock	e.g. A = Flat		
Function (voltage/resistance)	e.g. B = 24 V AC/DC		
Color	e.g. 10 = Black, 20 = Red		
Connection type	None Screw terminals M12 connection, 4-pole Spring-loaded terminals	0 1 2 3	
Module/holder equipment including contact material	e.g. A = Without module, without holder B = 1 NO contact with holder C = 1 NC contact with holder		
Marking	e.g. A = None		
Ambient condition	Standard ATEX Zone 1-2: Intrinsic safety		0 2

Note:

The article number schemes show an overview of product versions for better understanding of the logic behind the article numbers.

Commanding and signaling devices SIRIUS ACT pushbuttons and indicator lights

General data

Modules for actuators and indicators

Product versions		Article	e number
SIRIUS ACT pushbuttons and indica	ator lights	3SU1	000-0000-0000
Device type	Modules for actuators and indicators		4
Material (front ring)	Plastic, black		0
Illumination	Non-illuminated Illuminated		0
Mounting type	Front plate mounting Base mounting Printed circuit board		1 2 3
Module type	Contact module LED module LED test module Support terminal AS-Interface module Electronic module for ID key-operated switches Interface modules for PROFINET Terminal modules		A B C D E G L
Function/voltage	e.g. B = 24 V AC/DC		
Color	e.g. 10 = Black, 20 = Red		
Connection type	Screw terminals Screw terminals + insulation displacement method Spring-loaded terminals Spring-loaded terminals + insulation displacement method Socket terminals		1 2 3 4
Module equipment including contact material	e.g. A = None B = 1 NO contact, silver C = 1 NC contact, silver		P
Marking	None		Α
Ambient condition	Standard ATEX Zone 1-2: Intrinsic safety		0 2
Example		3SU1	4 0 0 - 1 A A 1 0 - 1 B A 0

Holders

Product versions		Article number						
SIRIUS ACT pushbuttons and indica	ator lights	3SU1 □						
Device type	Holders	5						
Material (front ring)	Plastic, black Metal, shiny Universal for plastic and metal		0 1 5					
Illumination	Non-illuminated Illuminated		0					
Mounting type	None Front plate mounting		0					
Holder type	3x 4x		A B					
Function/voltage	None 6 24 V AC/DC		A G					
Color	e.g. 10 = Black, 20 = Red							
Connection type	None Screw terminals			1 2				
Module equipment including contact material and slot	e.g. A = None B = 1 NO contact, silver C = 1 NC contact, silver							
Marking	None			Α				
Ambient condition	Standard ATEX Zone 1-2: Intrinsic safety			0 2				
Example		3SU1 5	0 0 - 0 A A 1 0 -	0 A A 0				

Note

The article number schemes show an overview of product versions for better understanding of the logic behind the article numbers.

SIRIUS ACT pushbuttons and indicator lights

General data

Enclosures

Product versions		Article	number		
SIRIUS ACT pushbuttons and ind	icator lights	3SU1			0-000
Device type	Enclosures		8		
Material (enclosure/front ring)	Plastic, black plastic Metal, shiny metal		0 5		
Number of command points	Command point		1		
	Command points		6		
Type of enclosure	Surface mounting 4-position selector switch and coordinate switch Palm pushbutton Two-hand operation console			0 1 2 3	
Equipment	e.g. command point, inscription, module				
Communication capability	None AS-i			0	
Ambient condition	Standard ATEX Zone 1-2: Intrinsic safety				0 2
Mounting/connection of modules	None Front plate mounting, screw terminals Base mounting, screw terminals Front mounting, spring-loaded terminals Base mounting, spring-loaded terminals				0 1 2 3 4
Cable exit from enclosure	None Direct entry of AS-i flat cable at top/on right AS-i insulation displacement method at top/on right				A G H
Design of enclosure top	Center command point With recess for labeling plate With protective collar 4 additional holes (two-hand operation console) 8 additional premachined breaking points (two-hand operation console)				A B C D
Color of enclosure top	Gray Yellow				1 2

Accessories

Product versions	Article							
SIRIUS ACT pushbuttons and indica	ator lights	3SU1			- 000			
Device type	Accessories		9					
Material	Plastic, black Metal, shiny Metal, matte		0 5 6					
Illumination	Non-illuminated Illuminated		0					
Type of accessory (labels, protection, actuator, enclosure)	e.g. 0AB = Insert label]			
Color	e.g. 10 = Black, 20 = Red							
Marking	e.g. 0AA = None 0AB = ON 0AT = EMERGENCY STOP							
Ambient condition	Standard ATEX Zone 1-2: Intrinsic safety						0 2	
Example		3SU1	9 0 0 -	0 A B	2.0	- 0 A B	0	

Note:

The article number schemes show an overview of product versions for better understanding of the logic behind the article numbers.

Commanding and signaling devices SIRIUS ACT pushbuttons and indicator lights

General data

Ordering notes for multi-unit packaging

SIRIUS ACT pushbuttons and indicator lights can also be ordered in practical, environment-friendly multi-unit packaging.

Multi-unit packaging with order code X90

When ordering products in <u>multi-unit packaging</u>, the article number of the product concerned must be supplemented with **"-Z"** and, <u>in addition</u>, the order code **X90** must be specified.

Ordering example:

3SU1000-0AB20-0AA0-Z X90; purchase order quantity 100 units \rightarrow Delivery of one package containing 100 units





Examples of multi-unit packaging with order code X90

SIRIUS ACT pushbuttons and indicator lights	Multi-unit, quantity per package
Complete units (3SU11)	X90 20
Compact units (3SU12)	
Acoustic signaling devices, pushbuttons with extended stroke, potentiometers	50
Actuating and signaling elements (3SU10)	
Pushbuttons, illuminated pushbuttons, indicator lights	
- 3SU100, 3SU105	100
- 3SU106	50
 Stop buttons, twin pushbuttons, mushroom pushbuttons 30/40 mm, EMERGENCY STOP mushroom pushbuttons 30/40 mm, toggle switches, selector switches, key-operated switches, ID key-operated switches, coordinate switches 	50
Mushroom pushbuttons 60 mm, EMERGENCY STOP mushroom pushbuttons 60 mm	40
Holders without module (3SU15)	100
Modules for actuators and indicators (3SU14)	
Contact modules	150
• LED modules	50
Enclosures (3SU18)	
Empty plastic enclosures	
- 3SU1801-0AA00-0AA2, 3SU1801-0AA00-0AB1	24
- 3SU1801-0AA00-0AC2	18
Accessories (3SU19)	
 Label holders, EMERGENCY STOP backing plates, labeling plates for potentiometers, EMERGENCY STOP labeling plates for enclosures without recesses and without inscription, single frames, dust caps for key-operated switches, adapters for DIN-rail mounting, protective collars for EMERGENCY STOP mushroom pushbuttons (40 mm, for 5 padlocks, yellow) 	100
Labeling plates	150
Sealing plugs	
- 3SU190, 3SU195	100
- 3SU196	50

SIRIUS ACT pushbuttons and indicator lights

General data

Application

Environmental conditions

The pushbuttons and indicator lights are climate-proof (KTW 24) and suitable for standard industrial applications and operation in marine applications.

Simple electrical equipment

Non-illuminated actuators, contact modules, enclosures and special accessories can be classified as simple electrical equipment according to IEC 60079-11. This means that they may be used in intrinsically safe circuits and in potentially explosive atmospheres. An overview of the devices and atmospheres can be found in Confirmation No. 3287.01.

Safety EMERGENCY STOP pushbuttons according to ISO 13850

For controls according to IEC 60204-1, the SIRIUS ACT mushroom pushbuttons are suitable for use as a safety EMERGENCY STOP.

Safety circuits

Standard IEC 60947-5-1 requires positive opening of the NC contacts. This means that, for the purpose of personal safety, the reliable opening of NC contacts in all safety circuits is expressly prescribed for the electrical equipment of machines and is designated according to IEC 60947-5-1 with the symbol (⊕).

PL e according to ISO 13849-1 can be attained with the EMERGENCY STOP mushroom pushbuttons if the corresponding fail-safe evaluation units are selected and correctly installed, e.g. the 3SK safety relays (see page 11/1 onwards) or matching units from the ASIsafe, SIMATIC or SINUMERIK product ranges.

Technical specifications

More information	
SiePortal, see www.siemens.com/product?3SU1	Conversion tool, see www.siemens.com/conversion-tool
	System Manual, see https://support.industry.siemens.com/cs/ww/en/view/107542462

Article number		3SU10.0-0AA 3SU10.0-0JA	3SU10.0-0AB 3SU10.0-0BB 3SU10.0-0CB 3SU10.0-0DB 3SU10.0-0JB	3SU10.1-0AA 3SU10.1-0JA	3SU10.1-0AB 3SU10.1-0BB 3SU10.1-0JB	3SU1000-3F
Product designation		Pushbuttons		Illuminated pushbut	tons	Quadruple pushbuttons
Operating principle of the actuating element		Latching	Momentary contact	Latching	Momentary contact	
Optional expansion of product by light source		No		Yes		No
Mechanical endurance (operating cycles typical),	500 000	10 000 000	500 000	3 000 000	200 000
Frequency of operation, maximum	1/h	1 800	3 600	1 800	3 600	2 400
Shock resistance according to IEC 60068-2-27		Half-sine wave 15	g/11 ms			
Vibration resistance according to IEC 60068-2-6		10 500 Hz: 5 <i>g</i>				
Degree of protection IP		IP66, IP67, IP69 (IF	P69K)			IP65, IP66
Environmental category during operation according to IEC 60721	n	3M6, 3S2, 3B2, 3C	3, 3K6 (with a relati	ve air humidity of 10	95%)	
Ambient temperature						
During operation	°C	-25 +70				
During storage	°C	-40 +80				

Commanding and signaling devices SIRIUS ACT pushbuttons and indicator lights

							General data
Article number		3SU1.00AA 3SU1.00BA 3SU1.00CA 3SU1.50AA 3SU1.50BA 3SU1.50CA	3SU1.50EA	3SU1.01AA 3SU1.01BA 3SU1.51AA 3SU1.51BA 3SU1.51CA	3SU1.00A 3SU1.00E 3SU1.00C 3SU1.50A 3SU1.50E 3SU1.50C	BD CD AD BD	3SU1001-1AD 3SU1001-1BD
Product designation		Mushroom pushl	outtons				
Operating principle of the actuating element		Latching			Momentary	contact	
Optional expansion of product by light source		No		Yes	No		Yes
Mechanical endurance (operating cycles), typical		500 000	300 000	500 000	10 000 000	300 000	3 000 000
Frequency of operation, maximum	1/h	1 800			3 600	1 800	3 600
Shock resistance according to IEC 60068-2-27		Half-sine wave 15	<i>g</i> /11 ms				
Vibration resistance according to IEC 60068-2-6		10 500 Hz: 5 <i>g</i>					
Degree of protection IP		IP66, IP67, IP69 (I	P69K)				
Environmental category during operation according to IEC 60721		3M6, 3S2, 3B2, 30	C3, 3K6 (with a re	lative air humidity	of 10 95%	n)	
Ambient temperature	00	05 .70					
During operationDuring storage	°C	-25 +70 -40 +80					
Article number		3SU1G 3SU1H 3SU1J					
Product designation		EMERGENCY ST	OP mushroom p	ushbuttons			
Mechanical endurance (operating cycles), typical		300 000					
Frequency of operation, maximum	1/h	600					
Shock resistance according to IEC 60068-2-27		Half-sine wave 15	<i>g</i> /11 ms				
Vibration resistance according to IEC 60068-2-6		10 500 Hz: 5 <i>g</i>					
Degree of protection IP Environmental category during operation according to IEC 60721		1P66, IP67, IP69 (II 3M6, 3S2, 3B2, 3C		lative air humidity	of 10 95%)	
Ambient temperature • During operation	°C	-25 +70					
During operation During storage	°C	-40 +80					
Article number		3SU1103-2BF 3SU1152-2BF	3SU1100-2B 3SU1150-2B 3SU1150-2C	3SU1000 3SU1002 3SU1002 3SU1002 3SU1002 3SU1002 3SU1052 3SU1052 3SU1052	-2A 3 -2B 3 -2C -2F -2H -2B	SU1050-2A SU1062-2D SU1062-2E	3SU1000-3E 3SU1050-3E
Product designation Mechanical endurance (operating cycles)		Selector switches	5		9	800 000	Toggle switches
Frequency of operation, maximum	1/h	1 800					. 200 000
Shock resistance according to IEC 60068-2-27		Half-sine wave 15	<i>g</i> /11 ms				
Vibration resistance according to IEC 60068-2-6		10 500 Hz: 5 <i>g</i>					
Degree of protection IP		IP66, IP67, IP69 (I					
Environmental category during operation according to IEC 60721		3M6, 3S2, 3B2, 3K (with a relative air humidity of 10 95%, no condensation permitted in operation for any devices behind the front panel)	(with a relative of 10 95%, in operation for front panel)		permitted 1	M6, 3S2, 3B2, 3C3, with a relative air hui 0 95%)	
Ambient temperature		on parior)					
During operationDuring storage	°C	-25 +70 -40 +80					

Commanding and signaling devices SIRIUS ACT pushbuttons and indicator lights

-								
Article number		3SU1000-4C 3SU1000-4D 3SU1000-4F 3SU1000-4F 3SU1000-4H 3SU1000-5B 3SU1000-5H 3SU1000-5P 3SU1000-5P 3SU1000-5P 3SU1000-5S 3SU1000-5S 3SU1000-5S 3SU1000-5S 3SU1000-5S 3SU1000-5S 3SU1000-5S 3SU1000-5S	SU1050-4B SU1050-4D SU1050-4F SU1050-4F SU1050-4G SU1050-4H SU1050-5B SU1050-5H SU1050-5K SU1050-5L SU1050-5Q SU1050-5Q SU1050-5Q SU1050-5S SU1050-5T SU1050-5T SU1050-5T	3SU1100-4B 3SU1100-5B 3SU1100-5N	3SU1150-4B	3SU1000-	5J 3SU1050-5J	
Product designation		Key-operated switche	es					
Mechanical endurance (operating cycles)		1 000 000 30	00 000	1 000 000	300 000	1 000 000	300 000	
Frequency of operation, maximum	1/h	1 800						
Shock resistance according to IEC 60068-2-27		Half-sine wave 15 g/1	1 ms					
Vibration resistance according to IEC 60068-2-6		10 500 Hz: 5 <i>g</i>						
Degree of protection IP	IP66, IP67, IP69 (IP69K) IP54							
Environmental category during operation according to IEC 60721	(with a relative air humidity of (with a relative air humidity of		3M6, 3S2, 3B2, 3C3, 3K6 (with a relative air humidity of 10 95%)					
Ambient temperature								
 During operation 	°C	-25 +70						
During storage	°C	-40 +80						
Article number		3SU10.0-7.C 3SU10.0-7.D 3SU10.0-7.F	3SU10.0-7.A 3SU10.0-7.B 3SU10.0-7.E	3	SU11.0-7.C SU11.0-7.D SU11.0-7.F		3SU11.0-7.A 3SU11.0-7.B 3SU11.0-7.E	
Product designation		Coordinate switches						
Operating principle of the actuating element	V	Momentary contact	Latching	N	Momentary contact		Latching	
Frequency of operation, maximum	1/h	2 400						
Vibration resistance according to IEC 60068-2-6		Half-sine wave 15 g/1	1 ms					
Shock resistance according to IEC 60068-2-27		10 500 Hz: 5 <i>g</i>						
Degree of protection IP		IP65, IP67						
Environmental category during operation according to IEC 60721	on	3M6, 3S2, 3B2, 3C3, 3 (with a relative air hum		5%) (1	M6, 3S2, 3B2, 3C with a relative air h o condensation pe behind the front pa	umidity of 1 ermitted in c	0 95%, operation for any devices	
Ambient temperature								
During operation	°C	-25 +70						
During storage	°C	-40 +80						

Commanding and signaling devices SIRIUS ACT pushbuttons and indicator lights

-					
Article number		3SU14001B 3SU14001C 3SU14001L 3SU14001M	3SU14001D 3SU14001E 3SU14001F 3SU14001G 3SU14001H 3SU14001N 3SU14001P 3SU14001Q 3SU14001R	3SU14003	3SU14005
Product designation		Contact modules			
Insulation voltage, rated value	V	500			250
Pollution degree		3			
Impulse withstand voltage, rated value	kV	6			4
Operational voltage type		AC/DC			
Operational voltage, rated value					
 At AC at 50 Hz 	V	5 500			5 240
• At DC	V	5 500			5 250
Thermal current	Α	10			
Operational current, rated value		See respective product	data sheet		
Contact reliability		One contact failure per switching operations (5		ations (17 V, 5 mA), one contact	failure per 10 million
Mechanical endurance (operating cycles), typical		10 000 000			
Frequency of operation, maximum	1/s	3 600			
Fuse link version required for short-circuit protection of the auxiliary switch with type of coordination 1		gG/Dz 10 A, quick-resp	onse/Dz 10 A		
Uninterrupted current of miniature circuit breaker C characteristic	Α	10			
Vibration resistance according to IEC 60068-2-6		10 500 Hz: 5 <i>g</i>			
Shock resistance according to IEC 60068-2-27		Half-sine wave 15 g/11	ms		
Environmental category during operation according to IEC 60721		3M6, 3S2, 3B2, 3C3 (with a relative air humid		ensation permitted in operation)	
Ambient temperature					
 During operation 	°C	-25 +70			
During storage	°C	-40 +80			
Degree of protection IP					
Of the enclosure		IP40			
Of the terminal		IP20	IP20, terminal screw tightened	IP20	IP00
Type of electrical connection		Screw terminals		Spring-loaded terminals	Socket terminals (THT)
Type of connectable conductor cross-sections					
• Solid					
- Without end sleeve		2 x (1.0 1.5 mm ²)		2 x (0.25 1.5 mm ²)	
- With end sleeve		2 x (0.5 0.75 mm ²)			
Finely stranded					
- Without end sleeve		2 x (1.0 1.5 mm ²)		2 x (0.25 1.5 mm ²)	
- With end sleeve		2 x (0.5 1.5 mm ²)		2 x (0.25 0.75 mm ²)	
For AWG cables		2 x (18 14)		2 x (24 16)	
Tightening torque for screw terminals	Nm	0.8 0.9			

Commanding and signaling devices SIRIUS ACT pushbuttons and indicator lights

Article number		3SU1401BB.0-1 3SU1401-2BB.0 3SU1401BC.0-1 3SU1401BC.0- 3SU1401BF.0-1 3SU1401BG.0- 3SU1401BH.0-1 3SU1401BH.0	3	3SU1401-1BB.0-3	3SU1401BA.0-5
Product designation		LED module			
Light source integrated in product		Yes			
Type of light source		_ED			
Insulation voltage, rated value	V	320			30
Pollution degree		3			
Impulse withstand voltage, rated value	kV	4			0.8
Relative positive tolerance of the operational voltage	%	20		25	20
Relative negative tolerance of the operational voltage	%	20	30		20
Operating time, typical	h	100 000			
Vibration resistance according to IEC 60068-2-6		10 500 Hz: 5 <i>g</i>			
Shock resistance according to IEC 60068-2-27		Half-sine wave 15 g/11 ms			
Environmental category during operation according to IEC 60721		3M6, 3S2, 3B2, 3C3, 3K6 (with a relative air humidity of 10 9 no condensation permitted in operati			3M6, 3S2, 3B2, 3K6 (with a relative air humidity of 10 95%, no condensation permitted in operation)
Ambient temperature					
During operation	°C	-25 +70			
During storage	°C	-40 +80			
Degree of protection IP of the terminal		P20			
Type of electrical connection		Screw Spring-loa	ded terminals		Socket terminals (THT)

Commanding and signaling devices SIRIUS ACT pushbuttons and indicator lights

Article number		3SU1400-1GC10-1AA0	3SU1400-1GD10-1AA0
Product designation		Electronic modules for ID key-oper	rated switches
Communication/protocol			
Protocol is supported by IO-Link protocol		No	Yes
Product function		Group ID 24 V DC	IO-Link 24 V DC
IO-Link transfer rate			COM2 (38.4 kBaud)
Point-to-point cycle time between the master and the IO-Link device, minimum	ms		10
Type of power supply via IO-Link master			Yes
Data volume			
Of the address range of the inputs	bytes		2
Of the address range of the outputs	bytes		0
Number of NO contacts for auxiliary contacts		5	
General data			
Impulse withstand voltage, rated value	kV	0.8	
Insulation voltage, rated value	V	30	
Pollution degree		3	
Voltage type			
Of operational voltage		DC	
Of input voltage		DC	
Operational voltage			
Rated value	V	18 30	
At DC, rated value	V	24	
Current consumed, maximum	mA	49	
Environmental category during operation according to IEC 60721		3M6, 3S2, 3B2, 3K6 (with a relative air humidity of 10 9:	5%, no condensation permitted in operation)
Ambient temperature			
During operation	°C	-25 +70	
During storage	°C	-40 +80	
Degree of protection IP		IP20, terminal screw tightened	
Touch protection against electric shock		Finger-safe	
Connections			
Type of electrical connection		Screw terminals	
Type of connectable conductor cross-sections			
• Solid			
- Without end sleeve		1 x (0.2 2.5 mm ²)	
Finely stranded			
- With end sleeve		1 x (0.25 1.5 mm²), 2 x (0.5 0.75	5 mm²)
- Without end sleeve		1 x (0.2 2.5 mm²), 2 x (0.2 0.75 r	mm²)
For AWG cables		1 x (26 14)	
Tightening torque for screw terminals	Nm	0.4 0.4	

Commanding and signaling devices SIRIUS ACT pushbuttons and indicator lights

Article number		3SU1400- 1LK10-1AA1	3SU1400- 1LK10-3AA1	3SU1400- 1LK10-1BA1	3SU1400- 1LK10-3BA1	3SU1400- 1LL10-1BA1	3SU1400- 1LL10-3BA1
Product designation		Interface mod	ule for PROFIN	IET		Fail-safe inter for PROFINET	
Operational voltage type		DC				_	
Supply voltage at DC rated value	V	24					
Current consumed, maximum	mA	100			150	100	
Product function at interface 1 PROFINET IO device		Yes					
Type of interface Fast Ethernet interface		Yes					
Interface 1 type RJ45 (Ethernet)		Yes					
Number of ports at interface 1		1					
Number of modules per rack, maximum		20					
Number of digital outputs		0				1	
Number of digital inputs		0		4		4	
Safety-related		0					
Software version required for STEP 7 in the TIA Portal			e TIA Portal with for V13 and V14	version 14 SP1 4)	TIA Portal V13	Integrated in the with version 14 (HSP for V13 a	SP1 or higher
Safety Integrity Level (SIL) according to IEC 62061						3	
Performance Level (PL) according to ISO 13849-1						е	
Environmental category during operation according to IEC 60721			, 3K6 air humidity of on permitted in			3M6, 3S2, 3B2 (with a relative 10 95%, no condensation in operation)	air humidity of
Ambient temperature							
During operation	°C	-25 60					
During storage	°C	-40 80					
Degree of protection IP		IP20, terminal screw tightened	IP20	IP20, terminal screw tightened	IP20	IP20, terminal screw tightened	IP20
Connectable conductor cross-section							
• Solid - With end sleeve		0.2 2.5 mm ² 0.2 2.5 mm ²					
Finely strandedWith end sleeveWithout end sleeve		0.25 2.5 mm 0.2 2.5 mm ²					

SIRIUS ACT pushbuttons and indicator lights Actuators and indicators, 22 mm, round, plastic, black

Complete units > Pushbuttons

Selection and ordering	ng data										
Multi-unit packaging, see page 13/17.	Supply v light sou	oltage for rce	Color	Number	of		Screw terminals		PU (UNIT,	PS*	PG
	at AC	at DC		contact modules	NO contacts	NC contacts			SET, M)		
	V	V					Article No.	Price per PU			
Pushbuttons											
State of the last	Pushb	uttons w		utton, mo	•						
			Black	1	1 0 1	0 1 1	3SU1100-0AB10-1BA0 3SU1100-0AB10-1CA0 3SU1100-0AB10-1FA0		1 1 1	1 unit 1 unit 1 unit	41J 41J 41J
			Red	1	1 0 1	0 1 1	3SU1100-0AB20-1BA0 3SU1100-0AB20-1CA0 3SU1100-0AB20-1FA0		1 1 1	1 unit 1 unit 1 unit	41J 41J 41J
			Yellow	1	1 1	0	3SU1100-0AB30-1BA0 3SU1100-0AB30-1FA0		1 1	1 unit 1 unit	41J 41J
3SU1100-0AB40-1BA0			Green	1	1	0	3SU1100-0AB40-1BA0 3SU1100-0AB40-1FA0		1	1 unit 1 unit	41J 41J
			Blue	1	1	0	3SU1100-0AB50-1BA0 3SU1100-0AB50-1FA0		1 1	1 unit 1 unit	41J 41J
			White	1	1	0	3SU1100-0AB60-1BA0 3SU1100-0AB60-1FA0		1	1 unit 1 unit	41J 41J
			Clear	1	1	0	3SU1100-0AB70-1BA0 3SU1100-0AB70-1FA0		1	1 unit 1 unit	41J 41J
	Duchh	uttone w	Gray	d button	1 momon	1 tary contact	3SU1100-0AB80-1FA0		1	1 unit	41J
		 	Black	1	0	1 1	3SU1100-0BB10-1CA0 3SU1100-0BB10-1FA0		1 1	1 unit 1 unit	41J 41J
			Red	1	0	1	3SU1100-0BB20-1CA0 3SU1100-0BB20-1FA0		1	1 unit 1 unit	41J 41J
			Blue	1	1	0	3SU1100-0BB50-1BA0		1	1 unit	41J
3SU1100-0BB20-1CA0											
The second second	Illumin with in	ated pus tegrated	hbutton	s with fla	t button,	momentary	contact				
	24	24	Red	1	1	0	3SU1102-0AB20-1BA0		1	1 unit	41J
					0	1	3SU1102-0AB20-1CA0 3SU1102-0AB20-1FA0		1	1 unit 1 unit	41J 41J
30			Yellow	1	1	0	3SU1102-0AB30-1BA0 3SU1102-0AB30-1FA0		1	1 unit 1 unit	41J 41J
			Green	1	1	0	3SU1102-0AB40-1BA0 3SU1102-0AB40-1FA0		1	1 unit 1 unit	41J 41J
3SU1102-0AB40-1BA0			Blue	1	1	0	3SU1102-0AB50-1BA0 3SU1102-0AB50-1FA0		1	1 unit 1 unit	41J 41J
			White	1	1	0	3SU1102-0AB60-1BA0 3SU1102-0AB60-1FA0		1	1 unit 1 unit	41J 41J
			Clear	1	1	0	3SU1102-0AB70-1BA0 3SU1102-0AB70-1FA0		1	1 unit 1 unit	41J 41J
5	110		Red	1	0	1	3SU1103-0AB20-1CA0 3SU1103-0AB20-1FA0		1	1 unit 1 unit	41J 41J
			Yellow	1	1	0	3SU1103-0AB30-1BA0 3SU1103-0AB30-1FA0		1	1 unit 1 unit	41J 41J
			Green	1	1	0	3SU1103-0AB40-1BA0 3SU1103-0AB40-1FA0		1	1 unit 1 unit	41J 41J
			Blue	1	1	0	3SU1103-0AB50-1BA0 3SU1103-0AB50-1FA0		1 1	1 unit 1 unit	41J 41J
3SU1103-0AB20-1CA0			White	1	1	0	3SU1103-0AB60-1BA0 3SU1103-0AB60-1FA0		1 1	1 unit 1 unit	41J 41J
			Clear	1	1	0	3SU1103-0AB70-1BA0 3SU1103-0AB70-1FA0		1 1	1 unit 1 unit	41J 41J

SIRIUS ACT pushbuttons and indicator lights Actuators and indicators, 22 mm, round, plastic, black

Complete units > Pushbuttons

Complete units > Pt	aombat	.0110									
Multi-unit packaging,		oltage for	Color	Number	of		Screw terminals	(1)	PU	PS*	PG
see page 13/17.	light sou at AC	at DC		contact modules	NO contacts	NC contacts			(UNIT, SET, M)		
	V	V					Article No.	Price			
Pushbuttons	V	V					_	per PU			
				s with fla	t button,	momenta	ry contact				
	with in 230	tegrated	LED Red	1	0		3SU1106-0AB20-1CA0			4 unit	44.1
	230		neu		0	1	3SU1106-0AB20-1FA0		1	1 unit 1 unit	41J 41J
			Yellow	1	1 1	0	3SU1106-0AB30-1BA0 3SU1106-0AB30-1FA0		1 1	1 unit 1 unit	41J 41J
			Green	1	1 1	0 1	3SU1106-0AB40-1BA0 3SU1106-0AB40-1FA0		1 1	1 unit 1 unit	41J 41J
3SU1106-0AB40-1BA0			Blue	1	1	0	3SU1106-0AB50-1BA0 3SU1106-0AB50-1FA0		1 1	1 unit 1 unit	41J 41J
300 1 100-0AD40-1DA0			White	1	1	0	3SU1106-0AB60-1BA0 3SU1106-0AB60-1FA0		1	1 unit 1 unit	41J 41J
			Clear	1	1	0	3SU1106-0AB70-1BA0 3SU1106-0AB70-1FA0		1 1	1 unit 1 unit	41J 41J
							Spring-loaded terminals	<u> </u>			
	Pushb	uttons w	ith flat b	utton, mo	omentary	contact	terminais				
			Black	1	1 0	0	3SU1100-0AB10-3BA0 3SU1100-0AB10-3CA0		1	1 unit 1 unit	41J 41J
			Red	1	0	1	3SU1100-0AB10-3FA0 3SU1100-0AB20-3CA0		1	1 unit 1 unit	41J 41J
			Yellow	1	1	0	3SU1100-0AB20-3FA0 3SU1100-0AB30-3BA0		1 1	1 unit 1 unit	41J 41J
					1	1	3SU1100-0AB30-3FA0		1	1 unit	41J
3SU1100-0AB30-3BA0			Green	1	1	0	3SU1100-0AB40-3BA0 3SU1100-0AB40-3FA0		1	1 unit 1 unit	41J 41J
			Blue	1	1	0	3SU1100-0AB50-3BA0 3SU1100-0AB50-3FA0		1	1 unit 1 unit	41J 41J
			White	1	1 1	0	3SU1100-0AB60-3BA0 3SU1100-0AB60-3FA0		1 1	1 unit 1 unit	41J 41J
The same of the		ated pus tegrated		s with fla	t button,	momenta	ry contact				
	24	24	Red	1	0	1	3SU1102-0AB20-3CA0 3SU1102-0AB20-3FA0		1 1	1 unit 1 unit	41J 41J
			Yellow	1	1	0	3SU1102-0AB30-3BA0 3SU1102-0AB30-3FA0		1	1 unit 1 unit	41J 41J
			Green	1	1	0	3SU1102-0AB40-3BA0 3SU1102-0AB40-3FA0		1	1 unit 1 unit	41J 41J
3SU1102-0AB20-3CA0			Blue	1	1	0	3SU1102-0AB50-3BA0 3SU1102-0AB50-3FA0		1	1 unit 1 unit	41J 41J
3501102-0AB20-3CA0			White	1	1	0	3SU1102-0AB60-3BA0 3SU1102-0AB60-3FA0		1	1 unit 1 unit	41J 41J
			Clear	1	1	0	3SU1102-0AB70-3BA0 3SU1102-0AB70-3FA0		1	1 unit 1 unit	41J 41J
	110		Red	1	0	1	3SU1103-0AB20-3CA0 3SU1103-0AB20-3FA0		1	1 unit 1 unit	41J 41J
			Yellow	1	1	1	3SU1103-0AB30-3FA0		1	1 unit	41J
			Green	1	1 1	0	3SU1103-0AB40-3BA0 3SU1103-0AB40-3FA0		1 1	1 unit 1 unit	41J 41J
			Blue	1	1	1	3SU1103-0AB50-3FA0		1	1 unit	41J
			White	1	1	0	3SU1103-0AB60-3BA0 3SU1103-0AB60-3FA0		1	1 unit 1 unit	41J 41J
			Clear	1	1	0 1	3SU1103-0AB70-3BA0 3SU1103-0AB70-3FA0		1 1	1 unit 1 unit	41J 41J
	230		Red	1	0 1	1 1	3SU1106-0AB20-3CA0 3SU1106-0AB20-3FA0		1 1	1 unit 1 unit	41J 41J
			Yellow	1	1	1	3SU1106-0AB30-3FA0		1	1 unit	41J
			Green	1	1	0 1	3SU1106-0AB40-3BA0 3SU1106-0AB40-3FA0		1	1 unit 1 unit	41J 41J
			Blue	1	1	1	3SU1106-0AB50-3FA0		1	1 unit	41J
			White	1	1	0	3SU1106-0AB60-3BA0 3SU1106-0AB60-3FA0		1	1 unit 1 unit	41J 41J
			Clear	1	1	0	3SU1106-0AB70-3BA0 3SU1106-0AB70-3FA0		1 1	1 unit 1 unit	41J 41J

SIRIUS ACT pushbuttons and indicator lights Actuators and indicators, 22 mm, round, plastic, black

Complete units > Mushroom pushbuttons

Selection and ordering data Multi-unit packaging, see page 13/17. Unlatching Number of **Screw terminals** PS* PG 1 (UNIT, SET, M) method contact NO contacts NC contacts modules Article No. per PU Mushroom pushbuttons With red mushroom, 40 mm diameter, latching Pull to unlatch 1 3SU1100-1BA20-1CA0 3SU1100-1BA20-1FA0 41J 41J 1 unit 1 unit Spring-loaded terminals $\frac{\infty}{\square}$ Pull to unlatch 1 0 3SU1100-1BA20-3CA0 1 unit 41J 3SU1100-1BA20-3FA0 1 unit 41J 3SU1100-1BA20-3CA0

SIRIUS ACT pushbuttons and indicator lights Actuators and indicators, 22 mm, round, plastic, black

Complete units > EMERGENCY STOP mushroom pushbuttons

Selection and ordering data

Multi-unit packaging, see page 13/17.

Unlatching method	Number contact modules	NO	NC con- tacts	Marking	Screw terminals	4	PU (UNIT, SET, M)	PS*	PG
					Article No.	Price			

EMERGENCY STOP mushroom pushbuttons, without yellow backing plate, according to ISO 13850 and IEC 60947-5



With red mushroom, 30 mm diameter, with positive latching

 \odot 3SU1100-1GB20-1PA0 Rotate to 0 2 unlatch

1 unit 41J

3SU1100-1GB20-1PA0



With red mushroom, 40 mm diameter, with positive latching

Rotate to 0 2 3SU1100-1HB20-1PA0 unlatch

1 unit 41.1

3SU1100-1HB20-1PA0

EMERGENCY STOP mushroom pushbuttons, with self-adhesive yellow backing plate (75 mm diameter), according to ISO 13850 and IEC 60947-5-5



With red mushroom, 40 mm diameter, with positive latching

Pull to unlatch 1	0	1	NOT-HALT	\odot	3SU1100-1HA20-1CH0	1	1 unit	41J
	1	1	NOT-HALT	€	3SU1100-1HA20-1FH0	1	1 unit	41J
			EMERGENCY STOP	→	3SU1100-1HA20-1FG0	1	1 unit	41J



3SU1100-1HA20-1CH0

3SU1100-1HB20-1CH0

Rotate to	1	0	1		→	3SU1100-1HB20-1CF0		1	1 unit	41J
unlatch				NOT-HALT	\odot	3SU1100-1HB20-1CH0		1	1 unit	41J
				EMERGENCY STOP	•	3SU1100-1HB20-1CG0		1	1 unit	41J
				ARRET D'URGENCE	→	3SU1100-1HB20-1CJ0		1	1 unit	41J
		0	2	EMERGENCY STOP	→	3SU1100-1HB20-1PG0		1	1 unit	41J
		1	1	NOT-HALT	€	3SU1100-1HB20-1FH0		1	1 unit	41J
				EMERGENCY STOP	→	3SU1100-1HB20-1FG0		1	1 unit	41J
				ARRET D'URGENCE	€	3SU1100-1HB20-1FJ0		1	1 unit	41J
						Spring-loaded terminals	8			
Rotate to	1	0	1	NOT-HALT	\odot	3SU1100-1HB20-3CH0		1	1 unit	41J
unlatch		1	1	NOT-HALT	€	3SU1100-1HB20-3FH0		1	1 unit	41J

[→] Positive opening according to IEC 60947-5-1, Annex K. Can be used with 3SK safety relays, see page 11/1 onwards.



41J 41J

41J 41J

Commanding and signaling devices

SIRIUS ACT pushbuttons and indicator lights Actuators and indicators, 22 mm, round, plastic, black

Complete units > Selector switches

Selection and ordering data

Multi-unit packaging, see page 13/17.

Operating principle	Supply	tact NO NC dules contacts tacts		Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
				Article No.	Price			

Selector switches



3SU1100-2BF60-1BA0



3SU1100-2BL60-1NA0

Short black actua	ators, 2 s	switch p	ositions	s, can b	e illuminated				
Latching, 90° (10:30/1:30 o'clock)	White	1 2	1 1	0 1	3SU1100-2BF60-1BA0 3SU1100-2BF60-1MA0		1 1	1 unit 1 unit	41J 41J
0 1	White 110 V	1	1	0	3SU1103-2BF60-1BA0		1	1 unit	41J
Short black actua	ators, 3 s	witch p	ositions	s, can b	e illuminated				
Momentary contact, 2x45° (10:30/12/ 1:30 o'clock), reset from left + righ		2	2 2	2 0	3SU1100-2BM60-1LA0 3SU1100-2BM60-1NA0		1	1 unit 1 unit	41J 41J
Latching, 2x45° (10:30/12/1:30 o'clock)	White	2	2 2	2 0	3SU1100-2BL60-1LA0 3SU1100-2BL60-1NA0		1	1 unit 1 unit	41J 41J
					Spring-loaded terminals	<u></u>			
Short black actua	ators, 2 s	witch p	ositions	s, can b	e illuminated				
Latching, 90° (10:30/1:30 o'clock)	White	1 2	1	0	3SU1100-2BF60-3BA0 3SU1100-2BF60-3MA0		1	1 unit 1 unit	41J 41J

Short black actu	ators, 3 s	witch po	sitions	s, can be	illuminated		
Momentary contact, 2x45° (10:30/12/1:30 o'clock), reset from left + righ		2	2 2	2	3SU1100-2BM60-3LA0 3SU1100-2BM60-3NA0	1	1 unit 1 unit
Latching, 2x45° (10:30/12/1:30 o'clock)	White	2	2 2	2	3SU1100-2BL60-3LA0 3SU1100-2BL60-3NA0	1 1	1 unit 1 unit

SIRIUS ACT pushbuttons and indicator lights Actuators and indicators, 22 mm, round, plastic, black

Complete units > Key-operated switches

Selection and ordering data

Multi-unit packaging,	Operating principle	Switch	Number (of		Number	Screw terminals	(+)	PU	PS*	PG
see page 13/17.		position for key removal	contact modules	NO con- tacts	NC con- tacts	of keys			(UNIT, SET, M)		
							Article No.	Price per PU			
Key-operated switch	ies										
	With RONIS lock	, SB30, 2	switch p	ositio	ns						
	Latching, 90° (10:30/1:30 o'clock)	O+I	1	1	0	2	3SU1100-4BF11-1BA0 3SU1100-4BF11-1FA0		1	1 unit 1 unit	41J 41J
1	With RONIS lock	, SB30, 3	switch p	ositio	ns						
3SU1100-4BF11-1BA0	Latching, 2x45° (10:30/12/ 1:30 o'clock)	I+O+II	2	2	0	2	3SU1100-4BL11-1NA0		1	1 unit	41J
							Spring-loaded terminals	8			
	With RONIS lock	, SB30, 2	switch p	ositio	ns						
3SU1100-4BL11-1NA0	Latching, 90° (10:30/1:30 o'clock)	O+I	1	1 1 0	0 1 2 with installa tion super-	2 2 2	3SU1100-4BF11-3BA0 3SU1100-4BF11-3FA0 3SU1100-4BF21-3TA0		1 1 1	1 unit 1 unit 1 unit	41J 41J 41J
			4)		vision						
	With Siemens lo		0 ¹⁾ , 2 swi	-							
	Latching, 90° (10:30/1:30 o'clock)	O+I	1	1	1	2	3SU1100-5BF11-3FA0		1	1 unit	41J

¹⁾ Siemens lock (compatible with CES locks).

SIRIUS ACT pushbuttons and indicator lights Actuators and indicators, 22 mm, round, plastic, black

Complete units > Coordinate switches

Multi-unit packaging, see page 13/17.	Number of NO contacts (1 per direction)	Operating principle	Direction of actuation	Screw terminals		PU (UNIT, SET, M)	PS*	PG
				Article No.	Price per PU			
Coordinate switches					poi : 0			
	Without mech	anical interlock,	2 switch positions					
	2	Momentary contact	Horizontal Vertical	3SU1100-7AC10-1NA0 3SU1100-7AD10-1NA0		1 1	1 unit 1 unit	41. 41.
		Latching	Horizontal Vertical	3SU1100-7AA10-1NA0 3SU1100-7AB10-1NA0		1	1 unit 1 unit	41. 41.
3SU1100-7AC10-1NA0								
- and	Without mech		4 switch positions					
	4	Momentary contact	Horizontal/vertical Horizontal/vertical	3SU1100-7AF10-1QA0		1	1 unit 1 unit	41.
		Latching		3SU1100-7AE10-1QA0				
3SU1100-7AF10-1QA0	14///							
	1	cal interlock, 2 s	·-					
	2	Momentary contact	Horizontai Vertical	3SU1100-7BC10-1NA0 3SU1100-7BD10-1NA0		1 1	1 unit 1 unit	41. 41.
		Latching	Horizontal Vertical	3SU1100-7BA10-1NA0 3SU1100-7BB10-1NA0		1	1 unit 1 unit	41. 41.
3SU1100-7BA10-1NA0								
-	With mechani I .	cal interlock, 4 s	·-					
	4	Latching	Horizontal/vertical Horizontal/vertical	3SU1100-7BF10-1QA0 3SU1100-7BE10-1QA0		1	1 unit 1 unit	41.

SIRIUS ACT pushbuttons and indicator lights Actuators and indicators, 22 mm, round, plastic, black

Complete units > Indicator lights

Selection and orderi	ng data								
Multi-unit packaging, see page 13/17.	Operational v	oltage at DC	Color of actuating element	of light source	Screw terminals		PU (UNIT, SET, M)	PS*	PG
	V	V			Article No.	Price per PU			
Indicator lights									
	With smoo	th lens and	integrated LE	ĒD					
	24	24	Red Yellow Green Blue White Clear	Red Yellow Green Blue White White	3SU1102-6AA20-1AA0 3SU1102-6AA30-1AA0 3SU1102-6AA40-1AA0 3SU1102-6AA50-1AA0 3SU1102-6AA60-1AA0 3SU1102-6AA70-1AA0		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J
3SU1102-6AA30-1AA0	110		Amber Red Yellow Green Blue White Clear	Amber Red Yellow Green Blue White White	3SU1103-6AA00-1AA0 3SU1103-6AA20-1AA0 3SU1103-6AA30-1AA0 3SU1103-6AA40-1AA0 3SU1103-6AA50-1AA0 3SU1103-6AA60-1AA0 3SU1103-6AA70-1AA0		1 1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J 41J
3SU1106-6AA50-1AA0	230		Amber Red Yellow Green Blue White Clear	Amber Red Yellow Green Blue White White	3SU1106-6AA00-1AA0 3SU1106-6AA20-1AA0 3SU1106-6AA30-1AA0 3SU1106-6AA40-1AA0 3SU1106-6AA50-1AA0 3SU1106-6AA60-1AA0 3SU1106-6AA60-1AA0		1 1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J 41J
	24	24	Red Yellow Green Blue White Clear	Red Yellow Green Blue White White	Spring-loaded terminals 3SU1102-6AA20-3AA0 3SU1102-6AA30-3AA0 3SU1102-6AA40-3AA0 3SU1102-6AA50-3AA0 3SU1102-6AA60-3AA0 3SU1102-6AA60-3AA0		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J
3SU1102-6AA40-3AA0	110		Red Yellow Green Blue White Clear	Red Yellow Green Blue White White	3SU1103-6AA20-3AA0 3SU1103-6AA40-3AA0 3SU1103-6AA40-3AA0 3SU1103-6AA50-3AA0 3SU1103-6AA60-3AA0 3SU1103-6AA70-3AA0		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J
	230		Red Yellow Green Blue White Clear	Red Yellow Green Blue White White	3SU1106-6AA20-3AA0 3SU1106-6AA30-3AA0 3SU1106-6AA40-3AA0 3SU1106-6AA50-3AA0 3SU1106-6AA60-3AA0 3SU1106-6AA70-3AA0		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J

3SU1106-6AA60-3AA0

SIRIUS ACT pushbuttons and indicator lights Actuators and indicators, 22 mm, round, plastic, black

Compact units > Acoustic signaling devices/Potentiometers

ing data								
Operation at AC	nal voltage at DC	Volume level	Degree of protection	Screw terminals		PU (UNIT, SET, M)	PS*	PG
V	V	dB/cm		Article No.	Price per PU			
levices								
24 110 230	24 	80/10 80/10 80/10	IP40 IP40 IP40	3SU1200-6KB10-1AA0 3SU1200-6KC10-1AA0 3SU1200-6KF10-1AA0		1 1 1	1 unit 1 unit 1 unit	41J 41J 41J
24 110 230	24 	75/10 75/10 75/10	IP69 IP69 IP69	3SU1200-6LB10-1AA0 3SU1200-6LC10-1AA0 3SU1200-6LF10-1AA0		1 1 1	1 unit 1 unit 1 unit	41J 41J 41J
ing data								
Version o element	f actuating	Operating principle	Adjustable resistance	Screw terminals		PU	PS*	
					₩	(UNIT, SET, M)	го	PG
			kΩ	Article No.	Price per PU	(UNIT,	rs	PG
_			kΩ	Article No.	Price	(UNIT,	ro	PG
	Operation at AC V devices 24 110 230 24 110 230	Operational voltage at AC at DC V V devices 24 24 110 230 24 24 110 230 24 2- 110 230 24 2- 110 230 24 2- 24 2- 25 26 27 28 28 29 29 20	Operational voltage at AC at DC v v dB/cm V v dB/cm devices 24 24 80/10 110 80/10 230 80/10 24 24 75/10 110 75/10 230 75/10 Ting data Version of actuating Operating	Operational voltage at AC	Operational voltage at AC at DC Degree of protection Article No.	Operational voltage at AC	Operational voltage at AC	Operational voltage at AC at DC Degree of protection Article No. Price per PU

Labeling plates for potentiometers, see page 13/124.

SIRIUS ACT pushbuttons and indicator lights Actuators and indicators, 22 mm, round, plastic, black

Compact units > Pushbuttons with extended stroke

Selection and order	ing data							
Multi-unit packaging, see page 13/17.	Version		Color	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Pushbuttons with ex								
	For actuating relays, car plunger, no contact mod	n only be combined w dule or LED module re	ith extension quired					
	Pushbuttons with flat I		Red Green	3SU1200-0EB20-0AA0 3SU1200-0EB40-0AA0		1 1	1 unit 1 unit	41J 41J
3SU1200-0EB20-0AA0								
	Pushbuttons with raise	ed button	Black Red	3SU1200-0FB10-0AA0 3SU1200-0FB20-0AA0		1 1	1 unit 1 unit	41J 41J
3SU1200-0FB10-0AA0								
3SU1201-0EB70-0AA0	Pushbuttons with flat t insertion of insert labe		r Red Clear	3SU1201-0EB20-0AA0 3SU1201-0EB70-0AA0		1 1	1 unit 1 unit	41J 41J
	Version	Material	Color	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Accessories								
3SU1900-0KG10-0AA0	Extension plunger For compensation of the clearance between the pushbutton and the resetting plunger	Plastic	Gray	3SU1900-0KG10-0AA0		1	1 unit	41J

Commanding and signaling devices SIRIUS ACT pushbuttons and indicator lights

SIRIUS ACT pushbuttons and indicator lights Actuators and indicators, 22 mm, round, plastic, black

Actuating and signaling elements > Pushbuttons

Selection and orderi	ng data							
Multi-unit packaging, see page 13/17.	Version of actuating element Front ring version	Operating principle Unlatching method	Color, marking	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Pushbuttons								
3SU1000-0AB20-0AD0	Pushbuttons with flat button Standard	Momentary contact	Black Black, "O" Red Red, "O" Yellow Green, "I" Blue Blue, "R" White White, "I" Clear Gray	3SU1000-0AB10-0AA0 3SU1000-0AB10-0AD0 3SU1000-0AB20-0AA0 3SU1000-0AB20-0AD0 3SU1000-0AB30-0AA0 3SU1000-0AB40-0AC0 3SU1000-0AB50-0AA0 3SU1000-0AB50-0AA0 3SU1000-0AB60-0AA0 3SU1000-0AB60-0AC0 3SU1000-0AB60-0AC0 3SU1000-0AB60-0AC0		1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 unit 1 unit	41J 41J 41J 41J 41J 41J 41J 41J 41J 41J
3SU1000-0AA30-0AA0		Latching Push to unlatch	Black Red Yellow Green Blue White	3SU1000-0AA10-0AA0 3SU1000-0AA20-0AA0 3SU1000-0AA30-0AA0 3SU1000-0AA40-0AA0 3SU1000-0AA50-0AA0 3SU1000-0AA60-0AA0		1 1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J
330 1000-0AA30-0AA0	Pushbuttons	Momentary contact	Black	3SU1000-0BB10-0AA0		1	1 unit	41J
	with raised button Standard		Red Yellow Green Blue White	3SU1000-0BB20-0AA0 3SU1000-0BB30-0AA0 3SU1000-0BB40-0AA0 3SU1000-0BB50-0AA0 3SU1000-0BB60-0AA0		1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J
3SU1000-0BB30-0AA0								
	Pushbuttons with flat button Raised	Momentary contact	: Black Red Yellow Green Blue White	3SU1000-0CB10-0AA0 3SU1000-0CB20-0AA0 3SU1000-0CB30-0AA0 3SU1000-0CB40-0AA0 3SU1000-0CB50-0AA0 3SU1000-0CB60-0AA0		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J
3SU1000-0CB40-0AA0								
3SU1000.0DR50.0AA0	Pushbuttons with flat button Raised, castellated	Momentary contact	Black Red Yellow Green Blue White	3SU1000-0DB10-0AA0 3SU1000-0DB20-0AA0 3SU1000-0DB30-0AA0 3SU1000-0DB40-0AA0 3SU1000-0DB50-0AA0 3SU1000-0DB60-0AA0		1 1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J
3SU1000-0DB50-0AA0								

SIRIUS ACT pushbuttons and indicator lights Actuators and indicators, 22 mm, round, plastic, black

Actuating and signaling elements > Pushbuttons

Multi-unit packaging, see page 13/17.	Version of actuating element Front ring version	Operating principle Unlatching method	Color	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Pushbuttons	Illuminated pushbuttons with flat button Standard	Momentary contact	Amber Red Yellow Green Blue White Clear	3SU1001-0AB00-0AA0 3SU1001-0AB20-0AA0 3SU1001-0AB30-0AA0 3SU1001-0AB40-0AA0 3SU1001-0AB50-0AA0 3SU1001-0AB60-0AA0 3SU1001-0AB70-0AA0		1 1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J 41J
3SU1001-0AB40-0AA0		Latching Push to unlatch	Red Yellow Green Blue White Clear	3SU1001-0AA20-0AA0 3SU1001-0AA30-0AA0 3SU1001-0AA40-0AA0 3SU1001-0AA50-0AA0 3SU1001-0AA60-0AA0 3SU1001-0AA70-0AA0		1 1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J
	Illuminated pushbuttons with raised button Standard	Momentary contact	Red Yellow Green Blue Clear	3SU1001-0BB20-0AA0 3SU1001-0BB30-0AA0 3SU1001-0BB40-0AA0 3SU1001-0BB50-0AA0 3SU1001-0BB70-0AA0		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J
3SU1001-0BB70-0AA0 3SU1001-0DB50-0AA0	Illuminated pushbutton with flat button Raised, castellated	Momentary contact	Blue	3SU1001-0DB50-0AA0		1	1 unit	41J
3SU1000-0HC10-0AA0	Stop buttons Standard	Momentary contact, latching by pressing in and turning to the right Rotate to unlatch to the left	Black Red	3SU1000-0HC10-0AA0 3SU1000-0HC20-0AA0		1 1	1 unit 1 unit	41J 41J

SIRIUS ACT pushbuttons and indicator lights Actuators and indicators, 22 mm, round, plastic, black

Actuating and signaling elements > Twin pushbuttons/Quadruple pushbuttons

Selection and order	ring data								
Multi-unit packaging, see page 13/17.	Version of actuating element	Operating principle	Color	Marking Symbol No.	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Twin pushbuttons									
	Twin pushbuttons		Green/red	 "I"/"O"	3SU1000-3AB42-0AA0 3SU1000-3AB42-0AK0		1 1	1 unit 1 unit	41J 41J
	flat, flat	contact	White/black	 "I"/"O"	3SU1000-3AB61-0AA0 3SU1000-3AB61-0AK0		1 1	1 unit 1 unit	41J 41J
			White/white	 "-"/"+" Arrows, hor. Arrows, vert.	3SU1000-3AB66-0AA0 3SU1000-3AB66-0AL0 3SU1000-3AB66-0AM0 3SU1000-3AB66-0AN0		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J
3SU1000-3AB66-0AL0			Black/black	 O O 5264/5265 (IEC 60417)	3SU1000-3AB11-0AA0 3SU1000-3AB11-0AQ0		1	1 unit 1 unit	41J 41J
	Twin pushbuttons	Momen- tary	Green/red	 "I"/"O"	3SU1000-3BB42-0AA0 3SU1000-3BB42-0AK0		1	1 unit 1 unit	41J 41J
	flat, raised	contact	White/black	 " "/"O"	3SU1000-3BB61-0AA0 3SU1000-3BB61-0AK0		1 1	1 unit 1 unit	41J 41J
3SU1000-3BB42-0AK0									
	Twin pushbuttons flat, flat,	Momen- tary contact	Green/red	 "I"/"O" Arrows, vert.	3SU1001-3AB42-0AA0 3SU1001-3AB42-0AK0 3SU1001-3AB42-0AN0		1 1 1	1 unit 1 unit 1 unit	41J 41J 41J
	illuminated		White/black	 "I"/"O"	3SU1001-3AB61-0AA0 3SU1001-3AB61-0AK0		1 1	1 unit 1 unit	41J 41J
3SU1001-3AB42-0AN0			White/white	"-"/"+" Arrows, vert. Symbols "Circular saw blade"/ "Tilt tipper"	3SU1001-3AB66-0AA0 3SU1001-3AB66-0AL0 3SU1001-3AB66-0AN0 3SU1001-3AB66-0AP0		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J
	Twin pushbuttons	Momen- tarv	Green/red	 "I"/"O"	3SU1001-3BB42-0AA0 3SU1001-3BB42-0AK0		1 1	1 unit 1 unit	41J 41J
	flat, raised, illuminated	contact	White/black	 " "/"O"	3SU1001-3BB61-0AA0 3SU1001-3BB61-0AK0		1 1	1 unit 1 unit	41J 41J
3SU1001-3BB61-0AK0 Selection and order	ring data								
	Version of	Operating	Color	Marking	Article No.	Price	PU	PS*	PG
	actuating element	principle	50101	Marking	7 (1010 110.	per PU	(UNIT, SET, M)	. 0	<i>,</i> a

	3								
	Version of actuating element	Operating principle	Color	Marking	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Quadruple pushbut									
	Quadruple pushbuttons flat	Momen- tary contact	Black	Arrows, vert.; arrows, hor.	3SU1000-3FB11-0AA0 3SU1000-3FB11-0AU0		1 1	1 unit 1 unit	41J 41J
3SU1000-3FB11-0AU0									

SIRIUS ACT pushbuttons and indicator lights Actuators and indicators, 22 mm, round, plastic, black

Actuating and signaling elements > Mushroom pushbuttons

Multi-unit packaging, see page 13/17.	Version of actuating element	Operating principle Unlatching method	Color, marking	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Mushroom pushbut	tons							
	Mushroom pushbuttons 30 mm diameter, 2 positions	Momentary contact	Black Red Yellow Green	3SU1000-1AD10-0AA0 3SU1000-1AD20-0AA0 3SU1000-1AD30-0AA0 3SU1000-1AD40-0AA0		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J
		Latching Pull to unlatch	Black Red Yellow	3SU1000-1AA10-0AA0 3SU1000-1AA20-0AA0 3SU1000-1AA30-0AA0		1 1 1	1 unit 1 unit 1 unit	41J 41J 41J
3SU1000-1AD20-0AA0								
	Mushroom pushbuttons 40 mm diameter, 2 positions	Momentary contact	Black Red Yellow Green	3SU1000-1BD10-0AA0 3SU1000-1BD20-0AA0 3SU1000-1BD30-0AA0 3SU1000-1BD40-0AA0		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J
		Latching Pull to unlatch	Black Red Red "O" Yellow Green	3SU1000-1BA10-0AA0 3SU1000-1BA20-0AA0 3SU1000-1BA20-0AD0 3SU1000-1BA30-0AA0 3SU1000-1BA40-0AA0		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J
3SU1000-1BD40-0AA0	Mushroom pushbuttons 60 mm diameter,	Momentary contact	Black Red Yellow Green	3SU1000-1CD10-0AA0 3SU1000-1CD20-0AA0 3SU1000-1CD30-0AA0		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41J 41J 41J
	2 positions	Latching Pull to unlatch	Black Red	3SU1000-1CD40-0AA0 3SU1000-1CA10-0AA0 3SU1000-1CA20-0AA0		1 1	1 unit 1 unit	41J 41J 41J
3SU1000-1CD10-0AA0	Mushroom pushbuttons 30 mm diameter, 2 positions, illuminated	Momentary contact	Red Yellow Green Blue White	3SU1001-1AD20-0AA0 3SU1001-1AD30-0AA0 3SU1001-1AD40-0AA0 3SU1001-1AD50-0AA0 3SU1001-1AD60-0AA0		1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J
3SU1001-1AD30-0AA0		Latching Pull to unlatch	Clear Red Yellow Green Blue Clear	3SU1001-1AD70-0AA0 3SU1001-1AA20-0AA0 3SU1001-1AA30-0AA0 3SU1001-1AA40-0AA0 3SU1001-1AA50-0AA0 3SU1001-1AA70-0AA0		1 1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J
	Mushroom pushbuttons 40 mm diameter, 2 positions,	Momentary contact	Yellow Green White Clear	3SU1001-1BD30-0AA0 3SU1001-1BD40-0AA0 3SU1001-1BD60-0AA0 3SU1001-1BD70-0AA0		1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J
3SU1001-1BA50-0AA0	illuminated	Latching Pull to unlatch	Red Yellow Green Blue Clear	3SU1001-1BA20-0AA0 3SU1001-1BA30-0AA0 3SU1001-1BA40-0AA0 3SU1001-1BA50-0AA0 3SU1001-1BA70-0AA0		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J
3301001-1 <u>B</u> A30-0AA0	Mushroom pushbuttons 40 mm diameter, 2 positions	With positive latching Rotate to unlatch	Black Blue	3SU1000-1HB10-0AA0 3SU1000-1HB50-0AA0		1	1 unit 1 unit	41J 41J
	Mushroom pushbutton 40 mm diameter, 2 positions RONIS 455	With positive latching Key-operated release	Black	3SU1000-1HG10-0AA0		1	1 unit	41J
3SU1000-1HG10-0AA0	Mushroom pushbutton, 60 mm diameter, 2 positions	With positive latching Rotate to unlatch	Black	3SU1000-1JB10-0AA0		1	1 unit	41J

SIRIUS ACT pushbuttons and indicator lights Actuators and indicators, 22 mm, round, plastic, black

Actuating and signaling elements > EMERGENCY STOP mushroom pushbuttons

Selection and order	ring data							
Multi-unit packaging, see page 13/17.	Version of actuating element	Outer diameter of mushroom	Color	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		mm						
EMERGENCY STOP and IEC 60947-5-5	mushroom pushbut	tons, according to	o ISO 13850					
	With pull to unlate	h						
	With positive latching, 2 positions	40	Red	3SU1000-1HA20-0AA0		1	1 unit	41J
3SU1000-1HA20-0AA0								
and the	With rotate to unla	tch						
	With positive latching, 2 positions	33.8	Red	3SU1000-1GB20-0AA0		1	1 unit	41J
3SU1000-1GB20-0AA0								
3SU1000-1HB20-0AA0	,	40	Red	3SU1000-1HB20-0AA0		1	1 unit	41J
	7	60	Red	3SU1000-1JB20-0AA0		1	1 unit	41J
3SU1000-1JB20-0AA0								
	With rotate to unla							
200	With positive latching, 2 positions		Red	3SU1001-1GB20-0AA0		1	1 unit	41J
	2 μοδιμοτό	40 60	Red Red	3SU1001-1HB20-0AA0 3SU1001-1JB20-0AA0		1	1 unit 1 unit	41J 41J
3SU1001-1HB20-0AA0								

SIRIUS ACT pushbuttons and indicator lights Actuators and indicators, 22 mm, round, plastic, black

Actuating and signaling elements > EMERGENCY STOP mushroom pushbuttons/Toggle switches

Multi-unit packaging, see page 13/17.	Version of actuating element	Outer diameter of mushroom mm	Make of lock	Color	Number of keys	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
EMERGENCY STOP n IEC 60947-5-5	nushroom _l	oushbutton	s, according	to IS	O 13850 and					
120 00347-3-3	With kev-c	perated rel	ease			•				
	With positive	-	RONIS, SB30	Red	2	3SU1000-1HF20-0AA0		1	1 unit	41J
	latching, 2 positions		RONIS, 455	Red	2	3SU1000-1HG20-0AA0		1	1 unit	41J
3SU1000-1HF20-0AA0			O.M.R. 73037	Red	2	3SU1000-1HQ20-0AA0		1	1 unit	41J
3SU1000-1HQ20-0AA0										
			Siemens, SSG10 ¹⁾	Red	2	3SU1000-1HR20-0AA0		1	1 unit	41J
			Siemens, SSP9 ¹⁾	Red	2	3SU1000-1HS20-0AA0		1	1 unit	41J
			Siemens, SMS1 ¹⁾	Red	2	3SU1000-1HT20-0AA0		1	1 unit	41J
3SU1000-1HR20-0AA0										
26			BKS, S1	Red	2	3SU1000-1HK20-0AA0		1	1 unit	41J
			BKS, E7 BKS, E9	Red Red	0	3SU1000-1HM20-0AA0 3SU1000-1HN20-0AA0		1 1	1 unit 1 unit	41J 41J
3SU1000-1HK20-0AA0 1) Siemens lock (compatib	le with CES Ic	ocks).	5.0, 23	ileu		0007000-1111120-VAA0		,	Tunt	410

Selection and ordering data

Selection and orden	ng uata								
Multi-unit packaging, see page 13/17.	Number of switch positions	Number of command points	Color of actuating element	Operating principle of the actuating element	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Toggle switches									
A	2	1	Black	Latching	3SU1000-3EA10-0AA0		1	1 unit	41J
				Momentary contact, reset from above	3SU1000-3EC10-0AA0		1	1 unit	41J
3SU1000-3EA10-0AA0									

Commanding and signaling devices SIRIUS ACT pushbuttons and indicator lights

SIRIUS ACT pushbuttons and indicator lights Actuators and indicators, 22 mm, round, plastic, black

Actuating and signaling elements > Selector switches

Selection and order	ing data							
Multi-unit packaging, see page 13/17.	Version of actuating element	Operating principle	Color	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Selector switches								
	2 switch position	s, can be illuminated						
	Selector, short black actuator	Momentary contact, 45° (10:30/12 o'clock), reset from center to left	Black Red Yellow Green Blue White	3SU1002-2BC10-0AA0 3SU1002-2BC20-0AA0 3SU1002-2BC30-0AA0 3SU1002-2BC40-0AA0 3SU1002-2BC50-0AA0 3SU1002-2BC60-0AA0		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J
3SU1002-2BC40-0AA0								
		Latching, 90° (10:30/1:30 o'clock)	Black Red Yellow Green Blue White	3SU1002-2BF10-0AA0 3SU1002-2BF20-0AA0 3SU1002-2BF30-0AA0 3SU1002-2BF40-0AA0 3SU1002-2BF50-0AA0 3SU1002-2BF60-0AA0		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J
3SU1002-2BF30-0AA0								
	Selector, long black actuator	Latching, 90° (10:30/1:30 o'clock)	Black Red White	3SU1002-2CF10-0AA0 3SU1002-2CF20-0AA0 3SU1002-2CF60-0AA0		1 1 1	1 unit 1 unit 1 unit	41J 41J 41J
3SU1002-2CF20-0AA0								
3SU1002-2AF20-0AA0	Rotary knob	Latching, 90° (10:30/1:30 o'clock)	Red White	3SU1002-2AF20-0AA0 3SU1002-2AF60-0AA0		1 1	1 unit 1 unit	41J 41J

SIRIUS ACT pushbuttons and indicator lights Actuators and indicators, 22 mm, round, plastic, black

Actuating and signaling elements > Selector switches

Multi-unit packaging, see page 13/17.	Version of actuating element	Operating principle	Color	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Selector switches								
400	3 switch positions,	can be illuminated		•				
	Selector, short black actuator	Momentary contact, 2x45° (10:30/12/1:30 o'clock), reset from left + right	Black Red Yellow Green Blue White	3SU1002-2BM10-0AA0 3SU1002-2BM20-0AA0 3SU1002-2BM30-0AA0 3SU1002-2BM40-0AA0 3SU1002-2BM50-0AA0 3SU1002-2BM60-0AA0		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J
3SU1002-2BM20-0AA0								
		Latching, 2x45° (10:30/12/1:30 o'clock)	Black Red Yellow Green Blue White	3SU1002-2BL10-0AA0 3SU1002-2BL20-0AA0 3SU1002-2BL30-0AA0 3SU1002-2BL40-0AA0 3SU1002-2BL50-0AA0 3SU1002-2BL60-0AA0		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J
3SU1002-2BL60-0AA0								
		Momentary contact/latching, 2x45° (10:30/12/1:30 o'clock), reset from the left, latching to the right		3SU1002-2BP10-0AA0 3SU1002-2BP20-0AA0 3SU1002-2BP30-0AA0 3SU1002-2BP40-0AA0 3SU1002-2BP50-0AA0 3SU1002-2BP60-0AA0		1 1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J
3SU1002-2BP50-0AA0								
		Latching/momentary contact, 2x45° (10:30/12/1:30 o'clock), reset from the right, latching to the left	Black Red Yellow Green Blue White	3SU1002-2BN10-0AA0 3SU1002-2BN20-0AA0 3SU1002-2BN30-0AA0 3SU1002-2BN40-0AA0 3SU1002-2BN50-0AA0 3SU1002-2BN60-0AA0		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J
3SU1002-2BN30-0AA0								
3SU1000-2AS60-0AA0	4 switch positions Rotary knob	Latching, 4x90° (3/6/9/12 o'clock)	White	3SU1000-2AS60-0AA0		1	1 unit	41J

SIRIUS ACT pushbuttons and indicator lights Actuators and indicators, 22 mm, round, plastic, black

Actuating and signaling elements > Key-operated switches

Selection and orderi	ng data								
Multi-unit packaging, see page 13/17.	Operating principle	Make of lock	Switch position for key removal	Number of keys	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Key-operated switch									
D. A.	2 switch position								
	Momentary contact, 45°	RONIS, SB30	0	2	3SU1000-4BC01-0AA0		1	1 unit	41J
	(10:30/12o'clock),	RONIS, 455 O.M.R. 73037,	0	2	3SU1000-4CC01-0AA0 3SU1000-4FC01-0AA0		<u>1</u> 1	1 unit 1 unit	41J 41J
a	reset from center to left	red	O	2	3301000-41 C01-0AA0		'	Turnt	410
	0,4	O.M.R. 73038, light blue	0	2	3SU1000-4GC01-0AA0		1	1 unit	41J
3SU1000-4JC01-0AA0	8	O.M.R. 73034, black	0	2	3SU1000-4HC01-0AA0		1	1 unit	41J
330 1000-4000 1-0AA0		O.M.R. 73033, yellow	0	2	3SU1000-4JC01-0AA0		1	1 unit	41J
		Siemens, SSG10 ¹⁾	Ο	2	3SU1000-5BC01-0AA0		1	1 unit	41J
		Siemens, LSG1 ¹⁾	0	2	3SU1000-5HC01-0AA0		1	1 unit	41J
		BKS, S1	0	2	3SU1000-5PC01-0AA0		1	1 unit	41J
A STA	Latching, 90° (10:30/	RONIS, SB30	O O+I	2 2	3SU1000-4BF01-0AA0 3SU1000-4BF11-0AA0		1 1	1 unit 1 unit	41J 41J
	1:30 o'clock)		I	2	3SU1000-4BF21-0AA0		i	1 unit	41J
	, 0, ,1	RONIS, 455	0	2	3SU1000-4CF01-0AA0		1	1 unit	41J
	\forall	RONIS, 421	0+I 0+I	2	3SU1000-4CF11-0AA0 3SU1000-4DF11-0AA0		1 1	1 unit 1 unit	41J 41J
3SU1000-4BF11-0AA0									
A. A.		O.M.R. 73037, red	O O+I	2	3SU1000-4FF01-0AA0 3SU1000-4FF11-0AA0		1	1 unit 1 unit	41J 41J
	,	O.M.R. 73038, light blue	O O+I	2	3SU1000-4GF01-0AA0 3SU1000-4GF11-0AA0		1 1	1 unit 1 unit	41J 41J
		O.M.R. 73034,	0	2	3SU1000-4HF01-0AA0		1	1 unit	41J
		black	O+I	2 2	3SU1000-4HF11-0AA0 3SU1000-4HF21-0AA0		1 1	1 unit 1 unit	41J 41J
		O.M.R. 73033,	0	2	3SU1000-4JF01-0AA0		1	1 unit	41J
3SU1000-4GF11-0AA0		yellow	O+I I	2 2	3SU1000-4JF11-0AA0 3SU1000-4JF21-0AA0		1 1	1 unit 1 unit	41J 41J
2001000 1011 11 01110		Siemens,	0	2	3SU1000-5BF01-0AA0		1	1 unit	41J
		SSG10 ¹⁾	O+I	2	3SU1000-5BF11-0AA0 3SU1000-5BF21-0AA0		1 1	1 unit 1 unit	41J 41J
		Siemens,	0	2	3SU1000-5JF01-0AA0		1	1 unit	41J
		SSG10 ¹⁾ with key monitoring							
		Siemens,	0	2	3SU1000-5HF01-0AA0		1	1 unit	41J
		LSG1 ¹⁾	O+I	2	3SU1000-5HF11-0AA0		1	1 unit	41J
3SU1000-5BF11-0AA0		BKS, S1	0	2	3SU1000-5PF01-0AA0		1	1 unit	41J
		DN3, 31	0+1 I	2 2	3SU1000-5FF11-0AA0 3SU1000-5FF21-0AA0		1 1	1 unit 1 unit 1 unit	41J 41J
		BKS, E1	O O+I	0 0	3SU1000-5QF01-0AA0 3SU1000-5QF11-0AA0		1 1	1 unit 1 unit	41J 41J
		BKS, E2	O O+I	0	3SU1000-5RF01-0AA0 3SU1000-5RF11-0AA0		1 1	1 unit 1 unit	41J 41J
10		BKS, E7	O O+I	0 0	3SU1000-5SF01-0AA0 3SU1000-5SF11-0AA0		1 1	1 unit 1 unit	41J 41J
3SU1000-5PF11-0AA0		BKS, E9	O O+I	0	3SU1000-5TF01-0AA0 3SU1000-5TF11-0AA0		1 1	1 unit 1 unit	41J 41J

¹⁾ Siemens lock (compatible with CES locks).

SIRIUS ACT pushbuttons and indicator lights Actuators and indicators, 22 mm, round, plastic, black

Actuating and signaling elements > Key-operated switches

Multi-unit packaging, see page 13/17.	Operating principle	Make of lock	Switch position for key removal	Number of keys	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Key-operated switch	es								
A	3 switch position	s							
	Momentary contact,	RONIS, SB30	Ο	2	3SU1000-4BM01-0AA0		1	1 unit	41J
	2x45° (10:30/12/ 1:30 o'clock),	O.M.R. 73037, red	0	2	3SU1000-4FM01-0AA0		1	1 unit	41J
(a	reset from left + right	black	0	2	3SU1000-4HM01-0AA0		1	1 unit	41J
3SU1000-4BM01-0AA0		Siemens, SSG10 ¹⁾	0	2	3SU1000-5BM01-0AA0		1	1 unit	41J
		BKS, S1	0	2	3SU1000-5PM01-0AA0		1	1 unit	41J
	Latching, 2x45°	RONIS, SB30	0 +0+	2 2	3SU1000-4BL01-0AA0		1 1	1 unit	41J
	(10:30/12/ 1:30 o'clock)		1+O+II I	2	3SU1000-4BL11-0AA0 3SU1000-4BL21-0AA0		1	1 unit 1 unit	41J 41J
	0		İl	2 2 2	3SU1000-4BL31-0AA0		i	1 unit	41J
			1+11	2	3SU1000-4BL41-0AA0		1	1 unit	41J
	\forall		O+I	2	3SU1000-4BL51-0AA0		1	1 unit	41J
		RONIS, 455	0 +0+	2 2	3SU1000-4CL01-0AA0 3SU1000-4CL11-0AA0		1 1	1 unit 1 unit	41J 41J
26		O.M.R. 73037, red	O O+I	2 2	3SU1000-4FL01-0AA0 3SU1000-4FL51-0AA0		1 1	1 unit 1 unit	41J 41J
		O.M.R. 73038, light blue	0 +0+	2 2	3SU1000-4GL01-0AA0 3SU1000-4GL11-0AA0		1 1	1 unit 1 unit	41J 41J
		O.M.R. 73034, black	0 +0+	2 2	3SU1000-4HL01-0AA0 3SU1000-4HL11-0AA0		1 1	1 unit 1 unit	41J 41J
		O.M.R. 73033, yellow	I+O+II	2	3SU1000-4JL11-0AA0		1	1 unit	41J
3SU1000-4FL01-0AA0									
400		Siemens,	0	2	3SU1000-5BL01-0AA0		1	1 unit	41J
		SSG10 ¹⁾	I+O+II	2	3SU1000-5BL11-0AA0 3SU1000-5BL21-0AA0		1	1 unit 1 unit	41J 41J
			ii	2	3SU1000-5BL21-0AA0		1	1 unit	41J
			1+11	2	3SU1000-5BL41-0AA0		1	1 unit	41J
			O+I	2	3SU1000-5BL51-0AA0		1	1 unit	41J
		Siemens, SSG10 ¹⁾ with key monitoring	0	2	3SU1000-5JL01-0AA0		1	1 unit	41J
3SU1000-5BL01-0AA0		BKS, S1	0	2	3SU1000-5PL01-0AA0		1	1 unit	41J
		,	I+O+II	2	3SU1000-5PL11-0AA0		i	1 unit	41J
			1	2	3SU1000-5PL21-0AA0		1	1 unit	41J
			 +	2	3SU1000-5PL31-0AA0 3SU1000-5PL41-0AA0		1 1	1 unit 1 unit	41J 41J
		BKS, E2	I+O+II	0	3SU1000-5RL11-0AA0		1	1 unit	41J
		BKS, E9	1+0+11 1+0+11	0	3SU1000-5RL11-0AA0		1	1 unit	41J
4)		DNO, ES	1+0+11	U	3301000-31L11-UAAU		'	i ufill	4 I J

¹⁾ Siemens lock (compatible with CES locks).

SIRIUS ACT pushbuttons and indicator lights Actuators and indicators, 22 mm, round, plastic, black

Actuating and signaling elements > Key-operated switches/ID key-operated switches

Multi-unit packaging, see page 13/17.	Operating principle	Make of lock	Switch position for key removal	Number of keys	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Key-operated switche	es								
AND	3 switch position	ıs							
	Momentary contact/latching, 2x45° (10:30/12/ 1:30 o'clock), reset from the left, latching to the right	RONIS, SB30	O O+	2 2 2	3SU1000-4BP01-0AA0 3SU1000-4BP31-0AA0 3SU1000-4BP61-0AA0		1 1 1	1 unit 1 unit 1 unit	41J 41J 41J
3SU1000-4BP01-0AA0	 								
	V	Siemens, SSG10 ¹⁾	O O+	2 2 2	3SU1000-5BP01-0AA0 3SU1000-5BP31-0AA0 3SU1000-5BP61-0AA0		1 1 1	1 unit 1 unit 1 unit	41J 41J 41J
		BKS, S1	0	2	3SU1000-5PP01-0AA0		1	1 unit	41J
3SU1000-5BP01-0AA0									
	Latching/momentary contact, 2x45° (10:30/12/	RONIS, SB30	O I O+I	2 2 2	3SU1000-4BN01-0AA0 3SU1000-4BN21-0AA0 3SU1000-4BN51-0AA0		1 1 1	1 unit 1 unit 1 unit	41J 41J 41J
	1:30 o'clock), reset from the right,	O.M.R. 73038, light blue	0	2	3SU1000-4GN01-0AA0		1	1 unit	41J
	latching to the left O I. I. II	O.M.R. 73034, black	I	2	3SU1000-4HN21-0AA0		1	1 unit	41J
	1/2	Siemens, SSG10 ¹⁾	O I O+I	2 2 2	3SU1000-5BN01-0AA0 3SU1000-5BN21-0AA0 3SU1000-5BN51-0AA0		1 1 1	1 unit 1 unit 1 unit	41J 41J 41J
3SU1000-4GN01-0AA0		BKS, S1	I O+I	2 2	3SU1000-5PN21-0AA0 3SU1000-5PN51-0AA0		1 1	1 unit 1 unit	41J 41J
1) Siemens lock (compatib	le with CES locks).								
Selection and ordering	ng data								
Multi-unit packaging, see page 13/17.	Actuating Opera angle princip			Color	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
ID key-operated switch	ches								
	4 switch position	s							
	45° Latchi	ng Key remor possible in 4 position	n all	Black	3SU1000-4WS10-0AA0		1	1 unit	41J

3SU1000-4WS10-0AA0

ID keys, see page 13/135.

Electronic modules for ID key-operated switches, see page 13/90.

Plastic holders for ID key-operated switches, see page 13/76.

SIRIUS ACT pushbuttons and indicator lights Actuators and indicators, 22 mm, round, plastic, black

Actuating and signaling elements > Coordinate switches/Indicator lights

Selection and orderi	ng data								
Multi-unit packaging, see page 13/17.	Product function Interlocking in neutral position	Number of switch positions	Operating principle	Direction of actuation	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Coordinate switches									
	No	2	Momentary contact	Horizontal Vertical	3SU1000-7AC10-0AA0 3SU1000-7AD10-0AA0		1 1	1 unit 1 unit	41J 41J
			Latching	Horizontal Vertical	3SU1000-7AA10-0AA0 3SU1000-7AB10-0AA0		1 1	1 unit 1 unit	41J 41J
		4	Momentary contact	Horizontal/ vertical	3SU1000-7AF10-0AA0		1	1 unit	41J
			Latching	Horizontal/ vertical	3SU1000-7AE10-0AA0		1	1 unit	41J
3SU1000-7AA10-0AA0									
	Yes	2	Momentary contact	Horizontal Vertical	3SU1000-7BC10-0AA0 3SU1000-7BD10-0AA0		1 1	1 unit 1 unit	41J 41J
			Latching	Horizontal Vertical	3SU1000-7BA10-0AA0 3SU1000-7BB10-0AA0		1 1	1 unit 1 unit	41J 41J
		4	Momentary contact	Horizontal/ vertical	3SU1000-7BF10-0AA0		1	1 unit	41J
			Latching	Horizontal/ vertical	3SU1000-7BE10-0AA0		1	1 unit	41J
3SU1000-7BA10-0AA0									
Selection and orderi	ng data								
Multi-unit packaging, see page 13/17.	Product version		Color		Article No.	Price per PU		PS*	PG
Indicator lights					_				
	With smooth le	ns	Amber Red Yellow Green Blue White Clear		3SU1001-6AA00-0AA0 3SU1001-6AA20-0AA0 3SU1001-6AA30-0AA0 3SU1001-6AA40-0AA0 3SU1001-6AA50-0AA0 3SU1001-6AA60-0AA0 3SU1001-6AA70-0AA0		1 1 1 1 1 1	5 units 5 units 5 units 5 units 5 units 5 units 5 units	41J 41J 41J 41J 41J 41J 41J
3SU1001-6AA40-0AA0									
Indicator lights in illu	iminated pushi	outton desi	gn Red Yellow Green Blue Clear		3SU1001-0AD20-0AA0 3SU1001-0AD30-0AA0 3SU1001-0AD40-0AA0 3SU1001-0AD50-0AA0 3SU1001-0AD70-0AA0		1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J

3SU1001-0AD50-0AA0

Commanding and signaling devicesSIRIUS ACT pushbuttons and indicator lights

Actuators and indicators, 22 mm, round, plastic, black

Actuating and signaling elements > Sealing plugs, USB and RJ45 connections

Selection and orderi	ing data								
Multi-unit packaging, see page 13/17.	Mounting diamete	r Material	Co	olor	Article No.	Price per PU		PS*	PG
	mm								
Sealing plugs ¹⁾									
	22	Plastic	Black		3SU1900-0FA10-0AA0		1	5 units	41J
3SU1900-0FA10-0AA0									
 The sealing plug is more Modules might already 	unted with a holder. be mounted on the	holder.							
	Product version	Mounting diameter	Accessory material	Accessory	Screw terminals		PU (UNIT, SET, M)	PS*	PG
		mm			Article No.	Price per PU			
USB connections									
	USB 3.0	22	Plastic	Black	3SU1900-0GA10-0AA		1	1 unit	41J
3SU1900-0GA10-0AA0									
RJ45 connections									
	RJ-45 Cat. 5e	22	Plastic	Black	3SU1900-0GB10-0AA(•	1	1 unit	41J

3SU1900-0GB10-0AA0

SIRIUS ACT pushbuttons and indicator lights Actuators and indicators, 22 mm, metal, shiny

Complete units > Pushbuttons

Selection and orderi	ng data										
Multi-unit packaging, see page 13/17.	Supply voli		Color	Number	of		Screw terminals		PU (UNIT,	PS*	PG
	at AC	at DC		contact modules	NO con- tacts	NC con- tacts			SET, M)		
	V	V					Article No.	Price per PU			
Pushbuttons	V							perio			
	Pushbut	tons with	flat butto	n, mome	entary o	contact					
			Black	1	1 0 1	0 1 1	3SU1150-0AB10-1BA0 3SU1150-0AB10-1CA0 3SU1150-0AB10-1FA0		1 1 1	1 unit 1 unit 1 unit	41J 41J 41J
			Red	1	1 0 1	0 1 1	3SU1150-0AB20-1BA0 3SU1150-0AB20-1CA0 3SU1150-0AB20-1FA0		1 1 1	1 unit 1 unit 1 unit	41J 41J 41J
			Yellow	1	1	0	3SU1150-0AB30-1BA0 3SU1150-0AB30-1FA0		1 1	1 unit 1 unit	41J 41J
3SU1150-0AB30-1BA0			Green	1	1	0	3SU1150-0AB40-1BA0 3SU1150-0AB40-1FA0		1	1 unit 1 unit	41J 41J
			Blue	1	1	0	3SU1150-0AB50-1BA0 3SU1150-0AB50-1FA0		1	1 unit 1 unit	41J 41J
			White	1	1	0	3SU1150-0AB60-1BA0 3SU1150-0AB60-1FA0		1	1 unit 1 unit	41J 41J
			Clear	1	1	0	3SU1150-0AB70-1BA0 3SU1150-0AB70-1FA0		1 1	1 unit 1 unit	41J 41J
	Pushbut	tons with	raised bu	utton, mo	menta	ry contac	ct				
and a section			Black	1	1 0 1	0 1 1	3SU1150-0BB10-1BA0 3SU1150-0BB10-1CA0 3SU1150-0BB10-1FA0		1 1 1	1 unit 1 unit 1 unit	41J 41J 41J
			Red	1	0	1	3SU1150-0BB20-1CA0 3SU1150-0BB20-1FA0		1	1 unit 1 unit	41J 41J
	,		Green	1	1	1	3SU1150-0BB40-1FA0		1	1 unit	41J
00114150 00000 1040			Blue	1	1	0 1	3SU1150-0BB50-1BA0 3SU1150-0BB50-1FA0		1 1	1 unit 1 unit	41J 41J
3SU1150-0BB20-1CA0				ith flat bu	ıtton, n	nomenta	ry contact,				
	with integrated 24 24	_	Amber	1	1	0	3SU1152-0AB00-1BA0 3SU1152-0AB00-1FA0		1 1	1 unit 1 unit	41J 41J
			Red	1	0	1 1	3SU1152-0AB20-1CA0 3SU1152-0AB20-1FA0		1	1 unit 1 unit	41J 41J
			Yellow	1	1	0	3SU1152-0AB30-1BA0		1	1 unit	41J
			Green	1	1	0	3SU1152-0AB30-1FA0 3SU1152-0AB40-1BA0		1	1 unit	41J 41J
3SU1152-0AB50-1BA0			Blue	1	1	0	3SU1152-0AB40-1FA0 3SU1152-0AB50-1BA0		1	1 unit	41J 41J
			White	1	1	0	3SU1152-0AB50-1FA0 3SU1152-0AB60-1BA0		1	1 unit	41J 41J
			Clear	1	1	0	3SU1152-0AB60-1FA0 3SU1152-0AB70-1BA0		1	1 unit 1 unit	41J 41J
	110		Amber	1	1	0	3SU1152-0AB70-1FA0 3SU1153-0AB00-1BA0		1	1 unit 1 unit	41J 41J
			Red	1	0	1	3SU1153-0AB00-1FA0 3SU1153-0AB20-1CA0		1	1 unit 1 unit	41J 41J
			Yellow	1	1	0	3SU1153-0AB20-1FA0 3SU1153-0AB30-1BA0		1	1 unit 1 unit	41J 41J
				1	1 1	1 0	3SU1153-0AB30-1FA0 3SU1153-0AB40-1BA0		1	1 unit	41J 41J
			Green		1	1	3SU1153-0AB40-1FA0		1	1 unit 1 unit	41J
3SU1153-0AB60-1BA0			Blue	1	1	0	3SU1153-0AB50-1BA0 3SU1153-0AB50-1FA0		1	1 unit 1 unit	41J 41J
			White	1	1	0 1	3SU1153-0AB60-1BA0 3SU1153-0AB60-1FA0		1 1	1 unit 1 unit	41J 41J
			Clear	1	1 1	0 1	3SU1153-0AB70-1BA0 3SU1153-0AB70-1FA0		1 1	1 unit 1 unit	41J 41J

SIRIUS ACT pushbuttons and indicator lights Actuators and indicators, 22 mm, metal, shiny

Complete units > Pushbuttons

Multi-unit packaging, see page 13/17.	Supply vol light sourc		Color	Number	of		Screw terminals	+	PU (UNIT,	PS*	PG
	at AC	at DC		contact modules	NO con- tacts	NC con- tacts			SET, M)		
	V	V					Article No.	Price per PU			
Pushbuttons	V	V						perro			
	with inte	ed pushb grated LE	uttons w	ith flat bu	ıtton, ı	nomenta	ry contact,				
	230		Amber	1	1 1	0 1	3SU1156-0AB00-1BA0 3SU1156-0AB00-1FA0		1 1	1 unit 1 unit	41J 41J
			Red	1	0 1	1 1	3SU1156-0AB20-1CA0 3SU1156-0AB20-1FA0		1 1	1 unit 1 unit	41J 41J
			Yellow	1	1	0 1	3SU1156-0AB30-1BA0 3SU1156-0AB30-1FA0		1 1	1 unit 1 unit	41J 41J
3SU1156-0AB50-1BA0			Green	1	1	0 1	3SU1156-0AB40-1BA0 3SU1156-0AB40-1FA0		1 1	1 unit 1 unit	41J 41J
			Blue	1	1	0	3SU1156-0AB50-1BA0 3SU1156-0AB50-1FA0		1	1 unit 1 unit	41J 41J
			White	1	1	0	3SU1156-0AB60-1BA0 3SU1156-0AB60-1FA0		1	1 unit 1 unit	41J 41J
			Clear	1	1	0	3SU1156-0AB70-1BA0 3SU1156-0AB70-1FA0		1	1 unit 1 unit	41J 41J
							Spring-loaded terminals	**			
	Pushbut	tons with	flat butto	n, mome	entary	contact					
			Black	1	1 0 1	0 1 1	3SU1150-0AB10-3BA0 3SU1150-0AB10-3CA0 3SU1150-0AB10-3FA0		1 1 1	1 unit 1 unit 1 unit	41J 41J 41J
			Red	1	1 0	0	3SU1150-0AB20-3CA0 3SU1150-0AB20-3FA0		1 1	1 unit 1 unit	41J 41J
			Yellow	1	1	0	3SU1150-0AB30-3BA0 3SU1150-0AB30-3FA0		1	1 unit 1 unit	41J 41J
3SU1150-0AB40-3BA0			Green	1	1	0	3SU1150-0AB40-3BA0 3SU1150-0AB40-3FA0		1	1 unit 1 unit	41J 41J
			Blue	1	1	0	3SU1150-0AB50-3BA0 3SU1150-0AB50-3FA0		1	1 unit 1 unit	41J 41J
			White	1	1	0	3SU1150-0AB60-3BA0 3SU1150-0AB60-3FA0		1	1 unit 1 unit	41J 41J
	Pushbut	ton with r	aised but	tton, mor	nentar						
			Red	1	0	1	3SU1150-0BB20-3CA0		1	1 unit	41J

3SU1150-0BB20-3CA0

SIRIUS ACT pushbuttons and indicator lights Actuators and indicators, 22 mm, metal, shiny

Complete units > Pushbuttons/Mushroom pushbuttons

Multi-unit packaging, see page 13/17.	Supply volt		Color	Number	of		Screw terminals		PU (UNIT,	PS*	PG
	at AC	at DC		contact modules		NC con- tacts			SET, M)		
	V	V					Article No.	Price per PU			
Pushbuttons								·			
		ed pushb grated LE		ith flat bu	ıtton, ı	nomenta	ary contact,				
	24	24	Red	1	0	1 1	3SU1152-0AB20-3CA0 3SU1152-0AB20-3FA0		1 1	1 unit 1 unit	41J 41J
			Yellow	1	1	0 1	3SU1152-0AB30-3BA0 3SU1152-0AB30-3FA0		1	1 unit 1 unit	41J 41J
			Green	1	1	0	3SU1152-0AB40-3BA0 3SU1152-0AB40-3FA0		1	1 unit 1 unit	41J 41J
3SU1152-0AB20-3CA0			Blue	1	1	0	3SU1152-0AB50-3BA0 3SU1152-0AB50-3FA0		1	1 unit 1 unit	41J 41J
			White	1	1	0	3SU1152-0AB60-3BA0 3SU1152-0AB60-3FA0		1	1 unit 1 unit	41J 41J
			Clear	1	1	0	3SU1152-0AB70-3BA0 3SU1152-0AB70-3FA0		1	1 unit 1 unit	41J 41J
the second	110		Red	1	0	1	3SU1153-0AB20-3CA0 3SU1153-0AB20-3FA0		1	1 unit 1 unit	41J 41J
			Yellow	1	1	0	3SU1153-0AB30-3BA0 3SU1153-0AB30-3FA0		1	1 unit 1 unit	41J 41J
			Green	1	1	0	3SU1153-0AB40-3BA0 3SU1153-0AB40-3FA0		1	1 unit 1 unit	41J 41J
	ļ.		Blue	1	1	0	3SU1153-0AB50-3BA0 3SU1153-0AB50-3FA0		1	1 unit 1 unit	41J 41J
3SU1153-0AB60-3BA0			White	1	1	0	3SU1153-0AB60-3BA0 3SU1153-0AB60-3FA0		1	1 unit 1 unit	41J 41J
3301133-UAB00-3BA0			Clear	1	1	0	3SU1153-0AB70-3BA0 3SU1153-0AB70-3FA0		1	1 unit 1 unit	41J 41J
The second	230		Red	1	0	1	3SU1156-0AB20-3CA0 3SU1156-0AB20-3FA0		1	1 unit 1 unit	41J 41J
a good			Yellow	1	1	0	3SU1156-0AB30-3BA0 3SU1156-0AB30-3FA0		1	1 unit 1 unit	41J 41J
			Green	1	1	0	3SU1156-0AB40-3BA0 3SU1156-0AB40-3FA0		1	1 unit 1 unit	41J 41J
			Blue	1	1	0	3SU1156-0AB50-3BA0 3SU1156-0AB50-3FA0		1 1	1 unit 1 unit	41J 41J
00114450 04500 0540			White	1	1	0	3SU1156-0AB60-3BA0 3SU1156-0AB60-3FA0		1 1	1 unit 1 unit	41J 41J
3SU1156-0AB30-3BA0			Clear	1	1 1	0	3SU1156-0AB70-3BA0 3SU1156-0AB70-3FA0		1 1	1 unit 1 unit	41J 41J

Selection and ordering data

Multi-unit	packaging,
see page 1	13/17.

	atching	Number of			Screw terminals	+	PU	PS*	PG
met	hod	contact modules	NO contacts	NC contacts			(UNIT, SET, M)		
					Article No.	Price			

Mushroom pushbuttons



41J

41J 41J

SIRIUS ACT pushbuttons and indicator lights Actuators and indicators, 22 mm, metal, shiny

Complete units > EMERGENCY STOP mushroom pushbuttons

Selection and ordering data

Multi-unit packaging, see page 13/17.

Unlatching	Number	of		Marking	Spring-loaded	∞	PU	PS*	PG
method	contact modules		NC con- tacts		terminals	Ш	(UNIT, SET, M)		
					Article No.	Price			

EMERGENCY STOP mushroom pushbuttons, with yellow backing plate (60 mm diameter), according to ISO 13850 and IEC 60947-5-5

With red mushroom, 30 mm diameter, with positive latching



Screw terminals

3SU1150-1GB20-3CW0

EMERGENCY STOP mushroom pushbuttons, with self-adhesive yellow backing plate (75 mm diameter), according to ISO 13850 and IEC 60947-5-5

407-	-HAL

3SU1150-1HB20-1CH0

							<u> </u>			
With red mu	shroon	n, 40 m	m dia	meter, with po	sitive la	atching				
Pull to unlatch	1	0	1	NOT-HALT	\odot	3SU1150-1HA20-1CH0		1	1 unit	41J
				EMERGENCY STOP	→	3SU1150-1HA20-1CG0		1	1 unit	41J
		1	1	NOT-HALT	€	3SU1150-1HA20-1FH0		1	1 unit	41J
				EMERGENCY STOP	€	3SU1150-1HA20-1FG0		1	1 unit	41J
				ARRET D'URGENCE	€	3SU1150-1HA20-1FJ0		1	1 unit	41J
Rotate to	1	0	1	NOT-HALT	€	3SU1150-1HB20-1CH0		1	1 unit	41J
unlatch				EMERGENCY STOP	€	3SU1150-1HB20-1CG0		1	1 unit	41J
				ARRET D'URGENCE	€	3SU1150-1HB20-1CJ0		1	1 unit	41J
		1	1	NOT-HALT	€	3SU1150-1HB20-1FH0		1	1 unit	41J
				EMERGENCY STOP	€	3SU1150-1HB20-1FG0		1	1 unit	41J
				ARRET D'URGENCE	€	3SU1150-1HB20-1FJ0		1	1 unit	41J
						Spring-loaded terminals	8			
Pull to unlatch	1	0	1	NOT-HALT	\odot	3SU1150-1HA20-3CH0		1	1 unit	41J
		1	1	NOT-HALT	\odot	3SU1150-1HA20-3FH0		1	1 unit	41J
	2	0	2	NOT-HALT	€	3SU1150-1HA20-3PH0		1	1 unit	41J
Rotate to	1	0	1		€	3SU1150-1HB20-3CF0		1	1 unit	41J
unlatch	2	0	2		€	3SU1150-1HB20-3PF0		1	1 unit	41J
	1	0	1	NOT-HALT	€	3SU1150-1HB20-3CH0		1	1 unit	41J
		1	1	NOT-HALT	€	3SU1150-1HB20-3FH0		1	1 unit	41J

3SU1150-1HB20-3PH0

NOT-HALT

2

0



3SU1150-1HB20-3CF0

1 unit

41J

[→] Positive opening according to IEC 60947-5-1, Annex K. Can be used with 3SK safety relays, see page 11/1 onwards. Certificate:

SIRIUS ACT pushbuttons and indicator lights Actuators and indicators, 22 mm, metal, shiny

Complete units > EMERGENCY STOP mushroom pushbuttons

Complete units > E	EMERG	ENC	CY ST	ΓΟΡ mι	ıshro	om p	ushbutton	S					
Multi-unit packaging, see page 13/17.	Unlatch			ber of act modu) ntacts	NC contacts		Screw terminals		PU (UNIT, SET, M)	PS*	PG
					CO	nacio	Contacts		Article No.	Price per PU			
EMERGENCY STOP according to ISO 13	mushro 850 and	om IEC	pushl 6094	outtons, 7-5-5	witho	out ye	llow backing	g plate,		perro			
	With re Rotate to unlatch		u shro 2	oom, 40	mm d	liame	t er, with pos	itive lat ⊕	ching 3SU1150-1HB20-1PA0		1	1 unit	41J
3SU1150-1HB20-1PA0 → Positive opening according	rdina to IF	EC 60	947-5-	1 Anney	K								
Can be used with 3SK Certificate:						S.							
Multi-unit packaging, see page 13/17.	Unlatch-	volta	ıge	Number	of		Marking		Spring-loaded terminals	8	PU (UNIT,	PS*	PG
	method	sour	ce	aantaat	NO	NC					SET, M)		
		at AC	at DC	contact mod- ules	con-	NC con- tacts							
		V	V						Article No.	Price per PU			
EMERGENCY STOP can be illuminated, vaccording to ISO 13	with yell	low b	ackir	ng plate	(60 m	ım dia	ameter),						
(Control)							ter, with pos	_					
	Rotate to unlatch	24	24	1 2	0	1 2		→→	3SU1152-1GB20-3CW0 3SU1152-1GB20-3PW0		1	1 unit 1 unit	41J 41J
3SU1152-1GB20-3CW0 EMERGENCY STOP	mushro	oom	pushl	buttons.	. can l	oe illu	minated.						
with self-adhesive y according to ISO 13	ellow ba 850 and	ickin IEC	ig pla 6094	te (75 m 7-5-5	ım dia	mete	r),		l				
	With re				mm d	liamet 2	ter, with pos		3SU1152-1HB20-3PF0		1	1 unit	41J
	to unlatch												
3SU1152-1HB20-3PF0									Screw terminals				
Eticerden Or of B	Rotate to unlatch		. 24 240	1	0	2	EMERGENCY STOP	→	3SU1158-1HB20-1PT0	+	1	1 unit	41J
3SU1158-1HB20-1PT0													

→ Positive opening according to IEC 60947-5-1, Annex K. Can be used with 3SK safety relays, see page 11/1 onwards. Certificate:



SIRIUS ACT pushbuttons and indicator lights Actuators and indicators, 22 mm, metal, shiny

Complete units > Selector switches

Selection and orde	ering data											
Multi-unit packaging, see page 13/17.	Operating principle	Supproof volta for lig source at AC	ge ght	Color	Number contact modules	NO con-	NC con- tacts	Screw terminals	1	PU (UNIT, SET, M)	PS*	PG
		V	V					Article No.	Price per PU			
Selector switches			Ť						perro			
	Short black actua	tors,	2 sw	-								
	Momentary contact, 45° (10:30/12 o'clock), reset from the right			White	1	1	0	3SU1150-2BC60-1BA0		1	1 unit	41J
7	0											
3SU1150-2BF60-1BA0	Latching, 90° (10:30/1:30 o'clock)			White	1 2	1 1 1	0 1 1	3SU1150-2BF60-1BA0 3SU1150-2BF60-1FA0 3SU1150-2BF60-1MA0		1 1 1	1 unit 1 unit 1 unit	41J 41J 41J
		24	24	Red	2	1	1	3SU1152-2BF20-1MA0		1	1 unit	41J
	Short black actua	tors,	3 sw									
	Momentary contact, 2x45° (10:30/12/ 1:30 o'clock), reset from left + right			White	2	2	2 0	3SU1150-2BM60-1LA0 3SU1150-2BM60-1NA0		1	1 unit 1 unit	41J 41J
3SU1152-2BF20-1MA0	1 . 11											
	Latching, 2x45° (10:30/12/ 1:30 o'clock)			White	2	2 2	2 0	3SU1150-2BL60-1LA0 3SU1150-2BL60-1NA0		1	1 unit 1 unit	41J 41J
	Long black actual	tors,	2 sw	itch p	ositions	, can	be illumi	nated				
	Latching, 90° (10:30/1:30 o'clock) O I			White	1 2	1 2	0	3SU1150-2CF60-1BA0 3SU1150-2CF60-1NA0		1	1 unit 1 unit	41J 41J
	Long black actual	tor, 3	swit	-								
	Momentary contact, 2x45° (10:30/12/ 1:30 o'clock), reset from left + right			White	2	1	1	3SU1150-2CM60-1NA0		1	1 unit	41J
								Spring-loaded terminals	<u></u>			
	Short black actua	tors.	2 sw	itch p	ositions	s, can	be illum					
	Latching, 90° (10:30/1:30 o'clock)			White		1 1	0	3SU1150-2BF60-3BA0 3SU1150-2BF60-3MA0		1	1 unit 1 unit	41J 41J
	Short black actua	tors,	3 sw	itch p	ositions	s, can	be illum	inated				
3SU1150-2BL60-3NA0	Momentary contact, 2x45° (10:30/12/ 1:30 o'clock), reset from left + right			White	2	2 2	2 0	3SU1150-2BM60-3LA0 3SU1150-2BM60-3NA0		1 1	1 unit 1 unit	41J 41J
	Latching, 2x45° (10:30/12/ 1:30 o'clock)			White	2	2 2	2 0	3SU1150-2BL60-3LA0 3SU1150-2BL60-3NA0		1	1 unit 1 unit	41J 41J

SIRIUS ACT pushbuttons and indicator lights Actuators and indicators, 22 mm, metal, shiny

Complete units > Key-operated switches/Coordinate switches

Multi-unit packaging, see page 13/17.

Operating principle	Switch position for key removal	Number of contact modules	NO	NC con- tacts	Num- ber of keys	Screw terminals	4	PU (UNIT, SET, M)	PS*	PG
						Article No.	Price per PU			

Key-operated switches



>										
With RONIS	lock, SE	330, 2 sı	vitch p	ositio	ns					
Latching, 90° (10:30/	O+I O+I	1	1 1	0 1	2	3SU1150-4BF11-1BA0 3SU1150-4BF11-1FA0		1 1	1 unit 1 unit	41J 41J
1:30 o'clock)						Spring-loaded terminals	<u> </u>			_
V	O+I O+I O	1 2	1 1 0	0 1 2	2 2 2	3SU1150-4BF11-3BA0 3SU1150-4BF11-3FA0 3SU1150-4BF01-3PA0		1 1 1	1 unit 1 unit 1 unit	41J 41J 41J

Selection and ordering data

Multi-unit packaging, see page 13/17.

	Number of NO contacts (1 per direction)	Operating principle	Direction of actuation	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
				Article No.	Price per PU			
3								

Coordinate switches



Without m	nechanical interloc	k, 2 switch positions				
2	Momentary co	ntact Horizontal Vertical	3SU1150-7AC88-1NA0 3SU1150-7AD88-1NA0	1 1	1 unit 1 unit	41J 41J
	Latching	Horizontal Vertical	3SU1150-7AA88-1NA0 3SU1150-7AB88-1NA0	1 1	1 unit 1 unit	41J 41J
Without n	nechanical interloc	k, 4 switch positions				
4	Momentary co	ntact Horizontal/vertical	3SU1150-7AF88-1QA0	1	1 unit	41J
	Latching	Horizontal/vertical	3SU1150-7AE88-1QA0	1	1 unit	41J
With meci	hanical interlock, 2	switch positions				
2	Momentary co	ntact Horizontal Vertical	3SU1150-7BC88-1NA0 3SU1150-7BD88-1NA0	1 1	1 unit 1 unit	41J 41J

3SU1150-7BA88-1NA0 3SU1150-7BB88-1NA0



3SU1150-7BF88-1QA0

3SU1150-7AF88-1QA0

Latching

Horizontal

Vertical

3SU1150-7BF88-1QA0 1 1 unit 41J **3SU1150-7BE88-1QA0** 1 1 unit 41J

1 unit

1 unit

41J

41J

SIRIUS ACT pushbuttons and indicator lights Actuators and indicators, 22 mm, metal, shiny

Complete units > Indicator lights

see page 13/17.	at AC	at DC							
			of actuating element	of light source		+	(UNIT, SET, M)		
	V	V			Article No.	Price per PU			
ndicator lights									
The same of the sa	With sm	ooth lens an	d integrated L	ED					
	24	24	Amber Red Yellow Green Blue White Clear	Amber Red Yellow Green Blue White White	3SU1152-6AA00-1AA0 3SU1152-6AA20-1AA0 3SU1152-6AA30-1AA0 3SU1152-6AA40-1AA0 3SU1152-6AA50-1AA0 3SU1152-6AA60-1AA0 3SU1152-6AA70-1AA0		1 1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	
SU1152-6AA50-1AA0	110		Amber Red Yellow Green Blue White Clear	Amber Red Yellow Green Blue White White	3SU1153-6AA00-1AA0 3SU1153-6AA20-1AA0 3SU1153-6AA30-1AA0 3SU1153-6AA40-1AA0 3SU1153-6AA50-1AA0 3SU1153-6AA60-1AA0 3SU1153-6AA70-1AA0		1 1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	
SU1156-6AA60-1AA0	230		Red Yellow Green Blue White Clear	Red Yellow Green Blue White White	3SU1156-6AA20-1AA0 3SU1156-6AA30-1AA0 3SU1156-6AA40-1AA0 3SU1156-6AA50-1AA0 3SU1156-6AA60-1AA0 3SU1156-6AA70-1AA0		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	
5501150-6AA60-1AA0	-				Spring-loaded	<u> </u>			
					terminals				
	24	24	Red Yellow Green Blue White Clear	Red Yellow Green Blue White White	3SU1152-6AA20-3AA0 3SU1152-6AA30-3AA0 3SU1152-6AA40-3AA0 3SU1152-6AA50-3AA0 3SU1152-6AA60-3AA0 3SU1152-6AA70-3AA0		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	



3SU1152-



3SU1156-

24			
	1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41. 41. 41. 41. 41.
Yellow Yellow 3SU1153-6AA30-3AA0 Green Green 3SU1153-6AA40-3AA0 Blue Blue 3SU1153-6AA50-3AA0 White White 3SU1153-6AA60-3AA0 Clear White 3SU1153-6AA70-3AA0	1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41. 41. 41. 41. 41.
230 Red Red 3SU1156-6AA20-3AA0 Yellow Yellow 3SU1156-6AA30-3AA0 Green Green Glue Blue 3SU1156-6AA0-3AA0 White White 3SU1156-6AA60-3AA0 Clear White 3SU1156-6AA70-3AA0	1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	410 410 410 410 410 410
6-6AA20-3AA0			

SIRIUS ACT pushbuttons and indicator lights Actuators and indicators, 22 mm, metal, shiny

Compact units > Acoustic signaling devices/Potentiometers

Selection and order	ing data								
Multi-unit packaging, see page 13/17.	Operation at AC	nal voltage at DC	Volume level	Degree of protection	Screw terminals		PU (UNIT, SET, M)	PS*	PG
	V	V	dB/cm		Article No.	Price per PU			
Acoustic signaling d	levices								
	24 110 230	24 	80/10 80/10 80/10	IP40 IP40 IP40	3SU1200-6KB10-1AA0 3SU1200-6KC10-1AA0 3SU1200-6KF10-1AA0		1 1 1	1 unit 1 unit 1 unit	41J 41J 41J
	24 110 230	24 	75/10 75/10 75/10	IP69 IP69 IP69	3SU1200-6LB10-1AA0 3SU1200-6LC10-1AA0 3SU1200-6LF10-1AA0		1 1 1	1 unit 1 unit 1 unit	41J 41J 41J
3SU1200-6KB10-1AA0 Selection and order	ing data								
Multi-unit packaging, see page 13/17.		of actuating	Operating principle	Adjustable resistance	Screw terminals		PU (UNIT, SET, M)	PS*	PG
				kΩ	Article No.	Price per PU			
Potentiometers									
	Rotary k	nob	Stepless	1 2.2 4.7 10 47 100 470	3SU1200-2PQ10-1AA0 3SU1200-2PW10-1AA0 3SU1200-2PR10-1AA0 3SU1200-2PS10-1AA0 3SU1200-2PT10-1AA0 3SU1200-2PU10-1AA0 3SU1200-2PU10-1AA0		1 1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J 41J

Labeling plates for potentiometers, see page 13/124.

3SU1200-2PQ10-1AA0

Commanding and signaling devices SIRIUS ACT pushbuttons and indicator lights Actuators and indicators, 22 mm, metal, shiny

Compact units > Pushbuttons with extended stroke

Selection and order						_		
Multi-unit packaging, see page 13/17.	Version		Color	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Pushbuttons with ex	xtended stroke							
	For actuating relays, caplunger, no contact mo	an only be combined	d with extension e required					
	Pushbuttons with flat		Red Green Blue	3SU1250-0EB20-0AA0 3SU1250-0EB40-0AA0 3SU1250-0EB50-0AA0		1 1 1	1 unit 1 unit 1 unit	41J 41J 41J
3SU1250-0EB40-0AA0								
	Pushbutton with raise	ed button	Black	3SU1250-0FB10-0AA0		1	1 unit	41J
3SU1250-0FB10-0AA0	Pushbuttons with flat insert lab	transparent button	for Red Clear	3SU1251-0EB20-0AA0 3SU1251-0EB70-0AA0		1 1	1 unit 1 unit	41J 41J
3SU1251-0EB20-0AA0			Olda	000 1201 02210 0410			, dink	
	Version	Material	Color	Article No.	Price per PU	PU (UNIT,	PS*	PG
					porro	SET, M)		
Accessories				_				
And the state of t	Extension plunger For compensation of the clearance between the pushbutton and the resetting plunger of an overload relay	Plastic	Gray	3SU1900-0KG10-0AA0		1	1 unit	41J

SIRIUS ACT pushbuttons and indicator lights Actuators and indicators, 22 mm, metal, shiny

Actuating and signaling elements > Pushbuttons

Selection and ordering	ng data							
Multi-unit packaging, see page 13/17.	Version of actuating element Front ring version	Operating principle Unlatching method	Color, marking	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Pushbuttons								
3SU1050-0AB40-0AC0	Pushbuttons with flat button Standard	Momentary contact	Black Black, "O" Red Red, "O" Yellow Green Green, "I" Blue Blue, "R" White White, "\$\operatorname{O}\operatorn	3SU1050-0AB10-0AA0 3SU1050-0AB10-0AD0 3SU1050-0AB20-0AA0 3SU1050-0AB20-0AD0 3SU1050-0AB30-0AA0 3SU1050-0AB40-0AA0 3SU1050-0AB40-0AC0 3SU1050-0AB50-0AA0 3SU1050-0AB60-0AA0 3SU1050-0AB60-0AB0 3SU1050-0AB60-0AB0 3SU1050-0AB60-0AC0 3SU1050-0AB60-0AC0 3SU1050-0AB60-0AC0		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 unit 1 unit	41J 41J 41J 41J 41J 41J 41J 41J 41J 41J
		Latching Push to unlatch	Black Red Yellow Green Blue White	3SU1050-0AA10-0AA0 3SU1050-0AA20-0AA0 3SU1050-0AA30-0AA0 3SU1050-0AA40-0AA0 3SU1050-0AA50-0AA0 3SU1050-0AA60-0AA0		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J
3SU1050-0AA30-0AA0	Pushbuttons with	Momentary contact	Black	3SU1050-0BB10-0AA0		1	1 unit	41J
	raised button Standard	Latching	Red Yellow Green Blue White Red	3SU1050-0BB10-0AA0 3SU1050-0BB20-0AA0 3SU1050-0BB40-0AA0 3SU1050-0BB50-0AA0 3SU1050-0BB60-0AA0 3SU1050-0BA20-0AA0		1 1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J
		Push to unlatch						
3SU1050-0BB20-0AA0								
	Pushbuttons with flat button Raised	Momentary contact	Black Red Yellow Green Blue White	3SU1050-0CB10-0AA0 3SU1050-0CB20-0AA0 3SU1050-0CB30-0AA0 3SU1050-0CB40-0AA0 3SU1050-0CB50-0AA0 3SU1050-0CB50-0AA0		1 1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J
3SU1050-0CB50-0AA0								
3SU1051-0CB40-0AA0	Illuminated pushbuttons with flat button Raised	Momentary contact	Green	3SU1051-0CB40-0AA0		1	20 units	41J

Commanding and signaling devices SIRIUS ACT pushbuttons and indicator lights Actuators and indicators, 22 mm, metal, shiny

Actuating and signaling elements > Pushbuttons

Multi-unit packaging, see page 13/17.	Version of actuating element Front ring version	Operating principle Unlatching method	Color	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Pushbuttons								
	Illuminated pushbuttons with flat button Standard	Momentary contact	Amber Red Yellow Green Blue White Clear	3SU1051-0AB00-0AA0 3SU1051-0AB20-0AA0 3SU1051-0AB30-0AA0 3SU1051-0AB40-0AA0 3SU1051-0AB50-0AA0 3SU1051-0AB60-0AA0 3SU1051-0AB60-0AA0		1 1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J 41J
3SU1051-0AB30-0AA0								
		Latching Push to unlatch	Red Yellow Green Blue White Clear	3SU1051-0AA20-0AA0 3SU1051-0AA30-0AA0 3SU1051-0AA40-0AA0 3SU1051-0AA50-0AA0 3SU1051-0AA60-0AA0 3SU1051-0AA70-0AA0		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J
3SU1051-0AA20-0AA0								
3SU1051-0BB20-0AA0	Illuminated pushbuttons with raised button Standard	Momentary contact	Amber Red Yellow Green Blue White Clear	3SU1051-0BB00-0AA0 3SU1051-0BB20-0AA0 3SU1051-0BB30-0AA0 3SU1051-0BB40-0AA0 3SU1051-0BB50-0AA0 3SU1051-0BB60-0AA0 3SU1051-0BB70-0AA0		1 1 1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J 41J

SIRIUS ACT pushbuttons and indicator lights Actuators and indicators, 22 mm, metal, shiny

Actuating and signaling elements > Twin pushbuttons

Multi-unit packaging, see page 13/17.	Version of actuating element	Operating principle	Color	Marking Symbol No.	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Twin pushbuttons									
	Twin pushbuttons	Momen- tary	Green/red	 "I"/"O"	3SU1050-3AB42-0AA0 3SU1050-3AB42-0AK0		1 1	1 unit 1 unit	41J 41J
	flat, flat	contact	White/black	 "I"/"O"	3SU1050-3AB61-0AA0 3SU1050-3AB61-0AK0		1	1 unit 1 unit	41J 41J
			White/white	 "-"/"+" Arrows, hor.	3SU1050-3AB66-0AA0 3SU1050-3AB66-0AL0 3SU1050-3AB66-0AM0		1 1 1	1 unit 1 unit 1 unit	41J 41J 41J
+			Black/black	 O O 5264/5265 (IEC 60417)	3SU1050-3AB11-0AA0 3SU1050-3AB11-0AQ0		1 1	1 unit 1 unit	41J 41J
3SU1050-3AB66-0AL0	Twin	Momen-	Green/red	 nju ju 🔾 n	3SU1050-3BB42-0AA0		1	1 unit	41J
	pushbuttons flat, raised	tary contact	White/black	"I"/"O" "I"/"O"	3SU1050-3BB42-0AK0 3SU1050-3BB61-0AA0 3SU1050-3BB61-0AK0		1 1 1	1 unit 1 unit 1 unit	41J 41J 41J
0									
3SU1050-3BB42-0AK0	Twin pushbuttons	Momen- tary	Green/red	 " "/"O"	3SU1051-3AB42-0AA0 3SU1051-3AB42-0AK0		1	1 unit 1 unit	41J 41J
	flat, flat, illuminated	contact	White/black	Arrows, vert.	3SU1051-3AB42-0AN0 3SU1051-3AB61-0AA0		1	1 unit	41J 41J
			WITTE/DIACK	" "/"O"	3SU1051-3AB61-0AK0		1	1 unit	41J 41J
3SU1051-3AB42-0AN0			0 / 1		2014254 20042 2442			- 1	44.1
	Twin pushbuttons flat, raised,	Momen- tary contact	Green/red	"I"/"O"	3SU1051-3BB42-0AA0 3SU1051-3BB42-0AK0		1	1 unit 1 unit	41J 41J
	illuminated	Contact	White/black	 " "/"O"	3SU1051-3BB61-0AA0 3SU1051-3BB61-0AK0		1 1	1 unit 1 unit	41J 41J
3SU1051-3BB61-0AA0									

SIRIUS ACT pushbuttons and indicator lights Actuators and indicators, 22 mm, metal, shiny

Actuating and signaling elements > Mushroom pushbuttons

Multi-unit packaging, see page 13/17.	Version of actuating element	Operating principle Unlatching method	Color	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Mushroom pushbutt								
	2 switch positions Mushroom pushbuttons 30 mm diameter, 2 positions	Momentary contact	Black Red Yellow Green	3SU1050-1AD10-0AA0 3SU1050-1AD20-0AA0 3SU1050-1AD30-0AA0 3SU1050-1AD40-0AA0		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J
		Latching Pull to unlatch	Black Red	3SU1050-1AA10-0AA0 3SU1050-1AA20-0AA0		1 1	1 unit 1 unit	41J 41J
3SU1050-1AD20-0AA0								
	Mushroom pushbuttons 40 mm diameter, 2 positions	Momentary contact	Black Red Yellow Green	3SU1050-1BD10-0AA0 3SU1050-1BD20-0AA0 3SU1050-1BD30-0AA0 3SU1050-1BD40-0AA0		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J
		Latching Pull to unlatch	Black Red Yellow	3SU1050-1BA10-0AA0 3SU1050-1BA20-0AA0 3SU1050-1BA30-0AA0		1 1 1	1 unit 1 unit 1 unit	41J 41J 41J
3SU1050-1BD30-0AA0	Mushroom pushbuttons 60 mm diameter, 2 positions	Momentary contact	Black Red Yellow Green	3SU1050-1CD10-0AA0 3SU1050-1CD20-0AA0 3SU1050-1CD30-0AA0 3SU1050-1CD40-0AA0		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J
		Latching Pull to unlatch	Black Red	3SU1050-1CA10-0AA0 3SU1050-1CA20-0AA0		1	1 unit 1 unit	41J 41J
3SU1050-1CD40-0AA0	Mushroom pushbuttons 30 mm diameter, 2 positions,	Momentary contact	Yellow Green Blue White	3SU1051-1AD30-0AA0 3SU1051-1AD40-0AA0 3SU1051-1AD50-0AA0 3SU1051-1AD60-0AA0		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J
	illuminated	Latching Pull to unlatch	Amber Red Yellow Green Blue Clear	3SU1051-1AA00-0AA0 3SU1051-1AA20-0AA0 3SU1051-1AA30-0AA0 3SU1051-1AA40-0AA0 3SU1051-1AA50-0AA0 3SU1051-1AA70-0AA0		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J
3SU1051-1AD60-0AA0	Mushroom pushbuttons 40 mm diameter, 2 positions,	Momentary contact	Amber Yellow Green White	3SU1051-1BD00-0AA0 3SU1051-1BD30-0AA0 3SU1051-1BD40-0AA0 3SU1051-1BD60-0AA0		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J
3SU1051-1BD40-0AA0	illuminated	Latching Pull to unlatch	Amber Red Yellow Green Blue Clear	3SU1051-1BA00-0AA0 3SU1051-1BA20-0AA0 3SU1051-1BA30-0AA0 3SU1051-1BA40-0AA0 3SU1051-1BA50-0AA0 3SU1051-1BA70-0AA0		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J
330 1031-1BD/40-UAA0	Mushroom pushbuttons 60 mm diameter, 2 positions,	Momentary contact None	Amber Yellow Green White	3SU1051-1CD00-0AA0 3SU1051-1CD30-0AA0 3SU1051-1CD40-0AA0 3SU1051-1CD60-0AA0		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J
	illuminated	Latching Pull to unlatch	Red Yellow Green Blue Clear	3SU1051-1CA20-0AA0 3SU1051-1CA30-0AA0 3SU1051-1CA40-0AA0 3SU1051-1CA50-0AA0 3SU1051-1CA70-0AA0		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J
3SU1051-1CA50-0AA0								

SIRIUS ACT pushbuttons and indicator lights Actuators and indicators, 22 mm, metal, shiny

Actuating and signaling elements > Mushroom pushbuttons/EMERGENCY STOP mushroom pushbuttons

Multi-unit packaging, see page 13/17.	Version of actuating element	Operating principle Unlatching method	Color	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Mushroom pushbutto	ns							
200	2 switch positions			•				
	Mushroom pushbuttons with raised mushroom, 40 mm diameter, 2 positions	With positive latching Rotate to unlatch	Black Yellow	3SU1050-1HB10-0AA0 3SU1050-1HB30-0AA0		1 1	1 unit 1 unit	41J 41J
3SU1050-1HB10-0AA0								
0001000 111210 07710	3 switch positions							
	Mushroom pushbuttons 40 mm diameter, 3 positions	Momentary contact	Black Red	3SU1050-1ED10-0AA0 3SU1050-1ED20-0AA0		1	1 unit 1 unit	41J 41J
		Latching	Black Red	3SU1050-1EA10-0AA0 3SU1050-1EA20-0AA0		1	1 unit 1 unit	41J 41J
3SU1050-1EA20-0AA0		Pull to unlatch	Б	00114054 45500 0440		_	4 9	44.1
	Mushroom pushbuttons 40 mm diameter, 3 positions, illuminated	Momentary contact	Red White	3SU1051-1ED20-0AA0 3SU1051-1ED60-0AA0		1	1 unit 1 unit	41J 41J
		Latching II V	Red Green	3SU1051-1EA20-0AA0 3SU1051-1EA40-0AA0		1 1	1 unit 1 unit	41J 41J
3SU1051-1EA40-0AA0		Pull to unlatch						
Selection and ordering	ng data							
	Version of Oute	er Make of lock	Color	Article No.	Drice	PU	PS*	PG
Multi-unit packaging, see page 13/17.	actuating element diam		Coloi	Article No.	Price per PU	(UNIT, SET, M)	го	ra
EMERGENCY STOP r	nushroom pushbutte	ons, according to IS	O 13850 and					
IEC 60947-5-5	With pull to unlatch							
	With positive 40 latching, 2 positions		Red	3SU1050-1HA20-0AA0		1	1 unit	41J
3SU1050-1HA20-0AA0								
	With rotate to unlat With positive latching, 2 positions		Red	3SU1050-1GB20-0AA0		1	1 unit	41J
3SU1050-1GB20-0AA0								

SIRIUS ACT pushbuttons and indicator lights Actuators and indicators, 22 mm, metal, shiny

Actuating and signaling elements > EMERGENCY STOP mushroom pushbuttons

3SU1050-1HN20-0AA0

		F	Actuating an	ıd sign	aling eleme	nts > EMERGENCY S	STOP mi	ushroom	pushbu	ttons
Multi-unit packaging, see page 13/17.	Version of actuating element	Outer diame- ter of mush- room	Make of lock	Color	Number of keys	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
EMERGENCY STOP I	mushroom p	oushbut	tons, accordi	ng to IS	O 13850 and					
IEC 60947-5-5	With rotate	to unla	ntch							
	With positive			Red		3SU1050-1HB20-0AA0		1	1 unit	41J
	latching, 2 positions	60		Red		3SU1050-1JB20-0AA0		1	1 unit	41J
3SU1050-1HB20-0AA0										
3SU1050-1JB20-0AA0										
			tch, can be il		ted					
100	With positive latching,	33.8		Red		3SU1051-1GB20-0AA0		1	1 unit	41J
	2 positions	60		Red	 	3SU1051-1HB20-0AA0 3SU1051-1JB20-0AA0		1	1 unit 1 unit	41J 41J
3SU1051-1HB20-0AA0	With town									
	With key-o With positive			Dod	2	2011000 14520 0440			1 unit	411
	latching,	40	RONIS, SB30 RONIS, 455	Red	2	3SU1050-1HF20-0AA0 3SU1050-1HG20-0AA0		1 1	1 unit 1 unit	41J 41J
	2 positions		RONIS, 421	Red	2	3SU1050-1HH20-0AA0		1	1 unit	41J
3SU1050-1HF20-0AA0			O.M.R. 73037	Red	2	3SU1050-1HQ20-0AA0		1	1 unit	41J
3SU1050-1HQ20-0AA0			0:	Б		20114252 411722 2442			4 2	
			Siemens, SSG10 ¹⁾ Siemens,	Red	2	3SU1050-1HR20-0AA0 3SU1050-1HS20-0AA0		1	1 unit 1 unit	41J 41J
			SSP91)		2			1		
			Siemens, VL5 ¹⁾	Black Red	2	3SU1050-1HU10-0AA0 3SU1050-1HU20-0AA0		1	1 unit 1 unit	41J 41J
			Siemens, VL1 ¹⁾	Red	2	3SU1050-1HV20-0AA0		1	1 unit	41J
			BKS, S1	Red	2	3SU1050-1HK20-0AA0		1	1 unit	41J
3SU1050-1HR20-0AA0			BKS, E7	Red	0	3SU1050-1HM20-0AA0		1	1 unit	41J

¹⁾ Siemens lock (compatible with CES locks).

BKS, E9

Red

0

1 unit

41J

SIRIUS ACT pushbuttons and indicator lights Actuators and indicators, 22 mm, metal, shiny

Actuating and signaling elements > Toggle switches/Selector switches

Selection and orderi	ng data									
Multi-unit packaging, see page 13/17.	Number of switch positions	Number of command points			ating principle actuating ent	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Toggle switches										
P. V 0	2	1	Black	Latch		3SU1050-3EA10		1	1 unit	41J
3SU1050-3EA10-0AA0					entary contact, from above	3SU1050-3EC10	-0 AA 0	1	1 unit	41J
Selection and orderi	ng data									
				_					=	
Multi-unit packaging, see page 13/17.	Version of actuating element	Op	perating principl	е	Color	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Selector switches										
POT IN	2 switch	position	s, can be illui	minate	ed	_				
	Selector, s black actu	ator (1)	omentary contact 0:30/12 o'clock), set from center t	,	Black Red Yellow Green Blue White	3SU1052-2BC10 3SU1052-2BC20 3SU1052-2BC30 3SU1052-2BC40 3SU1052-2BC50 3SU1052-2BC60	-0AA0 -0AA0 -0AA0 -0AA0	1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J
3SU1052-2BC20-0AA0										
			tching, 90° 0:30/1:30 oʻclocl	k)	Amber Black Red Yellow Green Blue White	3SU1052-2BF00- 3SU1052-2BF10- 3SU1052-2BF20- 3SU1052-2BF30- 3SU1052-2BF40- 3SU1052-2BF50- 3SU1052-2BF60-	-0AA0 -0AA0 -0AA0 -0AA0 -0AA0	1 1 1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J 41J
3SU1052-2BF40-0AA0										
	Selector, loblack actu	ator (1)	omentary contact 0:30/12 o'clock), set from center t	,	Black Yellow Green Blue White	3SU1052-2CC10 3SU1052-2CC30 3SU1052-2CC40 3SU1052-2CC50 3SU1052-2CC60	-0AA0 -0AA0 -0AA0	1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J
3SU1052-2CF60-0AA0		La (11	tching, 90° 0:30/1:30 o'clock	k)	Black Red Yellow Green Blue White	3SU1052-2CF10 3SU1052-2CF20 3SU1052-2CF30 3SU1052-2CF40 3SU1052-2CF50 3SU1052-2CF60	-0AA0 -0AA0 -0AA0 -0AA0	1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J

SIRIUS ACT pushbuttons and indicator lights Actuators and indicators, 22 mm, metal, shiny

Actuating and signaling elements > Selector switches

Multi-unit packaging,	Version of	Operating principle	Color	Article No.	Price	PU	PS*	PG
see page 13/17.	actuating element	Operating principle	COIOI	Altible No.	per PU	(UNIT, SET, M)	10	10
Selector switches								
	3 switch posi Selector, short black actuator	Momentary contact, 2x45° (10:30/12/1:30 o'clock), reset from left + right	Amber Black Red Yellow Green Blue White	3SU1052-2BM00-0AA0 3SU1052-2BM10-0AA0 3SU1052-2BM20-0AA0 3SU1052-2BM30-0AA0 3SU1052-2BM40-0AA0 3SU1052-2BM50-0AA0 3SU1052-2BM60-0AA0		1 1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J 41J
3SU1052-2BM50-0AA0		Latching, 2x45°	Amber	3SU1052-2BL00-0AA0		1	1 unit	41J
		(10:30/12/1:30 o'clock)	Black Red Yellow Green White	3SU1052-2BL10-0AA0 3SU1052-2BL20-0AA0 3SU1052-2BL30-0AA0 3SU1052-2BL40-0AA0 3SU1052-2BL60-0AA0		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J
3SU1052-2BL30-0AA0								
		Momentary contact/latching, 2x45° (10:30/12/1:30 o'clock), reset from the left, latching to the right	Black Red Green White	3SU1052-2BP10-0AA0 3SU1052-2BP20-0AA0 3SU1052-2BP40-0AA0 3SU1052-2BP60-0AA0		1 1 1	1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J
3SU1052-2BN20-0AA0		Latching/momentary contact, 2x45° (10:30/12/1:30 o'clock), reset from the right, latching to the left	Black Red Green White	3SU1052-2BN10-0AA0 3SU1052-2BN20-0AA0 3SU1052-2BN40-0AA0 3SU1052-2BN60-0AA0		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J
	Selector, long black actuator	Momentary contact, 2x45° (10:30/12/1:30 o'clock), reset from left + right	Black Red Green White	3SU1052-2CM10-0AA0 3SU1052-2CM20-0AA0 3SU1052-2CM40-0AA0 3SU1052-2CM60-0AA0		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J
3SU1052-2CL40-0AA0		Latching, 2x45° (10:30/12/1:30 o'clock)	Black Red Green White	3SU1052-2CL10-0AA0 3SU1052-2CL20-0AA0 3SU1052-2CL40-0AA0 3SU1052-2CL60-0AA0		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J
		Momentary contact/latching, 2x45° (10:30/12/1:30 o'clock), reset from the left, latching to the right	Black Red White	3SU1052-2CP10-0AA0 3SU1052-2CP20-0AA0 3SU1052-2CP60-0AA0		1 1 1	1 unit 1 unit 1 unit	41J 41J 41J
		Latching/momentary contact, 2x45° (10:30/12/1:30 o'clock), reset from the right, latching to the left	Black Red White	3SU1052-2CN10-0AA0 3SU1052-2CN20-0AA0 3SU1052-2CN60-0AA0		1 1 1	1 unit 1 unit 1 unit	41J 41J 41J
20	4 switch posi							
	Rotary knob	Latching, 4x90° (3/6/9/12 o'clock) O IV O III III O III	White	3SU1050-2AS60-0AA0		1	1 unit	41J

^{*} You can order this quantity or a multiple thereof. Illustrations are approximate

3SU1050-2AS60-0AA0

SIRIUS ACT pushbuttons and indicator lights Actuators and indicators, 22 mm, metal, shiny

Actuating and signaling elements > Key-operated switches

Selection and ordering data

Mult	i-unit	pac	kagi	ing
see	page '	13/1	7. ¯	

Operating principle Ma	pos for l	ritch Number sition of keys key noval	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
------------------------	--------------	--	-------------	-----------------	-------------------------	-----	----

Key-operated switches



3SU1050-4BC01-0AA0

2 switch positio

Momentary contact, 45° (10:30/12 o'clock), reset from center to left









3SU1050-4BF01-0AA0



3SU1050-4GF11-0AA0



3SU1050-5BF01-0AA0



1) Siemens lock (compatible with CES locks).

			_				
ons							
RONIS, SB30	0	2	3SU1050-4BC01-0	ΔΔΩ	1	1 unit	41J
RONIS, 455	0	2	3SU1050-4CC01-0/		1	1 unit	41J
O.M.R. 73037, red	0	2	3SU1050-4FC01-0		1	1 unit	41J
O.M.R. 73038, light blue	0	2	3SU1050-4GC01-0	AA0	1	1 unit	41J
O.M.R. 73034, black	Ο	2	3SU1050-4HC01-0	AA0	1	1 unit	41J
O.M.R. 73033, yellow	0	2	3SU1050-4JC01-0A	AA0	1	1 unit	41J
Siemens, SSG10 ¹⁾	0	2	3SU1050-5BC01-0	AA0	1	1 unit	41J
Siemens, LSG1 ¹⁾	0	2	3SU1050-5HC01-0/	AA0	1	1 unit	41J
Siemens, VL5 ¹⁾	0	2	3SU1050-5KC01-0/	AA0	1	1 unit	41J
Siemens STGH10 ¹⁾	0	2	3SU1050-5LC01-0A	AA0	1	1 unit	41J
BKS, S1	0	2	3SU1050-5PC01-0A	AA0	1	1 unit	41J
RONIS, SB30	0 0+l	2	3SU1050-4BF01-0A 3SU1050-4BF11-0A		1 1	1 unit 1 unit	41J 41J
	U+1	2	3SU1050-4BF11-07		1	1 unit	41J 41J
RONIS, 455	0	2	3SU1050-4CF01-0A	AA0	1	1 unit	41J
	O+I I	2 2	3SU1050-4CF11-0A		1 1	1 unit	41J
RONIS, 421	n O+l	2	3SU1050-4CF21-04 3SU1050-4DF11-04	-	1	1 unit 1 unit	41J 41J
1101113, 421	0+1	۷	3301030-40111-02	AAO	,	runit	410
O.M.R. 73037,	0	2	3SU1050-4FF01-0A	A0	1	1 unit	41J
red	O+I I	2 2	3SU1050-4FF11-0A 3SU1050-4FF21-0A		1 1	1 unit 1 unit	41J 41J
O.M.R. 73038,	0	2	3SU1050-4GF01-0A	AA0	1	1 unit	41J
light blue	O+I I	2 2	3SU1050-4GF11-0A 3SU1050-4GF21-0A		1 1	1 unit 1 unit	41J 41J
O.M.R. 73034,	0	2	3SU1050-4HF01-0A		1	1 unit	41J
black	O+I I	2 2	3SU1050-4HF11-0A 3SU1050-4HF21-0A		1 1	1 unit 1 unit	41J 41J
O.M.R. 73033,	0	2	3SU1050-4JF01-0A		1	1 unit	41J
yellow	O+I	2	3SU1050-4JF11-0A	Α0	1	1 unit	41J
	1	2	3SU1050-4JF21-0A		1	1 unit	41J
Siemens, SSG10 ¹⁾	0 0+1 1	2 2 2	3SU1050-5BF01-04 3SU1050-5BF11-04 3SU1050-5BF21-04	AA0	1 1 1	1 unit 1 unit 1 unit	41J 41J 41J
Siemens,	0	2	3SU1050-5JF01-0A		1	1 unit	41J
SSG10 ¹⁾ with key monitoring	Ü	_	333 1333 331 31 32		·	T driit	710
Siemens, LSG1 ¹⁾	O O+I	2 2	3SU1050-5HF01-04 3SU1050-5HF11-04		1 1	1 unit 1 unit	41J 41J
Siemens, VL5 ¹⁾	0	2	3SU1050-5KF01-0		1	1 unit	41J
Siemens, STGH10 ¹⁾	O+I	2	3SU1050-5LF11-0A	A0	1	1 unit	41J
BKS, S1	0	2	3SU1050-5PF01-0A	AA0	1	1 unit	41J
,	O+I I	2 2	3SU1050-5PF11-0A 3SU1050-5PF21-0A		1 1	1 unit 1 unit	41J 41J
BKS, E1	O O+I	0 0	3SU1050-5QF01-0A 3SU1050-5QF11-0A		1 1	1 unit 1 unit	41J 41J
BKS, E2	O O+I	0 0	3SU1050-5RF01-0A 3SU1050-5RF11-0A		1 1	1 unit 1 unit	41J 41J
BKS, E7	0	0	3SU1050-5SF01-0A	AA0	1	1 unit	41J
DK6 EU	0+1	0	3SU1050-5SF11-0A		1	1 unit	41J
BKS, E9	O O+I	0	3SU1050-5TF01-0A 3SU1050-5TF11-0A		1	1 unit 1 unit	41J 41J

^{*} You can order this quantity or a multiple thereof. Illustrations are approximate

Commanding and signaling devices SIRIUS ACT pushbuttons and indicator lights

Actuators and indicators, 22 mm, metal, shiny

Actuating and signaling elements > Key-operated switches

Multi-unit packaging, see page 13/17.	Operating principle Make of lock	Switch position for key removal	Number of keys	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Key-operated switch	es			_				



3SU1050-4BM01-0AA0

, (Σ.
^ا ح	>
,	,





3SU1050-4FL11-0AA0



3SU1050-5BL01-0AA0



3SU1050-4BP01-0AA0

		for key		·	SET, M)		
		removal					
es							
3 switch position	ns			1			
Momentary	RONIS, SB30	0	2	3SU1050-4BM01-0AA0	1	1 unit	41J
contact, 2x45°	RONIS, 455	0	2	3SU1050-4CM01-0AA0	1	1 unit	41J
(10:30/12/ 1:30 o'clock),	O.M.R. 73034,	0	2	3SU1050-4HM01-0AA0	1	1 unit	41J
reset from left +	black						
right O	Siemens, SSG10 ¹⁾	0	2	3SU1050-5BM01-0AA0	1	1 unit	41J
' \ \\\\	Siemens, STGH10 ¹⁾	Ο	2	3SU1050-5LM01-0AA0	1	1 unit	41J
	BKS, S1	0	2	3SU1050-5PM01-0AA0	1	1 unit	41J
Latching, 2x45°	RONIS, SB30	0	2	3SU1050-4BL01-0AA0	1	1 unit	41J
(10:30/12/ 1:30 o'clock)		+0+ 	2 2	3SU1050-4BL11-0AA0 3SU1050-4BL21-0AA0	1 1	1 unit 1 unit	41J 41J
0		II .	2	3SU1050-4BL31-0AA0	1	1 unit	41J
\.\.\.		+ O+	2	3SU1050-4BL41-0AA0 3SU1050-4BL51-0AA0	1	1 unit 1 unit	41J 41J
₩	RONIS, 455	0	2	3SU1050-4CL01-0AA0	1	1 unit	41J
	,	I+O+II	2	3SU1050-4CL11-0AA0	i	1 unit	41J
	RONIS, 421		2	3SU1050-4DL11-0AA0	1	1 unit	41J
	O.M.R. 73037, red	I+O+II	2	3SU1050-4FL11-0AA0	1	1 unit	41J
	O.M.R. 73038,	0	2	3SU1050-4GL01-0AA0	1	1 unit	41J
	light blue	I+O+III	2	3SU1050-4GL11-0AA0	1	1 unit	41J
	O.M.R. 73034, black	0 +0+	2	3SU1050-4HL01-0AA0 3SU1050-4HL11-0AA0	1 1	1 unit 1 unit	41J 41J
	Siemens, SSG10 ¹⁾	O +O+	2 2	3SU1050-5BL01-0AA0 3SU1050-5BL11-0AA0	1 1	1 unit 1 unit	41J 41J
		l II	2 2	3SU1050-5BL21-0AA0 3SU1050-5BL31-0AA0	1 1	1 unit 1 unit	41J 41J
		i. I+II	2	3SU1050-5BL41-0AA0	i	1 unit	41J
	Siemens, SSG10 ¹⁾ with key monitoring	0	2	3SU1050-5JL01-0AA0	1	1 unit	41J
	BKS, S1	0	2	3SU1050-5PL01-0AA0	1	1 unit	41J
		+0+ 	2 2	3SU1050-5PL11-0AA0 3SU1050-5PL21-0AA0	1 1	1 unit 1 unit	41J 41J
		1+11	2	3SU1050-5PL41-0AA0	1	1 unit	41J
Momentary contact/latching,	RONIS, SB30	O O+II	2 2	3SU1050-4BP01-0AA0 3SU1050-4BP61-0AA0	1 1	1 unit 1 unit	41J 41J
2x45° (10:30/12/ 1:30 o'clock)	O.M.R. 73034, black	II	2	3SU1050-4HP31-0AA0	1	1 unit	41J
1:30 o'clock), reset from the left, latching to the right	O.M.R. 73033, yellow	II	2	3SU1050-4JP31-0AA0	1	1 unit	41J
0	Siemens,	0	2	3SU1050-5BP01-0AA0	1	1 unit	41J
√	SSG10 ¹⁾	 O+	2 2	3SU1050-5BP31-0AA0 3SU1050-5BP61-0AA0	1 1	1 unit 1 unit	41J 41J
U	BKS, S1	0	2	3SU1050-5PP01-0AA0	1	1 unit	41J
Latching/momentary		0	2	3SU1050-4BN01-0AA0	1	1 unit	41J
contact, 2x45° (10:30/12/		I 0+10+1	2 2	3SU1050-4BN21-0AA0 3SU1050-4BN51-0AA0	1	1 unit	41J 41 I
1:30 o'clock),	Siemens,	0+10+1	2	3SU1050-4BN01-0AA0	1	1 unit 1 unit	41J 41J
reset from the right, latching to the left	SSG10 ¹⁾	Ī	2	3SU1050-5BN21-0AA0	1	1 unit	41J
O		0+1	2	3SU1050-5BN51-0AA0	1	1 unit	41J
	Siemens, STGH10 ¹⁾	O+I	2	3SU1050-5LN51-0AA0	1	1 unit	41J

¹⁾ Siemens lock (compatible with CES locks).

SIRIUS ACT pushbuttons and indicator lights Actuators and indicators, 22 mm, metal, shiny

Actuating and signaling elements > Coordinate switches/Indicator lights

Selection and order	ing data							
Multi-unit packaging, see page 13/17.	Number of NO contacts (1 per direction)	Operating principle	Direction of actuation	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
				Article No.	Price per PU			
Coordinate switches	;							
	Without mec	hanical interlock	k, 2 switch positions					
	2	Momentary contac	t Horizontal Vertical	3SU1050-7AC88-0AA0 3SU1050-7AD88-0AA0		1 1	1 unit 1 unit	41J 41J
		Latching	Horizontal Vertical	3SU1050-7AA88-0AA0 3SU1050-7AB88-0AA0		1 1	1 unit 1 unit	41J 41J
	Without mec	hanical interlock	k, 4 switch positions					
	4		t Horizontal/vertical	3SU1050-7AF88-0AA0		1	1 unit	41J
3SU1050-7AC88-0AA0		Latching	Horizontal/vertical	3SU1050-7AE88-0AA0		1	1 unit	41J
	With mechan	ical interlock, 2	switch positions					
	2	Momentary contact	t Horizontal Vertical	3SU1050-7BC88-0AA0 3SU1050-7BD88-0AA0		1 1	1 unit 1 unit	41J 41J
		Latching	Horizontal Vertical	3SU1050-7BA88-0AA0 3SU1050-7BB88-0AA0		1 1	1 unit 1 unit	41J 41J
	With mechan		switch positions					
	4		t Horizontal/vertical	3SU1050-7BF88-0AA0		1	1 unit	41J
3SU1050-7BC88-0AA0		Latching	Horizontal/vertical	3SU1050-7BE88-0AA0		1	1 unit	41J
Selection and order	ing data							
Multi-unit packaging,	Product	Color	ſ	Article No.	Price	PU	PS*	PG
see page 13/17.	version				per PU	(UNIT, SET, M)		
Indicator lights				_				
	With smooth le	ens Amb Red Yellor Gree Blue White Clear	w n	3SU1051-6AA00-0AA0 3SU1051-6AA20-0AA0 3SU1051-6AA30-0AA0 3SU1051-6AA40-0AA0 3SU1051-6AA50-0AA0 3SU1051-6AA60-0AA0 3SU1051-6AA70-0AA0		1 1 1 1 1 1	5 units 5 units 5 units 5 units 5 units 5 units 5 units 5 units	41J 41J 41J 41J 41J 41J 41J
3SU1051-6AA40-0AA0								

Commanding and signaling devices SIRIUS ACT pushbuttons and indicator lights Actuators and indicators, 22 mm, metal, shiny

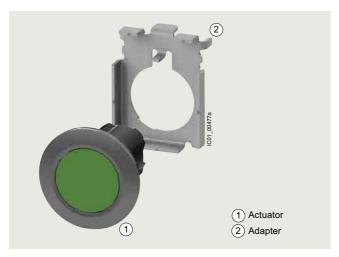
Actuating and signaling elements > Sealing plugs, USB and RJ45 connections

Selection and orderi	ng data								
Multi-unit packaging, see page 13/17.	Mounting diamete	r Material	Col	or	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	mm								
Sealing plugs ¹⁾									
	22	Metal, shir	ny Silv	er	3SU1950-0FA80-0AA0		1	5 units	41J
3SU1950-0FA80-0AA0									
 The sealing plug is modules might already 	unted with a holder. be mounted on the	holder.							
	Product version	Mounting Addiameter ma	ccessory aterial	Accessory	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
		mm			Article No.	Price per PU			
USB connections		11111				perio			
	USB 3.0	22 M	etal, shiny	Silver	3SU1950-0GA80-0AA0		1	1 unit	41J
3SU1950-0GA80-0AA0									
RJ45 connections									
	RJ-45 Cat. 5e	22 M	etal, shiny	Silver	3SU1950-0GB80-0AA0		1	1 unit	41J
3SU1950-0GB80-0AA0									

SIRIUS ACT pushbuttons and indicator lights Actuators and indicators, flat, 30 mm, metal, matte

Actuating and signaling elements > Pushbuttons

Overview



Actuators and indicators, flat, 30 mm, metal, matte, including adapter (adapter included in scope of supply)

Selection and ordering data

Multi-unit packaging, see page 13/17.	Version	Operating principle	Unlatching method	Color	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Pushbuttons									
	Pushbuttons with flat button	Momentary contact		Black Red Yellow Green Blue White Gray Amber	3SU1060-0JB10-0AA0 3SU1060-0JB20-0AA0 3SU1060-0JB30-0AA0 3SU1060-0JB40-0AA0 3SU1060-0JB50-0AA0 3SU1060-0JB60-0AA0 3SU1060-0JB80-0AA0 3SU1060-0JB00-0AA0		1 1 1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit 1 unit 1 unit 1 unit 1 unit 10 units 1 unit	41J 41J 41J 41J 41J 41J 41J 41J
3SU1060-0JB50-0AA0									
		Latching	Push to unlatch	Black Red Yellow Green Blue White	3SU1060-0JA10-0AA0 3SU1060-0JA20-0AA0 3SU1060-0JA30-0AA0 3SU1060-0JA40-0AA0 3SU1060-0JA50-0AA0 3SU1060-0JA60-0AA0		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J
3SU1060-0JA20-0AA0									
	Illuminated pushbuttons with flat button	Momentary contact	_	Red Yellow Green Blue Clear	3SU1061-0JB20-0AA0 3SU1061-0JB30-0AA0 3SU1061-0JB40-0AA0 3SU1061-0JB50-0AA0 3SU1061-0JB70-0AA0		1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J
3SU1061-0JB40-0AA0									
3SU1061-0JA30-0AA0		Latching	Push to unlatch	Red Yellow Green Blue Clear	3SU1061-0JA20-0AA0 3SU1061-0JA30-0AA0 3SU1061-0JA40-0AA0 3SU1061-0JA50-0AA0 3SU1061-0JA70-0AA0		1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J

SIRIUS ACT pushbuttons and indicator lights Actuators and indicators, flat, 30 mm, metal, matte

Actuating and signaling elements > Selector switches

Selection and orderi	ng data							
Multi-unit packaging, see page 13/17.	Version	Operating principle	Color	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Selector switches								
	2 switch position	s, can be illuminated	1					
	actuator and front	Momentary contact, 45° (10:30/12 o'clock), reset from center to left	Red	3SU1062-2DC10-0AA0 3SU1062-2DC20-0AA0 3SU1062-2DC40-0AA0 3SU1062-2DC60-0AA0		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J
3SU1062-2DC40-0AA0		Latching, 90° (10:30/1:30 o'clock)	Black Red Green Blue	3SU1062-2DF10-0AA0 3SU1062-2DF20-0AA0 3SU1062-2DF40-0AA0 3SU1062-2DF50-0AA0		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J
	Selector, long black actuator and front ring for flat mounting	Momentary contact, 45° (10:30/12 o'clock), reset from center to left	Red	3SU1062-2DF60-0AA0 3SU1062-2EC10-0AA0 3SU1062-2EC20-0AA0 3SU1062-2EC40-0AA0 3SU1062-2EC60-0AA0		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J
		Latching, 90°	Black	3SU1062-2EF10-0AA0		1	1 unit	41J
3SU1062-2EC20-0AA0		(10:30/1:30 o'clock)	Red Green White	3SU1062-2EF20-0AA0 3SU1062-2EF40-0AA0 3SU1062-2EF60-0AA0		1 1 1	1 unit 1 unit 1 unit	41J 41J 41J
	3 switch position	s (I+O+II), can be illu	ıminated					
	Selector, short black actuator and front ring for flat mounting	Momentary contact, 2x45° (10:30/12/1:30 o'clock), reset from left + right	Black Red Green White	3SU1062-2DM10-0AA0 3SU1062-2DM20-0AA0 3SU1062-2DM40-0AA0 3SU1062-2DM60-0AA0		1 1 1	1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J
3SU1062-2DL60-0AA0		Latching, 2x45° (10:30/12/1:30 o'clock) O	Black Red Yellow Green	3SU1062-2DL10-0AA0 3SU1062-2DL20-0AA0 3SU1062-2DL30-0AA0 3SU1062-2DL40-0AA0		1 1 1	1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J
		Momentary contact to the right/ latching to the left, 2x45° (10:30/12/1:30 o'clock)	White White	3SU1062-2DL60-0AA0 3SU1062-2DN60-0AA0		1	1 unit	41J 41J
	Selector, long black actuator and front ring for flat mounting	Momentary contact, 2x45° (10:30/12/1:30 o'clock), reset from left + right	Black Red Green White	3SU1062-2EM10-0AA0 3SU1062-2EM20-0AA0 3SU1062-2EM40-0AA0 3SU1062-2EM60-0AA0		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J
3SU1062-2EL20-0AA0		Latching, 2x45° (10:30/12/1:30 o'clock)	Black Red Green White	3SU1062-2EL10-0AA0 3SU1062-2EL20-0AA0 3SU1062-2EL40-0AA0 3SU1062-2EL60-0AA0		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J



SIRIUS ACT pushbuttons and indicator lights Actuators and indicators, flat, 30 mm, metal, matte

Actuating and signaling elements > Key-operated switches/Indicator lights

Selection and order	ing data								
Multi-unit packaging, see page 13/17.	Make of lock	Operating principle	Switch position for key removal	Number of keys	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Key-operated switch									
	2 switch pos								
	RONIS, SB30 and front ring for flat installation	Momentary contact, 45° (10:30/12 o'clock), reset from center to left	0	2	3SU1060-4LC01-0AA0		1	1 unit	41J
3SU1060-4LF11-0AA0		Latching, 90° (10:30/1:30 o'clock)	O O+I I	2 2 2	3SU1060-4LF01-0AA0 3SU1060-4LF11-0AA0 3SU1060-4LF21-0AA0		1 1 1	1 unit 1 unit 1 unit	41J 41J 41J
	3 switch pos	sitions							
	RONIS, SB30 and front ring for flat installation	Latching, 2x45° (10:30/12/ 1:30 o'clock)	I+O+II	2	3SU1060-4LL11-0AA0		1	1 unit	41J
3SU1060-4LL11-0AA0		Momentary contact, 2x45° (10:30/12/ 1:30 o'clock), reset from left + right	0	2	3SU1060-4LM01-0AA0		1	1 unit	41J
Selection and order	ing data								
Multi-unit packaging, see page 13/17.	Version		Color		Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Indicator lights									
	With flat lens		Red Yellow Green Blue Clear		3SU1061-0JD20-0AA0 3SU1061-0JD30-0AA0 3SU1061-0JD40-0AA0 3SU1061-0JD50-0AA0 3SU1061-0JD70-0AA0		1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J

3SU1061-0JD40-0AA0

Commanding and signaling devices SIRIUS ACT pushbuttons and indicator lights

Actuators and indicators, flat, 30 mm, metal, matte

Actuating and signaling elements > Sealing plugs, USB and RJ45 connections

Selection and ordering	ng data								
Multi-unit packaging, see page 13/17.	Mounting diameter	r Materia	l Col	or	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	mm								
Sealing plugs ¹⁾									
	30	Metal, r	natte Sar	nd gray	3SU1960-0FA80-0AA0		1	1 unit	41J
3SU1960-0FA80-0AA0									
 The sealing plug is mou Modules might already be 	nted with a holder. be mounted on the	holder.							
	Product version	Mounting diameter	Accessory material	Accessory color	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
		mm			Article No.	Price per PU			
USB connections		111111			_	регто			
	USB 3.0	30	Metal, matte	Sand gray	3SU1960-0GA80-0AA()	1	1 unit	41J
3SU1960-0GA80-0AA0									
RJ45 connections					_				
	RJ-45 Cat. 5e	30	Metal, matte	Sand gray	3SU1960-0GB80-0AA()	1	1 unit	41J
3SU1960-0GB80-0AA0									

SIRIUS ACT pushbuttons and indicator lights Actuators and indicators, customized designs

Special locks

Options

Special locks for key-operated switches

The plastic and metal key-operated switches of type RONIS, Siemens (compatible with CES) and BKS can optionally be ordered with special locks in addition to the standard locks.

In this case "-Z", the order code "Y01" and the required lock number must be added to the article number of the relevant key-operated switch for standard locking.

Order code	Y01
Standard delivery time	
Additional price per unit	
Ordering example	3SU1000-5BF01-0AA0-Z Y01 Z=SSG18

Ordering notes

- For all special locks, an additional price applies.
- The order code "Y01" must be quoted according to the above table. Automated processing of the order with a defined delivery time can be guaranteed only for correctly submitted orders.
- For applications in which access security is particularly important and several different lock numbers are used, we recommend the use of Siemens (compatible with CES) or BKS locks.
- Special locks for VW (E1, E2, ...) will be delivered without keys, all others with two keys.
- · Available special locks
- RONIS:
 - SB30, SB31, 421, 455
- O.M.R.:
 - 73038, 73037, 73034, 73033
- Siemens (compatible with CES):
 SSG1 to SSG100; SMS1 to SMS100; LSG1;
 BAZ1, BAZ6, BAZ8, BAZ11, BAZ20, BAZ27, BAZ30, BAZ34;
 VL1, VL5; TAB501; STGH10; SSP9
- BKS:
- S1 to S99; E1 to E25 (VW without key); G3751 (VW without key)
- For key-operated switches with key monitoring and Siemens locks, the above-mentioned SSG and BAZ locks can be used.
- With the Siemens locks VL1 and VL5, key removal is possible in the O, I, II, O+I and O+II positions.

Note

Mixing of the special locks listed above from different key-operated switch brands is not possible.

A RONIS key-operated switch cannot be combined with an SSG10 lock, for example.

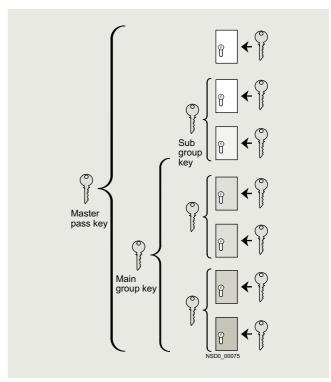
Master and master-pass key systems

The following key systems can be supplied with Siemens and BKS locks:

- · Central lock systems
- Master key systems
- · Central master key systems
- Master-pass key systems

When placing an order you must supplement the article number of the matching key-operated switches with "-Z" and quote the order code "Y03".

Price and delivery time on request. Email: sirius-attach.aud@siemens.com



Example of master-pass key system

Commanding and signaling devices SIRIUS ACT pushbuttons and indicator lights

Actuators and indicators, customized designs

Laser inscriptions

Options

Inscription of actuating and signaling elements

Actuators and indicators of plastic as well as metal version can be optionally inscribed with a laser.



Example of laser inscription

The actuators of the pushbuttons, illuminated pushbuttons, twin pushbuttons, mushroom pushbuttons, illuminated mushroom pushbuttons, EMERGENCY STOP mushroom pushbuttons (without lock), the lenses of the indicator lights, and the acoustic signaling devices can all be inscribed.

Version

The default typeface used for inscriptions with text is Arial and the text is centered.

The font height for illuminated actuators is 2.5 mm, for non-illuminated actuators 3 mm.

Up to 8 characters per line are possible.

Notes:

Selected pushbuttons and twin pushbuttons can be supplied as standard with inscribed letters or symbols.

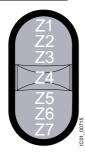
Selector switches, key-operated switches and toggle switches can only be inscribed on the front ring in the design lines

- 22 mm, plastic, black and
- Flat, 30 mm, metal matte

(only one text line and the supplement Y19).

Assignment of the positions on the actuator





Front ring and twin pushbutton

Ordering notes

To order, the inscribed actuating and signaling elements can be selected via the SIRIUS ACT configurator. An electronic order form is then generated.

Configurator, see www.siemens.com/sirius-act/configurator.

When ordering, add "-Z" and one of the following order codes to the article number of the actuator element or the indicator light:

- Y10: Text in upper/lower case, always upper case for beginning of line, e.g. Z1=Lift Z2=Lower
- Y11: Text in upper case, e.g. Z1=LIFT Z2=LOWER
- Y12: Text in lower case. e.g. Z1=lift off Z2=lower off
- Y15: Text in upper/lower case, all words begin with upper case letters e.g. Z1=Lift Off Z2=Lower Off
- Y13: Symbol with number according to ISO 7000 or IEC 60417
- Y19: Inscription of choice, text or symbol, can only be ordered via SIRIUS ACT configurator with a Configuration Identification Number (CIN)

When ordering, specify the required inscription without umlauts (ä, ö, ü) and without spaces after Z=, Z1=, etc. in addition to the article number and order code (see ordering examples 1 to 3).

In the case of symbols, specify the symbol No. and the standard (see ordering example 2).

In the case of multi-line inscriptions, the text must be assigned to the respective line, e.g. Z1=Lift Z2=Lower (see ordering examples 1 and 3).

The SIRIUS ACT configurator must be used to select special inscriptions and symbols (see ordering example 4). In this case, a CIN (Configuration Identification Number) is generated for placement of future orders. It is then possible to place an order directly using the CIN and the SIRIUS ACT configurator (shopping cart in SiePortal) or via the standard ordering channels.

Standard ordering channels:

- Configurator: www.siemens.com/sirius-act/configurator
- SiePortal: www.siemens.com/sirius/mall

Ordering example 1

A round pushbutton with 2 lines of text is required:

3SU1000-0AB20-0AA0-Z Y10

Z1=Lift

Z2=Lower

Ordering example 2

A pushbutton inscribed with symbol No. 5389 according to IEC 60417 is required:

3SU1000-0AB20-0AA0-Z Y13

Z=5389 IEC

Ordering example 3

A selector switch with 2 switch positions and multi-line inscription on the front ring is required:

3SU1002-2BF10-0AA0-Z

Y11 Z8 = 0

Z2=I

Ordering example 4

An indicator light with customized inscription is required:

3SU1001-6AA50-0AA0-Z

Y19

CIN.....

(20-digit number generated from the SIRIUS ACT configurator)

SIRIUS ACT pushbuttons and indicator lights Holders

Holders without module

Overview

- Plastic holders are mounted on actuators and indicators made of plastic (3SU100).
- Metal holders can be mounted on all versions of actuators and indicators, with the exception of ID key-operated switches.
- Universal holders can be mounted on actuators and indicators made of plastic or metal.
- All metal and universal holders are inherently grounded by their fastening screw. A grounding stud can also be fitted (see page 13/139).

Selection and ordering data

Multi-unit packaging, see page 13/17.

Version

Article No

Price per PU

PU (UNIT, SET, M) PG

Holders without module for plastic



3x without module

3SU1500-0AA10-0AA0

5 units

41J

3SU1500-0AA10-0AA0



4x without module

For selector switches with 4 switch positions and for coordinate switches

3SU1500-0BA10-0AA0

1 unit

41J

3SU1500-0BA10-0AA0

Holders without module for metal



3x without module

3SU1510-0AA10-0AA0

1 5 units

41J

3SU1510-0AA10-0AA0



4x without module

For selector switches with 4 switch positions and for coordinate switches

3SU1550-0BA10-0AA0

1 unit

nit 41J

3SU1550-0BA10-0AA0

Holders without module, universal for plastic and metal



3x without module

3SU1550-0AA10-0AA0

1 5 units

41J

Commanding and signaling devices SIRIUS ACT pushbuttons and indicator lights

Holders with module

Overview

- Plastic holders are mounted on actuators and indicators made of plastic (3SU100).
- Metal holders can be mounted on all versions of actuators and indicators, with the exception of ID key-operated switches.
- Universal holders can be mounted on actuators and indicators made of plastic or metal.
- All metal and universal holders are inherently grounded by their fastening screw. A grounding stud can also be fitted (see page 13/139).

Selection and ordering	ng data										
	Number of contact modules	LED	NO contacts	NC contacts	Color of light source		Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
							Article No.	Price per PU			
Holders with module	for plastic	C									
	3x with I	nodule									
	1	0	1	0			3SU1500-1AA10-1BA0		1	1 unit	41J
			0	1		→	3SU1500-1AA10-1CA0		1	1 unit	41J
			1	1		→	3SU1500-1AA10-1FA0		1	1 unit	41J
	2	0	2	0		→	3SU1500-1AA10-1NA0 3SU1500-1AA10-1PA0		1 1	1 unit 1 unit	41J 41J
			2	2		⊙	3SU1500-1AA10-1LA0		1	1 unit	41J
			_	_		Ü	COCTOO TARTO TERO			1 dille	110
3SU1500-1AA10-1BA0											
	3x with o		nd LED i		⁾ (6 24 V	AC/DC)					
	1	1	1	0	Amber		3SU1501-1AG00-1BA0		1	1 unit	41J
					Red		3SU1501-1AG20-1BA0		1	1 unit	41J
					Yellow		3SU1501-1AG30-1BA0		1	1 unit	41J
					Green Blue		3SU1501-1AG40-1BA0 3SU1501-1AG50-1BA0		1 1	1 unit 1 unit	41J 41J
					White		3SU1501-1AG50-1BA0		1	1 unit	41J
			0	1	Amber	→	3SU1501-1AG00-1CA0		1	1 unit	41J
3SU1501-1AG20-1CA0			Ü		Red	⊕	3SU1501-1AG20-1CA0		1	1 unit	41J
					Yellow	→	3SU1501-1AG30-1CA0		1	1 unit	41J
					Green	→	3SU1501-1AG40-1CA0		1	1 unit	41J
					Blue	→	3SU1501-1AG50-1CA0		1	1 unit	41J
					White	→	3SU1501-1AG60-1CA0		1	1 unit	41J
			1	1	Amber	→	3SU1501-1AG00-1FA0		1	1 unit	41J
					Red	→	3SU1501-1AG20-1FA0		1	1 unit	41J
					Yellow	⊕ ⊕	3SU1501-1AG30-1FA0		1	1 unit	41J
					Green Blue	⊕	3SU1501-1AG40-1FA0 3SU1501-1AG50-1FA0		1 1	1 unit 1 unit	41J 41J
					White	⊙	3SU1501-1AG60-1FA0		1	1 unit	41J
	2	1	2	0	Amber		3SU1501-1AG00-1NA0		1	1 unit	41J
					Red		3SU1501-1AG20-1NA0		1	1 unit	41J
					Yellow		3SU1501-1AG30-1NA0		1	1 unit	41J
					Green		3SU1501-1AG40-1NA0		1	1 unit	41J
					Blue		3SU1501-1AG50-1NA0		1	1 unit	41J
				_	White		3SU1501-1AG60-1NA0		1	1 unit	41J
			2	2	Amber	→	3SU1501-1AG00-1LA0		1	1 unit	41J
3SU1501-1AG20-1LA0					Red Yellow	→	3SU1501-1AG20-1LA0 3SU1501-1AG30-1LA0		1 1	1 unit	41J 41J
5501001 MUZU-1LAU					Green	⊕	3SU1501-1AG30-1LA0		1	1 unit 1 unit	41J 41J
					Blue	⊕	3SU1501-1AG50-1LA0		1	1 unit	41J
					White	⊙	3SU1501-1AG60-1LA0		1	1 unit	41J

[→] Positive opening according to IEC 60947-5-1, Annex K. Can be used with 3SK safety relays, see page 11/1 onwards. Certificate:

¹⁾ Only for use with SIRIUS commanding and signaling devices.

SIRIUS ACT pushbuttons and indicator lights Holders

Holders with module

	Number	of			Color of light		Screw terminals	(+)	PU	PS*	PG
	contact	LED	NO	NC	source			•	(UNIT, SET, M)		
	modules	modules	contacts	contacts					3L1, IVI)		
							Article No.	Price per PU			
Holders with module	for meta	1						perio			
Tiolacis With Inicadic		module									
	JA WILII	0	4	0			3SU1510-1AA10-1BA0		1	1 unit	41J
	1	U	0	1		→	3SU1510-1AA10-1CA0		1	1 unit	41J
			0	1		⊕	3SU1510-1AA10-1CA0				
			1	1		9			1	1 unit	41J
	2	0	2	0			3SU1510-1AA10-1NA0		1	1 unit	41J
			0	2		→	3SU1510-1AA10-1PA0		1	1 unit	41J
			2	2		→	3SU1510-1AA10-1LA0		1	1 unit	41J
3SU1510-1AA10-1BA0							Spring-loaded terminals	$\stackrel{\circ}{\square}$			
	2	0	2	0			3SU1510-1AA10-3NA0		1	1 unit	41J
			1	1		→	3SU1510-1AA10-3MA0		1	1 unit	41J
	3x with	module	and LED	module	e (24 V AC/I	DC)					
S S S	0	1	0	0	Red		3SU1511-1AB20-3AA0		1	1 unit	41J
	2	1	1	1	Red	€	3SU1511-1AB20-3MA0		1	1 unit	41J
					Yellow	→	3SU1511-1AB30-3MA0		1	1 unit	41J
					Green	→	3SU1511-1AB40-3MA0		1	1 unit	41J
					Blue	→	3SU1511-1AB50-3MA0		1	1 unit	41J
					White	→	3SU1511-1AB60-3MA0		1	1 unit	41J
			2	0	White		3SU1511-1AB60-3NA0	<u> </u>	1	1 unit	41J
3SU1511-1AB20-3MA0			0	2	White	€	3SU1511-1AB60-3PA0		1	1 unit	41J

[→] Positive opening according to IEC 60947-5-1, Annex K. Can be used with 3SK safety relays, see page 11/1 onwards. Certificate:



· 											
	Number of	of			Color of light	t	Screw terminals	(1)	PU	PS*	PG
	contact	LED	NO	NC	source			•	(UNIT,		
		modules	contacts						SET, M)		
							Article No.	Price			
								per PU			
Holders with module,	universa	al for pla	astic and	metal							
	3x with	module					_				
	1	0	1	0			3SU1550-1AA10-1BA0		1	1 unit	41J
			0	1		€	3SU1550-1AA10-1CA0		1	1 unit	41J
			1	1		→	3SU1550-1AA10-1FA0		1	1 unit	41J
	2	0	2	0			3SU1550-1AA10-1NA0		1	1 unit	41J
			0	2		→	3SU1550-1AA10-1PA0		1	1 unit	41J
			2	2		→	3SU1550-1AA10-1LA0		1	1 unit	41J
							Spring-loaded	\sim			
3SU1550-1AA10-1BA0							terminals	$\stackrel{\circ}{\mathbb{H}}$			
	2	0	2	0			3SU1550-1AA10-3NA0		1	1 unit	41J
			1	1		\odot	3SU1550-1AA10-3MA0		1	1 unit	41J
T Trib	3x with	module	and LED	module	e (24 V AC/	DC)					
Seign To	0	1	0	0	Red		3SU1551-1AB20-3AA0		1	1 unit	41J
	2	1	1	1	Red	€	3SU1551-1AB20-3MA0		1	1 unit	41J
					Yellow	\odot	3SU1551-1AB30-3MA0		1	1 unit	41J
					Green	\odot	3SU1551-1AB40-3MA0		1	1 unit	41J
					Blue	→	3SU1551-1AB50-3MA0		1	1 unit	41J
					White	→	3SU1551-1AB60-3MA0		1	1 unit	41J
			2	0	White		3SU1551-1AB60-3NA0		1	1 unit	41J
3SU1551-1AB20-3MA0			0	2	White	€	3SU1551-1AB60-3PA0		1	1 unit	41J

[→] Positive opening according to IEC 60947-5-1, Annex K. Can be used with 3SK safety relays, see page 11/1 onwards. Certificate:



Commanding and signaling devices SIRIUS ACT pushbuttons and indicator lights Modules

Contact modules

Overview

The contact modules are fitted with slow-action contacts (NO contacts or NC contacts). These ensure a high contact reliability even with small voltages and currents, such as 5 V/1 mA. They are suitable for use in electronic as well as conventional controls. The contact pieces of the NC contacts are positively driven.

Mounting system

- Front plate mounting:
 - The contact modules are mounted on the rear face of a holder.
- · Base mounting:

The contact modules are used in the 3SU18 enclosures and are snapped into the lower part of the enclosure.

Connection methods

The contact modules are available with:

- · Screw terminals
- Spring-loaded terminals
- Socket connection (THT) for PCB mounting

The terminal designations of the contact modules comply with EN 50013.

Selection and ordering data

Multi-unit packaging,	Contact	Numb	er of				Screw terminals	(1)	PU	PS*	PG
see page 13/17.	version	NO con- tacts	NC con- tacts					•	(UNIT, SET, M)		
							Article No.	Price per PU			
Contact modules for	or front pl	ate mo	unting								
	Silver alloy	1	0		⊢ .3 .4	3-4 1001_00448 0 1 2 3 4 mm 2,5	3SU1400-1AA10-1BA0		1	5 units	41J
4 00		0	1	→	.1 	1-2 1-2 3 4 mm 1,2	3SU1400-1AA10-1CA0		1	5 units	41J
3SU1400-1AA10-1BA0		0	1 with	→			3SU1400-1AA10-1HA0		1	1 unit	41J
100		U	installa- tion super- vision ¹⁾		.1 	1-2 0 1 2 3 4 mm 1,2	3501400-1AA10-1HA0		ı	i uriit	410
2NC		2	0		3 3	3-4 3-4 0 1 2 3 4 mm	3SU1400-1AA10-1DA0		1	1 unit	41J
3SU1400-1AA10-1HA0		0	2	→	.1 .1 	1-2 1-2 1-2 0 1 2 3 4 mm 1,2	3SU1400-1AA10-1EA0		1	1 unit	41J
3 10		1	1	→	.3 .1 	3-4 1-2 0 1 2 3 4 mm 1,2 2,5	3SU1400-1AA10-1FA0		1	1 unit	41J
1 NC 2 NC 4 NO 4		1 lead- ing switch ing	1 lagging switching	→	.7 .5 	7-8 5-6 0 1 2 3 4 1,3 2,2	3SU1400-1AA10-1GA0		1	1 unit	41J

→ Positive opening according to IEC 60947-5-1, Annex K. Can be used with 3SK safety relays, see page 11/1 onwards. Certificate:



3SU1400-1AA10-1FA0

The contact module has 1 NO internal contact + 1 NC internal contact. The NO contact is connected in series with the NC contact and brought out at terminal 1-2. When the module is snapped onto the holder, the NO contact closes. It opens when the module is detached from the holder again (the NC contact remains closed). The NC contact opens when the EMERGENCY STOP device is actuated (the NO contact remains closed). The contact is closed only when both the NC and NO contacts are closed.

Only suitable for installation in 3SU18 enclosure with one command point and in connection with the adapter 3SU1900-0JF10-0AA0.

SIRIUS ACT pushbuttons and indicator lights Modules

Contact modules

Multi-unit packaging, see page 13/17.	Contact version	Number NO con- tacts	NC con- tacts			Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
						Article No.	Price per PU			
Contact modules for	r front pla	te mou	nting (co	ontinued)						
	Gold- plated	1	0	⊢ .3 .4	3-4 1 2 3 4 mm 2,5	3SU1400-1AA10-1LA0		1	1 unit	41J
3 NO		0	1		1-2 1-2 3 4 mm 1,2	3SU1400-1AA10-1MA0		1	1 unit	41J
3SU1400-1AA10-1LA0		2	0	.3 .3 	3-4 3-4 0 1 2 3 4 mm 2,5	3SU1400-1AA10-1NA0		1	1 unit	41J
		0	2	→ [1 [1 / 2 [2	1-2 1-2 1-2 0 1 2 3 4 mm 1,2	3SU1400-1AA10-1PA0		1	1 unit	41J
		1	1	→ .3 .1 	3-4 1-2 0 1 2 3 4 mm 1,2 2,5	3SU1400-1AA10-1QA0		1	1 unit	41J
		1 leading	1 lagging	⊕ . ⁷ <u>[.</u> 5	7-8 NSD0_00037b	3SU1400-1AA10-1RA0		1	1 unit	41J

[→] Positive opening according to IEC 60947-5-1, Annex K. Can be used with 3SK safety relays, see page 11/1 onwards. Certificate:



Commanding and signaling devices SIRIUS ACT pushbuttons and indicator lights Modules

Contact modules



→ Positive opening according to IEC 60947-5-1, Annex K. Can be used with 3SK safety relays, see page 11/1 onwards. Certificate:



1) The contact module has 1 NO internal contact + 1 NC internal contact. The NO contact is connected in series with the NC contact and brought out at terminal 1-2. When the module is snapped onto the holder, the NO contact closes. It opens when the module is detached from the holder again (the NC contact remains closed). The NC contact opens when the EMERGENCY STOP device is actuated (the NO contact remains closed). The contact is closed only when both the NC and NO contacts are closed.

Only suitable for installation in 3SU18 enclosure with one command point and in connection with the adapter 3SU1900-0JF10-0AA0.

SIRIUS ACT pushbuttons and indicator lights Modules

Contact modules

Multi-unit packaging, see page 13/17.	Contact version	Number NO con- tacts	NC con- tacts			Spring-loaded terminals		PU (UNIT, SET, M)	PS*	PG
						Article No.	Price per PU			
Contact modules fo	r front pla	ate mou	nting (co	ontinued)						
3SU1400-1AA10-3LA0	Gold- plated	1	0	H.3 H.4	3-4 CO1_00448 0 1 2 3 4 mm 2,5	3SU1400-1AA10-3LA0		1	1 unit	41J
		0	1		1-2	3SU1400-1AA10-3MA0		1	1 unit	41J
		2	0	.3 . -_ .4 .	0 1 2 3 4	3SU1400-1AA10-3NA0		1	1 unit	41J
		0	2	□ 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1-2 1-2 0 1 2 3 4 mm 1,2	3SU1400-1AA10-3PA0		1	1 unit	41J
		1	1	→ .3 <u> .</u>	0 1 2 3 4	3SU1400-1AA10-3QA0		1	1 unit	41J
		1 leading	1 lagging	→ .7 .	7-8 5-6	3SU1400-1AA10-3RA0		1	1 unit	41J

[→] Positive opening according to IEC 60947-5-1, Annex K. Can be used with 3SK safety relays, see page 11/1 onwards. Certificate:



Commanding and signaling devices SIRIUS ACT pushbuttons and indicator lights

Contact modules

5 units

5 units

1 unit

1 unit

41J

41J

41J

41J

Multi-unit packaging, see page 13/17.

Contact Number of		of	Screw terminals	+	
sion	NO con- tacts	NC con- tacts			S
			Article No.	Price per PU	

							per PU	
Contact modules fo	r base mo	unting						
3SU1400-2AA10-1BA0, 3SU1400-2AA10-1LA0	Silver alloy	· 1	0		⊢ .3 .4	3-4 1001_00448 0 1 2 3 4 mm 2,5	3SU1400-2AA10-1BA0	1
		0	1	→	.1 	1-2 0 1 2 3 4 mm 1,2	3SU1400-2AA10-1CA0	1
	Gold- plated	1	0		⊢ .3 .4	3-4 1001_00448 0 1 2 3 4 2,5	3SU1400-2AA10-1LA0	1
		0	1	→	.1 	1-2 1-2 3 4 mm 1,2	3SU1400-2AA10-1MA0	1
							Spring-loaded	



3SU1400-2AA10-3BA0, 3SU1400-2AA10-3LA0

			.2	mm					
					Spring-loaded terminals	<u> </u>			
Silver allo	y 1	0	7	0 1 2 3 4 mm	3SU1400-2AA10-3BA0		1	5 units	41J
	0	1		1-2 1-2 3 4 mm 1,2	3SU1400-2AA10-3CA0		1	5 units	41J
Gold- plated	1	0	H.	0 1 2 3 4 mm	3SU1400-2AA10-3LA0		1	1 unit	41J

→ Positive opening according to IEC 60947-5-1, Annex K. Can be used with 3SK safety relays, see page 11/1 onwards. Certificate:



Multi-unit packaging, see page 13/17.

Contact Number of Socket terminals (THT) PU PS* PG (UNIT, version NO NC SÈT, M) concontacts tacts Article No. Price per PU Contact modules for mounting on printed circuit boards Silver alloy 1 41J



0

3SU1400-3AA10-5CA0

3SU1400-3AA10-5BA0 1 unit

1 unit 41J

→ Positive opening according to IEC 60947-5-1, Annex K. Can be used with 3SK safety relays, see page 11/1 onwards. Certificate:



Commanding and signaling devicesSIRIUS ACT pushbuttons and indicator lights Modules

LED modules

Overview

LED modules

The commanding and signaling devices can be illuminated via LED modules with integrated LEDs.

Mounting system

• Front plate mounting:

The LED modules are mounted on the rear face of a holder in the center position.

· Base mounting:

The LED modules are used in the 3SU18 enclosures and are snapped into the lower part of the enclosure.

Connection methods

The LED modules are available with:

- · Screw terminals
- Spring-loaded terminals
- Socket connection (THT) for PCB mounting

The terminal designations of the LED modules comply with EN 50013.

LED test modules

The LED test modules are used to test the LED modules (AC/DC versions). One LED module is connected to each test module for testing, see page 13/87.

Selection and ordering data

Multi-unit packaging, see page 13/17.	Operational voltage at AC	Operational voltage at DC	Color	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG	
	V	V		Article No.	Price per PU				
LED modules ¹⁾ for fr	ont plate mounting								
O _x	24	24	Amber Red Yellow Green Blue White Red/yellow/green ²⁾	3SU1401-1BB00-1AA0 3SU1401-1BB20-1AA0 3SU1401-1BB30-1AA0 3SU1401-1BB40-1AA0 3SU1401-1BB50-1AA0 3SU1401-1BB60-1AA0 3SU1401-1BB24-1AA0		1 1 1 1 1 1	5 units 5 units 5 units 5 units 5 units 5 units 1 unit	41J 41J 41J 41J 41J 41J 41J	
3SU1401-1BB30-1AA0	110		Amber Red Yellow Green Blue White Red/yellow/green ²⁾	3SU1401-1BC00-1AA0 3SU1401-1BC20-1AA0 3SU1401-1BC30-1AA0 3SU1401-1BC40-1AA0 3SU1401-1BC50-1AA0 3SU1401-1BC60-1AA0 3SU1401-1BC24-1AA0		1 1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J 41J	
	230		Amber Red Yellow Green Blue White Red/yellow/green ²⁾	3SU1401-1BF00-1AA0 3SU1401-1BF20-1AA0 3SU1401-1BF30-1AA0 3SU1401-1BF40-1AA0 3SU1401-1BF60-1AA0 3SU1401-1BF60-1AA0 3SU1401-1BF60-1AA0		1 1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J 41J	
	6 24	6 24	Amber Red Yellow Green Blue White Red/yellow/green ²⁾	3SU1401-1BG00-1AA0 3SU1401-1BG20-1AA0 3SU1401-1BG30-1AA0 3SU1401-1BG40-1AA0 3SU1401-1BG50-1AA0 3SU1401-1BG60-1AA0 3SU1401-1BG24-1AA0		1 1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J 41J	
	24 240	24 240	Amber Red Yellow Green Blue White	3SU1401-1BH00-1AA0 3SU1401-1BH20-1AA0 3SU1401-1BH30-1AA0 3SU1401-1BH40-1AA0 3SU1401-1BH50-1AA0 3SU1401-1BH50-1AA0		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J	

¹⁾ Only for use with SIRIUS commanding and signaling devices.

²⁾ Only suitable for installation in 3SU18 enclosure with one command point and in connection with the adapter 3SU1900-0JF10-0AA0.

LED modules

Multi-unit packaging,		Operational voltage	Color	Spring-loaded	<u> </u>	PU	PS*	PG
see page 13/17.	at AC	at DC		terminals		(UNIT, SET, M)		
	٧	V		Article No.	Price per PU			
LED modules ¹⁾ for from	ont plate mounting							
	24	24	Amber Red	3SU1401-1BB00-3AA0 3SU1401-1BB20-3AA0		1 1	5 units 5 units	41J 41J
			Yellow Green	3SU1401-1BB30-3AA0 3SU1401-1BB40-3AA0		1 1	5 units 5 units	41J 41J
X1			Blue White	3SU1401-1BB50-3AA0		i 1	5 units 5 units	41J 41J
			Red/yellow/green	3SU1401-1BB60-3AA0 3SU1401-1BB24-3AA0		1	1 unit	41J 41J
X2	110		Amber Red	3SU1401-1BC00-3AA0 3SU1401-1BC20-3AA0		1 1	1 unit 1 unit	41J 41J
			Yellow	3SU1401-1BC30-3AA0		1	1 unit	41J
3SU1401-1BB30-3AA0			Green Blue	3SU1401-1BC40-3AA0 3SU1401-1BC50-3AA0		1 1	1 unit 1 unit	41J 41J
			White Red/yellow/green	3SU1401-1BC60-3AA0 3SU1401-1BC24-3AA0		1 1	1 unit 1 unit	41J 41J
	230		Amber Red	3SU1401-1BF00-3AA0		1 1	1 unit 1 unit	41J 41J
			Yellow	3SU1401-1BF20-3AA0 3SU1401-1BF30-3AA0		1	1 unit	41J
			Green Blue	3SU1401-1BF40-3AA0 3SU1401-1BF50-3AA0		1 1	1 unit 1 unit	41J 41J
			White Red/yellow/green	3SU1401-1BF60-3AA0 3SU1401-1BF24-3AA0		1 1	1 unit 1 unit	41J 41J
	6 24	6 24	Amber	3SU1401-1BG00-3AA0		1	1 unit	41J
			Red Yellow	3SU1401-1BG20-3AA0 3SU1401-1BG30-3AA0		1 1	1 unit 1 unit	41J 41J
			Green Blue	3SU1401-1BG40-3AA0 3SU1401-1BG50-3AA0		1 1	1 unit 1 unit	41J 41J
			White Red/yellow/green	3SU1401-1BG60-3AA0 3SU1401-1BG24-3AA0		1	1 unit 1 unit	41J 41J
	24 240	24 240	Amber	3SU1401-1BH00-3AA0		1	1 unit	41J
			Red Yellow	3SU1401-1BH20-3AA0 3SU1401-1BH30-3AA0		1 1	1 unit 1 unit	41J 41J
			Green Blue	3SU1401-1BH40-3AA0 3SU1401-1BH50-3AA0		1	1 unit 1 unit	41J 41J
			White	3SU1401-1BH60-3AA0		1	1 unit	41J
1) Only for use with SIRIUS	S commanding and sig	gnaling devices.						
Multi-unit packaging,		Operational voltage	Color	Screw terminals	+	PU	PS*	PG
see page 13/17.	at AC	at DC				(UNIT, SET, M)		
	V	V		Article No.	Price per PU			
LED modules for from		ATEX Zone 1-2: I	ntrinsic safety		por i o			
	24	24	Amber Red	3SU1401-1BB00-1AA2 3SU1401-1BB20-1AA2		1	1 unit 1 unit	41J 41J
			Yellow	3SU1401-1BB30-1AA2		1	1 unit	41J
			Green Blue	3SU1401-1BB40-1AA2 3SU1401-1BB50-1AA2		1 1	1 unit 1 unit	41J 41J
			White	3SU1401-1BB60-1AA2		1	1 unit	41J
3SU1401-1BB00-1AA2								
				Spring-loaded terminals	$\stackrel{\circ}{\square}$			
	24	24	Amber Red	3SU1401-1BB00-3AA2 3SU1401-1BB20-3AA2		1 1	1 unit 1 unit	41J 41J
XI			Yellow	3SU1401-1BB30-3AA2		i	1 unit	41J
			Green Blue	3SU1401-1BB40-3AA2 3SU1401-1BB50-3AA2		1 1	1 unit 1 unit	41J 41J
X2 2			White	3SU1401-1BB60-3AA2		1	1 unit	41J
3SU1401-1BB20-3AA2								

LED modules

Multi-unit packaging, see page 13/17.	Operational voltage at AC	Operational voltage at DC	Color	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
	V	V		Article No.	Price per PU			
LED modules ¹⁾ for ba	ase mounting				· .			
S _{XI}	24	24	Amber Red Yellow Green Blue White	3SU1401-2BB00-1AA0 3SU1401-2BB20-1AA0 3SU1401-2BB30-1AA0 3SU1401-2BB40-1AA0 3SU1401-2BB50-1AA0 3SU1401-2BB60-1AA0		1 1 1 1 1	5 units 5 units 5 units 5 units 5 units 5 units	41J 41J 41J 41J 41J 41J
3SU1401-2BB60-1AA0	110		Amber Red Yellow Green Blue White	3SU1401-2BC00-1AA0 3SU1401-2BC20-1AA0 3SU1401-2BC30-1AA0 3SU1401-2BC40-1AA0 3SU1401-2BC50-1AA0 3SU1401-2BC60-1AA0		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J
	230		Amber Red Yellow Green Blue White	3SU1401-2BF00-1AA0 3SU1401-2BF20-1AA0 3SU1401-2BF30-1AA0 3SU1401-2BF40-1AA0 3SU1401-2BF50-1AA0 3SU1401-2BF60-1AA0		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J
	6 24	6 24	Amber Red Yellow Green Blue White	3SU1401-2BG00-1AA0 3SU1401-2BG20-1AA0 3SU1401-2BG30-1AA0 3SU1401-2BG40-1AA0 3SU1401-2BG50-1AA0 3SU1401-2BG60-1AA0		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J
	24 240	24 240	Amber Red Yellow Green Blue White	3SU1401-2BH00-1AA0 3SU1401-2BH20-1AA0 3SU1401-2BH30-1AA0 3SU1401-2BH40-1AA0 3SU1401-2BH50-1AA0 3SU1401-2BH60-1AA0		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J
				Spring-loaded terminals				
	24	24	Amber Red Yellow Green Blue White	3SU1401-2BB00-3AA0 3SU1401-2BB20-3AA0 3SU1401-2BB30-3AA0 3SU1401-2BB40-3AA0 3SU1401-2BB50-3AA0 3SU1401-2BB60-3AA0		1 1 1 1 1	5 units 5 units 5 units 5 units 5 units 5 units	41J 41J 41J 41J 41J 41J
3SU1401-2BB20-3AA0	110		Amber Red Yellow Green Blue White	3SU1401-2BC00-3AA0 3SU1401-2BC20-3AA0 3SU1401-2BC30-3AA0 3SU1401-2BC40-3AA0 3SU1401-2BC50-3AA0 3SU1401-2BC60-3AA0		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J
	230		Amber Red Yellow Green Blue White	3SU1401-2BF00-3AA0 3SU1401-2BF20-3AA0 3SU1401-2BF30-3AA0 3SU1401-2BF40-3AA0 3SU1401-2BF50-3AA0 3SU1401-2BF60-3AA0		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J
	6 24	6 24	Amber Red Yellow Green Blue White	3SU1401-2BG00-3AA0 3SU1401-2BG20-3AA0 3SU1401-2BG30-3AA0 3SU1401-2BG40-3AA0 3SU1401-2BG50-3AA0 3SU1401-2BG60-3AA0		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J
	24 240	24 240	Amber Red Yellow Green Blue White	3SU1401-2BH00-3AA0 3SU1401-2BH20-3AA0 3SU1401-2BH30-3AA0 3SU1401-2BH40-3AA0 3SU1401-2BH50-3AA0 3SU1401-2BH60-3AA0		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J

 $^{^{\}rm 1)}$ Only for use with SIRIUS commanding and signaling devices.

LED modules

							LED MO	aaioo
Multi-unit packaging, see page 13/17.	Operational voltage at AC	Operational voltage at DC	Color	Screw terminals		PU (UNIT, SET, M)	PS*	PG
	.,	.,		Article No.	Price	, ,		
LED modules for bas	V e mounting: ATEX	∨ Zone 1-2: Intrins	ic safety		per PU			
	24	24	Amber Red Yellow Green Blue White	3SU1401-2BB00-1AA2 3SU1401-2BB20-1AA2 3SU1401-2BB30-1AA2 3SU1401-2BB40-1AA2 3SU1401-2BB50-1AA2 3SU1401-2BB60-1AA2		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J
3SU1401-2BB00-1AA2				Spring-loaded				
3\$U1401-2BB00-3AA2	24	24	Amber Red Yellow Green Blue White	3SU1401-2BB00-3AA2 3SU1401-2BB20-3AA2 3SU1401-2BB30-3AA2 3SU1401-2BB40-3AA2 3SU1401-2BB50-3AA2 3SU1401-2BB60-3AA2		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J
0001401 20000 07 112								
Multi-unit packaging, see page 13/17.	Operational voltage at AC	Operational voltage at DC	Color	Socket terminals (THT)	브	PU (UNIT, SET, M)	PS*	PG
	V	V		Article No.	Price	J = 1,,		
LED modules ¹⁾ for m	•				per PU			
3SU1401-3BA20-5AA0	-	5	Amber Red Yellow Green Blue White	3SU1401-3BA00-5AA0 3SU1401-3BA20-5AA0 3SU1401-3BA30-5AA0 3SU1401-3BA40-5AA0 3SU1401-3BA50-5AA0 3SU1401-3BA60-5AA0		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J
1) Only for use with SIRIUS	S commanding and side	analing devices.						
•	Ů,	, ,						
Multi-unit packaging, see page 13/17.	Operational voltage at AC	Operationa at DC	l voltage	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
	V	V		Article No.	Price per PU			
LED test modules ¹⁾ for								
0	6 240	6 240		3SU1400-1CK10-1AA0		1	1 unit	41J
3SU1400-1CK10-1AA0								
LED test modules ¹⁾ for	or base mounting 6 240	6 240		3SU1400-2CK10-1AA0		1	1 unit	41J
3SU1400-2CK10-1AA0	S 240	J 240		SSS 1700 ESIXIO-TARO		,	i dint	710

¹⁾ Only to for use with SIRIUS ACT LED modules (6 to 24 V AC/DC, 24 V AC/DC, 24 to 240 V AC/DC).

AS-Interface modules

Overview

Pushbuttons and indicator lights of the SIRIUS ACT series can be connected to the AS-Interface communications system quickly, easily and reliably with the help of various solutions.

Using special modules, EMERGENCY STOP devices according to ISO 13850 can be directly connected through the standard AS-Interface with safety-related communication.

The following solutions are available:

- AS-Interface modules
- AS-Interface modules in safety-related version for EMERGENCY STOP mushroom pushbuttons according to ISO 13850

Selection and orderi	ng data									
	Opera- tional voltage	Slave type	Number digital	inputs	Number of digital outputs	Screw terminals +		PU (UNIT, SET, M)	PS*	PG
	Ü		Stan- dard	Safety- related		Spring-loaded terminals	8	. ,		
	V					Article No.	Price per PU			
AS-Interface modules		t plate mountii	ng				po. 1 0			
	30	2 F-DI		2		3SU1400-1EA10-2AA0		1	1 unit	41J
		2 F-DI + 1 LED		2	1	3SU1401-1EE20-2AA0		1	1 unit	41J
		2 F-DI + 1 DQ		2	1	3SU1400-1EC10-2AA0		1	1 unit	41J
3SU1400-1EC10-2AA0	-					To a total a				
						Insulation displacement method	₹:}			
	30	2 F-DI		2		3SU1400-1EA10-4AA0		1	1 unit	41J
111 111 111 111		2 F-DI + 1 LED		2	1	3SU1401-1EE20-4AA0		1	1 unit	41J
3SU1400-1EA10-4AA0										
	30	2 F-DI + 1 DQ		2	1	Spring-loaded terminals + Insulation displacement method 3SU1400-1EC10-4AA0		1	1 unit	41J
3SU1400-1EC10-4AA0										
SEMENS						Spring-loaded terminals (push-in)	8			
Jane -	30	4 DI/3 DO AB	4		3	3SU1400-1EJ10-6AA0		1	1 unit	41J
3SU1400-1EJ10-6AA0	,	4 DI/4 DO	4		4	3SU1400-1EK10-6AA0		1	1 unit	41J
AS-Interface modules	s for base	mounting								
	30	4 DI/3 DQ AB	4	0	3	3SU1400-2EJ10-6AA0		1	1 unit	41J
ADD. DALI ACH		4 DI/4 DQ	4	0	4	3SU1400-2EK10-6AA0		1	1 unit	41J
SEMENS 30,74		2 F-DI	0	2	0	3SU1400-2EA10-6AA0		1	1 unit	41J
11 1111		2 F-DI + 1 LED, red	0	2	1 for controlling the LEDs	3SU1401-2EE20-6AA0		1	1 unit	41J
3SU1400-2EJ10-6AA0	1	2 F-DI + 1 LED, white	0	2	for controlling the LEDs	3SU1401-2EE60-6AA0		1	1 unit	41J

Electronic modules for IO-Link

Overview

The SIRIUS ACT pushbuttons and indicator lights can be connected to IO-Link quickly and safely. The connection is made via the electronic module for IO-Link.

Selection and ordering	ig uata								
	Operational voltage	Slave type	Number of digital inputs	Number of digital outputs	Spring-loaded terminals (push-in)	<u></u>	PU (UNIT, SET, M)	PS*	PG
	V				Article No.	Price per PU			
Electronic modules for	or IO-Link,	for front plate m	nounting						
3SU1400-1HL10-6AA0	24	Freely programmable (default 6 DI/2 DQ)	0 8	0 8	3SU1400-1HL10-6AA0		1	1 unit	41J
Electronic modules for	or IO-Link,	for base mounti	ing						
3SU1400-2HL10-6AA0	24	Freely programmable (default 6 DI/2 DQ)	0 8	0 8	3SU1400-2HL10-6AA0		1	1 unit	41J

Electronic modules for ID key-operated switches

Overview

The SIRIUS ACT ID key-operated switches can be used to set up authorization management systems for your machine/plant to identify persons.

The ID key-operated switch is fixed with the holder on the front panel and the electronic module is mounted on the back. The ID keys can be ordered as accessories. Complete range, see page 13/12.

The electronic modules for ID key-operated switches can be ordered with and without IO-Link. The version with IO-Link can be easily programmed using function blocks.

Benefits

Advantages:

- Easy installation on the standard holder without special tools
- The status of the operating modes can be queried via physical outputs or via the process image.

	Type of power supply via IO-Link master	Protocol is supported, IO-Link protocol	Number of NO contacts	IO-Link transfer rate	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
					Article No.	Price per PU			
Electronic modules f	for ID key-opera	ited switches ¹⁾							
3SU1400-1GC10-1AA0		No	5		3SU1400-1GC10-1AA0		1	1 unit	41J
3SU1400-1GD10-1AA0	Yes	Yes	5	COM2 (38.4 kBaud)	3SU1400-1GD10-1AA0		1	1 unit	41J

¹⁾ Only use in conjunction with plastic holder 3SU1500-0AA10-0AA0.

Modules for PROFINET

Overview

Interface modules

Interface modules are used to establish communication between the controller and the SIRIUS ACT system. They feature an RJ45 socket, to which the PROFINET cable can be connected.

Thanks to the integrated PROFIsafe communication with fail-safe interface modules, an EMERGENCY STOP mushroom pushbutton, for example, can be integrated in a fail-safe manner, thus achieving a safety category up to SIL 3/PL e.

If a defect develops on the interface module, it can be replaced without using a programming device thanks to the exchangeable memory module (supplied as standard with fail-safe interface module).

Terminal modules

With terminal modules, SIRIUS ACT commanding and signaling devices are simply connected to the interface module or other terminal modules using a 7-core flat ribbon cable, without the need for special tools. The terminal modules are mounted on the 3-fold holder of the SIRIUS ACT device series.

By combining terminal and interface modules, a SIRIUS ACT system with up to 21 devices can be set up.

For a complete overview of SIRIUS ACT with PROFINET, see page 13/11.

Selection and ordering data

Selection and orde	ring dat	a								
	Supply voltage at DC	Number of interfaces according to PROFINET/ Safety Integrity Level (SIL) according to IEC 62061			Num- ber of digital out- puts	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	V									
Interface modules										
	Interfac	e modules								
- SHIP						Screw terminals	4			
	24 24	1/ 1/	0 4	0	0	3SU1400-1LK10-1AA1 3SU1400-1LK10-1BA1		1 1	1 unit 1 unit	41J 41J
						Spring-loaded terminals	<u></u>			
3SU1400-1LK10-1AA1	24 24	1/ 1/	0 4	0	0	3SU1400-1LK10-3AA1 3SU1400-1LK10-3BA1		1 1	1 unit 1 unit	41J 41J
		e interface modules	•		•	OCCITION TEXT OF CONTRACT			1 driit	
						Screw terminals				
	24	1/SIL 3	4	0	1	3SU1400-1LL10-1BA1		1	1 unit	41J
000000						Spring-loaded terminals	<u></u>			
3SU1400-1LL10-3BA1	24	1/SIL 3	4	0	1	3SU1400-1LL10-3BA1		1	1 unit	41J
	Product v	version				Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Memory modules for		ng up the complete para		ation of the	safety	3RK3931-0AA00		1	1 unit	42C
		ithout a PC/PG through th			,					
3RK3931-0AA00										
	Product v	version		Color of light source		Insulation displacement connection	A	PU (UNIT, SET, M)	PS*	PG
						Article No.	Price per PU			
Terminal modules	for PROF	INET					perro			
	With 2 co					3SU1400-1MA10-1BA1		1	1 unit	41J
3SU1401-1ME60-1DA1	With 2 co	ntacts and integrated LEI		Amber Red Yellow Green Blue White		3SU1401-1MC00-1CA1 3SU1401-1MC20-1CA1 3SU1401-1MC30-1CA1 3SU1401-1MC40-1CA1 3SU1401-1MC50-1CA1		1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J
	With integ	grated LED		Amber Red Yellow Green		3SU1401-1MC60-1CA1 3SU1401-1ME00-1DA1 3SU1401-1ME20-1DA1 3SU1401-1ME30-1DA1 3SU1401-1ME40-1DA1		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41.J

Green

Blue

White

Flat ribbon cable, see page 13/139 onwards.

LED modules for mounting on printed circuit boards, see page 13/87 onwards.

3SU1401-1ME40-1DA1 3SU1401-1ME50-1DA1 3SU1401-1ME60-1DA1

1 unit

1 unit

41J 41J

41J

SIRIUS ACT pushbuttons and indicator lights Modules

Support terminals

Overview

Support terminals

The support terminals serve to collect electrical conductors, e.g. for all neutral conductors, in one enclosure. Up to four conductors, belonging to the same group, can be secured on one support terminal.

Mounting

- Front plate mounting: Support terminals for front plate mounting are installed on the rear face of a holder.
- Base mounting:
 The support terminals are used in 3SU18 enclosures and can be mounted at any placement position in the enclosure.

Connection methods

- Screw terminals
- Spring-loaded terminals

	Color	Screw terminals		PU (UNIT, SET, M)	PS*	PG
		Article No.	Price per PU			
Support terminals fo	r front plate mounting					
	Black Blue Green/yellow	3SU1400-1DA10-1AA0 3SU1400-1DA50-1AA0 3SU1400-1DA43-1AA0		1 1 1	1 unit 1 unit 1 unit	41J 41J 41J
3SU1400-1DA10-1AA0						
		Spring-loaded terminals	8			
	Black Blue Green/yellow	3SU1400-1DA10-3AA0 3SU1400-1DA50-3AA0 3SU1400-1DA43-3AA0		1 1 1	1 unit 1 unit 1 unit	41J 41J 41J
3SU1400-1DA50-3AA0						
	Color	Screw terminals	(1)	PU	PS*	PG

	Color	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
		Article No.	Price per PU			
Support terminals for	r base mounting					
	Black Blue Green/yellow	3SU1400-2DA10-1AA0 3SU1400-2DA50-1AA0 3SU1400-2DA43-1AA0		1 1 1	1 unit 1 unit 1 unit	41J 41J 41J
3SU1400-2DA10-1AA0						
		Spring-loaded terminals	<u> </u>			
	Black Blue Green/yellow	3SU1400-2DA10-3AA0 3SU1400-2DA50-3AA0 3SU1400-2DA43-3AA0		1 1 1	1 unit 1 unit 1 unit	41J 41J 41J
3SU1400-2DA50-3AA0						

General data

Overview

Pushbuttons and indicator lights in the enclosure



Enclosures with standard fittings

Enclosed SIRIUS ACT pushbuttons and indicator lights are used as hand-operated commanding devices for separately allocated control units and cabinets. The devices are suitable for use in any climate and all have degree of protection IP66, IP67, IP69 (IP69K), including those with cable glands.

Standards

IEC 60947-5-1

Versions

The enclosed pushbuttons and indicator lights are available with conventional controls as well as for connection to AS-Interface. The following versions are available:

- Empty enclosures with 1 to 6 command points. The installed components must be ordered separately; modules for base mounting or 1-pole contact and LED modules for front plate mounting can be used, see page 13/79 onwards.
- Enclosures with standard fittings with 1 to 3 command points, e.g. EMERGENCY STOP enclosure with EMERGENCY STOP mushroom pushbutton
- Enclosures with customized fittings with 1 to 6 command points
- Special enclosure for selector switches (4 switch positions), coordinate switches and ID key-operated switches

Color of the enclosures

Top:

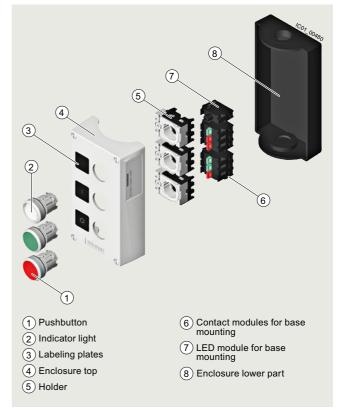
- Gray, RAL 7035
- Pantone yellow C, for EMERGENCY STOP

Base

Black, RAL 9005

Application

The enclosures are climate-proof (KTW 24) according to ISO 6270-2 and are suitable for stationary use, and for use in marine applications.



Setup of the pushbuttons and indicator lights in the enclosure

Customized enclosures

The fittings and labeling of the command points can be chosen using the configurator on the internet. The prices depend on the equipment selected, see www.siemens.com/sirius-act/configurator.

It is also possible to create a combination of two enclosures

It is also possible to create a combination of two enclosures using connectors.

Empty enclosures

Selection and order								
	Color of enclosure top		Enclosure version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Enclosures for surfa	ce mounti	ng						
	Plastic							
•	Yellow	1	Center command point With protective collar	3SU1801-0AA00-0AA2 3SU1801-0AA00-0AC2		1	1 unit 1 unit	41J 41J
Carrier			With protective collai With recess for labeling plate	3SU1801-0AA00-0AB2		1	1 unit	41J
3SU1801-0AA00-0AA2		2	With recess for labeling plate	3SU1802-0AA00-0AB2		1	1 unit	41J
0	Gray	1	With recess for labeling plate	3SU1801-0AA00-0AB1		1	1 unit	41J
		2	With recess for labeling plate	3SU1802-0AA00-0AB1		1	1 unit	41J
G. LARRIEGE		3	With recess for labeling plate	3SU1803-0AA00-0AB1		1	1 unit	41J
3SU1802-0AA00-0AB1		4	With recess for labeling plate	3SU1804-0AA00-0AB1		1	1 unit	41J
		6	With recess for labeling plate	3SU1806-0AA00-0AB1		1	1 unit	41J
	Metal			20114054 24 4 22 24 4 2			4 0	44.1
•	Yellow	1	Center command point With protective collar	3SU1851-0AA00-0AA2 3SU1851-0AA00-0AC2		1 1	1 unit 1 unit	41J 41J
			With protective collai With recess for labeling plate	3SU1851-0AA00-0AB2		1	1 unit	41J
3SU1851-0AA00-0AC2			With protective collar for 5 padlocks, EMERGENCY STOP mushroom 40 mm and EMERGENCY STOP mushroom 40 mm with RONIS key-operated release	3SU1851-0AA00-0AF2		1	1 unit	41J
			With protective collar for 5 padlocks, EMERGENCY STOP mushroom 40 mm with O.M.R., Siemens ¹⁾ and BKS key-operated release	3SU1851-0AA00-0AG2		1	1 unit	41J
			With protective collar for 5 padlocks, mushroom 60 mm	3SU1851-0AA00-0AH2		1	1 unit	41J
0			With protective collar for 5 padlocks, mushroom 60 mm, horizontal mounting	3SU1851-0AA00-0AJ2		1	1 unit	41J
	Gray	1	With protective collar for 5 padlocks, mushroom 60 mm	3SU1851-0AA00-0AH1		1	1 unit	41J
3SU1851-0AA00-0AH1			With protective collar for 5 padlocks, mushroom 60 mm, horizontal mounting	3SU1851-0AA00-0AJ1		1	1 unit	41J
9			With recess for labeling plate	3SU1851-0AA00-0AB1		1	1 unit	41J
			With protective collar	3SU1851-0AA00-0AC1		1	1 unit	41J
		2	With recess for labeling plate	3SU1852-0AA00-0AB1		1	1 unit	41J
3SU1853-0AA00-0AB1		3	With recess for labeling plate	3SU1853-0AA00-0AB1		1	1 unit	41J
		4	With recess for labeling plate	3SU1854-0AA00-0AB1		1	1 unit	41J
		6	With recess for labeling plate	3SU1856-0AA00-0AB1		1	1 unit	41J
3SU1854-0AA00-0AB1								
Enclosures for selection coordinate switches								
	Plastic, 1		te mounting	2011001 14400 1441		4	1 unit	A 4 1
•	Gray Metal. fro		Center command point emounting	3SU1801-1AA00-1AA1		1	1 unit	41J
⊕ ISTRANÇA	Gray	1	Center command point	3SU1851-1AA00-1AA1		1	1 unit	41J
(6)								

¹⁾ Siemens lock (compatible with CES locks).

Pushbuttons and indicator lights in the enclosure

Overview

Pushbuttons and indicator lights in the enclosure (standard fittings) are available with:

- 1 to 3 command points (equipped, for example, with A, B, C, in each case from bottom to top)
- Operational voltage up to 400 V
- Vertical mounting type
- Plastic enclosures are equipped with plastic actuators and indicators, metal enclosures are equipped with metal actuators and indicators
- Contact modules and LED modules for base mounting (are snapped into the lower part of the enclosure); screw terminals as standard; some versions also with spring-loaded terminals

Palm pushbuttons

Palm pushbuttons have a particularly large button surface. This means that they can be actuated quickly and easily with the hand, arm or foot.

Selection and ordering data

Color of enclo- sure top	Num- ber of com- mand points	Enclosure version Pushbutton and indicator light fittings	Color of actuating element Marking	NO con- tacts	Screw terminals	(1)	PU (UNIT, SET, M)	PS*	P(
					Article No.	Price per PU			

Enclosures with standard fittings



3SU1801-0NA00-2AA2

Plastic Yellow 1

Center command point	A = Red	1 2	0 0	3SU1801-0NA00-2AA2 3SU1801-0NB00-2AA2	1 1	1 unit 1 unit	41J 41J
A = EMERGENCY STOP mushroom pushbutton, 40 mm, with positive latching according to ISO 13850, rotate to unlatch		1	1	3SU1801-0NP00-2AA2	1	1 unit	41J
Center command point	A = Red	1	1	3SU1801-0NN00-2AA2	1	1 unit	41J
A = EMERGENCY STOP mushroom pushbutton, 40 mm, with positive latching according to ISO 13850, with RONIS SB30 lock, key-operated release							
With protective collar	A = Red	1	0	3SU1801-0NA00-2AC2	1	1 unit	41J
A = EMERGENCY STOP mushroom pushbutton, 40 mm, with positive latching according to ISO 13850, rotate to unlatch		2	0	3SU1801-0NB00-2AC2	1	1 unit	41J
With recess for labeling plate	A = Red/ B = Red	1	1	3SU1802-0NA00-2AB2	1	1 unit	41J
A = EMERGENCY STOP mushroom	A = EMERGENCY						



3SU1801-0NA00-2AC2



3SU1802-0NA00-2AB2

	rotate to unlatch							
2	With recess for labeling plate	A = Red/ B = Red	1	1	3SU1802-0NA00-2AB2	1	1 unit	41J
	A = EMERGENCY STOP mushroom pushbutton, 40 mm, with RONIS SB30 lock, key-operated release, with positive latching according to ISO 13850, rotate to unlatch/ B = Indicator light 24 V AC/DC	A = EMERGENCY STOP/ B = "Without inscription"						
	With recess for labeling plate	A = Red/ B = Red	2	1	3SU1802-0NB00-2AB2	1	1 unit	41J
	A = EMERGENCY STOP mushroom pushbutton, 40 mm, with positive latching according to ISO 13850, rotate to unlatch/ B = Indicator light 24 V AC/DC	A = "Without inscription"/ B = "Without inscription"						

	Color of enclo- sure top	Num- ber of com- mand points	Enclosure version Pushbutton and indicator light fittings	Color of actuating element Marking	Numb NC con- tacts	NO con- tacts	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
							Article No.	Price per PU			
Enclosures with st	andard	fittings									
	Plasti	c									
	Yellow	1	Center command point	A = Red	1	1	3SU1801-2NG00-2AA2		1	1 unit	41J
3SU1801-2NG00-2AA2	<u>.</u>		A = EMERGENCY STOP palm pushbutton with positive latching according to ISO 13850, pull to unlatch								
							Spring-loaded terminals	8			
	Yellow	1	With recess for labeling plate	A = Red	2	1	3SU1801-0NE00-4AB2		1	1 unit	41J
3SU1801-0NE00-4AB2			A = EMERGENCY STOP mushroom pushbutton, 40 mm, with positive latching according to ISO 13850, rotate to unlatch								

	Color	Num	Enclosure version	Color of	Numk	or of	Carau tarminala		PU	PS*	PG
	Color of enclo- sure	mand	Pushbutton and indicator light fittings	actuating element Marking	Numb NC con- tacts	NO	Screw terminals	+	(UNIT, SET, M)	75	PG
	top	points	3	. 3			Article No.	Price per PU			
Enclosures with sta	andard	l fittings						porro			
	Plast										
•	Gray	1	With recess for labeling plate	A = Green A = I	0	1	3SU1801-0AB00-2AB1		1	1 unit	41J
40			A = Pushbutton	A = Red	1	0	3SU1801-0AC00-2AB1		1	1 unit	41J
3SU1801-0AB00-2AB1				A = O $A = White$ $A = I$	0	1	3SU1801-0AD00-2AB1		1	1 unit	41J
				A = Black	1	0	3SU1801-0AE00-2AB1		1	1 unit	41J
				A = 0			Spring-loaded				
0 0	0		\\/\dagger_1	A DII-	0	0	terminals	<u></u>		4	44.1
5	Gray	ı	With recess for labeling plate A = Selector	A = Black	0	1	3SU1801-0BA00-4AB1 3SU1801-0BE00-4AB1		1	1 unit 1 unit	41J 41J
3SU1801-0BA00-4AB1			switch With recess for	A = Red	1	0	3SU1801-0BC00-4AB1		1	1 unit	41J
0001001 02/100 1/121			labeling plate A = Mushroom								
			pushbutton, 30 mm, pull to unlatch								
(a)			With recess for labeling plate	A = Clear	0	1	3SU1801-0BD00-4AB1		1	1 unit	41J
e ISTEMBLE C			A = Illuminated pushbutton	A = I							
3SU1801-0BD00-4AB1											
							Screw terminals	+			
	Gray	2	With recess for labeling plate A = Pushbutton/	A = Red/ B = Green A = O/	1	1	3SU1802-0AB00-2AB1		1	1 unit	41J
			B = Pushbutton	$\frac{B = I}{A = Black/}$	1	1	3SU1802-0AC00-2AB1		1	1 unit	41J
				B = Black		'	0001002 0A000 ZAD1		'	T GITTE	410
3SU1802-0AB00-2AB1				A = O/ B = I							
000 1002 0/ B00 2/ B1		3	With recess for	A = Red/	1	1	3SU1803-0AB00-2AB1		1	1 unit	41J
0			labeling plate A = Pushbutton/	B = Green/ C = Clear							
			B = Pushbutton/ C = Indicator light								
				C = "Without inscription"							
				A = Black/ B = White/	1	1	3SU1803-0AC00-2AB1		1	1 unit	41J
3SU1803-0AB00-2AB1				C = Clear A = O/							
330 1003-0AB00-2AB1				B = I/ C = "Without							
				inscription"							
			With recess for labeling plate A = Pushbutton/ B = Pushbutton/ C = Pushbutton	A = Red/ B = Black/ C = Black A = O/ B = I/ C = II	1	2	3SU1803-0AD00-2AB1		1	1 unit	41J
		1	Center command point		0	1	3SU1801-2GA00-2AA1		1	1 unit	41J
0			A = Palm								
'Salar			pushbutton, momentary-								
			contact								
35111801 30 400 34 44											
3SU1801-2GA00-2AA1											

^{*} You can order this quantity or a multiple thereof. Illustrations are approximate

	Color of enclo- sure top	Number of command points	Enclosure version Pushbutton and indicator light fittings	Color of actuating element Marking		NO con- tacts	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
							Article No.	Price per PU			
Enclosures with sta	andard <i>Metal</i>		;								
3SU1851-0NA00-2AA2	Yellow		Center command point A = EMERGENCY STOP mushroom pushbutton, 40 mm, with positive latching according to ISO 13850, rotate to unlatch	A = Red	1 2	0	3SU1851-0NA00-2AA2 3SU1851-0NB00-2AA2		1 1	1 unit 1 unit	41J 41J
3SU1851-0NA00-2AC2			With protective collar A = EMERGENCY STOP mushroom pushbutton, 40 mm, with positive latching according to ISO 13850, rotate to unlatch	A = Red	1 2 2 2	0 0 0 1	3SU1851-0NA00-2AC2 3SU1851-0NB00-2AC2 3SU1851-0NC00-2AC2 3SU1851-0ND00-2AC2		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J
3SU1851-2NG00-2AA2		1	Center command point A = EMERGENCY STOP palm pushbutton with positive latching according to ISO 13850, pull to unlatch	A = Red	1	1	3SU1851-2NG00-2AA2		1	1 unit	41J
	Gray	1	With recess for labeling plate	A = Green A = I	0	1	3SU1851-0AB00-2AB1		1	1 unit	41J
			A = Pushbutton	A = Red A = O	1	0	3SU1851-0AC00-2AB1		1	1 unit	41J
3SU1851-0AC00-2AB1				A = White A = I	0	1	3SU1851-0AD00-2AB1		1	1 unit	41J
				A = Black A = O	1	0	3SU1851-0AE00-2AB1		1	1 unit	41J
		2	With recess for labeling plate A = Pushbutton/ B = Pushbutton	A = Red/ B = Green A = O/ B = I	1	1	3SU1852-0AB00-2AB1		1	1 unit	41J
3SU1852-0AB00-2AB1				A = Black/ B = White A = O/ B = I	1	1	3SU1852-0AC00-2AB1		1	1 unit	41J
		3	With recess for labeling plate A = Pushbutton/ B = Pushbutton/ C = Indicator light	A = Red/ B = Green/ C = Clear A = O/ B = I/ C = "Without inscription"	1	1	3SU1853-0AB00-2AB1		1	1 unit	41J
3SU1853-0AB00-2AB1			With recess for labeling plate A = Pushbutton/ B = Pushbutton/ C = Pushbutton	A = Red/ B = Black/ C = Black A = O/ B = I/ C = II	1	2	3SU1853-0AD00-2AB1		1	1 unit	41J
3SU1851-2GA00-2AA1		1	Center command point A = Palm pushbutton, momentary- contact	A = Black	0	1	3SU1851-2GA00-2AA1		1	1 unit	41J

	Number of command points	Product function/ EMERGENCY STOP function	Article No.	Price per PU		PS*	PG
Customized enclos	ures ¹⁾						
	Plastic		•				
0	1	No Yes	3SU1801-0AZ00 K0Y 3SU1801-0NZ00 K0Y		1 1	1 unit 1 unit	41J 41J
	2	No Yes	3SU1802-0AZ00 K0Y 3SU1802-0NZ00 K0Y		1 1	1 unit 1 unit	41J 41J
	3	No Yes	3SU1803-0AZ00 K0Y 3SU1803-0NZ00 K0Y		1 1	1 unit 1 unit	41J 41J
3SU1802-0AZ00 K0Y	4	No Yes	3SU1804-0AZ00 K0Y 3SU1804-0NZ00 K0Y		1 1	1 unit 1 unit	41J 41J
	6	No Yes	3SU1806-0AZ00 K0Y 3SU1806-0NZ00 K0Y		1 1	1 unit 1 unit	41J 41J
	Metal						
•	1	No Yes	3SU1851-0AZ00 K0Y 3SU1851-0NZ00 K0Y		1 1	1 unit 1 unit	41J 41J
	2	No Yes	3SU1852-0AZ00 K0Y 3SU1852-0NZ00 K0Y		1 1	1 unit 1 unit	41J 41J
	3	No Yes	3SU1853-0AZ00 K0Y 3SU1853-0NZ00 K0Y		1 1	1 unit 1 unit	41J 41J
(a) Laterines	4	No Yes	3SU1854-0AZ00 K0Y 3SU1854-0NZ00 K0Y		1 1	1 unit 1 unit	41J 41J
3SU1853-0AZ00 K0Y	6	No Yes	3SU1856-0AZ00 K0Y 3SU1856-0NZ00 K0Y		1	1 unit 1 unit	41J 41J

¹⁾ The fittings and labeling of the command points can be chosen using the configurator on the internet. The prices depend on the equipment selected. When ordering, always add the article number and the order code "K0Y" and the CIN number from the configurator.

Ordering example:
3SU1801-0AZ00

K0Y

CIN20150609140858154554,
see www.siemens.com/sirius-act/configurator.

Pushbuttons and indicator lights in the enclosure for AS-Interface

Overview

With AS-Interface enclosures, distributed SIRIUS ACT pushbuttons and indicator lights can be quickly connected to the AS-Interface communications system. Using suitable components you can assemble your own enclosures with integrated AS-Interface or flexibly modify existing enclosures.



Enclosures for AS-Interface

Enclosures

Color of enclosure top:

- Gray, RAL 7035
- Pantone yellow C, for EMERGENCY STOP

Color of lower part of enclosure:

Black, RAL 9005

Equipping with AS-Interface slaves

The following slaves are available for connecting the command points:

- Slave in A/B technology with 4 digital inputs and 3 digital outputs (4 DI/3 DQ)
- Slave with 4 digital inputs and 4 digital outputs (4 DI/4 DQ)
- F slave with 2 safe inputs for EMERGENCY STOP mushroom pushbutton (2 F-DI), also with integrated red LED for the illuminated EMERGENCY STOP mushroom pushbutton.

The following table shows the maximum number of slaves possible:

Number of command points	Number of slaves for enclosures without EMERGENCY STOP	Number of slaves for enclosures with EMERGENCY STOP
1		1 x F slave 2 F-DI
2	1 x slave 4 DI/4 DQ or 4 DI/3 DQ	
3	1 x slave 4 DI/4 DQ or 4 DI/3 DQ	1 x slave 4 DI/4 DQ or 4 DI/3 DQ + 1 x F slave
4	2 x slave 4 DI/4 DQ or 4 DI/3 DQ	2 x slave 4 DI/4 DQ or 4 DI/3 DQ + 1 x F slave
6	2 x slave 4 DI/4 DQ or 4 DI/3 DQ	2 x slave 4 DI/4 DQ or 4 DI/3 DQ + 1 x F slave

Connection

One set of links is required in each case to connect a slave to contact modules, LED modules, and the connection element.

The connection elements are mounted in the front-end cable glands and are used to connect the AS-Interface or bring unused inputs or outputs out of the enclosure.

For connection to AS-Interface, the following options are available:

- Terminal for shaped AS-Interface cable. The cable is contacted by the insulation displacement method and routed past the enclosure on the outside (possible only with plastic enclosure).
- Cable gland for the shaped AS-Interface cable or round cable. The cable is routed into the enclosure (preferable for metal enclosure).
- Connection using M12 plug.

If less than all inputs/outputs of the installed slaves in an enclosure are used for connecting the commanding devices, free inputs and outputs can be routed on request to the outside through an M12 socket on the top or bottom side of the enclosure.

To supply inputs with power, the S+ connection of the slave must be assigned to the socket, for outputs the OUT- connection must be assigned. Addressing is performed using the AS-Interface connections or the integrated addressing socket. An external power supply is not required.

Enclosures with standard fittings

Enclosures with standard fittings are available with:

- 1 to 3 command points
- Operational voltage through AS-Interface (approx. 30 V)
- Vertical mounting type
- Plastic enclosures are equipped with plastic actuators and indicators, metal enclosures are equipped with metal actuators and indicators

The enclosures without EMERGENCY STOP each have one module with 4I/3O; the enclosures with EMERGENCY STOP mushroom pushbuttons have a safe AS-Interface slave integrated in the enclosure. Enclosures with EMERGENCY STOP mushroom pushbuttons are fitted with two NC contact modules, which are wired to the safe F slave.

The contact modules and LED modules (with spring-loaded terminals) of the commanding devices and the AS-Interface slaves are mounted in the base of the enclosure and connected using cables. The plastic enclosures are designed with a connection for the AS-Interface flat cable (the cable is run along the outside of the enclosure). For metal enclosures, the AS-Interface cable is run inside the enclosure.

The enclosures with EMERGENCY STOP mushroom pushbuttons are also available with an M12 connection plug.

Customized enclosures (selection by configurator)

To order customized 3SU18 AS-Interface enclosures with pushbuttons and indicator lights, the configurator must be used to select the fittings.

An electronic order form will be generated for the options.

Configurator, see www.siemens.com/sirius-act/configurator.

Pushbuttons and indicator lights in the enclosure for AS-Interface

Selection and order	ing data								
	Color of enclosure top	Number of command points	Enclosure version Command point fittings	Color Marking	Insulation displacement method	₹	PU (UNIT, SET, M)	PS*	PG
					Article No.	Price per PU			
Enclosures with star	ndard fitti	ngs				рогго			
	Plastic								
3SU1801-0NB10-4HB2	Yellow	1	With recess for labeling plate A = EMERGENCY STOP mushroom pushbutton, 40 mm, with positive latching according to ISO 13850, rotate to unlatch	A = Red A = "Without inscription"	3SU1801-0NB10-4HB2		1	1 unit	41J
3SU1801-0NB10-4HC2			With protective collar A = EMERGENCY STOP mushroom pushbutton, 40 mm, with positive latching according to ISO 13850, rotate to unlatch	A = Red	3SU1801-0NB10-4HC2		1	1 unit	41J
9	Gray	2	With recess for labeling plate A = Pushbutton/	A = Red/ B = Green A = O/	3SU1802-0AB10-4HB1		1	1 unit	41J
			B = Pushbutton	B = I A = Black/ B = White A = O/	3SU1802-0AC10-4HB1		1	1 unit	41J
3SU1802-0AB10-4HB1				B = I					
		3	With recess for labeling plate A = Pushbutton/ B = Pushbutton/ C = Indicator light	A = Red/ B = Green/ C = Clear A = O/ B = I/ C = "Without inscription"	3SU1803-0AB10-4HB1		1	1 unit	41J
3SU1803-0AB10-4HB1	Metal								
3SU1851-0NB10-4GB2	Yellow	1	With recess for labeling plate A = EMERGENCY STOP mushroom pushbutton, 40 mm, with positive latching according to ISO 13850, rotate to unlatch	A = Red A = "Without inscription"	3SU1851-0NB10-4GB2		1	1 unit	41J
3SU1851-0NB10-4GC2			With protective collar A = EMERGENCY STOP mushroom pushbutton, 40 mm, with positive latching according to ISO 13850, rotate to unlatch	A = Red	3SU1851-0NB10-4GC2		1	1 unit	41J

Pushbuttons and indicator lights in the enclosure for AS-Interface

	Number of command points	Product function/ EMERGENCY STOP function	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Customized enclosu	res for AS-Interface ¹⁾						
	Plastic		'				
	1	Yes	3SU1801-0NZ10 K0Y		1	1 unit	41J
	2	No Yes	3SU1802-0AZ10 K0Y 3SU1802-0NZ10 K0Y		1 1	1 unit 1 unit	41J 41J
	3	No Yes	3SU1803-0AZ10 K0Y 3SU1803-0NZ10 K0Y		1 1	1 unit 1 unit	41J 41J
3SU1802-0NZ10 K0Y	4	No Yes	3SU1804-0AZ10 K0Y 3SU1804-0NZ10 K0Y		1 1	1 unit 1 unit	41J 41J
	6	No Yes	3SU1806-0AZ10 K0Y 3SU1806-0NZ10 K0Y		1 1	1 unit 1 unit	41J 41J
	Metal						
9	1	Yes	3SU1851-0NZ10 K0Y		1	1 unit	41J
	2	No Yes	3SU1852-0AZ10 K0Y 3SU1852-0NZ10 K0Y		1 1	1 unit 1 unit	41J 41J
	3	No Yes	3SU1853-0AZ10 K0Y 3SU1853-0NZ10 K0Y		1 1	1 unit 1 unit	41J 41J
	4	No Yes	3SU1854-0AZ10 K0Y 3SU1854-0NZ10 K0Y		1 1	1 unit 1 unit	41J 41J
3SU1853-0NZ10 K0Y	6	No Yes	3SU1856-0AZ10 K0Y 3SU1856-0NZ10 K0Y		1 1	1 unit 1 unit	41J 41J

¹⁾ The fittings and labeling of the command points can be chosen using the configurator on the internet. The prices depend on the equipment selected. When ordering, always add the article number and the order code "KOY" and the CIN number from the configurator. Ordering example: 3SU1801-0AZ00 K0Y CIN20150609140858154554,

see www.siemens.com/sirius-act/configurator.

Pushbuttons and indicator lights in the enclosure for IO-Link

Overview

Customized enclosures for IO-Link

With IO-Link enclosures, SIRIUS ACT pushbuttons and indicator lights can be quickly and reliably connected to the IO-Link communications system.

Advantages:

Benefits

- Easy configuration of customized enclosure solutions with IO-Link via configurator
- Quick and easy installation due to pre-wired, customized enclosure solutions with integrated IO-Link interface

Selection and ordering data

Customized enclo

3SU1802-0AZ20 K0Y

	9						
	Number of command points	Product function/ EMERGENCY STOP function	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
_							
05	sures for IO-Link ¹⁾						
	Plastic						
	2	No	3SU1802-0AZ20 K0Y		1	1 unit	41J
	3	No	3SU1803-0AZ20 K0Y		1	1 unit	41J
	4	No	3SU1804-0AZ20 K0Y		1	1 unit	41J
	6	No	3SU1806-0AZ20 K0Y		1	1 unit	41J
,	Metal						
	2	No	3SU1852-0AZ20 K0Y		1	1 unit	41J
	3	No	3SU1853-0AZ20 K0Y		1	1 unit	41J
	4	No	3SU1854-0AZ20 K0Y		1	1 unit	41J

3SU1856-0AZ20 K0Y

No

K0Y CIN.....

see www.siemens.com/sirius-act/configurator.

41J

1 unit

The fittings and labeling of the command points can be chosen using the configurator on the internet. The prices depend on the equipment selected. When ordering, always add the article number and the order code "KOY" and the CIN number from the configurator. Ordering example: 3SU1803-0AZ20

SIRIUS ACT pushbuttons and indicator lights Enclosures

Pushbuttons and indicator lights in the enclosure for connection to SIMATIC ET 200

Overview

SIRIUS ACT connection to safety field modules

The connection of SIRIUS ACT enclosures with EMERGENCY STOP mushroom pushbutton and M12 plug-in connection to the fail-safe field modules of the SIMATIC ET 200eco PN and SIMATIC ET 200AL ensures fast and simple use in the field.

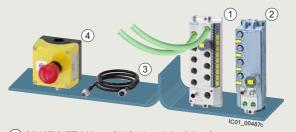
The market-compliant pin assignment of sensor, connecting cable and field module is identical in this solution. This ensures functional capability and excludes the possibility of sensor mix-ups.

The pre-wired enclosures can be implemented using various connection options with appropriate accessories (e.g. cables in different lengths, also partially preassembled).

Additional SIRIUS devices, e.g. position and safety switches, can also be connected to the field modules. Advantage: Safe system technology in the field, from the sensor through to the field module (see page 12/91 onwards).

Configurator, see

www.siemens.com/SIMATIC-ET200-safety-sensor-configurator.



- 1 SIMATIC ET 200eco PN field module, fail-safe, 6ES7146-6FF00-0AB0
- ② SIMATIC ET 200AL field module, fail-safe, 6ES7146-5FF00-0BA0
- 3 Connecting cable, 5-pole, 3SX5601-3SV15
- (4) SIRIUS ACT enclosure, EMERGENCY STOP, with M12 plug, 5-pole, 3SU1801-0NH00-4NB2

SIRIUS ACT connection to safety field modules

Sensors with	M12 plug	Туре	SIL	Connection a M12 method		Туре	Cable length										
SIRIUS AC	Γ enclosures, EMERGENCY ST	ОР															
	Enclosure plastic, yellow, with 1 command point,	3SU1801-0NH00-4NB2 (see page 13/105)	3		Connecting cable with M12 socket, 5-pole and M12 plug, 5-pole	3SX5601-3SV15 (see page 12/50)	1 m										
	A = EMERGENCY STOP mushroom pushbutton red.				or												
0	40 mm, with positive latching according to ISO 13850, rotate to unlatch, label with graphic symbol for "stop",	3SU1801-0NV00-4SA2 3		5	Connecting cable with M12 socket, 5-pole, open end	3SX5601-3SB55 (see page 12/50)	5 m										
	2 NC, spring-loaded terminals,					and											
	base mounting, M12 plug (5-pole), bottom			M12 plug 5-pole, straight, separate item	3RK1902-4BA00-5AA0 (see page 12/50)												
•	Enclosure plastic, yellow, with 1 command point,	3SU1801-0NV00-4SA2 (see page 13/105)	3		Connecting cable with M12 socket, 8-pole and M12 plug, 8-pole	3SX5601-3SV18 (see page 12/72)	1 m										
	A = EMERGENCY STOP mushroom pushbutton red,				and												
	40 mm, illuminated, with positive latching according to ISO 13850, rotate to unlatch, 2 NC, white LED 24 V, spring-loaded terminal,	350, C, white LED erminal,			ET 200 Y-cable for connecting 1 x 2-channel sensor with M12 socket, 8-pole on 2 x M12 plugs, 5-pole	6ES7194-6KC00-0XA0 (see page 12/72)	0.2 m										
	base mounting, M12 plug (8-pole), bottom														or		
	M12 plug (8-pole), bottom						Connecting cables with M12 socket, 8-pole,	3SX5601-2GA03 (see page 12/72)	3 m								
0	Enclosure plastic, gray,	3SU1802-0NE00-4SB1 (see page 13/105)	3	•	straight, open end	3SX5601-2GA05 (see page 12/72)	5 m										
	with 2 command points, B = EMERGENCY STOP mushroom pushbutton, red,					3SX5601-2GA10 (see page 12/72)	10 m										
0	40 mm, rotate to unlatch, 2 x 1 NC, black "Off" label,					3SX5601-2GA15 (see page 12/72)	15 m										
	A = pushbutton, blue, 1 NO,				and												
	olack "Reset" label, spring-loaded terminals, oase mounting, M12 plug (8-pole), bottom	oring-loaded terminals, ase mounting,	3	M12 plug 8-pole, straight	6GT2090-0BE00 (see page 12/72)												
					and												
				4	ET 200 Y-cable for connecting 1 x 2-channel sensor with M12 socket, 8-pole on 2 x M12 plugs, 5-pole	6ES7194-6KC00-0XA0 (see page 12/72)	0.2 m										

Pushbuttons and indicator lights in the enclosure for connection to SIMATIC ET 200

Selection a	and ord	lering	data
-------------	---------	--------	------

Color of enclo- sure top	Num- ber of com- mand points	Enclosure version Pushbutton and indicator light fittings	Color of actuating element Marking	con-	NO con- tacts	Spring-loaded terminals	•••	PU (UNIT, SET, M)	PS*	PG
						Article No.	Price per PU			

Enclosures with standard fittings for connection to fail-safe field modules of the SIMATIC ET 200eco PN and SIMATIC ET 200AL

point

bottom

0	•
6	
	0

3SU1801-0NH00-4NB2

Plastic Yellow 1

Gray 2 With recess for labeling plate A = EMERGENCY STOP mushroom pushbutton, 40 mm, with positive latching A = Red 2

A = Red 2

B = Red/2

A = Blue 0

B = Off/

A = Reset

0

A =

 \bigcirc

according to ISO 13850, rotate to unlatch, M12 plug (5-pole), bottom Center command



3SU1801-0NV00-4SA2

Yellow 1

A = EMERGENCY STOP mushroom pushbutton, 40 mm, illuminated, with positive latching according to ISO 13850, rotate to unlatch, LED, white, 24 V. M12 plug (8-pole),



3SU1802-0NE00-4SB1

With recess for labeling plate B = EMERGENCY rotate to unlatch/

STOP mushroom pushbutton, 40 mm, A = Pushbutton,M12 plug (8-pole), bottom

3SU1801-0NH00-4NB2

3SU1801-0NV00-4SA2

3SU1802-0NE00-4SB1

1 unit 41J

1 unit 41J

1 unit 41J

SIRIUS ACT pushbuttons and indicator lights **Enclosures**

Two-hand operation consoles

Overview

Equipment

The two-hand operation consoles are pre-equipped with commanding devices. In the case of plastic enclosures the command points are equipped as standard with actuators and indicators made of plastic and in the case of metal enclosures they are equipped with actuators and indicators made of metal.

The standard equipment comprises:

- 2 black mushroom pushbuttons, Ø 40 mm, 1 NO + 1 NC
- 1 red EMERGENCY STOP mushroom pushbutton according to ISO 13850, Ø 40 mm, with positive latching, 2 NC

The plastic version can be retrofitted with up to 8 customized command points. The surface of the console has premachined breaking points for this purpose.

Application

The two-hand operation consoles are required for use with machines and systems that have hazardous areas, in order to direct both hands of the operator to one position.

The operation consoles are primarily used on presses, stamping machines, printing presses and paper converting machines, in the chemical industry and in the rubber and plastics industries.

The control command is given by pressing the two mushroom pushbuttons on the sides simultaneously (within 0.5 s of each other) and must be maintained for as long as a hazard exists.

For the further processing of control commands, evaluation units such as 3SK safety relays are used.

The two-hand operation consoles comply with the requirements of EN 574/ISO 13851.

Selection and order	ing data								
	Version of actuating element	Color of actuating element	Numb NO con- tacts	NC con- tacts	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Two-hand operation	consoles								
	Plastic				•				
	None		0	0	3SU1803-3AA00-0AA1		1	1 unit	41J
3SU1803-3NB00-1AE1	A = Mushroom pushbutton/ momentary contact B = EMERGENCY STOP mushroom pushbutton/ rotate to unlatch C = Mushroom pushbutton/ momentary contact	A = Black B = Red C = Black	2	4	3SU1803-3NB00-1AE1		1	1 unit	41J
	Metal								
	None		0	0	3SU1853-3AA00-0AA1		1	1 unit	41J
3SU1853-3AA00-0AA1									
3SU1853-3NB00-1AA1	A = Mushroom pushbutton/ momentary contact B = EMERGENCY STOP mushroom pushbutton/ rotate to unlatch C = Mushroom pushbutton/ momentary contact	A = Black B = Red C = Black	2	4	3SU1853-3NB00-1AA1		1	1 unit	41J
	With 4 additional command	A = Black	2	4	3SU1853-3NB00-1AD1		1	1 unit	41J



3SU1853-3NB00-1AD1

momentary contact					
With 4 additional command points for 22 mm commanding devices	A = Black B = Red C = Black	2	4	3SU1853-3NB00-1AD1	
A = Mushroom pushbutton/ momentary contact B = EMERGENCY STOP mushroom pushbutton/ rotate to unlatch C = Mushroom pushbutton/					

per PO (CMIT, SET, M)	S* PG	PS*		Price per PU	Article No.	Color	Material	Version
-----------------------	-------	-----	--	-----------------	-------------	-------	----------	---------

Accessories

Stand for two-hand operation consoles

momentary contact

with cutouts for metric 3SU1950-0HN10-0AA0 1 unit 41J cable glands



3SU1950-0HN10-0AA0

Labels > Insert labels

Overview

Labels can be inserted for identification purposes for the 22 mm and 30 mm design lines of the pushbuttons (clear) and illuminated pushbuttons with flat button. These insert labels are made of transparent plastic with black inscription; they can be fitted in any 90° angle.

Inscription

The inscription is in upper/lower case, all words begin with upper case letters. Graphic symbols, including those not listed in the catalog, are according to ISO 7000 or IEC 60417.

The insert labels without inscription are suitable for user marking with permanent pen.

Customized inscriptions, see "Options", page 13/109

		Cust	omized inscriptions, see "C	Options",	page 13	3/109.	
Selection and ordering	data						
	Color	Marking	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Insert labels							
	For self-inscript	ion					
	Milky white/black (label/lettering)	None	3SU1900-0AB71-0AA0		100	10 units	41J
	With customized	d inscription					
	Milky white/black (label/lettering)	Inscriptions or symbols, see "Options", page 13/109.	3SU1900-0AB71-0AZ0		1	1 unit	41J
3SU1900-0AB71-0AA0							
	Inscription in Ge	erman					
Ein	Milky white/black (label/lettering)	Ein Aus Auf Ab	3SU1900-0AB71-0AB0 3SU1900-0AB71-0AC0 3SU1900-0AB71-0AD0 3SU1900-0AB71-0AE0		100 100 100 100	10 units 10 units 10 units 10 units	41J 41J 41J 41J
L III		Vor Zurück Rechts Links	3SU1900-0AB71-0AF0 3SU1900-0AB71-0AG0 3SU1900-0AB71-0AH0 3SU1900-0AB71-0AJ0		100 100 100 100	10 units 10 units 10 units 10 units	41J 41J 41J 41J
3SU1900-0AB71-0AB0		Halt Zu Schnell Langsam	3SU1900-0AB71-0AK0 3SU1900-0AB71-0AL0 3SU1900-0AB71-0AM0 3SU1900-0AB71-0AN0		100 100 100 100	10 units 10 units 10 units 10 units	41J 41J 41J 41J
		Betrieb Störung Einrichten	3SU1900-0AB71-0AP0 3SU1900-0AB71-0AQ0 3SU1900-0AB71-0AR0		100 100 100	10 units 10 units 10 units	41J 41J 41J
	Inscription in En						
Forward	Milky white/black (label/lettering)	On Off Up Down	3SU1900-0AB71-0DJ0 3SU1900-0AB71-0DK0 3SU1900-0AB71-0DL0 3SU1900-0AB71-0DM0		100 100 100 100	10 units 10 units 10 units 10 units	41J 41J 41J 41J
· orward		Forward Right Left Stop	3SU1900-0AB71-0DN0 3SU1900-0AB71-0DQ0 3SU1900-0AB71-0DR0 3SU1900-0AB71-0DS0		100 100 100 100	10 units 10 units 10 units 10 units	41J 41J 41J 41J
3SU1900-0AB71-0DN0		Start Reset Test Open	3SU1900-0AB71-0DT0 3SU1900-0AB71-0DU0 3SU1900-0AB71-0DV0 3SU1900-0AB71-0DW0		100 100 100 100	10 units 10 units 10 units 10 units	41J 41J 41J 41J
		Close Running Fast Slow	3SU1900-0AB71-0DX0 3SU1900-0AB71-0EB0 3SU1900-0AB71-0EE0 3SU1900-0AB71-0EF0		100 100 100 100	10 units 10 units 10 units 10 units	41J 41J 41J 41J

SIRIUS ACT pushbuttons and indicator lights Accessories

Labels > Insert labels

			0 1 1	A .: 1 A1	D :	DIL	DO*	
	Color	Marking	Symbol No.	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
						OL I, IVI)		
Insert labels	With symbol (ON/OF	FF)						
	Milky white/black	0	5008 IEC	3SU1900-0AB71-0QA0			10 units	41J
	(label/lettering)	 	5007 IEC	3SU1900-0AB71-0QB0 3SU1900-0AB71-0QC0		100 100	10 units 10 units	41J 41J
		III		3SU1900-0AB71-0QD0		100	10 units	41J
3SU1900-0AB71-0QC0	-							
	With symbol (graphi Milky white/black ->	ARROW DIRECTION	5022 IEC	3SU1900-0AB71-0QR0		100	10 units	41J
	(label/lettering)	TO RIGHT ARROW DIRECTION		3SU1900-0AB71-0QS0		100	10 units	41J
7	'\	UP AND TO LEFT CLOCKWISE	0004 ISO	3SU1900-0AB71-0QT0			10 units	41J
	~3	ROTATION						
3SU1900-0AB71-0QT0	~	COUNTERCLOCK- WISE ROTATION		3SU1900-0AB71-0QU0		100	10 units	41J
	\mathbf{w}	RAPID TRAVERSE	0266 ISO	3SU1900-0AB71-0QV0		100	10 units	41J
	₩	FEED	0259 ISO	3SU1900-0AB71-0QW0		100	10 units	41J
	+	INCREASE, PLUS	5005 IEC	3SU1900-0AB71-0QX0		100	10 units	41J
3SU1900-0AB71-0RB0	<u>'</u>	DECREASE, MINUS	5006 IEC	3SU1900-0AB71-0QY0		100	10 units	41J
	-	ELECTRIC MOTOR	0011 ISO	3SU1900-0AB71-0RA0		100	10 units	41J
		HORN	5014 IEC	3SU1900-0AB71-0RB0		100	10 units	41J
	- 51	WATER INLET		3SU1900-0AB71-0RC0		100	10 units	41J
3SU1900-0AB71-0RN0		PUMP	0134 ISO	3SU1900-0AB71-0RD0		100	10 units	41J
3301900-0AB/1-0NN0		COOLANT PUMP	0355 ISO	3SU1900-0AB71-0RE0		100	10 units	41J
	→ ←	CLAMP	5653 IEC	3SU1900-0AB71-0RF0		100	10 units	41J
	↔	UNLOCK, UNCLAMP	5652 IEC	3SU1900-0AB71-0RG0		100	10 units	41J
	⇒○	BRAKE		3SU1900-0AB71-0RH0		100	10 units	41J
	⇔()	RELEASE BRAKE	0021 ISO	3SU1900-0AB71-0RJ0		100	10 units	41J
	¬ ↓ ∟	INTERLOCK	0022 ISO	3SU1900-0AB71-0RK0		100	10 units	41J
		UNLOCK	0023 ISO	3SU1900-0AB71-0RL0		100	10 units	41J
	_ ●	SET UP	0910 ISO	3SU1900-0AB71-0RM0		100	10 units	41J
	$\overline{\oplus}$	ON/OFF, MOMENTARY CONTACT	5011 IEC	3SU1900-0AB71-0RN0		100	10 units	41J
	Em	MANUAL OPERATION	0096 ISO	3SU1900-0AB71-0RP0		100	10 units	41J
	a	AUTOMATIC CYCLE	0017 ISO	3SU1900-0AB71-0RQ0		100	10 units	41J
	74	SUCTION		3SU1900-0AB71-0RR0		100	10 units	41J
	7	BLOWING		3SU1900-0AB71-0RS0		100	10 units	41J
	٠,							

Labels > Insert labels

Options

Customized inscriptions

The labels can be inscribed with text and symbols not listed in the ordering data.

The default typeface used for inscriptions with text is Arial and the text is centered.

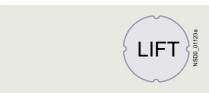
The font height is 2.5 mm.

Up to 6 characters per line are possible.

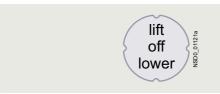
Examples of customized inscriptions



Two-line inscription in upper/lower case (Q0Y)



Single-line inscription in upper case (Q1Y)



Three-line inscription in lower case (Q2Y)



Symbol number 5011 according to IEC 60417 (Q3Y)



Any symbol according to order form supplement (Q9Y)

Ordering notes

Add one of the following order codes to the article number:

- Q0Y: Text line(s) in upper/lower case, always upper case for beginning of line,
 e.g. Z1=Lift Z2=Lower
- Q1Y: Text line(s) in upper case, e.g. Z1=LIFT Z2=LOWER
- Q2Y: Text line(s) in lower case, e.g. Z1=lift off Z2=lower off
- Q5Y: Text line(s) in upper/lower case, all words begin with upper case letters,
 e.g. Z1=Lift Off Z2=Lower Off
- Q3Y: Symbol with number according to ISO 7000 or IEC 60417
- Q9Y: Inscription of choice, text or symbol, can only be ordered via SIRIUS ACT configurator with a Configuration Identification Number (CIN)

When ordering, specify the required inscription without umlauts (ä, ö, ü) and without spaces after Z=, Z1=, etc. in addition to the article number and order code (see ordering examples 1 to 3).

In the case of multi-line inscriptions, the text must be assigned to the respective line,

e.g. Z1=LIFT Z2=LOWER (see ordering example 1).

Symbols can also be ordered with numbers according to ISO 7000 or IEC 60417 (see ordering examples 2 and 3).

The SIRIUS ACT configurator must be used to select special inscriptions and symbols (see ordering example 4). In this case, a CIN (Configuration Identification Number) is generated for placement of future orders. It is then possible to place an order directly using the CIN and the SIRIUS ACT configurator (shopping cart in SiePortal) or via the standard ordering channels.

Standard ordering channels:

- Configurator: www.siemens.com/sirius-act/configurator
- SiePortal: www.siemens.com/sirius/mall

Ordering example 1

A label with 2 lines of text is required:

3SU1900-0AB71-0AZ0 Q1Y

Z1=LIFT Z2=LOWER

Ordering example 2

A label inscribed with symbol No. 5011 according to IEC 60417 is required:

3SU1900-0AB71-0AZ0 Q3Y

Z=5011 IEC

Ordering example 3

A label inscribed with symbol No. 1118 according to ISO 7000 is required:

3SU1900-0AB71-0AZ0 Q3Y

Z=1118 ISO

Ordering example 4

A label with customized inscription is required:

3SU1900-0AB71-0AZ0 Q9Y

CIN.....

(20-digit number generated from the SIRIUS ACT configurator)

SIRIUS ACT pushbuttons and indicator lights

Accessories

Labels > Label holders for labeling plates

Multi-unit packaging, see page 13/17.	Material, label holder shape	Mount- ing diame-	Label holder color	Label fastening method	size	ng plate : Width	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		ter									
Label holders for la	beling plate	mm es			mm	mm					
	For 1 labe		te								
	Plastic,	22	Black	Self-	12.5	27	3SU1900-0AG10-0AA0		100	10 units	41J
	with rounded bottom			adhesive	17.5 27	27 27	3SU1900-0AH10-0AA0 3SU1900-0AJ10-0AA0		100 100	10 units 10 units	41J 41J
\mathbf{O}				Snap-on	12.5 17.5 27	27 27 27	3SU1900-0AR10-0AA0 3SU1900-0AS10-0AA0 3SU1900-0AT10-0AA0		100 100 100	10 units 10 units 10 units	41J 41J 41J
3SU1900-0AG10-0AA0											
	Plastic, with square	22	Black	Self- adhesive	12.5	27	3SU1900-0AN10-0AA0		100	10 units	41J
O	bottom				17.5 27	27 27	3SU1900-0AP10-0AA0 3SU1900-0AQ10-0AA0		100 100	10 units 10 units	41J 41J
3SU1900-0AN10-0AA0											
	For 2 labe Plastic, with	iin g pia 22	tes Black	Self- adhesive	17.5	27	3SU1900-0BQ10-0AA0		1	10 units	41J
	rounded bottom			Snap-on	17.5	27	3SU1900-0BR10-0AA0		1	10 units	41J
3SU1900-0BQ10-0AA0											
1 1	For 4 labe			0.11		0.7					
	Plastic, with rounded	22	Black	Self- adhesive	17.5	27	3SU1900-0BS10-0AA0			10 units	41J
	bottom			Snap-on	17.5	27	3SU1900-0BT10-0AA0		1	10 units	41J
3SU1900-0BT10-0AA0	For actual	tors and	l indicat	ors							
	Plastic,	30	Black	Self- adhesive	17.5	27	3SU1960-0AH10-0AA0		1	10 units	41J
	rounded bottom			Snap-on	17.5	27	3SU1960-0AS10-0AA0		1	10 units	41J
3SU1960-0AH10-0AA0 Label holders for la	haling plate	e coor	dinata s	witches	_	_					
Label Holders for la	Plastic, with square bottom	22 22	Black	Self- adhesive	27	27	3SU1900-0AL10-0AA0		1	1 unit	41J
•											
3SU1900-0AL10-0AA0											
	Plastic, cross	22	Black	Self- adhesive	27	27	3SU1900-0AM10-0AA0		1	1 unit	41J

Labels > Label holders for labeling plates

		Label holder	Label fastening	Labelir	ng plate	Article No.	Price per PU	PU (UNIT,	PS*	PG
shape	diame- ter	color	method	Height	Width			SET, M)		
	mm			mm	mm					
beling plate	es, twin	pushbut	tons							
Plastic, rectangular	22	Black	Self- adhesive	12.5	27	3SU1900-0AK10-0AA0		100	10 units	41J
Plastic, square	22	Black		29.8	29.8	3SU1900-0AX10-0AA0		1	10 units	41J
	label holder shape beling plate Plastic, rectangular Plastic,	label holder shape diameter mm beling plates, twin Plastic, 22 Plastic, 22	label holder shape diameter color ter mm beling plates, twin pushbut Plastic, 22 Black Plastic, 22 Black	label holder shape diameter color fastening method method beling plates, twin pushbuttons Plastic, 22 Black Self-adhesive Plastic, 22 Black	label holder shape diameter color fastening method Height Height mm mm beling plates, twin pushbuttons Plastic, 22 Black Selfadhesive 12.5 Plastic, 22 Black 29.8	label holder shape diameter below the fastening method size size diameter below the fastening method size size size size size size size size	label holder shape diameter color fastening method Height Width mm mm mm beling plates, twin pushbuttons Plastic, 22 Black Selfadhesive 12.5 27 Plastic, 22 Black 29.8 29.8 3SU1900-0AX10-0AA0	label holder shape color fastening method Height Width mm mm mm beling plates, twin pushbuttons Plastic, 22 Black Self-adhesive 12.5 27 Plastic, 22 Black 29.8 29.8 3SU1900-0AX10-0AA0	label holder shape diameter color method size Height Width mm mm mm beling plates, twin pushbuttons Plastic, 22 Black Selfadhesive 12.5 27 Plastic, 22 Black 29.8 29.8 3SU1900-0AX10-0AA0 1	label holder shape diameter color method size Height Width mm mm mm beling plates, twin pushbuttons Plastic, rectangular Plastic, 22 Black 29.8 29.8 3SU1900-0AX10-0AA0 1 10 units

SIRIUS ACT pushbuttons and indicator lights Accessories

Labels > Labeling plates

Overview

Label holders of black plastic, and labeling plates (black with white print or silver-colored with black print) for sticking or snapping in place, are available for labeling. They are not suitable for EMERGENCY STOP buttons. Note mounting dimensions!

The label holders cannot be used in conjunction with sealing plugs, protective caps, protective collars and locking devices.

Inscription

The inscription is in upper/lower case, all words begin with upper case letters. Graphic symbols, including those not listed in the catalog, are according to ISO 7000 or IEC 60417.

Customized inscriptions, see "Options", page 13/118.

Labeling plates for sticking/snapping in place

The labels are available in three sizes:

- 12.5 mm x 27 mm
- 17.5 mm x 27 mm
- 27 mm x 27 mm

For mounting the labeling plates, you can choose between label holders for stick-on or snap-on mounting.

lulti-unit packaging, ee page 13/17.	Color	Marking	Symbol No.	Article No.	Price per PU	PU (UNIT,	PS*	PG
						SET, M)		
abeling plates 12.5	mm x 27 mm							
	For self-inscr	iption						
	Black/white (label/lettering)	None		3SU1900-0AC16-0AA0		100	10 units	41.
	With customiz	zed inscription						
SU1900-0AC16-0AA0	Black/white (label/lettering)	Inscriptions or symbols, see "Options", page 13/118		3SU1900-0AC16-0AZ0		1	1 unit	41.
	Inscription in	German						
7	Black/white	Ein		3SU1900-0AC16-0AB0		100	10 units	41.
Zurück	(label/lettering)	Aus Auf		3SU1900-0AC16-0AC0 3SU1900-0AC16-0AD0		100 100	10 units 10 units	41. 41.
		Ab		3SU1900-0AC16-0AE0		100	10 units	41.
SU1900-0AC16-0AG0	•	Vor		3SU1900-0AC16-0AF0		100	10 units	41
00.000 0.10 10 0.100		Zurück Rechts		3SU1900-0AC16-0AG0 3SU1900-0AC16-0AH0		100 100	10 units 10 units	41. 41.
		Links		3SU1900-0AC16-0AJ0		100	10 units	41
		Halt		3SU1900-0AC16-0AK0		100	10 units	41
		Zu Betrieb		3SU1900-0AC16-0AL0 3SU1900-0AC16-0AP0		100 100	10 units 10 units	41. 41.
		Störung		3SU1900-0AC16-0AQ0		100	10 units	41.
		Hand Auto Hand O Auto		3SU1900-0AC16-0DB0 3SU1900-0AC16-0DD0		100 100	10 units 10 units	41. 41.
	Inscription in	English						
E _a	Black/white	On O#		3SU1900-0AC16-0DJ0		100	10 units	41
Forward	(label/lettering)	Off Up		3SU1900-0AC16-0DK0 3SU1900-0AC16-0DL0		100 100	10 units 10 units	41. 41.
u		Down		3SU1900-0AC16-0DM0		100	10 units	41.
SU1900-0AC16-0DN0	•	Forward		3SU1900-0AC16-0DN0		100	10 units	41.
		Reverse Right		3SU1900-0AC16-0DP0 3SU1900-0AC16-0DQ0		100 100	10 units 10 units	41. 41.
		Left		3SU1900-0AC16-0DR0		100	10 units	41.
		Stop		3SU1900-0AC16-0DS0		100	10 units	41.
		Start Reset		3SU1900-0AC16-0DT0 3SU1900-0AC16-0DU0		100 100	10 units 10 units	41. 41.
		Test		3SU1900-0AC16-0DV0		100	10 units	41
		Open		3SU1900-0AC16-0DW0		100	10 units	41.
		Close Jog		3SU1900-0AC16-0DX0 3SU1900-0AC16-0DE0		100 100	10 units 10 units	41. 41.
		Running		3SU1900-0AC16-0EB0		100	10 units	41.
		Fault		3SU1900-0AC16-0EC0		100	10 units	41.
		Run Stop Start		3SU1900-0AC16-0ED0 3SU1900-0AC16-0DC0		100 100	10 units 10 units	41. 41.
		Off On		3SU1900-0AC16-0DH0		100	10 units	41.
		Power off		3SU1900-0AC16-0DF0		100	10 units	41.
		Power on Man O Auto		3SU1900-0AC16-0DG0 3SU1900-0AC16-0DY0		100 100	10 units 10 units	41. 41.
		Man Auto		3SU1900-0AC16-0EA0		100	10 units	41

	Marking	Symbol No.	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
mm x 27 mm							
Inscription in	French						
Black/white (label/lettering)	Marche Arrêt Montée Descente	 	3SU1900-0AC16-0GA0 3SU1900-0AC16-0GB0 3SU1900-0AC16-0GC0 3SU1900-0AC16-0GD0		100 100 100 100	10 units 10 units 10 units 10 units	41J 41J 41J 41J
	Avant Retour Droite Gauche	 	3SU1900-0AC16-0GE0 3SU1900-0AC16-0GF0 3SU1900-0AC16-0GG0 3SU1900-0AC16-0GH0		100 100 100 100	10 units 10 units 10 units 10 units	41J 41J 41J 41J
	Ouvert Fermé Rapide En service	 	3SU1900-0AC16-0GJ0 3SU1900-0AC16-0GK0 3SU1900-0AC16-0GL0 3SU1900-0AC16-0GM0		100 100 100 100	10 units 10 units 10 units 10 units	41J 41J 41J 41J
	Défaut Réglage Arrêt d'urgence Hors service	 	3SU1900-0AC16-0GN0 3SU1900-0AC16-0GP0 3SU1900-0AC16-0GQ0 3SU1900-0AC16-0GR0		100 100 100 100	10 units 10 units 10 units 10 units	41J 41J 41J 41J
	Sous tension Manu Auto Marche Arrêt Réarmement	 	3SU1900-0AC16-0GS0 3SU1900-0AC16-0GT0 3SU1900-0AC16-0GU0 3SU1900-0AC16-0GV0		100 100 100 100	10 units 10 units 10 units 10 units	41J 41J 41J 41J
With symbol							
Black/white (label/lettering)	0 0 12	 	3SU1900-0AC16-0QA0 3SU1900-0AC16-0QB0 3SU1900-0AC16-0QG0 3SU1900-0AC16-0QJ0		100 100 100 100	10 units 10 units 10 units 10 units	41J 41J 41J 41J 41J
	Inscription in Black/white (label/lettering) With symbol Black/white	Inscription in French Black/white (label/lettering) Black/white (label/lettering) Arrêt Montée Descente Avant Retour Droite Gauche Ouvert Fermé Rapide En service Défaut Réglage Arrêt d'urgence Hors service Sous tension Manu Auto Marche Arrêt Réarmement With symbol Black/white O (label/lettering) I O I	Inscription in French Black/white (label/lettering) Marche	Black/white	Black/white	Inscription in French Black/white (label/lettering) Marche	Black/white (label/lettering)

SIRIUS ACT pushbuttons and indicator lights Accessories

Multi-unit packaging, see page 13/17.	Color	Marking	Symbol No.	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Labeling plates 12.5	mm x 27 mm							
	For self-inscript	tion						
	Silver/black (label/lettering)	None		3SU1900-0AC81-0AA0		100	10 units	41J
	With customize	•						
3SU1900-0AC81-0AA0	Silver/black (label/lettering)	Inscriptions or symbols, see "Options", page 13/1	18.	3SU1900-0AC81-0AZ0		1	1 unit	41J
	Inscription in G	erman						
Ein	Silver/black (label/lettering)	Ein Aus Auf Ab	 	3SU1900-0AC81-0AB0 3SU1900-0AC81-0AC0 3SU1900-0AC81-0AD0 3SU1900-0AC81-0AE0		100 100 100 100	10 units 10 units 10 units 10 units	41J 41J 41J 41J
3SU1900-0AC81-0AB0		Vor Zurück Rechts Links	 	3SU1900-0AC81-0AF0 3SU1900-0AC81-0AG0 3SU1900-0AC81-0AH0 3SU1900-0AC81-0AJ0		100 100 100 100	10 units 10 units 10 units 10 units	41J 41J 41J 41J
		Halt Zu Schnell Langsam	 	3SU1900-0AC81-0AK0 3SU1900-0AC81-0AL0 3SU1900-0AC81-0AM0 3SU1900-0AC81-0AN0		100 100 100 100	10 units 10 units 10 units 10 units	41J 41J 41J 41J
		Betrieb Störung Einrichten Hand Auto	 	3SU1900-0AC81-0AP0 3SU1900-0AC81-0AQ0 3SU1900-0AC81-0AR0 3SU1900-0AC81-0DB0		100 100 100 100	10 units 10 units 10 units 10 units	41J 41J 41J 41J
		Stop Start Hand O Auto		3SU1900-0AC81-0DC0 3SU1900-0AC81-0DD0		100 100	10 units 10 units	41J 41J
	Inscription in E	nglish						
Off	Silver/black (label/lettering)	On Off Up Down	 	3SU1900-0AC81-0DJ0 3SU1900-0AC81-0DK0 3SU1900-0AC81-0DL0 3SU1900-0AC81-0DM0		100 100 100 100	10 units 10 units 10 units 10 units	41J 41J 41J 41J
3SU1900-0AC81-0DK0		Stop Start Reset Test	 	3SU1900-0AC81-0DS0 3SU1900-0AC81-0DT0 3SU1900-0AC81-0DU0 3SU1900-0AC81-0DV0		100 100 100 100	10 units 10 units 10 units 10 units	41J 41J 41J 41J
		Open Close Man O Auto Man Auto	 	3SU1900-0AC81-0DW0 3SU1900-0AC81-0DX0 3SU1900-0AC81-0DY0 3SU1900-0AC81-0EA0		100 100 100 100	10 units 10 units 10 units 10 units	41J 41J 41J 41J
		Running Fault Fast Slow	 	3SU1900-0AC81-0EB0 3SU1900-0AC81-0EC0 3SU1900-0AC81-0EE0 3SU1900-0AC81-0EF0		100 100 100 100	10 units 10 units 10 units 10 units	41J 41J 41J 41J
	With symbol							
1011	Silver/black (label/lettering)	O 	5008 IEC 5007 IEC 	3SU1900-0AC81-0QA0 3SU1900-0AC81-0QB0 3SU1900-0AC81-0QC0 3SU1900-0AC81-0QD0		100 100	10 units 10 units 10 units 10 units	41J 41J 41J 41J
3SU1900-0AC81-0QK0	1	0 0 1 0 2	 	3SU1900-0AC81-0QG0 3SU1900-0AC81-0QK0 3SU1900-0AC81-0QL0		100 100	10 units 10 units 10 units	41J 41J 41J
		ARROW DIRECTION TO RIGHT	5022 IEC	3SU1900-0AC81-0QR0			10 units	41J
		ARROW DIRECTION UP		3SU1900-0AC81-0QS0		100	10 units	41J

Multi-unit packaging, see page 13/17.	Color	Markii	ng	Symbol No.	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Labeling plates 17.5	mm x 27 mm								
	For self-inscri	iption							
	Black/white (label/lettering)	None			3SU1900-0AD16-0AA0		100	10 units	41J
	With customiz	zed ins	scription						
	Black/white (label/lettering)		ptions or symbols, Options", page 13/1	118.	3SU1900-0AD16-0AZ0		1	1 unit	41J
3SU1900-0AD16-0AA0									
	Inscription in		an						
Aus	Black/white (label/lettering)	Ein Aus Auf Ab		 	3SU1900-0AD16-0AB0 3SU1900-0AD16-0AC0 3SU1900-0AD16-0AD0 3SU1900-0AD16-0AE0		100 100 100 100	10 units 10 units 10 units 10 units	41J 41J 41J 41J
		Vor			3SU1900-0AD16-0AF0		100	10 units	41J
3SU1900-0AD16-0AC0		Zurüc Halt Zu	K	 	3SU1900-0AD16-0AG0 3SU1900-0AD16-0AK0 3SU1900-0AD16-0AL0		100 100 100	10 units 10 units 10 units	41J 41J 41J
		Betrie Störur Hand	ng	 	3SU1900-0AD16-0AP0 3SU1900-0AD16-0AQ0 3SU1900-0AD16-0DB0		100 100 100	10 units 10 units 10 units	41J 41J 41J
	Inscription in				00010000112100220			10 01110	
Off	Black/white (label/lettering)	Stop S On Off Up		 	3SU1900-0AD16-0DC0 3SU1900-0AD16-0DJ0 3SU1900-0AD16-0DK0 3SU1900-0AD16-0DL0		100 100 100 100	10 units 10 units 10 units 10 units	41J 41J 41J 41J
3SU1900-0AD16-0DK0		Down Forwa Rever Right	ard	 	3SU1900-0AD16-0DM0 3SU1900-0AD16-0DN0 3SU1900-0AD16-0DP0 3SU1900-0AD16-0DQ0		100 100 100 100	10 units 10 units 10 units 10 units	41J 41J 41J 41J
		Stop Start Open Close		 	3SU1900-0AD16-0DS0 3SU1900-0AD16-0DT0 3SU1900-0AD16-0DW0 3SU1900-0AD16-0DX0		100 100 100 100	10 units 10 units 10 units 10 units	41J 41J 41J 41J
		Man <i>A</i> Runni Fault		 	3SU1900-0AD16-0EA0 3SU1900-0AD16-0EB0 3SU1900-0AD16-0EC0		100 100 100	10 units 10 units 10 units	41J 41J 41J
	Inscription in	Frenci	h						
	Black/white (label/lettering)	March Arrêt Droite Gaucl	:	 	3SU1900-0AD16-0GA0 3SU1900-0AD16-0GB0 3SU1900-0AD16-0GG0 3SU1900-0AD16-0GH0		100 100 100 100	10 units 10 units 10 units 10 units	41J 41J 41J 41J
		En se Défau Sous Manu	it tension	 	3SU1900-0AD16-0GM0 3SU1900-0AD16-0GN0 3SU1900-0AD16-0GS0 3SU1900-0AD16-0GT0		100 100 100 100	10 units 10 units 10 units 10 units	41J 41J 41J 41J
			ne Arrêt nement		3SU1900-0AD16-0GU0 3SU1900-0AD16-0GV0			10 units 10 units	41J 41J
	With symbol						-		
	Black/white (label/lettering)	0 0		5008 IEC 5007 IEC	3SU1900-0AD16-0QA0 3SU1900-0AD16-0QB0 3SU1900-0AD16-0QG0		100 100 100	10 units 10 units 10 units	41J 41J 41J
		\rightarrow	ARROW DIRECTION TO RIGHT	5022 IEC	3SU1900-0AD16-0QR0		100	10 units	41J
3SU1900-0AD16-0QR0		1	ARROW DIRECTION UP		3SU1900-0AD16-0QS0		100	10 units	41J

SIRIUS ACT pushbuttons and indicator lights Accessories

Multi-unit packaging, see page 13/17.	Color	Marking	Symbol No.	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Labeling plates 17.5 i	nm x 27 mm							
	For self-inscr	iption						
	Silver/black (label/lettering)	None		3SU1900-0AD81-0AA0		100	10 units	41J
	With customiz	zed inscription						
	Silver/black (label/lettering)	Inscriptions or symbols, see "Options", page 13/118.		3SU1900-0AD81-0AZ0		1	1 unit	41J
3SU1900-0AD81-0AA0								
	Inscription in	German						
Betrieb	Silver/black (label/lettering)	Ein Aus Auf Ab	 	3SU1900-0AD81-0AB0 3SU1900-0AD81-0AC0 3SU1900-0AD81-0AD0 3SU1900-0AD81-0AE0		100 100 100 100	10 units 10 units 10 units 10 units	41J 41J 41J 41J
3SU1900-0AD81-0AP0		Vor Zurück Rechts Halt	 	3SU1900-0AD81-0AF0 3SU1900-0AD81-0AG0 3SU1900-0AD81-0AH0 3SU1900-0AD81-0AK0		100 100 100 100	10 units 10 units 10 units 10 units	41J 41J 41J 41J
		Zu Betrieb Störung Hand Auto	 	3SU1900-0AD81-0AL0 3SU1900-0AD81-0AP0 3SU1900-0AD81-0AQ0 3SU1900-0AD81-0DB0		100 100 100 100	10 units 10 units 10 units 10 units	41J 41J 41J 41J
		Hand O Auto		3SU1900-0AD81-0DD0		100	10 units	41J
	Inscription in	=						
Fault	Silver/black (label/lettering)	On Off Stop Start	 	3SU1900-0AD81-0DJ0 3SU1900-0AD81-0DK0 3SU1900-0AD81-0DS0 3SU1900-0AD81-0DT0		100 100 100 100	10 units 10 units 10 units 10 units	41J 41J 41J 41J
3SU1900-0AD81-0EC0		Reset Man O Auto Fault	 	3SU1900-0AD81-0DU0 3SU1900-0AD81-0DY0 3SU1900-0AD81-0EC0		100 100 100	10 units 10 units 10 units	41J 41J 41J
	With symbol							
0	Silver/black (label/lettering)	0 0 0 1 0 2	5008 IEC 5007 IEC 	3SU1900-0AD81-0QA0 3SU1900-0AD81-0QB0 3SU1900-0AD81-0QG0 3SU1900-0AD81-0QK0 3SU1900-0AD81-0QL0		100 100 100 100 100	10 units 10 units 10 units 10 units 10 units	41J 41J 41J 41J 41J
3SU1900-0AD81-0QG0		ARROW DIRECTION TO RIGHT ARROW DIRECTION UP	5022 IEC 	3SU1900-0AD81-0QR0 3SU1900-0AD81-0QS0		100	10 units 10 units	41J 41J

Multi-unit packaging, see page 13/17.	Color	Marking	Symbol No.	Article No.	Price per PU	PU (UNIT,	PS*	PG
						SET, M)		
Labeling plates 27 r								
	For self-inscri	•		00114000 04540 0440		100	10 "	44.1
	Black/white (label/lettering)	None		3SU1900-0AE16-0AA0		100	10 units	41J
	Silver/black (label/lettering)	None		3SU1900-0AE81-0AA0		100	10 units	41J
		zed inscription						
	Black/white (label/lettering)	Inscriptions or symbols, see "Options", page 13/118.		3SU1900-0AE16-0AZ0		1	1 unit	41J
3SU1900-0AE16-0AA0	Silver/black (label/lettering)			3SU1900-0AE81-0AZ0		1	1 unit	41J
3SU1900-0AE81-0AA0								
	Inscription in			00114000 04540 0450		100	10 "	44.1
	Black/white (label/lettering)	Ein Aus		3SU1900-0AE16-0AB0 3SU1900-0AE16-0AC0		100 100	10 units 10 units	41J 41J
Auf		Auf Ab		3SU1900-0AE16-0AD0 3SU1900-0AE16-0AE0		100 100	10 units 10 units	41J 41J
Aui		Vor Zurück		3SU1900-0AE16-0AF0 3SU1900-0AE16-0AG0		100 100	10 units 10 units	41J 41J
		Rechts Links		3SU1900-0AE16-0AH0 3SU1900-0AE16-0AJ0		100 100	10 units 10 units	41J 41J
3SU1900-0AE16-0AD0		Halt		3SU1900-0AE16-0AK0		100	10 units	41J
000 1000 07 12 10 07 120		Zu Betrieb		3SU1900-0AE16-0AL0 3SU1900-0AE16-0AP0		100 100	10 units 10 units	41J 41J
		Störung Hand Auto		3SU1900-0AE16-0AQ0 3SU1900-0AE16-0DB0		100 100	10 units 10 units	41J 41J
	Inscription in	English						
	Black/white (label/lettering)	On Off		3SU1900-0AE16-0DJ0 3SU1900-0AE16-0DK0		100 100	10 units 10 units	41J 41J
0.00	(, , , , , , , , , , , , , , , , , , ,	Up Down		3SU1900-0AE16-0DL0 3SU1900-0AE16-0DM0		100 100	10 units 10 units	41J 41J
Off		Forward		3SU1900-0AE16-0DN0		100	10 units	41J
		Reverse Stop		3SU1900-0AE16-0DP0 3SU1900-0AE16-0DS0		100 100	10 units 10 units	41J 41J
		Start EMERGENCY STOP		3SU1900-0AE16-0DT0 3SU1900-0AE16-0DA0			10 units 10 units	41J 41J
3SU1900-0AE16-0DK0		Stop Start		3SU1900-0AE16-0DC0			10 units	41J
	Inscription in Black/white	French Marche		3SU1900-0AE16-0GA0		100	10 units	41J
	(label/lettering)	Arrêt Montée		3SU1900-0AE16-0GB0 3SU1900-0AE16-0GC0		100 100	10 units 10 units	41J 41J
Arrêt		Descente		3SU1900-0AE16-0GD0		100	10 units	41J
101		En service Défaut		3SU1900-0AE16-0GM0 3SU1900-0AE16-0GN0		100 100	10 units 10 units	41J 41J
		Sous tension Manu Auto		3SU1900-0AE16-0GS0 3SU1900-0AE16-0GT0		100 100	10 units 10 units	41J 41J
3SU1900-0AE16-0GB0		Marche Arrêt		3SU1900-0AE16-0GU0		100	10 units	41J
	With symbol							
0	Black/white (label/lettering)	→ ARROW DIRECTION TO RIGHT	 5022 IEC	3SU1900-0AE16-0QG0 3SU1900-0AE16-0QR0			10 units 10 units	41J 41J
3SU1900-0AE16-0QG0								

SIRIUS ACT pushbuttons and indicator lights Accessories

Labels > Labeling plates

Options

Customized inscriptions

The labels can be inscribed with text and symbols not listed in the ordering data.

The default typeface used for inscriptions with text is Arial and the text is centered.

Up to 11 characters per line are possible.

Font height

Label size 12.5 mm x 27 mm, max. 3 lines:

Font height 1-line 4 mm
2-line 3 mm
3-line 1.75 mm

Label size 17.5 mm x 27 mm, max. 3 lines:

Font height 1- to 2-line 4 mm 3-line 3 mm

Label size 27 mm x 27 mm, max. 5 lines:

Font height 1- to 3-line 4 mm 4-line 3.5 mm 5-line 3 mm

Examples of customized inscriptions



Two-line inscription in upper/lower case (Q0Y)



Single-line inscription in upper case (Q1Y)



Three-line inscription in lower case (Q2Y)



Symbol number 5011 according to IEC 60417 (Q3Y)



Any symbol according to order form supplement (Q9Y)

Ordering notes

Add one of the following order codes to the article number:

- Q0Y: Text line(s) in upper/lower case, always upper case for beginning of line, e.g. Z1=Lift Z2=Lower
- Q1Y: Text line(s) in upper case, e.g. Z1=LIFT Z2=LOWER
- **Q2Y:** Text line(s) in lower case, e.g. Z1=lift off Z2=lower off
- Q5Y: Text line(s) in upper/lower case, all words begin with upper case letters,
 e.g. Z1=Lift Off Z2=Lower Off
- Q3Y: Symbol with number according to ISO 7000 or IEC 60417
- Q9Y: Inscription of choice, text or symbol, can only be ordered via SIRIUS ACT configurator with a Configuration Identification Number (CIN)

When ordering, specify the required inscription without umlauts (ä, ö, ü) and without spaces after Z=, Z1=, etc. in addition to the article number and order code (see ordering examples 1 to 3).

In the case of multi-line inscriptions, the text must be assigned to the respective line,

e.g. Z1=LIFT Z2=LOWER (see ordering example 1).

Symbols can also be ordered with numbers according to ISO 7000 or IEC 60417 (see ordering examples 2 and 3).

The SIRIUS ACT configurator must be used to select special inscriptions and symbols (see ordering example 4). In this case, a CIN (Configuration Identification Number) is generated for placement of future orders. It is then possible to place an order directly using the CIN and the SIRIUS ACT configurator (shopping cart in SiePortal) or via the standard ordering channels.

Standard ordering channels:

- Configurator: www.siemens.com/sirius-act/configurator
- SiePortal: www.siemens.com/sirius/mall

Ordering example 1

A label with 2 lines of text is required:

3SU1900-0AC16-0AZ0 Q1Y

Z1=LIFT Z2=LOWER

Ordering example 2

A label inscribed with symbol No. 5011 according to IEC 60417 is required:

3SU1900-0AC16-0AZ0 Q3Y

Z=5011 IEC

Ordering example 3

A label inscribed with symbol No. 1118 according to ISO 7000 is required:

3SU1900-0AC16-0AZ0 Q3Y

Z=1118 ISO

Ordering example 4

An indicator light with customized inscription is required:

3SU1900-0AC16-0AZ0 Q9Y

CIN...

(20-digit number generated from the SIRIUS ACT configurator)

Labels > Labeling plates for enclosures

Overview

The labeling plates in size 22 mm x 22 mm can be attached to enclosures with recesses for labels. There are versions in black with white print or silver-colored with black print.

Inscription

The inscription is in upper/lower case, all words begin with upper case letters. Graphic symbols, including those not listed in the catalog, are according to ISO 7000 or IEC 60417.

Customized inscriptions, see "Options", page 13/122.

Selection and order	ing data							
Multi-unit packaging, see page 13/17.	Color	Marking	Symbol No.	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Labeling plates 22 m	m x 22 mm							
	For self-inscr	iption						
	Black/white (label/lettering)	None		3SU1900-0AF16-0AA0		100	10 units	41J
	With customi	zed inscription						
	Black/white (label/lettering)	Inscriptions or symbols, see "Options", page 13/122	2.	3SU1900-0AF16-0AZ0		1	1 unit	41J
3SU1900-0AF16-0AA0								
	Inscription in							
E:	Black/white (label/lettering)	Ein Aus Auf Ab	 	3SU1900-0AF16-0AB0 3SU1900-0AF16-0AC0 3SU1900-0AF16-0AD0 3SU1900-0AF16-0AE0		1 1 1 1	10 units 10 units 10 units 10 units	41J 41J 41J 41J
Ein		Vor Zurück	 	3SU1900-0AF16-0AF0 3SU1900-0AF16-0AG0		1	10 units 10 units	41J 41J
		Rechts Links		3SU1900-0AF16-0AH0 3SU1900-0AF16-0AJ0		1	10 units 10 units	41J 41J
3SU1900-0AF16-0AB0		Halt Zu		3SU1900-0AF16-0AK0 3SU1900-0AF16-0AL0		1 1	10 units 10 units	41J 41J
		Schnell Langsam		3SU1900-0AF16-0AM0 3SU1900-0AF16-0AN0		1 1	10 units 10 units	41J 41J
Betrieb		Betrieb Störung Einrichten NOT AUS	 	3SU1900-0AF16-0AP0 3SU1900-0AF16-0AQ0 3SU1900-0AF16-0AR0 3SU1900-0AF16-0AS0		1 1 1 1	10 units 10 units 10 units 10 units	41J 41J 41J 41J
3SU1900-0AF16-0AP0								
	Inscription in Black/white	On		3SU1900-0AF16-0DJ0		1	10 units	41J
Down	(label/lettering)	Off Up Down	 	3SU1900-0AF16-0DK0 3SU1900-0AF16-0DL0 3SU1900-0AF16-0DM0		1 1	10 units 10 units 10 units	41J 41J 41J 41J
Down		Forward Right		3SU1900-0AF16-0DN0 3SU1900-0AF16-0DQ0		1 1	10 units 10 units	41J 41J
		Left Stop	 	3SU1900-0AF16-0DR0 3SU1900-0AF16-0DS0		1	10 units 10 units	41J 41J
3SU1900-0AF16-0DM0		Start		3SU1900-0AF16-0DT0		1	10 units	41J
330 1900-0AI 10-0DIVIO		Reset Test Open	 	3SU1900-0AF16-0DU0 3SU1900-0AF16-0DV0 3SU1900-0AF16-0DW0		1 1 1	10 units 10 units 10 units	41J 41J 41J
Fault		Close Running Fault Fast	 	3SU1900-0AF16-0DX0 3SU1900-0AF16-0EB0 3SU1900-0AF16-0EC0 3SU1900-0AF16-0EE0		1 1 1 1	10 units 10 units 10 units 10 units	41J 41J 41J 41J
		Slow EMERGENCY STOP		3SU1900-0AF16-0EF0 3SU1900-0AF16-0DA0		1 1	10 units 10 units	41J 41J
3SU1900-0AF16-0EC0								

SIRIUS ACT pushbuttons and indicator lights Accessories

Labels > Labeling plates for enclosures

Multi-unit	packaging,
see page 1	13/17.

Color	Marking	Symbol No.	Article No.	Price per PU	PU (UNIT,	PS*	PG
					SET, M)		

3SU1900-0AF16-0GA0 3SU1900-0AF16-0GB0 3SU1900-0AF16-0GC0

3SU1900-0AF16-0GD0

3SU1900-0AF16-0GF0

3SU1900-0AF16-0GG0 3SU1900-0AF16-0GH0

3SU1900-0AF16-0GJ0

Labeling plates 22 mm x 22 mm



3SU1900-0AF16-0GA0



3SU1900-0AF16-0GB0



3SU1900-0AF16-0QQ0

3SU1900-0AF16-0RW0

Inscription in French

Marche

Arrêt

Black/white

(label/lettering)

With symbol Black/white

(label/lettering)

Ш

0

Ш Ö

 $I \cap II$

Montée Descente	
Retour Droite Gauche Ouvert	
Fermé Rapide En service Défaut	
Sous tension Manu Auto Marche Arrêt Réarmement	
Lent Arrêt d'urgence	

0	E000 IEO	00114000 04540 0040
(ON/OFF)		
Lent Arrêt d'urgence	 	3SU1900-0AF16-0GW0 3SU1900-0AF16-0GQ0
Manu Auto Marche Arrêt Réarmement	 	3SU1900-0AF16-0GT0 3SU1900-0AF16-0GU0 3SU1900-0AF16-0GV0
Sous tension		3SU1900-0AF16-0GS0
Rapide En service Défaut		3SU1900-0AF16-0GL0 3SU1900-0AF16-0GM0 3SU1900-0AF16-0GN0
Fermé		3SU1900-0AF16-0GK0

êt nt ence	 	3SU1900-0AF16-0GT0 3SU1900-0AF16-0GU0 3SU1900-0AF16-0GV0 3SU1900-0AF16-0GW0 3SU1900-0AF16-0GQ0	1 1 1 1
	5008 IEC 5007 IEC 	3SU1900-0AF16-0QA0 3SU1900-0AF16-0QB0 3SU1900-0AF16-0QC0 3SU1900-0AF16-0QD0 3SU1900-0AF16-0QG0	1 1 1 1

3

3SU1900-0AF16-0QK0

3SU1900-0AF16-0QP0

3SU1900-0AF16-0RY0

(be	elow	each other)	
With symbol (gra	aph	ic)	
Black/white (label/lettering)	→	ARROW DIRECTION TO RIGHT	5022 IEC
e	9	PUMP	0134 ISO

(below each other)

	DIRECTION TO RIGHT	
\bigcirc	PUMP	0134 ISO
<u></u>	FAN	
***	COOLING	

ILLUMINATION

MOTOR

0134 ISO

SU1900-0AF16-0QQ0	1	10 units	41J
SU1900-0AF16-0QR0	1	10 units	41J
SSU1900-0AF16-0RD0	1	10 units	41J
SSU1900-0AF16-0RV0	1	10 units	41J
SU1900-0AF16-0RW0	1	10 units	41J
SSU1900-0AF16-0RX0	1	10 units	41J

10 units

10 units

10 units

10 units

10 units

10 units

10 units

10 units

10 units

10 units

10 units

10 units

10 units

10 units

10 units

10 units

10 units

10 units

10 units

10 units

10 units

10 units 10 units

10 units

10 units

1 10 units

41J

41J

41J

41J

41J

41J

41J

41J

41J

41J

41J 41J

41J

41J

41J

41J

41J

41J

41.1

41J

41J

41J

41J

41J

41J

41J

Labels > Labeling plates for enclosures

Multi-unit packaging,	Color	Marking	Symbol No.	Article No.	Price	PU	PS*	PG
see page 13/17.		<u> </u>	,		per PU	(UNIT, SET, M)		
Labalia a alaba 20 a								
Labeling plates 22 n	nm x 22 mm For self-inscr	intion						
	Silver/black	None		3SU1900-0AF81-0AA0		100	10 units	41J
	(label/lettering)						10 01110	
		zed inscription						
	Silver/black (label/lettering)	Inscriptions or symbols, see "Options", page 13/122.		3SU1900-0AF81-0AZ0		1	1 unit	41J
3SU1900-0AF81-0AA0								
	Inscription in	German						
	Silver/black (label/lettering)	Ein Aus		3SU1900-0AF81-0AB0 3SU1900-0AF81-0AC0		1	10 units 10 units	41J 41J
- .	(Auf		3SU1900-0AF81-0AD0		1	10 units	41J
Ein		Ab Vor		3SU1900-0AF81-0AE0 3SU1900-0AF81-0AF0		1	10 units 10 units	41J 41J
		Zurück		3SU1900-0AF81-0AG0 3SU1900-0AF81-0AH0		1	10 units	41J
		Rechts Links		3SU1900-0AF81-0AJ0		1	10 units 10 units	41J 41J
3SU1900-0AF81-0AB0		Halt		3SU1900-0AF81-0AK0		1	10 units	41J
		Zu Schnell		3SU1900-0AF81-0AL0 3SU1900-0AF81-0AM0		1	10 units 10 units	41J 41J
		Langsam		3SU1900-0AF81-0AN0		1	10 units	41J
11		Betrieb Störung		3SU1900-0AF81-0AP0 3SU1900-0AF81-0AQ0		1 1	10 units 10 units	41J 41J
Hand O Auto		Einrichten NOT AUS		3SU1900-0AF81-0AR0 3SU1900-0AF81-0AS0		1 1	10 units 10 units	41J 41J
14.60		NOT-HALT		3SU1900-0AF81-0AT0		1	10 units	41J
		Hand O Auto		3SU1900-0AF81-0DD0		1	10 units	41J
3SU1900-0AF81-0DD0								
	Inscription in	English						
	Silver/black (label/lettering)	Stop Start		3SU1900-0AF81-0DS0 3SU1900-0AF81-0DT0		1	10 units 10 units	41J 41J
_	(label/lettering)	Reset		3SU1900-0AF81-0DU0		į	10 units	41J
Reset		Test Open		3SU1900-0AF81-0DV0 3SU1900-0AF81-0DW0		1 1	10 units 10 units	41J 41J
3SU1900-0AF81-0DU0								
	With symbol	(ON/OFF)						
	Silver/black (label/lettering)	0	5008 IEC 5007 IEC	3SU1900-0AF81-0QA0 3SU1900-0AF81-0QB0			10 units 10 units	41J 41J
10	(Iddol/Iblasting)	II		3SU1900-0AF81-0QC0		1	10 units	41J
		 O		3SU1900-0AF81-0QD0 3SU1900-0AF81-0QG0		1	10 units 10 units	41J 41J
U		1011		3SU1900-0AF81-0QK0		i	10 units	41J
		I O		3SU1900-0AF81-0QP0		1	10 units	41J
3SU1900-0AF81-0QK0		(below each other)						
0001000 07 11 01 0 01 10		II O		3SU1900-0AF81-0QQ0		1	10 units	41J
		l (below each other)						
	With symbol (,						
	Silver/black	ARROW DIRECTION	5022 IEC	3SU1900-0AF81-0QR0		1	10 units	41J
	(label/lettering)	TO RIGHT						
-								
3SU1900-0AF81-0QR0								

SIRIUS ACT pushbuttons and indicator lights Accessories

Labels > Labeling plates for enclosures

Options

Customized inscriptions

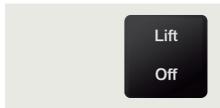
The labels can be inscribed with text and symbols not listed in the ordering data.

The default typeface used for inscriptions with text is Arial and the text is centered.

The font height is 4 mm (1- and 2-line) and 3.5 mm (3-line).

Up to 8 characters per line are possible.

Examples of customized inscriptions



Two-line inscription in upper/lower case (Q0Y)



Single-line inscription in upper case (Q1Y)



Backing plate for enclosures, customized inscription (Q2Y)



Symbol number 5011 according to IEC 60417 (Q3Y)



Any symbol according to order form supplement (Q9Y)

Ordering notes

Add one of the following order codes to the article number:

- Q0Y: Text line(s) in upper/lower case, always upper case for beginning of line,
 e.g. Z1=Lift Z2=Lower
- Q1Y: Text line(s) in upper case, e.g. Z1=LIFT Z2=LOWER
- Q2Y: Text line(s) in lower case,
 e.g. Z1=lift off Z2=lower off
- Q5Y: Text line(s) in upper/lower case, all words begin with upper case letters,
 e.g. Z1=Lift Off Z2=Lower Off
- Q3Y: Symbol with number according to ISO 7000 or IEC 60417
- Q9Y: Inscription of choice, text or symbol, can only be ordered via SIRIUS ACT configurator with a Configuration Identification Number (CIN)

When ordering, specify the required inscription without umlauts (ä, ö, ü) and without spaces after Z=, Z1=, etc. in addition to the article number and order code (see ordering examples 1 to 3).

In the case of multi-line inscriptions, the text must be assigned to the respective line,

e.g. Z1=LIFT Z2=LOWER (see ordering example 1).

Symbols can also be ordered with numbers according to ISO 7000 or IEC 60417 (see ordering examples 2 and 3).

The SIRIUS ACT configurator must be used to select special inscriptions and symbols (see ordering example 4). In this case, a CIN (Configuration Identification Number) is generated for placement of future orders. It is then possible to place an order directly using the CIN and the SIRIUS ACT configurator (shopping cart in SiePortal) or via the standard ordering channels.

Standard ordering channels:

- · Configurator: www.siemens.com/sirius-act/configurator
- SiePortal: www.siemens.com/sirius/mall

Ordering example 1

A label with 2 lines of text is required:

3SU1900-0AF16-0AZ0 Q1Y

Z1=LIFT

Z2=LOWER

Ordering example 2

A label inscribed with symbol No. 5011 according to IEC 60417 is required:

3SU1900-0AF16-0AZ0 Q3Y

Z=5011 IEC

Ordering example 3

A label inscribed with symbol No. 1118 according to ISO 7000 is required:

3SU1900-0AF16-0AZ0 Q3Y

Z=1118 ISO

Ordering example 4

A label with customized inscription is required:

3SU1900-0AF16-0AZ0 Q9Y

CIN.....

(20-digit number generated from the SIRIUS ACT configurator)

Labels > Labels for laser printers

Overview

More information

Label Designer software, see www.siemens.com/sirius-label-designer

Label inscriptions

Using the *Label Designer* software, which can be downloaded from the internet, and the labeling plates for laser inscription you can create your own customized labels with a standard laser printer. The self-adhesive or snap-on labels can be stuck or snapped onto the corresponding label holders. Round labels are provided for inserting in illuminated pushbuttons and switches.

The labels are suitable for inscription with one to three lines of text or symbols.

For applications with more exacting requirements we recommend factory-printed labeling plates and insert labels (laser-printed or engraved depending on the type).

Selection and ordering data

	Mounting type	Height	Width	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		mm	mm					
Labels for printing -	insert labels							
**************************************	Insert			3SU1900-0BH60-0AA0		100	490 units	41J
3SU1900-0BH60-0AA0	labalina platas							
Labels for printing –	•	10.5	07.5			400		
3SU1900-0BJ61-0AA0	Self-adhesive	12.5 17.5 27 22	27.5 27 27 22	3SU1900-0BJ61-0AA0 3SU1900-0BK61-0AA0 3SU1900-0BL61-0AA0 3SU1900-0BM61-0AA0		100 100	480 units 720 units 480 units 700 units	41J 41J 41J 41J

SIRIUS ACT pushbuttons and indicator lights Accessories

Labels > Other labels

EMERGENCY STOP b		ing diame- ter mm	,	Outer diame- ter	Marking	Article No.	Price PU per PU (UNIT	,	PG
Ye	'ellow/black	tes (2 m					SET, M	,	
Ye	'ellow/black	<u> </u>		mm					
		22		•	NI	00114000 00404 0440			4.4
MALT			None	45	None EMERGENCY OFF (Polish)	3SU1900-0BA31-0AA0 3SU1900-0BA31-0ND0		10 units 10 units	41J 41J
3SU1900-0BB31-0AT0				60	NOT-HALT, EMERGENCY STOP, ARRÊT D'URGENCE, EMERGENZA (German, English, French, Italian)	3SU1900-0BN31-0NC0		1 10 units	41J
				75	None	3SU1900-0BB31-0AA0		10 units	41J
					NOT-AUS	3SU1900-0BB31-0AS0		10 units	41.
					NOT-HALT	3SU1900-0BB31-0AT0		10 units	41.
					EMERGENCY STOP	3SU1900-0BB31-0DA0		10 units	41J
_					EMERGENCY OFF (Polish)	3SU1900-0BB31-0ND0		I 10 units	415
	Nith custom		•						
	'ellow/black label/lettering)	22	None	45 75	Inscriptions or symbols,	3SU1900-0BA31-0AZ0 3SU1900-0BB31-0AZ0		10 units	41J
.	3,			75	see "Options", page 13/126.	3501900-0BB31-0A20		i io units	41J
EMERGENCY STOP b	acking plate	es (5 m	m thick), illumi	inated (24 V AC/DC)				
	ellow/black	22	Self-	60	None	3SU1901-0BD31-0AA0		I 1 unit	41J
(la	label/lettering)		adhe- sive		NOT-AUS	3SU1901-0BD31-0AS0		1 unit	41
					NOT-HALT	3SU1901-0BD31-0AT0		1 unit	41J
					EMERGENCY STOP	3SU1901-0BD31-0DA0			41J
3SU1901-0BD31-0AA0					NOT-HALT, EMERGENCY STOP, EMERGENZA, EMERGENCIA (German, English, Italian, Spanish)	3SU1901-0BD31-0NB0		l 1 unit	41J
V	Nith custom	nized in	scriptio	on	rtanari, opariiori)				
Ye	'ellow/black label/lettering)	22	None	60	Inscriptions or symbols, see "Options", page 13/126.	3SU1901-0BD31-0AZ0		l 1 unit	41J
EMERGENCY STOP b	oacking plat	tes (0.3	mm th	ick)					
	'ellow/black	22	Self-	75	None	3SU1900-0BC31-0AA0		10 units	41J
STOP	label/lettering)		adhe- sive		NOT-AUS	3SU1900-0BC31-0AS0		10 units	41J
WE RGENZ 108 343					NOT-HALT	3SU1900-0BC31-0AT0		10 units	41J
RGEM					EMERGENCY STOP	3SU1900-0BC31-0DA0		1 10 units	41J
2					ARRÊT D'URGENCE EMERGENZA	3SU1900-0BC31-0GQ0 3SU1900-0BC31-0JA0		10 units 1 10 units	41J 41J
3 JAH- 704					Nødstop	3SU1900-0BC31-0LA0		10 units	41J
3SU1900-0BC31-0NB0					EMERGENCY OFF (Chinese)	3SU1900-0BC31-0MA0		10 units	41J
_					NOT-HALT, EMERGENCY STOP, EMERGENZA, EMERGENCIA (German, English, Italian, Spanish)	3SU1900-0BC31-0NB0		10 units	41J
V	Vith custom	nized in	scriptio	on					
(la	'ellow/black label/lettering)	22	Self- adhe- sive	75	Inscriptions or symbols, see "Options", page 13/126.	3SU1900-0BC31-0AZ0		l 1 unit	41J
Labeling plates (1.2 m					News	00114000 000 10 04 1		. 10 "	
	Black/white label/lettering)	22	None	40	None	3SU1900-0BG16-0AA0		10 units	41J
					0 9 0 10	3SU1900-0BG16-0RT0 3SU1900-0BG16-0SA0		I 10 units I 10 units	41J 41J
					Symbol: Power up	3SU1900-0BG16-0SA0		10 units	41J 41J
3SU1900-0BG16-0RU0					Symbol. I Owel up	000 1000 0DQ 10-0H00		i io uiilo	-+ 10

Labels > Other labels

	Color	Mount- ing diame- ter	Label fastening method	Height	Width	Marking	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		mm		mm	mm						
Labeling plates (0.3 without recess	mm thick) fo	r enclo	sures with	EMERO	GENC'	Y STOP					
NOT	Yellow/black (label/lettering)	22	Self- adhesive	38	112	None NOT-AUS NOT-HALT	3SU1900-0BE31-0AA0 3SU1900-0BE31-0AS0 3SU1900-0BE31-0AT0		1	10 units 10 units 10 units	41J 41J 41J
3SU1900-0BE31-0AS0											
Labeling plates (0.3 with recess	mm thick) fo	r enclo	sures with	EMERO	GENC'	Y STOP					_
	Yellow/black (label/lettering)	22	Self- adhesive	38	112	None	3SU1900-0BF31-0AA0		1	10 units	41J
3SU1900-0BF31-0AA0											
Unit labeling plates	for modules	with fro	ont plate mo	ounting							
	White/black (label/lettering)	22	Insert	9.5	10.5	None	3SU1900-0AY61-0AA0		100	10 units	41J
3SU1900-0AY61-0AA0											

Accessories

Labels > Other labels

Options

Customized inscriptions

The labels can be inscribed with text and symbols not listed in the ordering data.

The EMERGENCY STOP backing plates can be divided into as many as four radial segments. Each segment can be custom-labeled.

The default typeface used for inscriptions with text is Arial and the text is centered.

EMERGENCY STOP backing plate 75 mm:

The font height is 5 mm.

With two radial segments, up to 20 characters are permissible. With four radial segments, up to 10 characters are permissible.

EMERGENCY STOP backing plate 60 mm:

The font height is 4 mm.

With two radial segments, up to 16 characters are permissible. With four radial segments, up to 8 characters are permissible.

EMERGENCY STOP backing plate 45 mm:

The font height is 4 mm.

With two radial segments, up to 10 characters are permissible.

Ordering notes

Add one of the following order codes to the article number:

- Q0Y: Segment(s) in upper/lower case. always upper case for beginning of segment, e.g. Z1=Not halt Z2=Emergency stop
- Q1Y: Segment(s) in upper case, e.g. Z1=NOT HALT Z2=EMERGENCY STOP
- Q2Y: Segment(s) in lower case, e.g. Z1=not halt Z2=emergency stop
- Q5Y: Segment(s) in upper/lower case, all words begin with upper case letters, e.g. Z1=Not Halt Z2=Emergency Stop
- Q3Y: Symbol with number according to ISO 7000 or IEC 60417
- Q9Y: Inscription of choice, text or symbol, can only be ordered via SIRIUS ACT configurator with a Configuration Identification Number (CIN)

When ordering, specify the required inscription without umlauts (ä, ö, ü) and without spaces after Z=, Z1 =, etc. in addition to the article number and order code (see ordering examples 1 to 4).

Symbols can also be ordered with numbers according to ISO 7000 or IEC 60417 (see ordering examples 2 and 3).

The SIRIUS ACT configurator must be used to select special inscriptions and symbols (see ordering example 5). In this case, a CIN (Configuration Identification Number) is generated for placement of future orders. It is then possible to place an order directly using the CIN and the SIRIUS ACT configurator (shopping cart in SiePortal) or via the standard ordering channels.

Standard ordering channels:

- Configurator: www.siemens.com/sirius-act/configurator
- SiePortal: www.siemens.com/sirius/mall

With ordering options Q0Y, Q1Y, Q2Y, Q3Y and Q5Y, a single-line inscription of two or four radial segments can be implemented. The text or symbol must be assigned to the respective radial segments as follows:

Ordering example 1, two radial segments

An EMERGENCY STOP backing plate, 75 mm diameter, with two radial segments is required



3SU1900-0BB31-0AZ0 Q1Y

Z1=NOT Z2=HALT

Ordering example 2, four radial segments

An EMERGENCY STOP backing plate, 75 mm diameter, with four radial segments is required



3SU1900-0BB31-0AZ0

Q1Y

Z1=E-STOP Z2=EMERGENCIA Z3=NOT-HALT Z4=EMERGENZA

Ordering example 3

An EMERGENCY STOP backing plate,

75 mm diameter, with symbol No. 5011 according to IEC 60417 is required:

3SU1900-0BB31-0AZ0 Q3Y

Z=5011 IEC

Ordering example 4

An EMERGENCY STOP backing plate, 75 mm diameter, with symbol No. 1118 according to ISO 7000 is required:

3SU1900-0BB31-0AZ0 Q3Y

Z=1118 ISO

Ordering example 5

An EMERGENCY STOP backing plate, 75 mm diameter, with customized inscription is required:

3SU1900-0BB31-0AZ0

Q9Y

CIN...

(20-digit number generated from the SIRIUS ACT configurator)

Protection/Access protection

Overview

Protection and access protection are suitable for actuators and indicators with a diameter of 22 mm and 30 mm.

The protective collars cannot be used in conjunction with label holders or single frames.

Selection and ordering data

	•								
	Product designation Product version	Mount- ing diame- ter mm	Material	Color	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Protective caps									
3SU1900-0DA10-0AA0	Sealable caps for pushbuttons, flat	22	Plastic	Black Clear	3SU1900-0DA10-0AA0 3SU1900-0DA70-0AA0		1 1	1 unit 1 unit	41J 41J
330 1300-0DA 10-0AA0	Sealable caps	22	Plastic	Black	3SU1900-0EL10-0AA0		1	1 unit	41J
	for Pushbuttons, raised Pushbuttons with front ring, raised Pushbuttons with front ring, raised, castellated			Clear	3SU1900-0EL70-0AA0		1	1 unit	41J
3SU1900-0EL70-0AA0	O a label and the	00	DI :	01	2014222 20 4 7 2 4 4 4 2			a 0	44.1
3SU1960-0DA70-0AA0	Sealable cap for pushbuttons, flat	30	Plastic	Clear	3SU1960-0DA70-0AA0		1	1 unit	41J
330 1900-0DA70-0AA0	Sealable cap for	30	Plastic	Clear	3SU1960-0EY70-0AA0		1	1 unit	41J
	selector switches, short								
3SU1960-0EY70-0AA0				-			-		
	Silicone protective caps for pushbuttons, flat ¹⁾	22	Plastic	Clear	3SU1900-0DB70-0AA0		1	5 units	41J

¹⁾ Suitable for the food and beverage industry.

3SU1900-0DB70-0AA0

Protection/Access	protection								
	Product designation Product version	Mount- ing diame- ter mm	Material	Color	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Protective caps									
	Silicone-free protective cap for pushbuttons, flat	22	Plastic	Clear	3SU1900-0ED70-0AA0		1	1 unit	41J
3SU1900-0ED70-0AA0									
3SU1900-0DC70-0AA0	Silicone protective cap for pushbuttons, raised ¹⁾	22	Plastic	Clear	3SU1900-0DC70-0AA0		1	1 unit	41J
330 1900-0DC70-0AA0	Silicone-free protective	22	Plastic	Clear	3SU1900-0EE70-0AA0		1	1 unit	41J
3SU1900-0EE70-0AA0	cap for pushbutton, raised								
	Silicone protective cap for selectors, short ¹⁾	22	Plastic	Clear	3SU1900-0DD70-0AA0		1	1 unit	41J
3SU1900-0DD70-0AA0									
330 1900-0001 0-0AA0	Silicone-free protective cap for selectors, short	22	Plastic	Clear	3SU1900-0EF70-0AA0		1	1 unit	41J
3SU1900-0EF70-0AA0	,								
130.000 02170 070	Silicone protective	22	Plastic	Clear	3SU1900-0DE70-0AA0		1	1 unit	41J
3SU1900-0DE70-0AA0	cap for mushroom pushbuttons, 40 mm ¹⁾								

¹⁾ Suitable for the food and beverage industry.

						1 101001		•	
Multi-unit packaging, see page 13/17.	Product designation Product version	Mount- ing diame- ter mm	Material	Color	Article No.	Price per PU		PS*	PG
Protective caps									
	Silicone-free protective cap for mushroom pushbuttons, 40 mm	22	Plastic	Clear	3SU1900-0EG70-0AA0		1	1 unit	41J
3SU1900-0EG70-0AA0	0"		DI "	01	20114000 051170 0440			4 '1	
	Silicone protective cap for EMERGENCY STOP, 30 mm ¹⁾	22	Plastic	Clear	3SU1900-0EN70-0AA0		1	1 unit	41J
	Silicone protective cap for EMERGENCY STOP, 40 mm ¹⁾	22	Plastic	Clear	3SU1900-0DF70-0AA0		1	1 unit	41J
3SU1900-0DF70-0AA0									
	Silicone protective cap for twin pushbuttons, flat ¹⁾	22	Plastic	Clear	3SU1900-0DG70-0AA0		1	1 unit	41J
3SU1900-0DG70-0AA0									
	Silicone protective cap for twin pushbuttons, raised ¹⁾	22	Plastic	Clear	3SU1900-0DH70-0AA0		1	1 unit	41J
3SU1900-0DH70-0AA0									
	Silicone-free protective cap for twin pushbuttons, raised	22	Plastic	Clear	3SU1900-0EK70-0AA0		1	1 unit	41J
3SU1900-0EK70-0AA0									
3SU1900-0EB10-0AA0	Dust cap for key-operated switches For RONIS, O.M.R., Siemens ²⁾ and BKS	22	Plastic	Clear	3SU1900-0EB10-0AA0		1	1 unit	41J
3SU1900-0EM70-0AA0	Dust cap for ID key- operated switches	22	Plastic	Clear	3SU1900-0EM70-0AA0		1	1 unit	41J

¹⁾ Suitable for the food and beverage industry.

²⁾ Siemens lock (compatible with CES locks).

	Product designation Product version	ing diame- ter	Material	Color	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Protective collars		mm							
Totelive contains	Sun collar for illuminated pushbuttons	22	Plastic	Black	3SU1900-0DJ10-0AA0		1	1 unit	41J
3SU1900-0DJ10-0AA0									
3SU1900-0DW10-0AA0	360° protective collar for pushbuttons and selectors, short	22	Plastic	Black	3SU1900-0DW10-0AA0		1	1 unit	41J
	360° protective collar for pushbuttons Visibility from the side	22	Metal	Silver	3SU1950-0DK80-0AA0		1	1 unit	41J
3SU1950-0DK80-0AA0	360° protective collar for mushroom pushbuttons 40 mm, visibility from the side	22	Metal	Silver	3SU1950-0DL80-0AA0		1	1 unit	41J
3SU1950-0DL80-0AA0									
3SU1900-0DY30-0AA0	Protective collars for EMERGENCY STOP mushroom pushbuttons Without lock or with RONIS lock	22	Plastic	Yellow Gray	3SU1900-0DY30-0AA0 3SU1900-0DY80-0AA0		1	1 unit 1 unit	41J 41J

Multi-unit packaging, see page 13/17.	Product designation Product version	Mount- ing diame- ter	Material	Color	Article No.	Price per PU		PS*	PG
		mm							
Protective collars									
	Protective collar for EMERGENCY STOP mushroom pushbuttons 30 and 40 mm, can be mounted in the top position	22	Plastic	Yellow	3SU1900-0JH30-0AA0		1	1 unit	41J
3SU1900-0JH30-0AA0									
	Protective collars for EMERGENCY STOP mushroom pushbuttons Without lock or with RONIS lock, 40 mm, for 5 padlocks	22	Metal	Yellow Gray	3SU1950-0DX30-0AA0 3SU1950-0DX80-0AA0		1	1 unit 1 unit	41J 41J
3SU1950-0DX30-0AA0	Protective collar for EMERGENCY STOP mushroom pushbuttons 60 mm, for 3 padlocks	22	Plastic	Yellow	3SU1900-0EX30-0AA0		1	1 unit	41J
3SU1900-0EA30-0AA0	360° protective collar for • Mushroom pushbuttons (30, 40 and 60 mm) • EMERGENCY STOP mushroom pushbuttons without lock (40 and 60 mm) • EMERGENCY STOP mushroom pushbuttons with RONIS lock (40 mm)	22	Plastic	Yellow	3SU1900-0EA30-0AA0		1	1 unit	41J

	Product version	Mount-	Material	Color	Article No.	Price	PU	PS*	PG
		ing diame- ter				per PU	(UNIT, SET, M)		
Locking devices		mm							
	Locking device for pushbuttons Flat, for raised front ring and raised, castellated front ring	22	Metal	Silver	3SU1950-0DM80-0AA0		1	1 unit	41J
3SU1950-0DM80-0AA0	Locking device for	22	Metal	Silver	3SU1950-0DN80-0AA0		1	1 unit	41J
	pushbuttons Raised								
3SU1950-0DN80-0AA0	Locking device for	22	Metal	Silver	3SU1950-0DP80-0AA0		1	1 unit	41J
	mushroom pushbuttons D30, D40								
3SU1950-0DP80-0AA0	Locking device for selectors	22	Metal	Silver	3SU1950-0DQ80-0AA0		1	1 unit	41J
	Short/long actuator, in the left position								
3SU1950-0DQ80-0AA0	Locking device for selectors	22	Metal	Silver	3SU1950-0DR80-0AA0		1	1 unit	41J
3\$U1950-0DR80-0AA0	Short/long actuator, in the center position								
330 1930-0D1100-0AA0	Locking device for selectors	22	Metal	Silver	3SU1950-0DS80-0AA0		1	1 unit	41J
10	Short/long actuator, in the right position								
3SU1950-0DS80-0AA0	Locking device for selectors	22	Metal	Silver	3SU1950-0DT80-0AA0		1	1 unit	41J
	Short/long actuator, window from center to right, blocked on left								
3SU1950-0DT80-0AA0	Locking device for selectors	22	Metal	Silver	3SU1950-0DU80-0AA0		1	1 unit	41J
3\$U1950-0DU80-0AA0	Short/long actuator, window from center to left, blocked on right			e.i.e.			·		
200 0.0.0	Locking device with cover	22	Metal	Silver	3SU1950-0DV80-0AA0		1	1 unit	41J
3SU1950-0DV80-0AA0									

Actuators

Selection and orderi	ng data									
Multi-unit packaging, see page 13/17.	Mounting diameter	er Mate	erial C	color	,	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
1)	mm				_					
Sealing plugs ¹⁾	00	Dise	*i- D	la ali		00114000 05440 0440			Eita	44.1
200	22	Plast		lack ilver		3SU1900-0FA10-0AA0 3SU1950-0FA80-0AA0		1	5 units 5 units	41J 41J
	30			and gray		3SU1960-0FA80-0AA0		1	1 unit	41J
3SU1900-0FA10-0AA0										
00114050 05400 0440										
3SU1950-0FA80-0AA0										
 The sealing plug is mou Modules might already 	inted with a holder. be mounted on the	holder.								
,	Product version			rial Accessory		Screw terminals		PU	PS*	PG
		ng	Accessory mate	color	•	ociew terminais	+	(UNIT.	13	ru
		diame- ter						SET, M)		
					A	Article No.	Price			
LICD compositions		mm			_		per PU			
USB connections	USB 3.0	22	Plastic	Black	9	3SU1900-0GA10-0AA0		1	1 unit	41J
	030 3.0		Metal, shiny	Silver		SSU1950-0GA10-0AA0		1	1 unit	41J
	=	30	Metal, matte	Sand gray		SU1960-0GA80-0AA0		1	1 unit	41J
3SU1900-0GA10-0AA0 3SU1960-0GA80-0AA0 R 145 connections										
RJ45 connections	RJ-45 Cat. 5e	22	Plastic	Black		3SU1900-0GB10-0AA0		1	1 unit	41J
	110-40 Cal. Je		Metal, shiny	Silver		SSU1950-0GB10-0AA0		1	1 unit	41J
	=	30	Metal, matte	Sand gray		SU1960-0GB80-0AA0		1	1 unit	41J
3SU1900-0GB10-0AA0										

^{*} You can order this quantity or a multiple thereof. Illustrations are approximate

3SU1950-0GB80-0AA0

Actuators

				_			
	Material	Color	Article No.	Price per PU	PU (UNIT,	PS*	PG
				po o	SET, M)		
Buttons, flat ¹⁾							
Duttons, nat	For pushbuttons		•				
	Plastic	Black	3SU1900-0FT10-0AA0		100	10 units	41J
		Red Yellow	3SU1900-0FT20-0AA0 3SU1900-0FT30-0AA0		100 100	10 units 10 units	41J 41J
		Green	3SU1900-0FT40-0AA0		100	10 units	41J
		Blue White	3SU1900-0FT50-0AA0 3SU1900-0FT60-0AA0		100 100	10 units 10 units	41J 41J
3SU1900-0FT20-0AA0		Willie	0001300 01 100 0AA0		100	TO UTILIS	410
	For illuminated pushbo	uttons					
	Plastic	Amber	3SU1901-0FT00-0AA0		100	10 units	41J
		Red Yellow	3SU1901-0FT20-0AA0 3SU1901-0FT30-0AA0		100 100	10 units 10 units	41J 41J
		Green Blue	3SU1901-0FT40-0AA0		100	10 units 10 units	41J 41J
V2 - 57		White	3SU1901-0FT50-0AA0 3SU1901-0FT60-0AA0		100 100	10 units	41J
3SU1901-0FT30-0AA0		Clear	3SU1901-0FT70-0AA0		100	10 units	41J
Buttons, raised ¹⁾							
	For pushbuttons						
	Plastic	Black Red	3SU1900-0FS10-0AA0 3SU1900-0FS20-0AA0		1	10 units 10 units	41J 41J
		Yellow	3SU1900-0FS30-0AA0		1	10 units	41J
		Green	3SU1900-0FS40-0AA0		1	10 units	41J
3SU1900-0FS30-0AA0							
	For illuminated pushbo	uttons					
	Plastic	Red Yellow	3SU1901-0FS20-0AA0 3SU1901-0FS30-0AA0		1	10 units 10 units	41J 41J
		Green	3SU1901-0FS40-0AA0		i	10 units	41J
		Blue Clear	3SU1901-0FS50-0AA0 3SU1901-0FS70-0AA0		1	10 units 10 units	41J 41J
		Oloui	COC.SUI OI OI O OAAU			10 driito	710
3SU1901-0FS40-0AA0							
4)							

Buttons are not interchangeable between pushbuttons and illuminated pushbuttons with a raised front ring and with a raised, castellated front ring.

								Actı	ators
	Material	Key number	Version of RFID coding	Color	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
RONIS keys 3SU1950-0FB80-0AA0	Metal	SB30 ¹⁾ 455		Silver	3SU1950-0FB80-0AA0 3SU1950-0FC80-0AA0		1	1 unit 1 unit	41J 41J
O.M.R. keys 3SU1950-0FJ50-0AA0	Metal	73038 73037 73034 73033		Blue Red Black Yellow	3SU1950-0FJ50-0AA0 3SU1950-0FK20-0AA0 3SU1950-0FL10-0AA0 3SU1950-0FM30-0AA0		1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J
Siemens keys ²⁾ 3SU1950-0FP80-0AA0	Metal	LSG1 SSG10 ¹⁾ VL5		Silver	3SU1950-0FN80-0AA0 3SU1950-0FP80-0AA0 3SU1950-0FQ80-0AA0		1 1 1	1 unit 1 unit 1 unit	41J 41J 41J
3SU1950-0FD80-0AA0	Metal	S1 ¹⁾		Silver	3SU1950-0FD80-0AA0		1	1 unit	41J
ID keys ID group ind 3SU1900-0FU60-0AA0	Plastic		Individually coded, programmable several times	White	3SU1900-0FU60-0AA0		1	1 unit	41J
3SU1900-0FV40-0AA0	Plastic		ID group 1 ID group 2 ID group 3 ID group 4	Green Yellow Red Blue	3SU1900-0FV40-0AA0 3SU1900-0FW30-0AA0 3SU1900-0FX20-0AA0 3SU1900-0FY50-0AA0		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J

¹⁾ Also available with special lock. Add "-Z" and the order code "Y04" to the article number and specify the required lock in plain text. Additional price on request.

²⁾ Siemens lock (compatible with CES locks).

SIRIUS ACT pushbuttons and indicator lights Accessories

Enclosures

Overview

The accessories can be used for plastic and metal enclosures.

Selection and ordering data

ociconon and orden								
	Product version	Material	Color	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
				_				
Metric cable glands		- · · ·						
	M20 for round cable and enclosure With 1 to 3 command points	Plastic	Black	3SU1900-0HG10-0AA0		1	1 unit	41J
	M25 for round cable and enclosure With 4 and 6 command points	Plastic	Black	3SU1900-0HH10-0AA0		1	1 unit	41J
	M20 for round cable and AS-i enclosure With 1 to 3 command points with 2-pole plug-in connector for AS-i module	Plastic	Black	3SU1900-0JA10-0AA0		1	1 unit	41J
3SU1900-0HG10-0AA0	M25 for round cable and AS-i enclosure With 4 and 6 command points with 2-pole plug-in connector for AS-i module	Plastic	Black	3SU1900-0JB10-0AA0		1	1 unit	41J
	M20 for round cable and IO-Link enclosure With 1 to 3 command points with 10-pole plug-in connector for IO-Link	Plastic	Black	3SU1900-0JC10-0AA0		1	1 unit	41J
	M25 for round cable and IO-Link enclosure With 4 and 6 command points with 10-pole plug-in connector for IO-Link	Plastic	Black	3SU1900-0JD10-0AA0		1	1 unit	41J
	M20 for AS-i shaped cable and AS-i enclosure With 1 to 3 command points with 2-pole plug-in connector for AS-i module	Plastic	Black	3SU1900-0HE10-0AA0		1	1 unit	41J
	M25 for AS-i shaped cable and AS-i enclosure With 4 and 6 command points with 2-pole plug-in connector for AS-i module	Plastic	Black	3SU1900-0HF10-0AA0		1	1 unit	41J
Connection pieces								
	M20/M20, M20/M25, M25/M25 cable entry For connecting two enclosures, plastic or metal	Plastic	Black	3SU1900-0JQ10-0AA0		1	1 unit	41J
3SU1900-0JQ10-0AA0								

Enclosures

							Elicio	sures
	Product version	Material	Color	Insulation displacement method	(:):	PU (UNIT, SET, M)	PS*	PG
				Article No.	Price per PU			
Adapters for AS-i sha	aped cable				perro			
	M20 cable entry M25 cable entry	Plastic Plastic	Black Black	3SU1900-0HX10-0AA0 3SU1900-0HY10-0AA0		1	1 unit 1 unit	41J 41J
3SU1900-0HX10-0AA0								
Adapters for tab con	nection							
3SU1900-0JJ10-0AA0	Adapters, M12 plug M20/M25 cable entry 4-pole 5-pole 8-pole	Plastic Plastic Plastic	Black Black Black	3SU1900-0JJ10-0AA0 3SU1900-0JK10-0AA0 3SU1900-0JL10-0AA0		1 1 1	1 unit 1 unit 1 unit	41J 41J 41J
	Adapters, M12 socket M20/M25 cable entry 4-pole 5-pole 8-pole	Plastic Plastic Plastic	Black Black Black	3SU1900-0JM10-0AA0 3SU1900-0JN10-0AA0 3SU1900-0JP10-0AA0		1 1 1	1 unit 1 unit 1 unit	41J 41J 41J
3SU1900-0JM10-0AA0 Adapters for enclosu	ıres with 1 command poir	nt						
	Between enclosure top and lower part, for installation of 2-pole or two 1-pole contact modules with front plate mounting. Not suitable for 3SU1801-1AA00-1AA1.		Black	3SU1900-0JF10-0AA0		1	1 unit	41J
3SU1900-0JF10-0AA0	s with base mounting							
	Without fixing screws	Plastic	Black	3SU1900-0JG10-0AA0		1	1 unit	41J
3SU1900-0JG10-0AA0	- u-:4 - u: u- u-1)							
Enclosures cover mo	Module with extension plunger	Plastic	Black	3SU1900-0HM10-0AA0		1	1 unit	41J

¹⁾ In addition, a 3SU1400-2AA10-.BA0 contact module is required.

3SU1900-0HM10-0AA0

Miscellaneous accessories

Selection and orderi	ing data							
	Product designation Product version	Material	Color	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Miscellaneous acces	ssories							
	Holders for printed circuit board	Plastic	Black	3SU1900-0KA10-0AA0		100	10 units	41J
3SU1900-0KA10-0AA0	Pressure plates for selectors and locks	Plastic	White	3SU1900-0KC10-0AA0		100	10 units	41J
3SU1900-0CK10-0AA0								
	Extension plunger For compensation of the clearance between the pushbutton and the resetting plunger of an overload relay	Plastic	Gray	3SU1900-0KG10-0AA0		1	1 unit	41J
3SU1900-0KG10-0AA0	Strut profile mounting adapter	Metal	Sand gray	3SU1950-0JE80-0AA0		1	1 unit	41J
3RK1901-3QA00	Cable clips for cable adapters For enclosure with AS-Interface shaped cable	Plastic	Black	3RK1901-3QA00		100	10 units	42C

Miscellaneous accessories

Multi-unit packaging, see page 13/17.	Product designation Product version	Material	Color	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Miscellaneous acces	sories							
	Adapter for DIN-rail mounting	Plastic	Black	3SU1900-0KH80-0AA0		1	1 unit	41J
3SU1900-0KH80-0AA0								
	Adapter for actuators and indicators with 30 mm diameter	Metal	Silver	3SU1950-0KJ80-0AA0		1	1 unit	41J
	With front ring for flat mounting							
3SU1950-0KJ80-0AA0								
	Adapters for 30.5 mm to 22.5 mm mounting hole	Metal, shiny	Silver	3SU1950-0KB10-0AA0		1	1 unit	41J
	(for 22 mm range)	Metal, matte	Sand gray	3SU1960-0KB10-0AA0		1	1 unit	41J
3SU1950-0KB10-0AA0								
	Grounding studs							
	For grounding metal actuators							
3SU1910-0KK80-0AA0	for fitting in front plates made of non-conducting materials							
resident to the second	 For metal holders 	Metal	Silver	3SU1910-0KK80-0AA0		100	50 units	41J
3SU1950-0KK80-0AA0	For universal holders for plastic and metal	Metal	Silver	3SU1950-0KK80-0AA0		100	50 units	41J
	Flat ribbon cables							 >
	7 cores							
3SU1900-0KP80-0AA0	• Length 5 m	Plastic	Gray	3SU1900-0KQ80-0AA0		1	1 unit	41J
330 1300-01X1 00-0AA0	• Length 10 m	Plastic	Gray	3SU1900-0KP80-0AA0		1	1 unit	41J

SIRIUS 3SB2 pushbuttons and indicator lights, 16 mm

General data

Overview

More information

SiePortal, see www.siemens.com/product?3SB2

Configuration Manual, see

https://support.industry.siemens.com/cs/ww/en/view/107194954

The 3SB2 pushbuttons and indicator lights are provided for front plate mounting and rear connection with flat connectors. For use on printed circuit boards, contact blocks and lampholders with solder pins are also available.

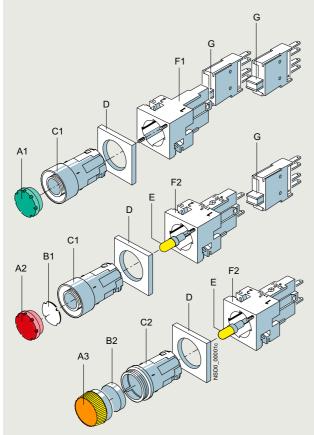
Standards

IEC 60947-1,

IEC 60947-5-1,

IEC 60947-5-5 for EMERGENCY STOP mushroom pushbuttons

Version with flat connector

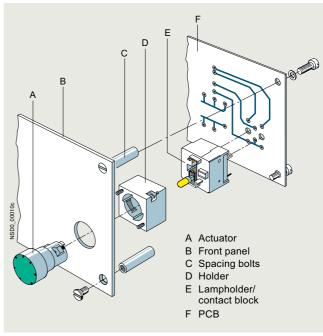


- A1 Button, flat
- A2 Illuminated button, flat
- A3 Screw lens for indicator light
- B1 Insert label, for labeling
- B2 Insert cap, for labeling
- C1 Collar with extruded front ring
- C2 Collar for indicator light
- D Frame for rectangular design
- E Wedge base lamp, W2 x 4.6 d
- F1 Holder
- F2 Lampholder with holder
- G Contact block (1 NO or 1 NC) for snapping onto the holder or onto the lampholder

3SB2 pushbuttons and indicator lights

PCB mounting

For use on printed circuit boards, special contact blocks and lampholders for soldering into the printed circuit board are available. For this purpose, the contact blocks and lampholders are fitted with solder pins 0.8 mm x 0.8 mm in thickness and 3.5 mm in length.



3SB2 pushbuttons with solder pins

Connection methods

Flat connectors

Solder pin connections

The connection method is indicated in the corresponding tables by the respective symbol shown on orange backgrounds.

Application

The devices are climate-proof and suitable for marine applications.

Safety EMERGENCY STOP according to ISO 13850

For controls according to IEC 60204-1, the mushroom pushbuttons of the 3SB2 series are suitable for use as a safety EMERGENCY STOP.

Safety circuits

Standard IEC 60947-5-1 requires positive opening of the NC contacts. This means that, for the purpose of personal safety, the reliable opening of NC contacts in all safety circuits is expressly prescribed for the electrical equipment of machines and is designated according to IEC 60947-5-1 with the symbol Θ .

PL e according to ISO 13849-1 can be attained with the EMERGENCY STOP mushroom pushbuttons if the corresponding fail-safe evaluation units are selected and correctly installed, e.g. the 3SK safety relays (see page 11/1 onwards) or matching units from the ASIsafe, SIMATIC or SINUMERIK product ranges.

Commanding and signaling devices SIRIUS 3SB2 pushbuttons and indicator lights, 16 mm

General data

Technical specifications

A d'alan ann ann ann ann ann ann ann ann ann		2000
Article number		3SB2
Contact blocks and lampholders		
Standards		IEC 60947-5-1
		IEC 60947-5-5
Rated insulation voltage U _i	V	250
Conventional thermal current I _{th}	Α	10
Rated operational currents I_e at rated operational voltage U_e		
Alternating current AC-12		40
- At U _e = 24 230 V	А	10
Alternating current AC-15		
- At U _e = 24 230 V	А	4
Direct current DC-12		
- At $U_{\rm e} = 24 \text{ V}$	A	6
- At $U_{\rm e}$ = 60 V	Α	5
- At $U_{\rm e} = 110 {\rm V}$	Α	2.5
- At $U_e = 230 \text{ V}$	А	1
Direct current DC-13		
- At $U_{\rm e} = 24 {\rm V}$	А	3
- At $U_{\rm e}$ = 60 V	Α	1.5
- At $U_{\rm e}$ = 110 V	Α	0.7
- At U _e = 230 V	А	0.3
Contact reliability		
Test voltage/test current	V/mA	5/1
Lamps		
• Bases		Wedge base W2 x 4.6 d
Rated voltage	V	6, 12, 24, 30, 48, 60
Rated power, max.	W	1
Short-circuit protection weld-free according to IEC 60947-5-1		
 DIAZED fuse links, utilization category gG 		10 A TDz, 16 A Dz
 Miniature circuit breaker with C characteristic according to IEC 60898 		10 A
Electrical endurance		
 For utilization category AC-15 with 3RT contactors 	Operating	10 x 10 ⁶
·	cycles	
Mechanical endurance	Operating	10×10^6
Degree of protection according to IEC COECO	cycles	
Degree of protection according to IEC 60529 • Connection of content blocks and lampholders behind the front plate		IP00
Connection of contact blocks and lampholders behind the front plate Contact sharphase of the contact blocks habited the front plate.		IP40
Contact chambers of the contact blocks behind the front plate Finger protection according to IEC 60529 and DGUV Regulation 3		With voltages > 50 V AC or 120 V DC, insulating sleeves must
ringer protection according to IEC 60029 and DGOV negulation 3		be fitted to the unassigned flat connectors.
Data according to UL and CSA		So miles to the smaller growth at commenters.
Rated voltage	V	050 40
Contact blocks I define the lighter (leaves with weadow have a see MO v. 4.6 d.)		250 AC
• Indicator lights (lamp with wedge base W2 x 4.6 d)	V	60; 1 W
Uninterrupted current	Α	5
Switching capacity		B 300, R 300
Actuating and signaling elements		
Mechanical endurance		
• Pushbuttons	Operating	10×10^6
	cycles	0. 405
Actuators, rotary or latching	Operating	3×10^5
• Illuminated pushbuttana	cycles	3 x 10 ⁶
Illuminated pushbuttons	Operating cycles	3 X 10
Climatic withstand capability	Cycles	Climate-proof; suitable for marine applications
Ambient temperature		Chinato proof, outdolo for marino applications
During operation, non-illuminated devices and complete with LED	°C	-25 +70
During operation, non-informatice devices and complete with LLD During operation, devices with incandescent lamp	°C	-25 +70 -25 +60
· · · · · · · · · · · · · · · · · · ·		20 100
* LANGUAL STORAGE TRANSCOOL		-40 +80
During storage, transport Pegree of protection according to IEC 60529	°C	-40 +80
Degree of protection according to IEC 60529		
Degree of protection according to IEC 60529 • Actuators and indicators		IP65
Degree of protection according to IEC 60529 • Actuators and indicators • Actuators and indicators with protective cap		
Degree of protection according to IEC 60529 • Actuators and indicators • Actuators and indicators with protective cap Protective measures		IP65 IP67
Degree of protection according to IEC 60529 • Actuators and indicators • Actuators and indicators with protective cap		IP65 IP67 The actuators and lens assemblies must not be included in the
Degree of protection according to IEC 60529 Actuators and indicators Actuators and indicators with protective cap Protective measures For mounting in metal front plates and enclosures		IP65 IP67 The actuators and lens assemblies must not be included in the protective measures.
Degree of protection according to IEC 60529 Actuators and indicators Actuators and indicators with protective cap Protective measures For mounting in metal front plates and enclosures For fitting into enclosures with total insulation		IP65 IP67 The actuators and lens assemblies must not be included in the
Degree of protection according to IEC 60529 Actuators and indicators Actuators and indicators with protective cap Protective measures For mounting in metal front plates and enclosures For fitting into enclosures with total insulation Shock resistance according to IEC 60068-2-27	°C	IP65 IP67 The actuators and lens assemblies must not be included in the protective measures. The protective measure "Total insulation" is retained.
Degree of protection according to IEC 60529 Actuators and indicators Actuators and indicators with protective cap Protective measures For mounting in metal front plates and enclosures For fitting into enclosures with total insulation Shock resistance according to IEC 60068-2-27 Shock amplitude	°C	IP65 IP67 The actuators and lens assemblies must not be included in the protective measures. The protective measure "Total insulation" is retained. ≤ 50
Degree of protection according to IEC 60529 • Actuators and indicators • Actuators and indicators with protective cap Protective measures • For mounting in metal front plates and enclosures • For fitting into enclosures with total insulation Shock resistance according to IEC 60068-2-27	°C	IP65 IP67 The actuators and lens assemblies must not be included in the protective measures. The protective measure "Total insulation" is retained.

SIRIUS 3SB2 pushbuttons and indicator lights, 16 mm

General data

Configuration

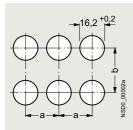
Design

Two design versions can be mounted:

- Round design: The 3SB2 pushbuttons and indicator lights consist of the actuator, holder, contact block and lampholders.
 Depending on the specific application, various versions can be assembled. Complete units are offered for the most commonly used applications.
- Rectangular design: With rectangular, black frames the round units can be given a rectangular look. The frames are inserted underneath the round actuators. Further mounting is the same as for the round version.

Mounting and fixing:

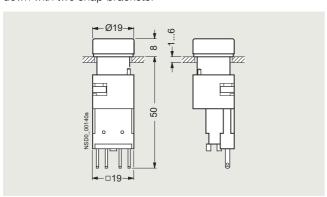
Mounting dimensions according to EN 50007 (does not apply to EMERGENCY STOP mushroom pushbuttons):



Minimum clearance	а	b
Round design	19	19
Rectangular design without labeling plate	21	21
Round and rectangular design with labeling plate	21	32
For 2 selector switches and 3 switching positions, latching, side by side	21	21

For mounting, the actuator or the lens assembly is inserted from the front into the hole in the front plate. Four small nubs ensure a secure fitting in the hole. The holder is plugged on from the back and snaps automatically into place. The module is fixed to the holder with two screws so that it is immune to vibrations.

One or two contact blocks can be mounted on the holder. They are inserted into the holder with slide slots and held down with two snap brackets.



Pushbutton (flat) with holder and contact block

If a command point is fitted with an indicator light or illuminated pushbutton, a lamp socket with lampholder must be used instead of a holder. It is suitable for incandescent lamps or LEDs with bases of type W2 x 4.6 d.

PCB mounting

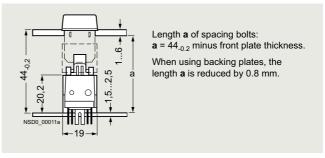
The command point comprises the actuator, e.g. 3SB2 pushbutton, illuminated pushbutton or indicator light, which is mounted in the front plate, as well as contact blocks and lampholders, which are soldered into the printed circuit board. For this purpose, the contact blocks and lampholders are fitted with solder pins 0.8 mm x 0.8 mm in thickness and 3.5 mm in length.

Mounting and fixing:

Mounting dimensions according to EN 50007

The actuators are mounted in the same way as 3SB2 front plate mounting devices.

The contact blocks and lampholders are plugged into the printed circuit board by means of their solder pins and can be flow-soldered. After soldering, the devices must be flush with the board and perpendicular to it. The printed circuit board must be supported on spacing bolts so that it cannot sag or bend more than 0.1 mm.

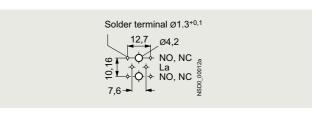


Illuminated pushbutton with solder pin connection

To avoid bending the PCB when the commanding device is operated, sufficient spacing bolts must be provided as shown in the table below:

PCB thickness	Max. distance between spacing bolts
1.5 mm	80 mm
2.5 mm	150 mm
When using EMERGENCY STOP buttons	Always 50 mm

These details are based on printed circuit boards made of epoxy resin glass fiber mat.

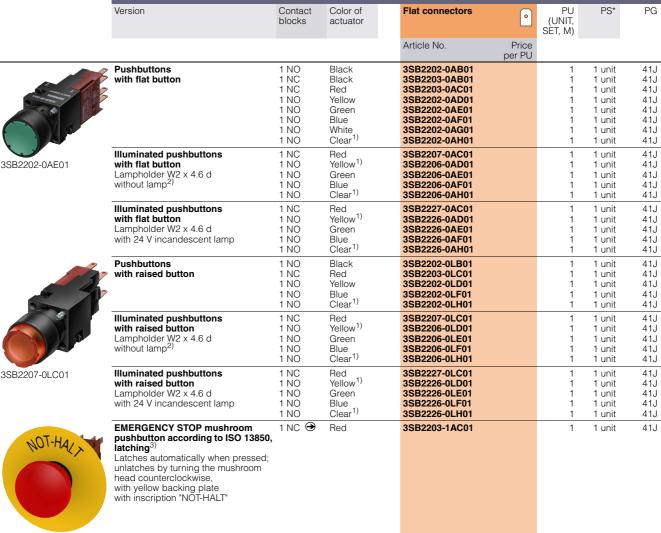


Solder pin spacing

SIRIUS 3SB2 pushbuttons and indicator lights, 16 mm

Complete units

Selection and ordering data





3SB2203-1AC01

→ Positive opening according to IEC 60947-5-1, Annex K. Can be used with 3SK safety relays, see page 11/1 onwards.



¹⁾ Inscription with insert labels is possible.

²⁾ Wedge base lamps, see "Accessories", page 13/154.

³⁾ The mushroom pushbutton cannot be combined with 3SB2902-0AB backing plate or 3SB2902-0AA single frame.

SIRIUS 3SB2 pushbuttons and indicator lights, 16 mm

Complete units

	Version		Contact blocks	Color of actuator	Flat connectors	•	PU (UNIT, SET, M)	PS*	PG
					Article No.	Price per PU			
	Selectors, 2 switch positions Switching sequence O-I, actuating angle 62°, latching		1 NO 1 NO 1 NO 1 NO	Black Red Green White	3SB2202-2AB01 3SB2202-2AC01 3SB2202-2AE01 3SB2202-2AG01	Pro C	1 1 1 1	1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J
3SB2202-2AC01	Selectors, 3 switch positions Switching sequence I-O-II, actuating angle 2 x 62°, latching		1 NO, 1 NO 1 NO, 1 NO 1 NO, 1 NO 1 NO, 1 NO	D Red D Green	3SB2210-2DB01 3SB2210-2DC01 3SB2210-2DE01 3SB2210-2DG01		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J
	Selectors, 3 switch positions Switching sequence I-O-II, actuating angle 2 x 50°, momentary contact		1 NO, 1 NO 1 NO, 1 NO 1 NO, 1 NO 1 NO, 1 NO	D Red D Green	3SB2210-2EB01 3SB2210-2EC01 3SB2210-2EE01 3SB2210-2EG01		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J
	Version	Contact	Lock No.	Key removal position	Flat connectors	0	PU (UNIT, SET, M)	PS*	PG
					Article No.	Price per PU			
	CES key-operated switches ¹⁾ , 2 switch positions Switching sequence O-I, actuating angle 62°, latching	1 NO 1 NO	SB2 SB2	O O + I	3SB2202-4LA01 3SB2202-4LB01	pro e	1	1 unit 1 unit	41J 41J
	CES key-operated switches ¹⁾ ,	1 NO,	SB2	0	3SB2210-4PA01		1	1 unit	41J
3SB2202-4LB01	switches?, 3 switch positions Switching sequence I-O-II, actuating angle 2 x 62°, latching	1 NO 1 NO, 1 NO	SB2	I + O + II	3SB2210-4PB01		1	1 unit	41J
	CES key-operated switch ¹ /, 3 switch positions Switching sequence I-O-II, actuating angle 2 x 50°, momentary contact	1 NO, 1 NO	SB2	0	3SB2210-4QA01		1	1 unit	41J

Also available with additional locking systems. The article number must be supplemented with "-Z", the order code "Y01" and the required lock number.

	Version	Color of screw lens	Flat connectors	•	PU (UNIT, SET, M)	PS*	PG
			Article No.	Price er PU			
	Indicator lights Lampholder W2 x 4.6 d without lamp ¹⁾	Red Yellow Green White Clear	3SB2204-6BC06 3SB2204-6BD06 3SB2204-6BE06 3SB2204-6BG06 3SB2204-6BH06		1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J
3SB2224-6BE06	Indicator lights Lampholder W2 x 4.6 d with 24 V incandescent lamp	Red Yellow Green White Clear	3SB2224-6BC06 3SB2224-6BD06 3SB2224-6BE06 3SB2224-6BG06 3SB2224-6BH06		1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J

¹⁾ Wedge base lamps, see "Accessories", page 13/154.

Commanding and signaling devices SIRIUS 3SB2 pushbuttons and indicator lights, 16 mm

Actuating and signaling elements

Selection and ordering data

Selection and orderi	ng data						
	Version	Color of actuator	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Pushbuttons							
	Pushbuttons with flat button	Black Red Yellow Green Blue White Clear ¹⁾	3SB2000-0AB01 3SB2000-0AC01 3SB2000-0AD01 3SB2000-0AE01 3SB2000-0AF01 3SB2000-0AG01 3SB2000-0AH01		1 1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J 41J
3SB2000-0AF01	Illuminated pushbuttons with flat button	Red Yellow ¹⁾ Green Blue White Clear ¹⁾	3SB2001-0AC01 3SB2001-0AD01 3SB2001-0AE01 3SB2001-0AF01 3SB2000-0AG01 3SB2000-0AH01		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J
3SB2000-0LF01	Pushbuttons with raised button	Black Red Yellow Blue White Clear ¹⁾	3SB2000-0LB01 3SB2000-0LC01 3SB2000-0LD01 3SB2000-0LF01 3SB2000-0LG01 3SB2000-0LH01		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J
	Illuminated pushbuttons with raised button	Red Yellow ¹⁾ Green Blue Clear ¹⁾	3SB2001-0LC01 3SB2001-0LD01 3SB2001-0LE01 3SB2001-0LF01 3SB2000-0LH01		1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J
3SB2000-1AC01	EMERGENCY STOP mushroom pushbutton according to ISO 13850, latching ²) Latches automatically when pressed; unlatches by turning the mushroom head counterclockwise	Red	3SB2000-1AC01		1	1 unit	41J

- 1) Inscription with insert labels is possible.
- 2) The mushroom pushbutton cannot be combined with 3SB2902-0AB backing plate or 3SB2902-0AA single frame.

	Version		Color of actuator	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Selectors								
3SB2000-2AB01	Selectors with 2 switch positions Switching sequence O-I, actuating angle 62°, latching	OVI	Black Red Green White	3SB2000-2AB01 3SB2000-2AC01 3SB2000-2AE01 3SB2000-2AG01		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J
	Selectors with 2 switch positions Switching sequence O-I, actuating angle 50°, momentary contact (reset from the right)	Q I	Black Red Green	3SB2000-2BB01 3SB2000-2BC01 3SB2000-2BE01		1 1 1	1 unit 1 unit 1 unit	41J 41J 41J
	Selectors with 2 switch positions Switching sequence O-I, actuating angle 90°, latching	0	Black Red Green White	3SB2000-2HB01 3SB2000-2HC01 3SB2000-2HE01 3SB2000-2HG01		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J
	Selectors with 3 switch positions Switching sequence I-O-II, actuating angle 2 x 62°, latching		Black Red Green White	3SB2000-2DB01 3SB2000-2DC01 3SB2000-2DE01 3SB2000-2DG01		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J
	Selectors with 3 switch positions Switching sequence I-O-II, actuating angle 2 x 50°, momentary contact		Black Red Green White	3SB2000-2EB01 3SB2000-2EC01 3SB2000-2EE01 3SB2000-2EG01		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J
	Selector with 3 switch positions Switching sequence I-O-II, actuating angle 2 x 90°, latching		Black	3SB2000-2JB01		1	1 unit	41J

SIRIUS 3SB2 pushbuttons and indicator lights, 16 mm

Actuating and signaling elements

	Version		Lock No.	Key removal position	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Key-operated switch	es								
	CES key-operated switches ¹⁾ (with 2 keys, 2 switch positions Switching sequence O-I, actuating angle 62°, latching	S\I	SB2	O+I O	3SB2000-4LB01 3SB2000-4LA01		1 1	1 unit 1 unit	41J 41J
3SB2000-4LB01	CES key-operated switch ¹⁾ with 2 keys, 2 switch positions Switching sequence O-I, actuating angle 50°, momentary contact	∀ 1	SB2	0	3SB2000-4MA01		1	1 unit	41J
	CES key-operated switches ¹⁾ with 2 keys, 3 switch positions Switching sequence I-O-II, actuating angle 2 x 62°, latching	$\stackrel{\circ}{\psi}$ "	SB2	I+O+II O I	3SB2000-4PB01 3SB2000-4PA01 3SB2000-4PC01		1 1 1	1 unit 1 unit 1 unit	41J 41J 41J
	CES key-operated switch ¹⁾ with 2 keys, 3 switch positions Switching sequence I-O-II, actuating angle 2 x 50°, momentary contact	∜ ∥	SB2	0	3SB2000-4QA01		1	1 unit	41J
 Also available with additi supplemented with "-Z", 	onal locking systems. The article nur the order code "Y01" and the requir	mber mi red lock	ust be number.						
	Version		Color of screw le		Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Indicator lights									
	Indicator lights with concentric rings (Inscription with insert caps is no possible)	t	Red Yellow Green Blue White Clear		3SB2001-6BC06 3SB2001-6BD06 3SB2001-6BE06 3SB2001-6BF06 3SB2001-6BG06 3SB2001-6BH06		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J 41J
3SB2001-6BD06	Indicator lights, smooth For inscription with insert caps 1)		Red Yellow Green Blue Clear		3SB2001-6CC06 3SB2001-6CD06 3SB2001-6CE06 3SB2001-6CF06 3SB2001-6CH06		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J

¹⁾ For insert caps, see "Accessories", page 13/151.

SIRIUS 3SB2 pushbuttons and indicator lights, 16 mm

Contact blocks and lampholders

Selection and ordering data

Version	Graphic symbols Operating travel Contact closed Contact open	Flat connectors	0	PU (UNIT, SET, M)	PS*	PG
		Article No.	Price			

Contact blocks and lampholders with

flat connectors 2 x 2.8 - 0.8 mm according to IEC 60760

identification number 1-2



Holder for fixing the actuator and the contact blocks Holders for 2 contact blocks Inscription with

3SB2908-0AA

5 units 41J

3SB2908-0AA



3SB2304-2A

Lampholders with holder for fixing the actuator and the contact blocks Lampholder 3SB2304-2A X1 X2 --

without lamp ¹⁾	(L+) (L-) NSD0_00003	
Lampholders W2 x 4.6 d	X1 X2	

• With 6 V incandescent lamp

• With 24 V incandescent lamp

3SB2304-2F 3SB2304-2H 1 unit 41J



Contact blocks for fixing in the holder or lampholder

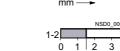
Contact blocks with one contact²⁾



1 NC →

















1 unit

1 unit

1 unit

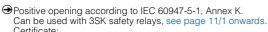
41J

41J

41J

41J







¹⁾ Wedge base lamps, see page 13/154.

²⁾ Plug-in and insulating sleeves, see page 13/155.

SIRIUS 3SB2 pushbuttons and indicator lights, 16 mm

Contact blocks and lampholders

			-				-	
	Version	Graphic symbols	Operating travel Contact closed Contact open	Solder pin connections	H	PU (UNIT, SET, M)	PS*	PG
			Contact open	Article No.	Price			
Contact blocks a	and lampholders with s	older pins			per PU			
GAMERICAN STATESTON STATES	Holders for contact block with solder pins For mounting the actuators in the front pane			3SB2908-0AB		1	5 units	41J
3\$B2908-0AB	Lampholder Wedge base W2 x 4.6 d without lamp ¹⁾	(L+) X1		3SB2455-2A		1	1 unit	41J
5/10	Contact blocks 1 NO	H.3 1.4	NSD0_00015 3-4	3SB2455-0B		1	1 unit	41J
3SB2455-0B	1 NC ⊕	.1 	1-2 NSD0_00017 0 1 2 3 4 mm 1,6	3SB2455-0C		1	1 unit	41J
	1 NO + 1 NC →	13 21 	21-22 NSD0_00019 0 1 2 3 4 1,6	3SB2455-0J		1	1 unit	41J
	1 NO + 1 NO	13 23 	13-14 NSD0 00021 23-24 NSD0 00021 0 1 2 3 4 mm 2,3	3SB2455-0E		1	1 unit	41J
	1 NC + 1 NC →	11 21 	21-22 11-12 0 1 2 3 4 1,6	3SB2455-0F		1	1 unit	41J
1 1	Contact blocks and lam		e base W2 x 4.6 d without lamp			4	4 unit	44.1
	INO	13 X1 	13-14 NSD0_01082 0 1 2 3 4 mm 2,3	3SB2455-1B		1	1 unit	41J
3SB2455-1B	1 NC ⊕	21 X1 /	21-22 NSD0_91083 0 1 2 3 4 1,6	3SB2455-1C		1	1 unit	41J
	1 NO + 1 NC →	13 21 X1 	21-22 NSD0_00019 0 1 2 3 4 mm 1,6	3SB2455-1J		1	1 unit	41J
	1 NO + 1 NO	13 23 X1 	13-14 NSD0_00021 23-24 0 1 2 3 4 2,3	3SB2455-1E		1	1 unit	41J
	1 NC + 1 NC →	11 21 X1 	21-22 11-12 0 1 2 3 4 mm 1,6	3SB2455-1F		1	1 unit	41J

[→] Positive opening according to IEC 60947-5-1, Annex K. Can be used with 3SK safety relays, see page 11/1 onwards. Certificate:



¹⁾ Wedge base lamps, see page 13/154.

Commanding and signaling devices IUS 3SB2 pushbuttons and indicator lights, 16 mm

SIRIUS 3SB2 pushbuttons and indicator lights, 16 mm Accessories and spare parts

Insert labels and insert caps

Overview

Clear pushbuttons, illuminated pushbuttons and indicator lights can be fitted with insert labels and caps for identification purposes.

The insert labels and insert caps are made of a milky-transparent plastic with black lettering; they can be fitted in any 90° angle.

Inscription

The inscriptions have upper case initial letters. Graphic symbols, including those not listed in the catalog, are according to ISO 7000 or IEC 60417.

Customized inscriptions, see "Options", page 13/152.

Selection and ordering data

	Inscription/symbol	Symbol No.	Insert labels For pushbuttons and illuminated pushbuttons, flat Article No. Price	PU (UNIT, SET, M)	PS*	PG
			per PU			
For self-inscript						
3SB2901-4AA	Blank	-	3SB2901-4AA	100	10 units	41J
With inscription						
Ein	Ein Aus Auf Ab	- - -	3SB2901-4AB 3SB2901-4AC 3SB2901-4AD 3SB2901-4AE	100 100 100 100	10 units 10 units 10 units 10 units	41J 41J 41J 41J
3SB2901-4AB	Vor Zurück Rechts Links	 	3SB2901-4AF 3SB2901-4AG 3SB2901-4AH 3SB2901-4AJ	100 100 100 100	10 units 10 units 10 units 10 units	41J 41J 41J 41J
	Halt Zu Langsam Störung	 	3SB2901-4AK 3SB2901-4AL 3SB2901-4AN 3SB2901-4AQ	100 100 100 100	10 units 10 units 10 units 10 units	41J 41J 41J 41J
On 3SB2901-4EB	On Start Stop Reset Test	 	3SB2901-4EB 3SB2901-4EK 3SB2901-4EL 3SB2901-4EM 3SB2901-4EN	100 100 100 100 100	10 units 10 units 10 units 10 units 10 units	41J 41J 41J 41J 41J
	0 1 2 3 4	 	3SB2901-4RA 3SB2901-4RB 3SB2901-4RC 3SB2901-4RD 3SB2901-4RE	100 100 100 100 100	10 units 10 units 10 units 10 units 10 units	41J 41J 41J 41J 41J
	5 6 7 8 9	 	3SB2901-4RF 3SB2901-4RG 3SB2901-4RH 3SB2901-4RJ 3SB2901-4RK	100 100 100 100 100	10 units 10 units 10 units 10 units 10 units	41J 41J 41J 41J 41J
Graphic ON/OF	F symbols					
	O (Off)	5008 IEC	3SB2901-4MB	100	10 units	41J
	I (On)	5007 IEC	3SB2901-4MC	100	10 units	41J
	II (On)	-	3SB2901-4MD	100	10 units	41J

SIRIUS 3SB2 pushbuttons and indicator lights, 16 mm Accessories and spare parts

Insert labels and insert caps

Elactro motor		Inscription/symbol		Symbol No.		Insert labels For pushbuttons and illuminated pushbuttons, flat Article No. Price per PU	PU (UNIT, SET, M)	PS*	PG
Horn	Graphic equipn	nent symbols				·			
SB2901-4PA Pump		Electric motor	-	0011 ISO	:	3SB2901-4PA	100	10 units	41J
SB2901-4PA Pump		Horn	П1	5014 IEC	;	3SB2901-4PB	100	10 units	41J
Motion in direction of arrow (straight)	3SB2901-4PA	Pump		0134 ISO		3SB2901-4PD	100	10 units	41J
Motion in direction of arrow (straight)		Coolant pump		0355 ISO	:	3SB2901-4PE	100	10 units	41J
Motion in direction of arrow (diagonal)	Graphic motion	symbols							_
Clockwise rotation		Motion in direction of arrow (straight)	\rightarrow	5022 IEC		3SB2901-4NA	100	10 units	41J
Counterclockwise rotation	→ 5	Motion in direction of arrow (diagonal)	K		;	3SB2901-4NB	100	10 units	41J
Fast motion	3SB2901-4NA	Clockwise rotation	~	0004 ISO	;	3SB2901-4NC	100	10 units	41J
Increase (plus)		Counterclockwise rotation			;	3SB2901-4ND	100	10 units	41J
Decrease (minus)		Fast motion	൜	0266 ISO	:	3SB2901-4NE	100	10 units	41J
Clamp		Increase (plus)	+	5005 IEC		3SB2901-4NG	100	10 units	41J
Clamp Release Release Release HIP 3SB2901-4QK Release brake O021 ISO 3SB2901-4QF 100 10 units 41J Lock Unlock Unlock O022 ISO 3SB2901-4QF 100 10 units 41J On/Off, momentary contact O023 ISO 3SB2901-4QF O023 ISO 3SB2901-4QF O010 IDO 100 10 units 41J On/Off, momentary contact O023 ISO 3SB2901-4QG O010 IDO 100 10 units 41J Manual operation O096 ISO 3SB2901-4QL O017 ISO SB2901-4QL O017 ISO SB2901-4QL O010 IDO 100 IDO 101 units 41J Customized inscriptions Inscription of choice (see "Options", page 13/152) 1 line of text with up to 6 characters with 3 mm font height. Please add the appropriate order code to the article number and specify the line of text required. Other graphic symbols Please add the order code "K3Y" to the article number and specify the serial number and the applied standard (ISO 7000 or IEC 60417). Any inscription or symbol Please add the order code "K9Y" to the article number and specify Please add the order code "K9Y" to the article number and specify Please add the order code "K9Y" to the article number and specify Please add the order code "K9Y" to the article number and specify Please add the order code "K9Y" to the article number and specify Please add the order code "K9Y" to the article number and specify Please add the order code "K9Y" to the article number and specify Please add the order code "K9Y" to the article number and specify Please add the order code "K9Y" to the article number and specify Please add the order code "K9Y" to the article number and specify Please add the order code "K9Y" to the article number and specify Please add the order code "K9Y" to the article number and specify Please add the order code "K9Y" to the article number and specify Please add the order code "K9Y" to the article number and specify Please add the order code "K9Y" to the article number and specify		, ,	<u> </u>	5006 IEC		3SB2901-4MC	100	10 units	41J
Release Release Release brake O021 ISO Release Drake O022 ISO Release Drake O023 ISO Release Drake O023 ISO Release Drake O024 ISO Release Drake O025 ISO Release Drake O026 ISO Release Drake O027 ISO Release Drake O027 ISO Release Drake O028 ISO Release Drake O028 ISO Release Drake O029 ISO Release O029 ISO Release Drake O029 ISO Release O03 ISO Release O04 ISO Release O04 ISO Release O04 ISO	Graphic contro							40 "	
Release brake	TIM	·	-						
Lock O022 ISO 3SB2901-4QF 100 10 units 41J Unlock On/Off, momentary contact On/Off, momentary contact On/Off, momentary contact On/Off, momentary contact On/Off momentary contact O023 ISO SB2901-4QG 100 10 units 41J Manual operation O096 ISO SB2901-4QK 100 10 units 41J Automatic sequence O017 ISO SB2901-4QL 100 10 units 41J Customized inscriptions Inscription of choice (see "Options", page 13/152) 1 line of text with up to 6 characters with 3 mm font height. Please add the appropriate order code to the article number and specify the serial number and the applied standard (ISO 7000 or IEC 60417). Any inscription or symbol Please add the order code "K3Y" to the article number and specify the serial number and the applied standard (ISO 7000 or IEC 60417). Any inscription or symbol Please add the order code "K9Y" to the article number and specify Please add the order code "K9Y" to the article number and specify R9Y 1 1 unit 41J	111		< >						
Unlock On/Off, momentary contact On/Off, momentary On/Off, momen	3SB2901-4QK	Release brake	$\Leftarrow \bigcirc$	0021 ISO		3SB2901-4QE	100	10 units	41J
On/Off, momentary contact Manual operation Automatic sequence O096 ISO SB2901-4QK 100 10 units 41J Automatic sequence O017 ISO SB2901-4QL 100 10 units 41J Customized inscriptions Inscription of choice (see "Options", page 13/152) 1 line of text with up to 6 characters with 3 mm font height. Please add the appropriate order code to the article number and specify the line of text required. Other graphic symbols Please add the order code "K3Y" to the article number and specify the serial number and the applied standard (ISO 7000 or IEC 60417). Any inscription or symbol Please add the order code "K9Y" to the article number and specify to the article number and specify the serial number and the applied standard (ISO 7000 or IEC 60417). Any inscription or symbol Please add the order code "K9Y" to the article number and specify to the article number and specify to the article number and specify to the article number and specify to the article number and specify to the article number and specify the serial number and the applied standard (ISO 7000 or IEC 60417).		Lock	↓	0022 ISO		3SB2901-4QF	100	10 units	41J
Manual operation Automatic sequence O017 ISO SB2901-4QL 100 10 units 41J Customized inscriptions Inscription of choice (see "Options", page 13/152) 1 line of text with up to 6 characters with 3 mm font height. Please add the appropriate order code to the article number and specify the line of text required. Other graphic symbols Please add the order code "K3Y" to the article number and specify the serial number and the applied standard (ISO 7000 or IEC 60417). Any inscription or symbol Please add the order code "K9Y" to the article number and specify Please add the order code "K9Y" to the article number and specify Please add the order code "K9Y" to the article number and specify Please add the order code "K9Y" to the article number and specify Please add the order code "K9Y" to the article number and specify Please add the order code "K9Y" to the article number and specify Please add the order code "K9Y" to the article number and specify		Unlock	1	0023 ISO		3SB2901-4QG	100	10 units	41J
Automatic sequence Outomized inscriptions Inscription of choice (see "Options", page 13/152) 1 line of text with up to 6 characters with 3 mm font height. Please add the appropriate order code to the article number and specify the line of text required. Other graphic symbols Please add the order code "K3Y" to the article number and specify the serial number and the applied standard (ISO 7000 or IEC 60417). Any inscription or symbol Please add the order code "K9Y" to the article number and specify the serial number and the applied standard (ISO 7000 or IEC 60417). Please add the order code "K9Y" to the article number and specify the serial number and the applied standard (ISO 7000 or IEC 60417). The serial number and the applied standard (ISO 7000 or IEC 60417). Any inscription or symbol Please add the order code "K9Y" to the article number and specify the serial number and specify the		On/Off, momentary contact	\oplus	5011 IEC		3SB2901-4QJ	100	10 units	41J
Customized inscriptions Inscription of choice (see "Options", page 13/152) 1 line of text with up to 6 characters with 3 mm font height. Please add the appropriate order code to the article number and specify the line of text required. Other graphic symbols Please add the order code "K3Y" to the article number and specify the serial number and the applied standard (ISO 7000 or IEC 60417). Any inscription or symbol Please add the order code "K9Y" to the article number and specify the serial number and the applied standard (ISO 7000 or IEC 60417). Please add the order code "K9Y" to the article number and specify the serial number and specify to the article number and specify the serial number and specify the seria		Manual operation	Sur	0096 ISO		3SB2901-4QK	100	10 units	41J
Inscription of choice (see "Options", page 13/152) 1 line of text with up to 6 characters with 3 mm font height. Please add the appropriate order code to the article number and specify the line of text required. Other graphic symbols Please add the order code "K3Y" to the article number and specify the serial number and the applied standard (ISO 7000 or IEC 60417). Any inscription or symbol Please add the order code "K9Y" to the article number and specify the serial number and the applied standard (ISO 7000 or IEC 60417). Any inscription or symbol Please add the order code "K9Y" to the article number and specify the serial number and specify the seria		Automatic sequence	@	0017 ISO		3SB2901-4QL	100	10 units	41J
1 line of text with up to 6 characters with 3 mm font height. Please add the appropriate order code to the article number and specify the line of text required. Other graphic symbols Please add the order code "K3Y" to the article number and specify the serial number and the applied standard (ISO 7000 or IEC 60417). Any inscription or symbol Please add the order code "K9Y" to the article number and specify the serial number and the applied standard (ISO 7000 or IEC 60417). Any inscription or symbol Please add the order code "K9Y" to the article number and specify the serial number and specify the	Customized ins	criptions							
Please add the appropriate order code to the article number and specify the line of text required. Other graphic symbols Please add the order code "K3Y" to the article number and specify the serial number and the applied standard (ISO 7000 or IEC 60417). Any inscription or symbol Please add the order code "K9Y" to the article number and specify the serial number and the applied standard (ISO 7000 or IEC 60417). Any inscription or symbol Please add the order code "K9Y" to the article number and specify Yey 1 1 unit 41J									
Please add the order code "K3Y" to the article number and specify the serial number and the applied standard (ISO 7000 or IEC 60417). Any inscription or symbol Please add the order code "K9Y" to the article number and specify K3Y 1 1 unit 41J 41J		Please add the appropriate order code to							
the serial number and the applied standard (ISO 7000 or IEC 60417). Any inscription or symbol Please add the order code "K9Y" to the article number and specify K9Y 1 1 unit 41J		Other graphic symbols				3SB2901-4AZ			
Please add the order code "K9Y" to the article number and specify K9Y 1 1 unit 41J		the serial number and the applied standar					1	1 unit	41J
		Please add the order code "K9Y" to the a	article num	ber and specify			1	1 unit	41J

Commanding and signaling devices SIRIUS 3SB2 pushbuttons and indicator lights, 16 mm Accessories and spare parts

Insert labels and insert caps

	Inscription/symbol		Symbol No.	Insert caps For pushbuttons an illuminated pushbu		PU (UNIT, SET, M)	PS*	PG	
				Article No.	Price				
For self-inscrip	tion			_	per PU				
Tor seri-inscrip	Blank			3SB2901-5AA		100	10 units	41J	
3SB2901-5AA									
With inscription	1								
	On Aus			3SB2901-5EB 3SB2901-5AC		100 100	10 units 10 units	41J 41J	
On	Auf			3SB2901-5AD		100	10 units	41J	
	<u>Zu</u> 0			3SB2901-5AL		100	10 units	41J 41J	
3SB2901-5EB	1			3SB2901-5RA 3SB2901-5RB		100 100	10 units 10 units	41J 41J	
Aus	2 3			3SB2901-5RC 3SB2901-5RD		100 100	10 units 10 units	41J 41J	
1.00	4			3SB2901-5RE		100	10 units	41J	
3SB2901-5AC	5			3SB2901-5RF		100	10 units	41J	
0022001 0/10	6 7			3SB2901-5RG 3SB2901-5RH		100 100	10 units 10 units	41J 41J	
	8			3SB2901-5RJ 3SB2901-5RK		100 100	10 units 10 units	41J 41J	
Graphic ON/OF	0			OODESOT ONK		100	10 driits	410	
	O (Off)		5008 IEC	3SB2901-5MB		100	10 units	41J	
		\bigcirc							
	I (On)	1	5007 IEC	3SB2901-5MC		100	10 units	41J	
		<u> </u>							
Graphic motion	<u> </u>								
	Motion in direction of arrow	\rightarrow	5022 IEC	3SB2901-5NA		100	10 units	41J	
\rightarrow	Motion in direction of arrow	K		3SB2901-5NB		100	10 units	41J	
0000004 5144	Increase (plus)	1	5005 IEC	3SB2901-5NG		100	10 units	41J	
3SB2901-5NA	,	+							
	Decrease (minus)		5006 IEC	3SB2901-5MC		100	10 units	41J	
Graphic contro	symbols								
	Clamp	→ ←		3SB2901-5QB		100	10 units	41J	
	Release	↔		3SB2901-5QC		100	10 units	41J	
Customized ins	criptions								
	Inscription of choice (see "Options", pag	je 13/152)		3SB2901-5AZ					
	1 line of text with up to 6 characters with 3			K0Y		1	1 unit	41J	
	Please add the appropriate order code to and specify the line of text required.	the article	e number	K1Y or K2Y		1	1 unit	41J	
	Other graphic symbols			3SB2901-5AZ					
	Please add the order code "K3Y" to the ar	ticle numb	per and specify	КЗҮ		1	1 unit	41J	
		the serial number and the applied standard (ISO 7000 or IEC 60417).							
	Any inscription or symbol Please add the order code "K9Y" to the a	rticle num	her and specify	3SB2901-5AZ K9Y		1	1 unit	41J	
	Please add the order code "K9Y" to the article number and specify the inscription or the symbol required.					'	i dilit	710	

SIRIUS 3SB2 pushbuttons and indicator lights, 16 mm Accessories and spare parts

Insert labels and insert caps

	Inscription/symbol	Symbol No.	Insert caps For indicator lights	PU (UNIT, SET, M)	PS*	PG
			Article No. Pr			
For self-inscripti	on					
	Blank		3SB2901-7AA	100	10 units	41J
3SB2901-7AA With inscription						
With inscription	Betrieb		3SB2901-7AP	100	1 unit	41J
Patrioh	Störung		3SB2901-7AQ	100	10 units	41J
Betrieb	v					
3SB2901-7AP						
Graphic symbols				_		
TIM	Pump	0134 ISO	3SB2901-7PD	100	10 units	41J
	Manual operation	0096 ISO	3SB2901-7QK	100	10 units	41J
3SB2901-7QK Customized inso	rintions					
Custoffized insc	Inscription of choice (see "Options")		3SB2901-7AZ			
	1 line of text with up to 6 characters with 3 mm font	height.	KOY	1	1 unit	41J
	Please add the appropriate order code to the article and specify the line of text required.	e number	K1Y or K2Y	1	1 unit	41J
	Other graphic symbols		3SB2901-7AZ			
	Please add the order code "K3Y" to the article number the serial number and the applied standard (ISO 700)		КЗҮ	1	1 unit	41J
	Any inscription or symbol		3SB2901-7AZ			
	Please add the order code "K9Y" to the article num the inscription or the symbol required.	ber and specify	К9Ү	1	1 unit	41J

Options

Customized inscriptions

Labels and caps can be inscribed with text and symbols not listed in the ordering data. Add one of the following order codes to the article number:

- Text line in upper/lower case, always upper case for beginning of line (e.g. "Lift"): KOY
- Text line in upper case (e.g. "LIFT"): K1Y
- Text line in lower case (e.g. "lift"): **K2Y**
- Symbol with number according to ISO 7000 or IEC 60417: K3Y
- Any inscription or symbols according to order form supplement: K9Y

When ordering, specify the required inscription in plain text in addition to the article number and order code. In the case of custom inscriptions with words in languages other than German, give the exact spelling and specify the language.

One line with up to 6 characters with 3 mm font height is possible for the inscription (see ordering example 1).

Symbols can also be ordered with numbers according to ISO 7000 or IEC 60417 (see ordering examples 2 and 3).

For special symbols (order code K9Y), a CAD drawing in DXF format can be submitted.

Ordering example 1

3SB2901-4AZ K1Y

Z1=Pump

Ordering example 2

3SB2901-4AZ K3Y

Z=5008 IEC

Ordering example 3

3SB2901-4AZ K3Y

Z=1118 ISO

SIRIUS 3SB2 pushbuttons and indicator lights, 16 mm Accessories and spare parts

Backing plates

Overview

The backing plates consist of a black plastic label holder and a labeling plate (silver with black print) for sticking in place.

Note mounting dimensions!

Inscription

The inscriptions (also custom inscriptions) are in lower case with upper case initial letters. Graphic symbols, including those not listed in the catalog, are according to ISO 7000 or IEC 60417. For customized inscriptions, see "Options".

Selection and ordering data

	Inscription/symbol	Symbol No.	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Labeling plates	s, self-adhesive, 9.5 mm × 18.5 mm						
	Blank		3SB2901-2AA		100	10 units	41J
	Ein		3SB2901-2AB		100	10 units	41J
3SB2901-2AA	Aus Auf		3SB2901-2AC 3SB2901-2AD		100 100	10 units 10 units	41J 41J
	Zu		3SB2901-2AL		100	10 units	41J
Ein	Vor		3SB2901-2AF		100	10 units	41J
3SB2901-2AB	Zurück		3SB2901-2AG		100	10 units	41J
	Schnell Langsam		3SB2901-2AM 3SB2901-2AN		100 100	10 units 10 units	41J 41J
	Betrieb	-	3SB2901-2AP		100	10 units	41J
	Störung		3SB2901-2AQ		100	10 units	41J
	Einrichten		3SB2901-2AR		100	10 units	41J
0-	On Off		3SB2901-2EB 3SB2901-2EC		100 100	10 units 10 units	41J 41J
On	Start		3SB2901-2EL		100	10 units	41J
3SB2901-2EB	Reset		3SB2901-2EM		100	10 units	41J
Hand Auto	Fault		3SB2901-2EW		100	10 units	41J
Hallu Auto	Hand Auto Hand O Auto		3SB2901-2BA 3SB2901-2BE		100 100	10 units 10 units	41J 41J
3SB2901-2BA	Man O Auto		3SB2901-2ET		100	10 units	41J
	Graphic symbols						
\rightarrow	O (Off)	5008 IEC	3SB2901-2MB		100	10 units	41J
3SB2901-2NA)					
	I (On)	5007 IEC	3SB2901-2MC		100	10 units	41J
	O I (horizontal)		3SB2901-2MF		100	10 units	41J
	Motion in direction of arrow	→ 5002 IEC	3SB2901-2NA		100	10 units	41J
	Customized inscriptions or symbols		3SB2901-2XZ				
	(see "Options")		KOY		1	10 units	41J
			K1Y, K2Y or K3Y		1	10 units	41J
			K9Y		1	10 units	41J
I abel holders t	for label size 9.5 mm x 18.5 mm		ROT			TO UTILIS	410
<u> </u>	Label holder for labeling plate		3SB2902-0AB		100	10 units	41J
3SB2902-0AB	The label holders must not be used with the 3SB21AC01 EMERGENCY STOP mushroor pushbutton.	n			.53		0

Options

Customized inscriptions

The labels can be inscribed with text and symbols not listed in the ordering data. Add one of the following order codes to the article number:

- Text line(s) in upper/lower case, always upper case for beginning of line (e.g. "Lift off"): K0Y
- Text line(s) in upper case (e.g. "LIFT OFF"): K1Y
- Text line(s) in lower case (e.g. "lift off"): K2Y
- Symbol with number according to ISO 7000 or IEC 60417: K3Y
- Any inscription or symbols according to order form supplement: K9Y

When ordering, specify the required inscription in plain text in addition to the article number and order code. In the case of custom inscriptions with words in languages other than German, give the exact spelling and specify the language.

Two lines of 11 characters each are permitted with 4 mm letter height (1 line) or 3 mm (2 lines).

Symbols can also be ordered with numbers according to ISO 7000 or IEC 60417 (see ordering example).

For special symbols (order code K9Y), a CAD drawing in DXF format can be submitted.

Ordering example

3SB2901-2XZ K3Y Z=1118 ISO

SIRIUS 3SB2 pushbuttons and indicator lights, 16 mm Accessories and spare parts

Mounting parts and components

Selection and ordering	ng data							
	Version	Lamp voltage	Color	Article No.	Price per PU	PU (UNIT,	PS*	PG
		V				SET, M)		
Buttons and lenses ¹⁾								
	Buttons, flat		Black	3SB2910-0AB		100	10 units	41J
	For pushbuttons		Red	3SB2910-0AC		100	10 units	41J
			Yellow Green	3SB2910-0AD 3SB2910-0AE		100 100	10 units 10 units	41J 41J
			Blue	3SB2910-0AE		100	10 units	41J
3SB2910-0AF			White	3SB2910-0AG		100	10 units	41J
	Buttons, flat		Clear Red	3SB2910-0AH		100	10 units	41J 41J
	For illuminated pushbuttons		Yellow	3SB2910-0CC 3SB2910-0CD		100 100	10 units	41J
			Green	3SB2910-0CE		100	10 units	41J
			Blue White	3SB2910-0CF 3SB2910-0AG		100 100	10 units 10 units	41J 41J
3SB2910-0CF			Clear	3SB2910-0AH		100	10 units	41J
	Buttons, raised		Black	3SB2910-0BB		1	10 units	41J
	For pushbuttons		Red	3SB2910-0BC		1	10 units	41J
			Yellow Blue	3SB2910-0BD 3SB2910-0BF		1 1	10 units 10 units	41J 41J
			Clear	3SB2910-0BH			10 units	41J
3SB2910-0BD								
	Buttons, raised		Red	3SB2910-0DC		1	10 units	41J
	For illuminated pushbuttons		Yellow Blue	3SB2910-0DD 3SB2910-0DF		1 1	10 units 10 units	41J 41J
			Clear	3SB2910-0DF		1	10 units	41J
3SB2910-0DD								
	Screw lenses		Red Yellow	3SB2910-1AC 3SB2910-1AD		100 100	10 units 10 units	41J 41J
	With concentric rings		Green	3SB2910-1AD 3SB2910-1AE		100	10 units	41J
			Blue	3SB2910-1AF		100	10 units	41J
3SB2910-1AD			White Clear	3SB2910-1AG 3SB2910-1AH		100 100	10 units 10 units	41J 41J
35B2910-1AD	Screw lenses		Red	3SB2910-1BC		100	10 units	41J
	Smooth, for inscription with insert		Yellow	3SB2910-1BD		100	10 units	41J
	cap		Green	3SB2910-1BE		100	10 units	41J
			Blue Clear	3SB2910-1BF 3SB2910-1BH		100 100	10 units 10 units	41J 41J
3SB2910-1BE			Olcai	0002310 1011		100	10 driits	710
Keys for actuators								
	Key			3SB2908-2AJ		1	1 unit	41J
	For CES key-operated switch,							
No. of the last of	Lock No. SB2							
3SB2908-2AJ	0)							
Lamps, wedge bases	2)							
	Incandescent lamps	AC/DC	Clear	3SB2908-1AA		100	10 unito	411
(2)	Wedge base W2 x 4.6 d, 1.0 W	6 12		3SB2908-1AB		100 100	10 units 10 units	41J 41J
		24		3SB2908-1AC		100	10 units	41J
3SB2908-1AE		30 48		3SB2908-1AD 3SB2908-1AE		100	10 units 10 units	41J 41J
		60		3SB2908-1AF		i	10 units	41J
	LED lamps, super-bright	24 AC/DC	Red	3SB3901-1SB		1	10 units	41J
	Wedge base W2 x 4.6 d		Yellow Green	3SB3901-1RB 3SB3901-1TB		1 1	10 units 10 units	41J 41J
			White	3SB3901-1UB		i	10 units	41J
3SB3901-1SB			Blue	3SB2908-1BD		1	10 units	41J
4		28 AC/DC	Red	3SB3901-1SE		1	10 units	41J
			Yellow Green	3SB3901-1RE 3SB3901-1TE		1 1	10 units 10 units	41J 41J
			White	3SB3901-1UE		1	10 units	41J
3SB2908-1BD			Blue	3SB3901-1VE		1	10 units	41J
	Lamp extractor			3SB2908-2AB		1	1 unit	41J
	For lamps with base W2 x 4.6 d							
3SB2908-2AB								
1)								

¹⁾ Included in the scope of supply of actuators or indicator lights.

 $^{^{2)}\,}$ Included in the scope of supply of some complete units.

Commanding and signaling devices SIRIUS 3SB2 pushbuttons and indicator lights, 16 mm Accessories and spare parts

Mounting parts and components

						TIOTILO
	Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Accessories for com	mand points					
3SB2902-0AA	Single frames For square design ¹⁾	3SB2902-0AA		100	10 units	41J
3SB2908-2AG	Backing plates, yellow, Ø 50 mm As high-contrast background for EMERGENCY STOP, self-adhesive • Without inscription • With German inscription "NOT-HALT" • With German inscription "NOT-AUS"	3SB2908-2AF 3SB2908-2AG 3SB2908-2AK		1 1 1	1 unit 1 unit 1 unit	41J 41J 41J
3SB2908-3AA	Sealing plug Plastic, black (degree of protection IP65)	3SB2908-3AA		1	1 unit	41J
3SB2908-3AB	Protective cap, clear Silicone, for pushbuttons with flat and raised buttons	3SB2908-3AB		1	1 unit	41J
Flat connectors	Plug-in sleeves For flat connectors 2.8 x 0.8 mm, cross-section 0.5 1.5 mm ²	3SB2908-8AA		100	250 units	41J
3SB2908-8AA 3SB2908-8AB	Insulating sleeves For flat connectors, attachable from the front	3SB2908-8AB		100	250 units	41J
3SB2908-8AD	Complete connector ²⁾ For connecting contact blocks and lampholders (up to 10 connections) Ensure finger protection according to IEC 60529 and DGUV Regulation 3	3SB2908-8AD		1	1 unit	41J
3SB2908-8AE	Plug-in sleeves For flat connectors 2.8 x 0.8 mm, with latch spring for latching into complete connector	3SB2908-8AE		100	10 units	41J
3SB2908-2AA	Dismantling tool For holders and lampholders with holder	3SB2908-2AA		1	1 unit	41J
JJD25UU-ZAA	Mounting tool For buttons and screw lenses	3SB2908-2AC		1	1 unit	41J
3SB2908-2AC 6179 0950	Crimping tool for non-insulated connections, type KRBC 0560 ³⁾ For plug-in sleeves (both versions)	6179 0950				

¹⁾ Not suitable for EMERGENCY STOP mushroom pushbuttons.

 $^{^{2)}}$ Required 3SB2908-8AE plug-in sleeves for flat connectors 2.8 x 0.8 mm are not included in the scope of supply.

³⁾ Crimping tool available from: Lapp Kabel, Stuttgart, Germany (see page 16/18).

Commanding and signaling devices SIRIUS 3SE7 cable-operated switches

3SE7 metal enclosures

Overview



3SE7 cable-operated switches

More information

Homepage, see www.siemens.com/sirius-command SiePortal, see www.siemens.com/product?3SE7

Configuration Manual, see

https://support.industry.siemens.com/cs/ww/en/view/109758224

The cable-operated switches are used for monitoring or as EMERGENCY STOP devices on particularly endangered system components.

If the cable-operated switch and cable system is to function properly, the steel cable, cable clamps, cable eyes and eyebolts for the basic equipment must be ordered separately (see page 13/161).

As the effective range of a cable-operated switch is only limited by the length of the trip-wire, large systems can also be protected. Cable-operated switches (requiring pulling at both ends) and conveyor belt unbalance trackers are used primarily for monitoring very long belt systems.

Contact blocks

The switches for cable lengths up to 50 m are supplied with 1 NO + 1 NC, 2 NC, or 1 NO + 2 NC contacts and those up to 75 m with 1 NO + 3 NC contacts. The switches for cable lengths of 2 x 100 m and the conveyor belt unbalance tracker are supplied with 2 NO + 2 NC contacts.

The NC contacts for cable-break and cable-pull signaling are positive-opening. The NO contact can be used, for example, for signaling purposes.

Readiness for use and display

Cable-operated switches with one-sided operation are made ready for use by pre-tensioning the turnbuckle.

On switches with interlocking, with a pre-tensioned cable, the locking must be deactivated beforehand in order to return the cable-operated switch to its original position.

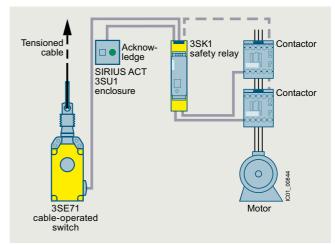
The cable-operated switch and the conveyor belt unbalance tracker can be supplied optionally with a factory-fitted LED (red, 24 V DC). This light in innovative chip-on-board technology allows the operating state of the switch to be visible at a distance of at least 50 m.

Application

Standards

The switches are equipped with latching mechanism and positive-opening NC contacts and are thus suitable for operation in EMERGENCY STOP devices according to standard ISO 13850.

Application examples



Design of a safety application with a SIRIUS 3SE71 cable-operated switch and a 3SK1 safety relay

For a detailed description of this example of how cable-operated switches can achieve different SIL/PL levels, see https://support.industry.siemens.com/cs/ww/en/view/109738710.

Additional application example:

Protective door monitoring using 3SE66 non-contact safety switches (magnetically operated switches) and EMERGENCY STOP shutdown using 3SE71 cable-operated switch up to SIL 3 or PL e by means of AS-i ET 200SP Master and AS-i SlimLine compact modules, see

https://support.industry.siemens.com/cs/ww/en/view/109747653.

3SE7 metal enclosures

Technical specifications

Article number		3SE7120-2	3SE7120-1	3SE7150	3SE7140	3SE7141	3SE7160	3SE7310
General data					_			
Standards		IEC 60947-5- IEC 60204-1,						
Approvals		UL/CSA						
Electrical design		Contacts elec	trically isolated	from each oth	ner			
Electrical load								
• 2-pole, at AC-15		400 V AC, 6 A				240 V AC, 2 A	400 V AC, 6 A	
• 3-pole, at AC-15		240 V AC, 2 A	A					
 4-pole, at AC-15 							400 V AC, 6 A	
Minimum		24 V AC/DC,	10 mA					
Short-circuit protection	Α	6 (slow)						
Mechanical endurance	Operat- ing cycles	1 000 000	100 000					
Contact material		Fine silver						
Operation		By cable pull	By cable pull	or cable brea	k			
Cable length, maximum	m	5		20	50	75	2 x 100	-
Distance between cable supports, max.	m	3			5		4	_
Enclosures								
Enclosure material		GD Al alloy, c	oated (color), d	dark black RAL	9005			
Cover		Impact-resista	ant thermoplas	t			Metal	
Degree of protection according to IEC 60529 ¹⁾		IP65				IP67	IP65	
Ambient temperature	°C	-25 +70						
Mounting		Designed for	M5					
Mounting distance	mm	30 and 40						
Cable entry		2 x (M20 x 1.5	5)		1 x (M20 x 1.5)	3 x (M20 x 1.5)	2 x (M25 x 1.5)	
					2 x (M25 x 1.5)			
Connection type		Screw termina	als M3.5, self-li	fting terminal c	lamp			

¹⁾ IP54 for versions with key-operated release.

3SE7 metal enclosures

Selection	and orderii	ng data							
		Version	Cable length	Contacts	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Cable-one	arated switc	hes for cable-pull and cable-	m broak r	nonitorina					
M	M	Metal enclosures, IP65	5	nomtoring					
A	A	(cover made of plastic)							
		 Without latching (only for cable-pull monitoring): 							
		- Spring, 55 N		1 NO + 1 NC →	3SE7120-2DD01		1	1 unit	41K
0 0		- Spring, 100 N		1 NO + 1 NC →	3SE7120-2DD01-1AS7		1	1 unit	41K
		With alignment window, with latching and button reset		2 NC →	3SE7120-1BF00		1	1 unit	41K
0057400	0057400	- With yellow cover		1 NO + 2 NC →	3SE7120-1BH00		1	1 unit	41K
3SE7120- 2DD01	3SE7120- 1BH00								
		Metal enclosures, IP65 (cover made of plastic), with alignment window	20						
		Without latching		1 NO + 1 NC →	3SE7150-2DD00		1	1 unit	41K
		With latching and button reset		1 NO + 1 NC →	3SE7150-1BD00		1	1 unit	41K
200				2 NC →	3SE7150-1BF00		1	1 unit	41K
0 0		- With yellow cover		1 NO + 2 NC →	3SE7150-1BH00		1	1 unit	41K
3SE7150- 2DD00	3SE7150- 1BH00								
		Metal enclosures, IP65 (cover made of plastic), with alignment window, with LED, red, 24 V DC	20						
		Without latching		1 NO + 1 NC →	3SE7150-2DD04		1	1 unit	41K
0 0		 With latching and button reset With yellow cover 		1 NO + 1 NC → 1 NO + 2 NC →	3SE7150-1BD04 3SE7150-1BH04		1 1	1 unit 1 unit	41K 41K
3SE7150- 1BD04	3SE7150- 1BH04								
		Metal enclosures, IP65 (cover made of plastic)	50						
MENTAL		With latching and button reset		1 NO + 1 NC → 2 NC →	3SE7140-1BD00 3SE7140-1BF00		1 1	1 unit 1 unit	41K 41K
9		 In addition with LED, red, 24 V DC 							
3SE7140-1E	3D00	- 1 x M20 x 1.5		1 NO + 1 NC →	3SE7140-1BD04		1	1 unit	41K
		- 2 x M25 x 1.5		1 NO + 1 NC →	3SE7140-1BD04-1AS6		1	1 unit	41K
		 With latching and key unlatching 		1 NO + 1 NC →	3SE7140-1CD00		1	1 unit	41K

[→] Positive opening according to IEC 60947-5-1, Annex K. Can be used with 3SK safety relays, see page 11/1 onwards. Certificate:



3SE7 metal enclosures

		Version	Cable length	Contacts	Article No.	Price per PU	PU (UNIT,	PS*	PG
							SÉT, M)		
Cable-one	arated swite	hes for cable-pull and cable-	m brook r	monitorina					
Cable-ope	erateu switt	Metal enclosures, IP67	DIEak I	nomtoring	_				
A	A	(cover made of plastic)							
		With EMERGENCY STOP mushroom, with rotate to unlatch	75	1 NO + 3 NC →	3SE7141-1EG10		1	1 unit	41K
		- With yellow cover		1 NO + 3 NC →	3SE7141-1EG10-0CA1		1	1 unit	41K
3SE7141-	3SE7141-								
1EG10	1EG10- 0CA1								
	00/11	Metal enclosures, IP65	2 x 100)					
9 6		with actuation on both sides							
		With latching and button reset		2 NO + 2 NC →	3SE7160-1AE00		1	1 unit	41K
		WW. 15D 1 241150		1 NO + 1 NC →	3SE7160-1BD00		1	1 unit	41K
		- With LED, red, 24 V DC		2 NO + 2 NC →	3SE7160-1AE04		1	1 unit	41K
3SE7160- 1AE04									
	belt unbala	ance trackers							
		Metal enclosures, IP65							
S MEMBER 6		 With latching and button reset 		2 NO + 2 NC →	3SE7310-1AE00		1	1 unit	41K
		- With LED, red, 24 V DC		2 NO + 2 NC →	3SE7310-1AE04		1	1 unit	41K
	T								
3SE7310- 1AE04									

→ Positive opening according to IEC 60947-5-1, Annex K. Can be used with 3SK safety relays, see page 11/1 onwards. Certificate:



Commanding and signaling devices

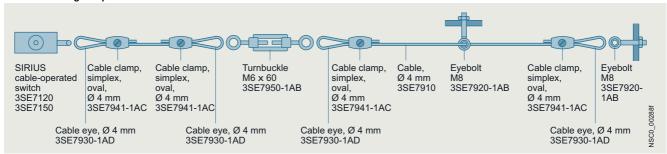
SIRIUS 3SE7 cable-operated switches

Accessories

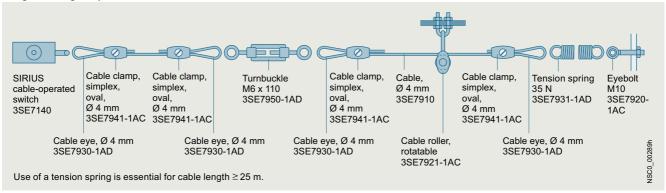
Overview

Configuration of the cable pulls

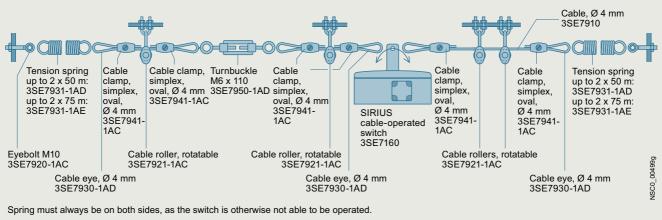
Short cable lengths up to 25 m



Long cable lengths up to 50 m



Actuation on both sides up to 2 x 100 m



Note:

Large temperature fluctuations require corresponding compensation springs. Cable supports must be used at the recommended intervals.

Accessories

Selection and ordering data

The basic equipment for the cable-operated switch and cable system includes: Steel cable, cable clamps, cable eyes and eyebolts

and eyebbils							
		Version	Length/ diameter	Article No. Pri	ce PU (UNIT, SET, M)	PS*	PG
Trip-wires wi	th fixing						
		Steel cables	10 m	3SE7910-3AA	1	1 unit	41K
		With red plastic sheath, Ø 4 mm, including sheath;	15 m 20 m	3SE7910-3AB 3SE7910-3AC	1	1 unit 1 unit	41K 41K
3SE7910-3AA		steel wire Ø 3.2 mm	50 m	3SE7910-3AH	i	1 unit	41K
00210100711		Cable clamps, galvanized white, zinc-p	olated				
(Y)		• Oval	Ø 4 mm	3SE7941-1AC	1	1 unit	41K
3SE7941-1AC	3SE7942-1AA	• Single (1 set = 4 units)	2 x Ø 4 mm	3SE7942-1AA	1	4 units	41K
		Simplex (1 set = 4 units)Duplex (1 set = 4 units)	Ø 4 mm 2 x Ø 4 mm	3SE7943-1AC 3SE7944-1AC	1	4 units 4 units	41K 41K
S		• Duplex (1 Set = 4 units)	2 X Ø 4 111111	33E/344-1AC		4 units	411
3SE7943-1AC	3SE7944-1AC						
		Tension springs (zinc-plated) To maintain the counter tension					
		• 13 N		3SE7931-1AB	1	1 unit	41K
		• 35 N, for cable pulls up to 50 m		3SE7931-1AD	1	1 unit	41K
3SE7931-1AB		• > 35 N, for cable pulls up to 2 x 75 m		3SE7931-1AE	1	1 unit	41K
0057001.140		Cable roller For changing the direction of the cable, rotatable	Ø 4 mm	3SE7921-1AC	1	1 unit	41K
3SE7921-1AC		Fixture for cable roller		3SE7921-1AA	1	1 unit	41K
3SE7921-1AA		(incl. fixing nuts)		002/321 TAA	,	T dillic	7110
3SE7930-1AD		Cable eyes For changing the direction of the cable and improved power transmission at the fixing points (1 set = 4 units)	Ø 4 mm	3SE7930-1AD	1	4 units	41K
		Bolts					
		Eyebolts for fixing the cable					
S		Including M8 nutIncluding M10 nut		3SE7920-1AB 3SE7920-1AC	1	1 unit 1 unit	41K 41K
3SE7920-1AB		_		33E/920-1AC	'	1 UIIII	4110
Q		 Lifting eyebolt, rotated for cable tensioning and low-wear cable routing in the case of frequent pulling 					
7		- Including M6 nut		3SE7922-1AB	1	1 unit	41K
3SE7922-1AB		Turnbuckles					
		For precise adjustment of the pre-tension	on				
		• M6 x 60		3SE7950-1AB	1	1 unit	41K
3SE7950-1AB		• M6 x 110		3SE7950-1AD	1	1 unit	41K
		Snap hooks DIN 5299, Form C, 50 mm For easy fastening of the cable to the te turnbuckle and lifting eyebolt Stainless steel (1 set = 2 units)	n x 5 mm Insion spring,	3SE7932-1AC	1	4 units	41K
3SE7932-1AC		,					
Spare parts							
25/2225		LED light, red 24 V DC 25 mm diameter; for M20 x 1.5 device connection		3SX3235	1	1 unit	41K
3SX3235							

Commanding and signaling devices SIRIUS 3SE2, 3SE3 foot switches

Plastic and metal enclosures

Overview



3SE29 foot switch with metal enclosure

More information
Homepage, see www.siemens.com/sirius-command
SiePortal, see www.siemens.com/product?3SE2
Configuration Manual, see https://support.industry.siemens.com/cs/ww/en/view/109758224

Standard switches

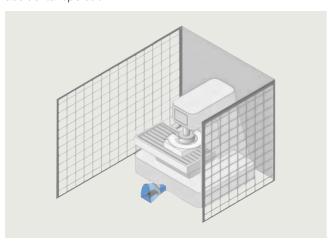
The 3SE29 and 3SE39 foot switch range encompasses versions in a metal enclosure for rugged applications as well as versions with plastic enclosure for less harsh environments. The devices can be supplied with or without a cover and have fixing holes for them to be screwed to the floor.

Depending on the particular application, the metal enclosures can be ordered with contact blocks in latching or momentary-contact versions. The momentary-contact pedal switch in the plastic enclosure has one microswitch (changeover contact) per actuating pedal.

Safety foot switches

The 3SE2924-3AA20 one-pedal safety foot switches are used on machines and plants as OK switches when operation by hand is not possible. The switches have an interlocking function.

The safety foot switches are protected by a guard hood against accidental operation.



Application example

The switches have two contact blocks, each with one NO contact and one NC contact. The NO contacts and NC contacts of the two contact blocks are connected in series for easy connection of a single-phase motor. The normal workflow is initiated by pressing down the pedal as far as the pressure point so that the two NO contacts close and the motor starts to run.

If in the event of danger the pedal is pressed beyond the resistance of the pressure point, the positive-opening NC contacts will open and the motor is stopped. At the same time the independent latching takes effect and holds the NC contacts in open position. This prevents the machine parts from continuing to run out of control or from being restarted.

After the hazard is eliminated, the machine can only be restarted after manually releasing the switch using a pushbutton on the top of the enclosure. The contacts are then released again and return to their initial position (the NO contacts are open and the NC contacts are closed).

Technical specifications

Article number		3SE29	3SE39			
Metal and plastic enclosures						
Standards		IEC 60947-5-1				
Electrical load						
• At AC-15, 400 V						
- 1 NO + 1 NC	Α	10				
- 2 NO + 2 NC	Α	6				
- 3SE2924-3AA20 (2 NO + 2 NC)	Α	10				
• At 250 V AC	Α	_	5			
Short-circuit protection						
- 1 NO + 1 NC	Α	10 (slow)				
- 2 NO + 2 NC	Α	6 (slow)				
- 3SE2924-3AA20 (2 NO + 2 NC)	Α	10 (slow)				
- 1 CO	Α		5 (slow)			
Mechanical endurance		> 10 ⁶ operating cycles				
Material						
• Enclosures		Aluminum casting	Impact-resistant thermoplast, self- extinguishing according to UL 94 VO			
• Covers		Thermoplast	_			
Guard hoods		Aluminum casting	Metal			
Degree of protection		IP65	IP65			
Ambient temperature	°C	-25 +80	-10 +75			
Connection		Cable entry, metric	Cable AWG20, UL Style 2464, length 3 m			

Commanding and signaling devices SIRIUS 3SE2, 3SE3 foot switches

Plastic and metal enclosures

	Version	Slow-action contacts for each pedal	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Antal amala aurea	degree of protection IP65						
lletai enclosures,			_				
	Momentary-contact foot switches (non-latching), 1-pedal, M20 x 1.5 cable entry						
	Without hood	1 NO + 1 NC →	3SE2902-0AB20		1	1 unit	41K
		2 NO + 2 NC →	3SE2903-1AB20		1	1 unit	41K
	With hood	1 NO + 1 NC →	3SE2902-0AA20		1	1 unit	41K
E290AA20		2 NO + 2 NC →	3SE2903-1AA20		1	1 unit	41K
291AA20	Foot switches (latching), 1-pedal, M20 x 1.5 cable entry						
	Without hood	1 NO + 1 NC →	3SE2912-2AB20		1	1 unit	41K
	With hood	1 NO + 1 NC →	3SE2912-2AA20		1	1 unit	41K
	Momentary-contact foot switches (non-latching), 2-pedals, M25 x 1.5 cable entry						
	Without hood	1 NO + 1 NC →	3SE2932-0AB20		1	1 unit	41K
	• Without Hood	2 NO + 2 NC →	3SE2932-1AB20		1	1 unit	41K
000 AR00		2110 + 2110 0	33L2332-1AD20		'	1 dilit	4110
932AB20	With hood	1 NO + 1 NC →	3SE2932-0AA20		1	1 unit	41K
= 4		2 NO + 2 NC →	3SE2932-1AA20		1	1 unit	41K
932AA20							
	Safety foot switch, 1-pedal With hood M20 x 1.5 cable entry with interlocking function; NO closes as momentary contact NC opens with automatic latching (safety function)	2 NO + 2 NC →	3SE2924-3AA20		1	1 unit	41K
)24-3AA20	(carely remember)						
tic enclosures	s, degree of protection IP65						
	Momentary-contact pedal switches, 3 m cable	Microswitch					
	 1-pedal, without hood 	1 CO	3SE3902-4CB20		1	1 unit	41K
	• 2-pedals, without hood	2 x 1 CO	3SE3934-5CB20		1	1 unit	41K
E3934-5CB20							
cessories							
occisiones	Contact block, Supersedes momentary-contact foot switches 3SE2903-1A.20 ¹⁾ and 3SE2932-1A.20 ²⁾	1 NO + 1 NC	3SE3982-0K		1	1 unit	41K
	Contact block, Supersedes momentary-contact foot switches 3SE2902-0A.20 and 3SE2932-0A.20 ³⁾	1 NO + 1 NC	3SE3982-0L		1	1 unit	41K
	Contact block, 16 A Supersedes momentary-contact foot	1 NO + 1 NC	3SE3982-7J		1	1 unit	41K

[→] Positive opening according to IEC 60947-5-1, Annex K. Can be used with 3SK safety relays, see page 11/1 onwards. Certificate:



 $^{^{1)}}$ Number of contact blocks required for the momentary-contact foot switch = 2.

 $^{^{2)}}$ Number of contact blocks required per pedal = 2.

³⁾ Number of contact blocks required per pedal = 1.

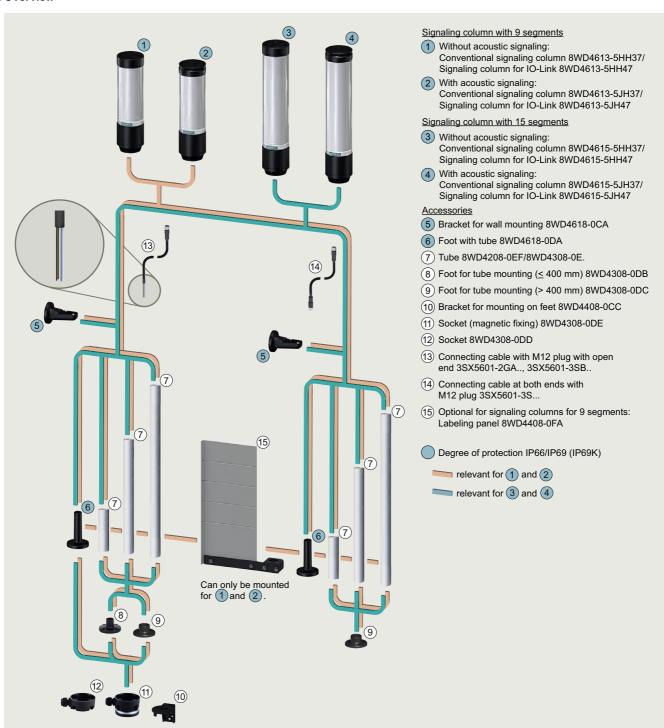
Commanding and signaling devices

SIRIUS 8WD4 signaling columns

Electronically configurable 8WD46 signaling columns, 70 mm diameter

NEW

Overview



8WD46 signaling column with up to 15 segments

More information

Homepage, see www.siemens.com/sirius-signaling-columns

SiePortal, see www.siemens.com/product?8WD4

Configuration Manual, see

https://support.industry.siemens.com/cs/ww/en/view/109810488

For operating instructions, see

https://support.industry.siemens.com/cs/ww/en/view/109810633



SIRIUS 8WD46 signaling column – Electronics can be individually configured

NEW Electronically configurable 8WD46 signaling columns, 70 mm diameter

The electronically configurable 8WD46 signaling columns are flexible in design and versatile in use thanks to their new compact and electronically modular design.

Features:

- Thermoplast enclosure, 70 mm diameter
- With 9 or 15 segments (number of segments adjustable for each block)
- With or without acoustic element
- Degree of protection IP66/IP69 (IP69K)

Two product series are available:

- · Conventional signaling columns
- Configuration of signaling column via USB interface
- Fast connection of the signaling column to the application via 8-pole M12 plug
- Signaling columns for IO-Link
 - Configuration of signaling column via IO-Link interface (IODD)
 - Fast connection of the signaling column to the application via 4-pole M12 plug

Mounting options



Benefits

- Choice of various light and acoustic signals with different functions:
 - Continuous light, blinklight, flashlight and rotating light; siren
- Light elements with particularly long-lasting LEDs
- Variety of colors: > 1 million colors
- Optimized homogeneous illumination thanks to improved diffuser technology
- Acoustic signals can be adjusted in tone and volume
- Extremely resistant to shock and vibrations
- Simple configuration and fast connection using M12 plugs
- No wiring required
- No special tools needed
- Fewer versions thanks to electronic modularity
- Communication-capable through connection to IO-Link

Application

8WD46 signaling columns are used in machines or in automatic processes for monitoring complex procedures or as visual or acoustic warning devices in emergency situations, e.g. for displaying individual assembly stages.

Communication capability

IODD (IO Device Description)

The IO Device Description (IODD) has been defined to provide a full, transparent description of system characteristics as far as the IO-Link device. The IODD contains information on communication characteristics, device parameters, identification, process and diagnostics data.

The IODD for signaling columns for IO-Link is available at the link below, see

https://support.industry.siemens.com/cs/ww/en/view/109807683.

Connection

Conventional signaling columns

Wiring of the signaling elements using screw or spring-loaded terminals is not required. The signaling column is connected via an 8-pole M12 plug.

Signaling columns for IO-Link

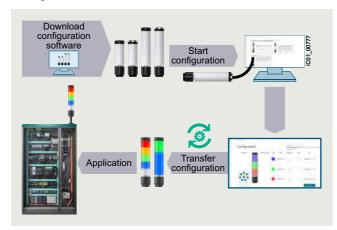
The signaling column is connected via a 4-pole M12 plug.

Commanding and signaling devices

SIRIUS 8WD4 signaling columns

Electronically configurable 8WD46 signaling columns, 70 mm diameter

Configuration



Simple and fast configuration

Conventional signaling columns

Configuration options via configuration software and transfer via USB interface, see

https://support.industry.siemens.com/cs/ww/en/view/109807684.

Signaling columns for IO-Link

Configuration options via IO-Link. The setting is made via the IO Device Description (IODD), see Communication capability.

Optical configuration options

Colors	Intensity	Light pattern
Ten different colors	The brightness can	Optical signal profiles:
• Eight preset colors:	be adjusted for each block.	 Blinklights
- Red - Green - Yellow - Blue - White	DIOCK.	 Flashlights (single, double and triple-flash lights) Continuous lights
- Turquoise		 Rotating lights
VioletLight yellow		One light pattern per block can be selected.
 > 1 million colors can be configured 		

Acoustic configuration options (siren)

Tones	Volume
Ten different tones can be set	• 80 to 105 dB
	 Four different volume levels can be set

Various operating modes



Individual configuration of light pattern, color, brightness and acoustics

Signaling column mode

Individual segments can be connected to form a block. The blocks have fixed positions and may be off if the corresponding block and the optical signal are not activated.

Automatic scaling mode

The segments are automatically and uniformly distributed among the number of controlled pins and status messages. If the segments cannot be uniformly distributed, the color with the highest priority will be assigned to the last segment.

Level mode

- The segments are used as level indicators.
- From 0% (all segments are switched off) up to 100% (all segments are activated).

Examples: Order progress, liquid tank, material quantity Individual mode

Each segment can be set and controlled individually, thus allowing for a maximum range of individual signaling options.

NEW Electronically configurable 8WD46 signaling columns, 70 mm diameter

Technical specifications									
Article number		8WD46 ⁻ 5HH37	13- 5JH37	8WD46 5HH37	15- 5JH37	8WD46 5HH47	13- 5JH47	8WD46 5HH47	
Product version		Conven	tional sig	naling co	lumns	Signali	ng columr	s for IO-	Link
General data									
Approvals		cULus,	EAC, CE						
Operational voltage type		DC							
Operational voltage at DC	V	24							
Relative positive tolerance of the operational voltage	%	10				20			
Relative negative tolerance of the operational voltage	%	10				20			
Insulation voltage (U _i)	V	50							
Impulse withstand voltage (U _{imp})	V	330							
Operational current	mA	335	405	555	620	335	405	555	620
Current consumed, minimum	mA	65		95		65		95	
Inrush current	mA	800							
Type of external power supply required		SELV/PE	LV extra-l	ow voltag	е				
Overvoltage category		I							
Pollution degree		3							
Letter code according to IEC 81346-2:2019		Р							
Equipment protection class according to IEC 61140		Ш							
Type of interface for parameterization		USB-C				IO-Link			
Type of parameterization		Software	Э			IODD			
Optical signal									
Light source integrated in product		Yes							
Type of light source		RGB-LE	D, multi-c	olor					
LED service life	h	50 000							
Color of spherical cap		Clear							
Number of light segments		9		15		9		15	
Number of settable colors		1 000 00	00						
Type of optical signal		Blink, fla	sh, contir	nuous, dou	uble flash,	triple flast	n, rotating		
Product function: Settable optical signal		Yes							
Product function: Settable luminous intensity		Yes							
Default number of signal blocks		3		5		3		5	
Default type of signal blocks • 1 • 2 • 3		3 light s Yellow/ continuo 3 light s Red/	ous light/ egments ous light/ egments	3 light s Blue/ continu 3 light s Green/		3 light s Yellow/ continu 3 light s Red/	ous light/ segments ous light/ segments	3 light: Blue/ continu 3 light: Green/	
• 4 • 5			ous light/ egments	3 light s Yellow/ continu	ous light/ segments ous light/ segments		ous light/ egments	3 light : Yellow/ continu	ous light/ segments ous light/ segments
				continu	ous light/ segments			continu	ous light/ segments
Flash frequency	Hz	1							
Blink frequency 1 2 3	Hz Hz Hz	1 2 3							

Electronically configurable 8WD46 signaling columns, 70 mm diameter

- Article number		8WD461	2_	8WD461	5 _	8WD461	2_	8WD461	5-
Article Humber		5HH37	5JH37	5HH37	5JH37	5HH47	ა- 5JH47	5HH47	5- 5JH47
Product version		Convent	ional sign	aling col	umns	Signalin	g column:	s for IO-L	ink
Acoustic signal									
Type of acoustic signal			Multi- tone		Multi- tone		Multi- tone		Multi- tone
Default type of acoustic signal			Continu- ous tone		Continu- ous tone		Continu- ous tone		Continu- ous tone
Product function: Settable acoustic signal		No	Yes	No	Yes	No	Yes	No	Yes
Service life of the acoustic signaling device	h		5 000		5 000		5 000		5 000
Volume level	dB		80		80		80		80
			105		105		105		105
Default volume level	dB		80		80		80		80
Number of settable tones			10		10		10		10
Default tone frequency	kHz		2.7		2.7		2.7		2.7
Tone frequency of alternating tone	kHz		0.245		0.245		0.245		0.245
			6		6		6		6
Communication									
IO-Link mode		24-bit output							
Type of connectable IO-Link device		Signaling column							
IO-Link transfer rate						COM 3			
Protocol is supported IO-Link protocol		No				Yes			
Number of IO-Link ports						1			
Point-to-point cycle time between the master and the IO-Link device, minimum						6			
Enclosures									_
Height	mm	271		372		271		372	
Width	mm	72							
Outer diameter	mm	72							
Material		PC							
Color of enclosure		Black							
Mounting type			unting, tub	e mountir	ng, angle r	nounting			
Degree of protection IP		IP66/IP69							
Degree of protection according to NEMA		4/4X/12/1							
Type of electrical connection		M12 plug	j, 8-pole			M12 plug	g, 4-pole		
Ambient conditions									
Ambient temperature during operation	°C	-30 +6	0						

NEW Electronically configurable 8WD46 signaling columns, 70 mm diameter

Selection	and orderin	g data							
		Type of acoustic signal	Number of light segments	Default number of signal blocks	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Convention	onal signalin	g columns · W	ith M12 plug, 8-pol	e · 24 V DC					
		Without acou							
			9 15	3 5	8WD4613-5HH37 8WD4615-5HH37		1	1 unit 1 unit	42K 42K
8WD4613- 5HH37	8WD4615- 5HH37								
31 11 137	3111137	With acoustic	es						
		Multi-tone	9 15	3 5	8WD4613-5JH37 8WD4615-5JH37		1 1	1 unit 1 unit	42K 42K
8WD4613-	8WD4615-								
5JH37 Signaling	5JH37 columns for	· IO-Link · With	M12 plug, 4-pole ·	24 V DC					
<u> </u>	•	Without acou							
			9 15	3 5	8WD4613-5HH47 8WD4615-5HH47		1 1	1 unit 1 unit	42K 42K
8WD4613- 5HH47	8WD4615- 5HH47								
		With acoustic Multi-tone	9 15	3 5	8WD4613-5JH47 8WD4615-5JH47		1	1 unit 1 unit	42K 42K
8WD4613- 5JH47	8WD4615- 5JH47								
Accessori	es								
	Version	1		Color	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Mounting									
	Tube le • Stand • Degr	ith tube ength 100 mm dard ee of protection IF	P66/IP69 (IP69K)	Black Black	8WD4308-0DA 8WD4618-0DA		1	1 unit 1 unit	41J 42K
8WD48-0D	Feet, s	single ic, for tube mount be lengths ≤ 400	ng, mm	Black	8WD4308-0DB		1	1 unit	41J
8WD4308-00 8WD4308-00	 Meta for tu 	I, for tube mountir be lengths > 400	ng, mm	Black	8WD4308-0DC		1	1 unit	41J

Accessories, see next page.

Electronically configurable 8WD46 signaling columns, 70 mm diameter N	1	И		
---	---	---	--	--

	Version	Color	Article No. Price	PU	PS*	PG
			per PU	(UNIT,		
				SET, M)		
Mounting (cont	tinued)		_			
Mounting (com	Tubes, single		_			
	• Length 100 mm	Silver	8WD4208-0EF	1	1 unit	41J
	• Length 150 mm	Silver	8WD4308-0EE	1	1 unit	41J
	• Length 250 mm	Silver	8WD4308-0EA	1	1 unit	41J
	• Length 400 mm	Silver	8WD4308-0EB	1	1 unit	41J
	• Length 1 000 mm	Silver	8WD4308-0ED	1	1 unit	41J
8WD4208-0EF	- Length 1 000 mm	Silvei	0WD4300-0ED		T drift	410
	Sockets for feet					
	Side cable outlet (cap also be used without fact)	Black	8WD4308-0DD	1	1 unit	41J
8WD4308-0DD	(can also be used without feet)					
6	 Side cable outlet, with magnetic fixing²⁾ 	Black	8WD4308-0DE	1	1 unit	41J
	with magnetic fixing					
8WD4308-0DE						
0.0	Bracket for foot mounting	Black	8WD4408-0CC	1	1 unit	41J
A COLUMN	-					
8WD4408-0CC						
0WB 1100 000	Brackets for wall mounting					
	(mounting without feet and tube)					
	For single-sided mounting					
8WD48-0CA	Standard	Black	8WD4308-0CA	1	1 unit	41J
	Degree of protection IP66/IP69 (IP69K)	Black	8WD4618-0CA	1	1 unit	42K
Cables for con	ventional signaling columns					
	USB C cable					
014/04040.050	USB-A to USB-C, length 2 m	Black	8WD4618-0FB	1	1 unit	42K
8WD4618-0FB	Connecting cables					
	With M12 socket, 8-pole, straight, open end,					
	rated voltage 30 V,					
3SX5601-2GA03	rated current 2 A		26VE601 0CA02		4 . mit	441/
	- Length 3 m - Length 5 m		3SX5601-2GA03 3SX5601-2GA05	1 1	1 unit 1 unit	41K 41K
	- Length 10 m		3SX5601-2GA10	1	1 unit	41K
201/5001 201/10	- Length 15 m		3SX5601-2GA15	1	1 unit	41K
3SX5601-3SV18	 With M12 socket, 8-pole and M12 plug, 8-pole, length 1 m 		3SX5601-3SV18	1	1 unit	41K
	M12 plugs, 8-pole					
	Straight		6GT2090-0BE00	1	5 units	572
0070000 00500						
6GT2090-0BE00	aling calumns for IO Link		_			
Cables for sign	ealing columns for IO-Link		_			
	Connecting cables • With M12 socket, open end, length 5 m					
	- 4-pole		3SX5601-3SB54	1	1 unit	41K
	- 5-pole		3SX5601-3SB55	1	1 unit	41K
3SX5601-3SB54	 With M12 socket, 5-pole and M12 plug, 5-pole, length 1 m 		3SX5601-3SV15	1	1 unit	41K
	M12 plugs, 5-pole					
	Straight, separate item		3RK1902-4BA00-5AA0	1	1 unit	42D
3RK1902-4BA00-	Angled, separate item		3RK1902-4DA00-5AA0	1	1 unit	42D
5AA0						
Inscription for	8WD4613 signaling columns with 9 segment	s				
	Labeling panel		8WD4408-0FA	1	1 unit	41J
	With fixing accessories, for mounting on Ø 25 mm tube					
	Inscription area/					
	step 50 mm x 140 mm					
0\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	Suitable for standard labels, e.g.					
8WD4408-0FA	Zweckform 3425Herma 4457					
	- Hollia 4407					

Further connecting cables, see pages 12/50, 12/51 and 12/72.

8WD42 and 8WD44 signaling columns > General data

Overview

The 8WD4 signaling columns are flexible in design and versatile in use.

(15) (8) (14)

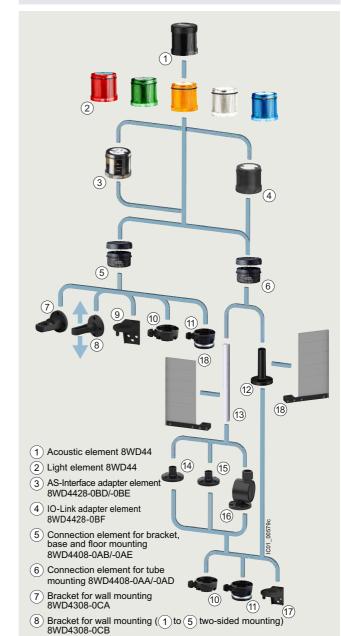
- 1 Acoustic element 8WD42.0-0FA
- 2 Light element 8WD42
- (3) AS-Interface adapter element 8WD4228-0BB
- (4) Connection element 8WD4208-0AA
- (5) Bracket for wall mounting 8WD4208-0CD
- 6 Adapter for single-hole mounting 8WD4208-0EH
- (7) Foot for base mounting 8WD4208-0DE
- (8) Tube 8WD4208-0EF/8WD4308-0E.
- (9) Foot for tube mounting (≤ 400 mm) 8WD4308-0DB
- 10 Foot for tube mounting (> 400 mm) 8WD4308-0DC
- (11) Adjustable-angle foot for tube mounting 8WD4408-0DF
- (12) Socket 8WD4308-0DD
- (13) Socket (magnetic fixing) 8WD4308-0DE
- (14) Bracket for foot mounting 8WD4408-0CC
- (15) Optional 8WD4408-0FA labeling panel

8WD42 signaling column (width 50 mm) with up to four elements

More information

Homepage, see www.siemens.com/sirius-signaling-columns SiePortal, see www.siemens.com/product?8WD4

Manual, see https://support.industry.siemens.com/cs/ww/en/view/109758131



- (9) Bracket for base mounting 8WD4408-0CD
- (10) Socket 8WD4308-0DD
- (11) Socket (magnetic fixing) 8WD4308-0DE
- (12) Foot with tube 8WD4308-0DA
- (13) Tube 8WD4208-0EF/8WD4308-0E.
- (14) Foot for tube mounting (≤ 400 mm) 8WD4308-0DB
- (15) Foot for tube mounting (> 400 mm) 8WD4308-0DC
- (16) Adjustable-angle foot for tube mounting 8WD4408-0DF
- (17) Bracket for foot mounting 8WD4408-0CC
- (18) Optional 8WD4408-0FA labeling panel

8WD44 signaling column (width 70 mm) with up to five elements

8WD42 and 8WD44 signaling columns > General data

Two product series are available:

- 8WD42
 - Thermoplast enclosure, 50 mm diameter
 - Degree of protection IP54
 - Up to four elements can be mounted between the connection element and the cover

• 8WD44

- Thermoplast enclosure, 70 mm diameter
- Advanced design and significantly improved illumination
- Fast and flexible connection using spring-loaded terminals
- Degree of protection IP65
- Up to five elements can be mounted between the connection element and the cover



Mounting examples for signaling columns

The illustrated examples are from the left:

- 8WD42: Cover (without No.), four light elements ②, connection element ④, tube ⑧, foot ⑨
- 8WD44: Acoustic element with cover ①, two light elements ②, connection element ⑥, foot with tube ②
- 8WD44: Cover (without No.), four light elements ②, AS-Interface adapter element ③, connection element ⑤, bracket for wall mounting ⑦
- 8WD44: Cover (without No.), three light elements ②, AS-Interface adapter element ③, connection element ⑥, foot with tube ⑫

Note:

The cover is supplied with the connection element.

Benefits

- Choice of various light and acoustic elements with different functions:
 - Continuous light, blinklight, flashlight and rotating light; buzzer and siren
- · Light elements with particularly long-lasting LEDs
- · Variety of colors: red, yellow, green, white or blue
- Optimized illumination through improved prism technology with the 8WD44
- · Acoustic elements can be adjusted in tone and volume
- Extremely resistant to shock and vibrations
- Easy connection and quick lamp change with secure bayonet mechanism
- Communication capability through connection to AS-Interface
- Communication capability through connection to IO-Link for 8WD44 only

Application

8WD4 signaling columns are used in machines or in automatic processes for monitoring complex procedures or as visual or acoustic warning devices in emergency situations, e.g. for displaying individual assembly stages.

Communication capability

Connection to AS-Interface

The 8WD4 signaling columns can be directly connected to the AS-Interface bus system through an adapter element that can be integrated in the column. Wiring outlay is reduced as the result. The two-wire bus cable is fixed to the terminals in the connection element. Up to four signaling elements can be mounted on it using an adapter element.

A/B technology enables the connection of up to 62 slaves on one AS-Interface system.

IODD (IO Device Description)

The IO Device Description (IODD) has been defined to provide a full, transparent description of system characteristics as far as the IO-Link device. The IODD contains information on communication characteristics, device parameters, identification, process and diagnostics data.

The IODD is available under IO-Link Device Definition, see https://support.industry.siemens.com/cs/ww/en/view/109761427.

Connection

The signaling elements are wired up using terminals in the connection element, screw terminals on the 8WD42 and screw or spring-loaded terminals on the 8WD44.

Cable outlet

The connecting cables can be guided either downwards or sideways through the cable gland using an adapter that can be screwed under the foot. This makes wiring easier if there is no access from below.

Connection to AS-Interface

8WD42

The two-wire bus cable is fixed to the screw terminals in the connection element. The adapter element must be the first module to be mounted on the connection element. A maximum of four signaling elements can then be mounted on it.

The 8WD4228-0BB adapter element is a standard slave.

8WD44

The two-wire bus cable is fixed to the screw or spring-loaded terminals in the connection element. The adapter element must be the first module to be mounted on the connection element. The signaling elements can then be mounted on it.

The 8WD4428-0BE adapter element is a standard slave. A maximum of four signaling elements can be mounted on it.

The 8WD4428-0BD adapter element with A/B technology enables the connection of up to 62 slaves on one AS-Interface system. The addressing socket provides user-friendly parameterization of the AS-Interface elements. A maximum of three signaling elements can be mounted on it.

Connection to IO-Link

8WD4428-0BF

The 8WD44 signaling columns are directly connected to the IO-Link system using an IO-Link adapter element that can be integrated in the column and can accommodate up to five light elements.

8WD42 and 8WD44 signaling columns > General data

Technical specifications

Article number		8WD42	8WD44
General data		OWD42	OWD44
		LH 000	LII. 00A
Approvals Light and acoustic elements		UL, CSA	UL, CSA
		(AC values at EO/CO LIE)	(AC values at FO/CO LI=)
Rated voltage, power consumption		(AC values at 50/60 Hz)	(AC values at 50/60 Hz)
 Light elements with incandescent lamp Continuous lights Blinklights Flashlights 	V AC/DC V AC/DC/mA V AC/mA V DC/mA V AC/mA	12, 24, 115, 230 24/125 115/20, 230/15 24/125	12, 24, 115, 230 24/125 115/20, 230/15 24/125 115/20, 230/35
- Max. inrush current, blinklights/flashlights	mA		500
Light elements with integrated LED Continuous lights Blinklights	V AC/mA V AC/DC/mA	24/30 115/25, 230/35 24/35	24/40 115/25, 230/35 24/30
- Rotating lights	V AC/mA V AC/DC/mA	115/25, 230/35 	 24/70
Acoustic elements Buzzer element (tone: pulsating or continuous tone, 85 dB) Siren element (8 tones + volume can be set, 102 dB) Siren element (95 105 dB)	V AC/DC/mA V AC/mA V AC/DC/mA V AC/mA V DC/mA	24/30 115/35, 230/35 	24/25 115/25, 230/25 24/80 115/30, 230/16 24/100
Power consumption Incandescent lamp, BA15d base Flashlights, flash energy	W Ws	Max. 5	7 2
Service life • Flashlights			4 x 10 ⁶ flashes
AS-Interface adapter elements			
IO code/ID code		8/F	8/E
Power supply • Operational voltage • Power consumption I _{max}	V mA	Through bus cable 18.5 31.6 50	Through bus cable 18.5 31.6 100
Protective measures • Watchdog • Short-circuit/overload protection • Reverse polarity protection • Induction protection		✓ External back-up fuse M 1.6 A ✓ N/A	/ / /
Outputs		4 relay outputs	3 electronic outputs
Load voltage	V DC V AC	External auxiliary voltage 0 30 0 230	Through bus cable or external auxiliary voltage, selectable
 Current-carrying capacity \(\Sigma \) I_{max} With external auxiliary voltage Without external auxiliary voltage 	A A	1.5	0.3 0.2
Operating temperature	°C	-20 +50	-20 +50
Enclosures			
Enclosure material		Thermoplast (polyamide), impact-resistant, black	Thermoplast (polyamide), impact-resistant, black
Light elements		Thermoplast (polycarbonate)	Thermoplast (polycarbonate)
Mounting • Horizontal (base mounting, foot with tube, Ø 25 mm) • Horizontal (single-hole mounting) • Vertical with bracket		/ / /	✓ ✓
Degree of protection • Light elements • Acoustic elements, AS-i adapter elements		IP54 IP54	IP65 (seal premounted with every module) IP65
Operating temperature	°C	-20 +50	-20 +50
Connection Conductor cross-sections Tightening torque	mm ² Nm	M3 screw terminals Max. 2.5 Max. 0.4	Spring-loaded terminals/M3 screw terminals Max. 2.5 /max. 0.4

- ✓ Available
- -- Not available

Commanding and signaling devices

SIRIUS 8WD4 signaling columns

8WD42 and 8WD44 signaling columns > 8WD42 signaling columns, 50 mm diameter

Overview

Features:

- Thermoplast enclosure, 50 mm diameter
 Degree of protection IP54

• Up to four elements can be mounted between the connection element and the cover

Selection and ordering data

	3						_	
	Version	Rated voltage	Color	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		V						
Acoustic elem	nents ¹⁾							
	Buzzer elements 85 dB.	24 AC/DC	Black	8WD4220-0FA		1	1 unit	41J
9.74	tone frequency approx. 2 300 Hz,	115 AC/DC	Black	8WD4240-0FA		1	1 unit	41J
11	pulsating or continuous tone, adjustable by means of a wire jumper	230 AC	Black	8WD4250-0FA		1	1 unit	41J
8WD4220-0FA								
Light element	s for incandescent lamp/LED, BA15o	d base ²⁾						
	Continuous light elements	12 230	Red	8WD4200-1AB 8WD4200-1AC		1	1 unit	41J
	(without lamp)	AC/DC	Green Yellow	8WD4200-1AC 8WD4200-1AD		1 1	1 unit 1 unit	41J 41J
A			Clear	8WD4200-1AE		1	1 unit	41J
			Blue	8WD4200-1AF		1	1 unit	41J
8WD4200-1AD								
Light element	s with integrated LED							
	Continuous light elements	24 AC/DC	Red Green	8WD4220-5AB 8WD4220-5AC		1	1 unit 1 unit	41J 41J
			Yellow	8WD4220-5AD		i i	1 unit	41J
			Clear	8WD4220-5AE		1	1 unit	41J
		115 AC	Blue Red	8WD4220-5AF 8WD4240-5AB		1	1 unit 1 unit	41J 41J
8WD4220-5AB		115 AC	Green	8WD4240-5AC		1	1 unit	41J
			Yellow	8WD4240-5AD 8WD4240-5AE		1	1 unit 1 unit	41J 41J
			Clear Blue	8WD4240-5AF		1 1	1 unit	41J
		230 AC	Red	8WD4250-5AB		1	1 unit	41J
			Green Yellow	8WD4250-5AC 8WD4250-5AD		1 1	1 unit 1 unit	41J 41J
8WD4240-5AC			Clear	8WD4250-5AE		i i	1 unit	41J
			Blue	8WD4250-5AF		1	1 unit	41J
	Blinklight elements	24 AC/DC	Red Green	8WD4220-5BB 8WD4220-5BC		1 1	1 unit 1 unit	41J 41J
			Yellow	8WD4220-5BD		1	1 unit	41J
			Clear Blue	8WD4220-5BE 8WD4220-5BF		1 1	1 unit 1 unit	41J 41J
		115 AC	Red	8WD4240-5BB		1	1 unit	41J
8WD4220-5BD		110710	Green	8WD4240-5BC		i	1 unit	41J
A SHOW			Yellow Clear	8WD4240-5BD 8WD4240-5BE		1 1	1 unit 1 unit	41J 41J
			Blue	8WD4240-5BF		1	1 unit	41J
		230 AC	Red	8WD4250-5BB		1	1 unit	41J
014/0.40.40.505			Green Yellow	8WD4250-5BC 8WD4250-5BD		1	1 unit 1 unit	41J 41J
8WD4240-5BE			Clear	8WD4250-5BE		1	1 unit	41J
	Electrical de la constant	04.00	Blue	8WD4250-5BF		1	1 unit	41J
	Flashlight elements	24 DC	Red Green	8WD4220-0CB 8WD4220-0CC		1 1	1 unit 1 unit	41J 41J
Name of Street, or other Designation of the last of th			Yellow	8WD4220-0CD		1	1 unit	41J
8WD4250-5BF			Clear Blue	8WD4220-0CE 8WD4220-0CF		1	1 unit 1 unit	41J 41J
	ents for AS-Interface							
	AS-Interface adapter element	For	Black	8WD4228-0BB		1	1 unit	41J
tar.	With external auxiliary voltage	4 signaling elements 24 V DC						
8WD4228-0BB								
						l		

¹⁾ One acoustic element can be mounted per signaling column. The cover is included in the scope of supply of the acoustic elements and fixed in place.

 $^{^{2)}}$ The lamp is not included in the scope of supply. Please order separately, see page 13/176.

	Version	Color	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Connection el	ements						
	Connection element with cover	Black	8WD4208-0AA		1	1 unit	41J
SIEMENS	For tube, base and angle mounting						
	Necessary for assembling the signaling column						
8WD4208-0AA							
Accessories							
	Version	Color	Article No.	Price	PU	PS*	PG
				per PU	(UNIT, SET, M)		
Mounting			_				
mounting	Feet, single						
	 Plastic, for tube mounting, for tube lengths ≤ 400 mm 	Black	8WD4308-0DB		1	1 unit	41J
8WD4308-0DB							
	 Metal, for tube mounting, for tube lengths > 400 mm 	Black	8WD4308-0DC		1	1 unit	41J
8WD4308-0DC							
	Plastic, for base mounting (without tube)	Black	8WD4208-0DE		1	1 unit	41J
8WD4208-0DE							
	Adjustable-angle foot	Black	8WD4408-0DF		1	1 unit	41J
	For positioning in 7.5° increments ¹⁾ Plastic, for tube mounting (including rubber seal)						
8WD4408-0DF							
n.	Tubes, single						
	Length 100 mm	Silver	8WD4208-0EF		1	1 unit	41J
	• Length 150 mm	Silver	8WD4308-0EE		1	1 unit	41J
	Length 250 mmLength 400 mm	Silver Silver	8WD4308-0EA 8WD4308-0EB		1	1 unit 1 unit	41J 41J
	• Length 1 000 mm	Silver	8WD4308-0ED		1	1 unit	41J
8WD4208-0EF							
	Sockets for feet						
	Side cable outlet (can also be used without feet)	Black	8WD4308-0DD		1	1 unit	41J
8WD4308-0DD	Side cable outlet,	Black	8WD4308-0DE		1	1 unit	41J
	with magnetic fixing ²⁾						
8WD4308-0DE	Buddle for the state of the	DI I	0WD 4400 000				441
TOTAL	Bracket for foot mounting	Black	8WD4408-0CC		1	1 unit	41J
8WD4408-0CC							
	Bracket for wall mounting (plastic) Mounting without feet and tube	Black	8WD4208-0CD		1	1 unit	41J
8WD4208-0CD	The same of the same same same same same same same sam						
(A)	Adapter for single-hole mounting	Silver	8WD4208-0EH		1	1 unit	41J
	Mounting without feet and tube, with M18 thread and fixing nut						
8WD4208-0EH							

 $^{^{1)}}$ Markings for 30°, 45°, 60° and 90°.

²⁾ For horizontal mounting, only one element is recommended.

	Version	Rated voltage	Color	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Lamas		V						
Lamps	In condessant lawns 5 W					l		
W.	Incandescent lamps, 5 W	04.40/00	O.	OWD 4000 4VV		_	40 '1	44.1
	BA15d base	24 AC/DC 115 AC	Clear	8WD4328-1XX 8WD4348-1XX		1	10 units	41J 41J
•		230 AC	Clear	8WD4348-1XX		· ·	10 units	41J
8WD4328-1XX		230 AC	Cleal	0WD4330-1AA		'	TO UTILS	410
FRE	LEDs	0.4.4.0./0.0	5 .					
	BA15d base	24 AC/DC	Red Green	8WD4428-6XB 8WD4428-6XC		1 1	1 unit 1 unit	41J 41J
			Yellow	8WD4428-6XD		i	1 unit	41J
8WD4428-6XE			Clear Blue	8WD4428-6XE 8WD4428-6XF		1	1 unit 1 unit	41J 41J
		115 AC	Red	8WD4448-6XB		1	1 unit	41J
		1.07.0	Green	8WD4448-6XC		1	1 unit	41J
			Yellow Clear	8WD4448-6XD 8WD4448-6XE		1	1 unit 1 unit	41J 41J
			Blue	8WD4448-6XF		i	1 unit	41J
		230 AC	Red	8WD4458-6XB		1	1 unit	41J
			Green Yellow	8WD4458-6XC 8WD4458-6XD		1	1 unit 1 unit	41J 41J
			Clear	8WD4458-6XE		i	1 unit	41J
			Blue	8WD4458-6XF		1	1 unit	41J
Inscription								
	Labeling panel			8WD4408-0FA		1	1 unit	41J
Fault Magazine	With fixing accessories, for mounting on Ø 25 mm tube							
Overheating	Inscription area/ step 50 mm x 140 mm							
Station 2 Machine running	Suitable for standard labels, e.g. • Zweckform 3425 • Herma 4457							
8WD4408-0FA								

8WD42 and 8WD44 signaling columns > 8WD44 signaling columns, 70 mm diameter

Overview

Features:

- Thermoplast enclosure, 70 mm diameter
- Advanced design and significantly improved illumination
 Fast and flexible connection using spring-loaded terminals
- Degree of protection IP65
- Up to five elements can be mounted

Selection and ordering data

	Version	Rated voltage	Color	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		V						
Acoustic elem	ents ¹⁾							
Territoria	Buzzer elements 85 dB, pulsating or continuous tone, adjustable by means of a wire jumper	24 AC/DC 115 AC 230 AC	Black Black Black	8WD4420-0FA 8WD4440-0FA 8WD4450-0FA		1 1 1	1 unit 1 unit 1 unit	41J 41J 41J
8WD4420-0FA	Siren elements Multi-tone, 102 dB, 8 tones and volume can be set	24 AC/DC 115 AC 230 AC	Black Black Black	8WD4420-0EA2 8WD4440-0EA2 8WD4450-0EA2		1 1 1	1 unit 1 unit 1 unit	41J 41J 41J
8WD4420-0EA	Siren element 95 105 dB, IP65, alternating continuous tone	24 DC	Black	8WD4420-0EA		1	1 unit	41J
Light element	s for incandescent lamp/LED, BA15d b	ase ²⁾						
8WD4400-1AD	Continuous light elements (without lamp)	12 230 AC/DC	Red Green Yellow Clear Blue	8WD4400-1AB 8WD4400-1AC 8WD4400-1AD 8WD4400-1AE 8WD4400-1AF		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J
Light element	s with integrated flash lamp ³⁾							
8WD4420-0CB	Flashlight elements with integrated electronic flash	24 DC	Red Green Yellow Clear Blue	8WD4420-0CB 8WD4420-0CC 8WD4420-0CD 8WD4420-0CE 8WD4420-0CF		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J
8WD4440-0CC		115 AC	Red Green Yellow Clear Blue	8WD4440-0CB 8WD4440-0CC 8WD4440-0CD 8WD4440-0CE 8WD4440-0CF		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J
8WD4450-0CF		230 AC	Red Green Yellow Clear Blue	8WD4450-0CB 8WD4450-0CC 8WD4450-0CD 8WD4450-0CE 8WD4450-0CF		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J

¹⁾ One acoustic element can be mounted per signaling column. The cover is included in the scope of supply of the acoustic elements and fixed in place.

 $^{^{2)}\,}$ The lamp is not included in the scope of supply. Please order separately, see page 13/181.

³⁾ The lamp is included in the scope of supply.

	Version	Rated voltage	Color	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		V						
Complete units, sign	naling columns							
	3-stage	24 DC	Blue,	8WD4423-5AK05-0AF0		1	1 unit	41J
	Top: Continuous light, blue Center: Continuous light, green, with integrated LED Bottom: Flashlight element, clear, integrated electronic flashlight		green, clear					
	Connection element for tube mounting, tube, 250 mm, foot, plastic							
8WD4423-5AK05-0AF0								
	3-stage	24 AC/DC	Yellow,	8WD4423-5AK05-0AE0		1	1 unit	41J
	Top: Continuous light, yellow Center: Continuous light, blue Bottom: Continuous light, green, with integrated LED		blue, green					
	Connection element for tube mounting, tube, 250 mm, foot, plastic							
8WD4423-5AK05-0AE0								
	Connection element for tube mounting, tube, 250 mm, foot, plastic			8WD4421-0GA05-0AG0		1	1 unit	41J
8WD4421-0GA05-0AG0								

	Version	Rated voltage	Color	Article No. Price		PS*	PG
				репт	SET, M)		
		V					
Light elements	with integrated LED	04.40/D0	Dark	0WD4400 5AD		4	44.1
	Continuous light elements	24 AC/DC	Red Green	8WD4420-5AB 8WD4420-5AC	1	1 unit 1 unit	41J 41J
			Yellow Clear	8WD4420-5AD 8WD4420-5AE	1	1 unit 1 unit	41J 41J
8WD4420-5AB			Blue	8WD4420-5AF	1	1 unit	41J
		115 AC	Red	8WD4440-5AB	1	1 unit	41J
			Green Yellow	8WD4440-5AC 8WD4440-5AD	1	1 unit 1 unit	41J 41J
8WD4440-5AC			Clear Blue	8WD4440-5AE 8WD4440-5AF	1 1	1 unit 1 unit	41J 41J
8WD444U-5AC		230 AC	Red	8WD4450-5AB	1	1 unit	41J
			Green Yellow	8WD4450-5AC	1 1	1 unit	41J
			Clear	8WD4450-5AD 8WD4450-5AE	1	1 unit 1 unit	41J 41J
8WD4450-5AD			Blue	8WD4450-5AF	1	1 unit	41J
	Blinklight elements	24 AC/DC	Red Green	8WD4420-5BB 8WD4420-5BC	1	1 unit 1 unit	41J 41J
			Yellow Clear	8WD4420-5BD 8WD4420-5BE	1	1 unit 1 unit	41J 41J
8WD4420-5BF			Blue	8WD4420-5BF	1	1 unit	41J
		115 AC	Red	8WD4440-5BB	1	1 unit	41J
			Green Yellow	8WD4440-5BC 8WD4440-5BD	1	1 unit 1 unit	41J 41J
			Clear Blue	8WD4440-5BE 8WD4440-5BF	1	1 unit 1 unit	41J 41J
8WD4440-5BE		230 AC	Red	8WD4450-5BB	1	1 unit	41J
		200710	Green	8WD4450-5BC	1	1 unit	41J
			Yellow Clear	8WD4450-5BD 8WD4450-5BE	1	1 unit 1 unit	41J 41J
8WD4450-5BB			Blue	8WD4450-5BF	1	1 unit	41J
- N	Rotating light elements	24 AC/DC	Red Green	8WD4420-5DB 8WD4420-5DC	1	1 unit 1 unit	41J 41J
			Yellow	8WD4420-5DD	1	1 unit	41J
8WD4420-5DD			Clear Blue	8WD4420-5DE 8WD4420-5DF	1	1 unit 1 unit	41J 41J
	nts for AS-Interface and IO-Link						
		24 V DC					
	AS-Interface adapter elements						
	With/without external auxiliary voltage, switchable						
8WD4428-0BD	 A/B technology 	For	Black	8WD4428-0BD	1	1 unit	41J
0WD4420-0BD		3 signaling elements					
	Standard AS-i	For	Black	8WD4428-0BE	1	1 unit	41J
		4 signaling elements					
The same	IO-Link adapter element	For 5 signaling	Black	8WD4428-0BF	1	1 unit	41J
		elements					
8WD4428-0BF							
	Version		Color	Article No. Price	e PU	PS*	PG
				per P	J (UNIT, SET, M)		
Connection ele					_		_
	Connection elements with cover			Screw terminals)		
No.	• For tube mounting		Black	8WD4408-0AA	1	1 unit	41J
8WD4408-0AA	• For angle, base and floor mounting		Black	8WD4408-0AB	1	1 unit	41J
				Spring-loaded terminals			
	• For tube mounting		Black	8WD4408-0AD	1	1 unit	41J
	For angle, base and floor mounting		Black	8WD4408-0AE	1	1 unit	41J
4)	Cover (replacement)		Black	8WD4408-0XA	1	1 unit	41J

¹⁾ The connection element with cover is an essential part for assembling the signaling columns.

Commanding and signaling devices

SIRIUS 8WD4 signaling columns

Accessories						
	Version	Color	Article No.	Price PU (UNIT, SET, M)	PS*	PG
Mounting			_			
1	Foot with tube Tube length 100 mm	Black	8WD4308-0DA	1	1 unit	41J
8WD4308-0DA						
	Feet, single • Plastic, for tube mounting, for tube lengths ≤ 400 mm	Black	8WD4308-0DB	1	1 unit	41J
8WD4308-0DB	Metal, for tube mounting, for tube lengths > 400 mm	Black	8WD4308-0DC	1	1 unit	41J
8WD4308-0DC	Adjustable-angle foot	Black	8WD4408-0DF	1	1 unit	41J
	For positioning in 7.5° increments ¹⁾ Plastic, for tube mounting (including rubber seal)					
8WD4408-0DF						
1	Tubes, single Length 100 mm	Silver	8WD4208-0EF	1	1 unit	41J
	• Length 150 mm	Silver	8WD4308-0EE	1	1 unit	41J
	• Length 250 mm	Silver	8WD4308-0EA	1	1 unit	41J
	• Length 400 mm	Silver	8WD4308-0EB	1	1 unit	41J
	Length 1 000 mm	Silver	8WD4308-0ED	1	1 unit	41J
8WD4208-0EF	Sockets for feet					
8WD4308-0DD	Side cable outlet (can also be used without feet)	Black	8WD4308-0DD	1	1 unit	41J
	 Side cable outlet, with magnetic fixing²⁾ 	Black	8WD4308-0DE	1	1 unit	41J
8WD4308-0DE	Brackets for wall mounting					
	(mounting without feet and tube)					
8WD4308-0CA	For single-sided mounting	Black	8WD4308-0CA	1	1 unit	41J
	For double-sided mounting	Black	8WD4308-0CB	1	1 unit	41J
8WD4308-0CB						
	Bracket for foot mounting	Black	8WD4408-0CC	1	1 unit	41J
8WD4408-0CC						
5	Bracket for base mounting Mounting without feet and tube	Black	8WD4408-0CD	1	1 unit	41J
8WD4408-0CD						
	Adapter for tube mounting according to NPT Mounting on tube, Ø 25 mm, with NPT 1/2" thread	Black	8WD4308-0DF	1	1 unit	41J

 $^{^{1)}}$ Markings for 30°, 45°, 60° and 90°.

²⁾ For horizontal mounting, only one element is recommended.

	Version	Rated voltage	Color	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		V						
Lamps								
(50)	Incandescent lamps, 5 W							
190	BA15d base	24 AC/DC	Clear	8WD4328-1XX		1	10 units	41J
		115 AC	Clear	8WD4348-1XX		1	10 units	41J
8WD4328-1XX		230 AC	Clear	8WD4358-1XX		1	10 units	41J
	LEDs							
8WD4428-6XE	BA15d base	24 AC/DC	Red Green Yellow Clear Blue	8WD4428-6XB 8WD4428-6XC 8WD4428-6XD 8WD4428-6XE 8WD4428-6XF		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J
		115 AC	Red Green Yellow Clear Blue	8WD4448-6XB 8WD4448-6XC 8WD4448-6XD 8WD4448-6XE 8WD4448-6XF		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J
		230 AC	Red Green Yellow Clear Blue	8WD4458-6XB 8WD4458-6XC 8WD4458-6XD 8WD4458-6XE 8WD4458-6XF		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J
Inscription								
Fault Magazine Overheating Station 2 Machine running	Labeling panel With fixing accessories, for mounting on Ø 25 mm tube Inscription area/ step 50 mm x 140 mm Suitable for standard labels, e.g. ■ Zweckform 3425 ■ Herma 4457			8WD4408-0FA		1	1 unit	41J

Commanding and signaling devices SIRIUS 8WD5 integrated signal lamps

8WD53 integrated signal lamps, 70 mm diameter

Overview



8WD53 integrated signal lamps

More information

Homepage, see www.siemens.com/sirius-command SiePortal, see www.siemens.com/product?8WD5

Configuration Manual, see

https://support.industry.siemens.com/cs/ww/en/view/107194954

Design

Features:

- Thermoplast enclosure, diameter 70 mm
- Degree of protection IP65
- Rated voltage 24 V, 115 V, 230 V AC/DC
- Ambient temperature -20 to +50 °C, incandescent lamp up to 60 °C

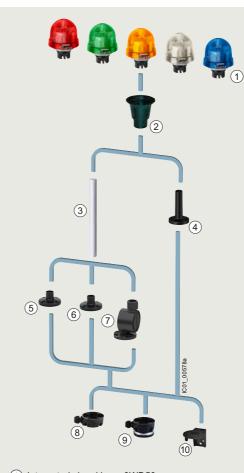
The special shape of the integrated signal lamps means that the light is emitted optimally in every direction (to the sides and upwards). Continuous lights (with incandescent lamp or LED) and flashlights are available in five colors. As well as the continuous-light version, a blinklight or rotating light version is also available.

The LED versions of the integrated signal lamps offer a considerably longer endurance than the incandescent lamp versions.

They have the high degree of protection IP65 and are made of a material which is highly resistant to impact.

Mounting

8WD53 integrated signal lamps can be mounted at any point of the machine for the purpose of giving visual signals. They are mounted by means of a PG-29 screw base with nut.



- 1 Integrated signal lamp 8WD53
- 2 Tube adapter 8WD5308-0EG
- 3 Tube 8WD4208-0EF/8WD4308-0E.
- 4 Foot with tube 8WD4308-0DA
- 5 Foot for tube mounting (≤ 400 mm) 8WD4308-0DB
- 6 Foot for tube mounting (> 400 mm) 8WD4308-0DC
- 7 Adjustable-angle foot for tube mounting 8WD4408-0DF
- (8) Socket 8WD4308-0DD
- 9 Socket (magnetic fixing) 8WD4308-0DE
- 10 Bracket for foot mounting 8WD4408-0CC

8WD53 integrated signal lamps with five elements

Application

SIRIUS 8WD53 integrated signal lamps can be used as visual signaling devices in harsh ambient conditions and in outdoor installations.

Visual signaling devices for indicating operating conditions can be used for the following applications:

- Manufacturing plants
- Injection molding machines
- Conveyors
- Assembly systems for electronic components

Commanding and signaling devices SIRIUS 8WD5 integrated signal lamps

8WD53 integrated signal lamps, 70 mm diameter

Technical specifications		
Article number		8WD53
General data		
Approvals		UL, CSA, UKCA
Light elements		
Rated voltage, power consumption		(AC values at 50 Hz)
 Continuous light, BA 15d (incandescent lamp) 	V AC/DC/W	24, 115, 230/5
 Continuous light, BA 15d (LED) 	V AC/DC	12 230
Flashlight	V DC/mA	24/125
	AC/mA	115/22
	AC/mA	230/35
Light elements with integrated LED	V AC/DC/mA	24/45
LED lights		
Blinklight	Hz	Blink frequency approx. 1
Rotating light	min ⁻¹	Rotational frequency approx. 120
Inrush current		
LED light	Α	< 0.5
Flashlight	Α	< 0.5
Enclosures		
Enclosure material		PC/ABS shield, impact-resistant, black
Spherical cap		Thermoplast (polycarbonate) impact-resistant up to 20 J
Mounting		Drill hole Ø 37 mm (PG 29)
Cable connection		Radial or axial
Degree of protection		IP65
Ambient temperature		
 Continuous light (incandescent lamp) 	°C	-20 +60
Flashlight, LED light	°C	-20 +50

Commanding and signaling devices SIRIUS 8WD5 integrated signal lamps

8WD53 integrated signal lamps, 70 mm diameter

Selection and o	ordering data							
	Version	Rated voltage	Color	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		V						
Light elements	for incandescent lamp/LED, B	A15d base ¹⁾						
	Continuous lights (without lamp)	12 230 AC/DC	Red Green Yellow Clear Blue	8WD5300-1AB 8WD5300-1AC 8WD5300-1AD 8WD5300-1AE 8WD5300-1AF		1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J
8WD5300-1AB								
Light elements	with integrated flash lamp							
I STATE OF THE STA	Flashlights with integrated electronic flash	24 DC	Red Green Yellow Clear Blue	8WD5320-0CB 8WD5320-0CC 8WD5320-0CD 8WD5320-0CE 8WD5320-0CF		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J
8WD5320-0CC		115 AC	Red Green Yellow Clear Blue	8WD5340-0CB 8WD5340-0CC 8WD5340-0CD 8WD5340-0CE 8WD5340-0CF		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J
8WD5350-0CD		230 AC	Red Green Yellow Clear Blue	8WD5350-0CB 8WD5350-0CC 8WD5350-0CD 8WD5350-0CE 8WD5350-0CF		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J
Light elements	with integrated LED							
	Continuous lights	24 AC/DC	Red Green Yellow Clear Blue	8WD5320-5AB 8WD5320-5AC 8WD5320-5AD 8WD5320-5AE 8WD5320-5AF		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J
8WD5320-5AE	Blinklights	24 AC/DC	Red Green Yellow Clear Blue	8WD5320-5BB 8WD5320-5BC 8WD5320-5BD 8WD5320-5BE 8WD5320-5BF		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J
8WD5320-5DF	Rotating lights	24 AC/DC	Red Green Yellow Clear Blue	8WD5320-5DB 8WD5320-5DC 8WD5320-5DD 8WD5320-5DE 8WD5320-5DF		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J

¹⁾ The lamp is not included in the scope of supply. Please order separately, see page 13/185.

Commanding and signaling devices SIRIUS 8WD5 integrated signal lamps

8WD53 integrated signal lamps, 70 mm diameter

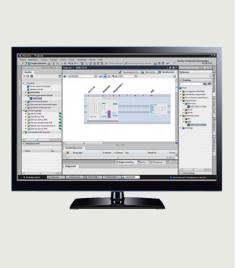
Accessories								
	Version		Color	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Accessories re	equired for mounting on tubes			_				
•	Tube adapter This accessory is an essential prerequisite for mounting accessories listed below.	use of the	Black	8WD5308-0EG		1	1 unit	41J
8WD5308-0EG	D							
Mounting (opti	Foot with tube Tube length 100 mm		Black	8WD4308-0DA		1	1 unit	41J
8WD4308-0DA								
	Feet, single							
8WD4308-0DC	• Plastic, for tube mounting, for tube lengths		Black	8WD4308-0DB		1	1 unit	41J
SWD4300-0DC	Metal, for tube mounting, for tube lengths > Adjustable-angle foot For positioning in 7.5° increments 1) Plastic, for tube mounting (including rubber seal)	400 mm	Black Black	8WD4308-0DC 8WD4408-0DF		1	1 unit 1 unit	41J 41J
8WD4408-0DF								
	Tubes, single • Length 100 mm • Length 150 mm		Silver Silver	8WD4208-0EF 8WD4308-0EE		1	1 unit 1 unit	41J 41J
	• Length 130 mm		Silver	8WD4308-0EA		1	1 unit	41J
	• Length 400 mm		Silver	8WD4308-0EB		1	1 unit	41J
8WD4208-0EF	• Length 1 000 mm		Silver	8WD4308-0ED		1	1 unit	41J
8WD4308-0DD	Sockets for feet • Side cable outlet (can also be used without feet)		Black	8WD4308-0DD		1	1 unit	41J
8WD4308-0DE	Side cable outlet, with magnetic fixing ²)		Black	8WD4308-0DE		1	1 unit	41J
8WD4408-0CC	Bracket for foot mounting		Black	8WD4408-0CC		1	1 unit	41J
1) Markings for 30°	°. 45°. 60° and 90°.		²⁾ For ho	orizontal mounting, only on	e element is	recommer	nded.	
		Rated voltage		Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	,	V				OL1, WI)		
Lamps								
W.	Incandescent lamps, 5 W	04 AC/DC	Class	0WD4200 1VV			10 unito	44.1
		24 AC/DC 115 AC	Clear	8WD4328-1XX 8WD4348-1XX		1	10 units	41J 41J
8WD4328-1XX		230 AC	Clear	8WD4358-1XX			10 units	41J
EDNE	LEDs							
8WD4428-6XE	BA15d base	24 AC/DC	Red Green Yellow Clear Blue	8WD4428-6XB 8WD4428-6XC 8WD4428-6XD 8WD4428-6XE 8WD4428-6XF		1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J
	-	115 AC	Red Green Yellow Clear Blue	8WD4448-6XB 8WD4448-6XC 8WD4448-6XD 8WD4448-6XE 8WD4448-6XF		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J
	7	230 AC	Red Green Yellow Clear Blue	8WD4458-6XB 8WD4458-6XC 8WD4458-6XD 8WD4458-6XE 8WD4458-6XF		1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41J 41J 41J 41J 41J

Commanding and signaling devices

Notes

4

Parameterization, configuration and visualization with SIRIUS



		Price groups
		PG 368, 41L, 42B, 42C, 42D, 42H, 42J, 42S
14	1/2	Introduction
14	1/4	Simulation Tool for Soft Starters (STS)
14	1/5	SIRIUS Soft Starter ES (TIA Portal) NEW
14	l/8	SIRIUS 3RW soft starter block library for SIMATIC PCS 7
14	l/11	Motor Starter ES
14	l/13	SIMOCODE ES (TIA Portal) Mawa
14	l/16	SIMOCODE pro block library for SIMATIC PCS 7
14	1/20	AS-Interface block library for SIMATIC PCS 7
14	1/22	SIRIUS Safety ES (TIA Portal) NEW
14	1/25	SIRIUS Sim

Introduction

Overview

More information

SiePortal, see www.siemens.com/product?3ZS1

International competition, enormous cost pressure and time constraints, higher productivity and quality: Equipment and system planners and operators face a wide range of challenges in executing projects as efficiently and cost-effectively as possible. We provide extensive support in this process with our SIRIUS software applications to help users achieve the best possible results with SIRIUS products in a targeted and efficient manner.



Software applications for all phases of the project

Support provided by SIRIUS software applications is strongly oriented to the needs of the user in the specific phases of the project.

Planning

The TIA Selection Tool can be used for selection, configuration and ordering of SIRIUS products. Intelligent selection wizards check the compatibility of the configured components and enable error-free ordering, see page 7 or www.siemens.com/tst.

Assistance with standard-compliant dimensioning and electrical planning is provided by Control Panel Design (CPD). At the push of a button you receive the appropriate switching and protection devices for your motor, including standard-compliant cable cross-sections and short-circuit values for fuseless and fused load feeders, see page 8 or www.siemens.com/cpd.

Convenient soft starter design is possible using the Simulation Tool for Soft Starters (STS), see page 14/4.

Commissioning

The engineering programs of the SIRIUS ES software family are used for parameterization and commissioning of all software-configurable SIRIUS devices (such as SIMOCODE, soft starters and motor starters and 3SK2 safety relays).

The SIRIUS simulation tool can be used to quickly and easily test the generated functions and configurations of the engineering programs in an office environment without having to be connected to any device, see page 14/25.

The corresponding devices can also be easily and conveniently installed into the SIMATIC PCS 7 process control system with the PCS 7 block library, e.g. for SIMOCODE, soft starters, and AS-Interface. For details about the various packages, see the following individual product descriptions.

Operation

Seamless embedding of SIRIUS devices in the Totally Integrated Automation Portal (TIA Portal) provides a variety of possibilities for operation and monitoring, e.g. with SIMATIC WinCC.

In addition, a detailed evaluation and optimization of the device status as well as alarms and error messages can be carried out by means of a data connection to Insights Hub and a corresponding application.

Maintenance and Service

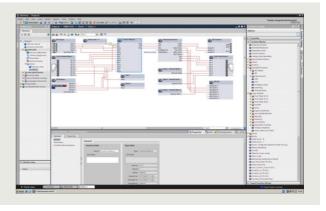
The engineering programs of the SIRIUS ES software family also provide support in this phase for diagnostics of the basic and fast SIRIUS devices and for detecting and easily eliminating faults. For details about the various packages, see the following individual product descriptions.

Engineering software



SIRIUS ES engineering software (E-SW)

The SIRIUS ES programs, such as SIRIUS Safety ES, SIMOCODE ES or SIRIUS Soft Starter ES, are based on the central engineering framework Totally Integrated Automation Portal (TIA Portal), which provides users with a consistent, efficient and intuitive solution for all automation tasks. Thus, the TIA Portal is also the integrated working environment for the programs in the SIRIUS software family. The same operator control concept, the elimination of interfaces and a high degree of user-friendliness make it possible to quickly integrate SIRIUS devices into an automation process and start them up with the TIA Portal.



Efficient engineering and commissioning with graphic user interfaces and simple network and device configuration

Introduction

The SIRIUS ES programs (TIA Portal), such as SIRIUS Safety ES, SIRIUS Soft Starter ES and SIMOCODE ES are available in two versions, which differ in terms of user-friendliness, scope of functions and price:

Basic

The Basic version contains all basic functions that are needed to parameterize devices. These include both parameterization functions and also operator control, diagnostics and test functions.

It is available as a free download in SiePortal.

Professional

The Professional versions contain the complete functionality of the software packages. The functionality includes communication functions such as access via PROFIBUS/PROFINET and S7 routing.

The SIRIUS ES program Motor Starter ES is available in three versions (Basic, Standard, Premium) which differ in their user-friendliness, scope of functions and price.

Note:

The scope of functions depends on the SIRIUS ES program, see the individual product description for details.

Types of licenses

The following license types are available for the programs of the SIRIUS ES software family:

- Floating license the license for any one user
 - Authorizes any one user
 - Independent of the number of installations (unlike the single license which is allowed to be installed once only)
 - Only the actual use of the program has to be licensed
 - License for parallel use of the TIA Portal version and of version 2007 of SIRIUS ES (combo license)
- Trial license (free use of all program functions for 14/21 days for testing and evaluation purposes, included on every product CD/DVD, available in the download file of the SIRIUS ES program in the Service&Support portal).

The following versions are also available for a number of programs of the SIRIUS ES software family:

Upgrade

Switching from an old to a new version with expanded functions, e.g. upgrade from SIMOCODE ES 2007 to SIMOCODE ES V18.

Types of delivery

• License/software download

Simply download your new software and license key from the internet via the Online Software Delivery (OSD) platform. After you have placed your order in SiePortal, you will receive your access data by email, which will allow you to immediately download the license or software you have ordered. Online Software Delivery therefore saves you time, costs and CO₂! For more information, see

www.siemens.com/tia-online-software-delivery.

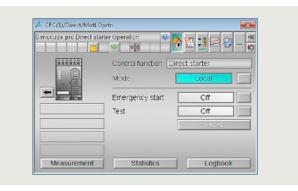
• Software Update Service

To keep you up to date at all times, we offer a special service which automatically supplies you with all the service packs and upgrades within the SIRIUS ES (TIA Portal) range of programs.

Package delivery

The software is on a DVD and is delivered together with the license on a USB flash drive.

Block libraries for SIMATIC PCS 7



Advanced Process Library (APL) – faceplate and block for control of the SIMOCODE pro block library for PCS 7

The corresponding devices can be easily and conveniently installed into the SIMATIC PCS 7 process control system with the PCS 7 block library, e.g. for SIMOCODE, soft starters, and AS-Interface. PCS 7 block libraries contain the diagnostics and driver blocks corresponding with the diagnostics and driver concept of SIMATIC PCS 7 as well as the elements (symbols and faceplate) required for operator control and process monitoring.

Types of delivery and licenses

The PCS 7 block libraries supplied on CD-ROM or by license/software download allow users to run the required engineering software on the engineering station (single license) including the runtime software for executing the AS blocks in an automation system (single license). If the AS blocks are to be used in additional automation systems, the corresponding number of runtime licenses are required which are supplied without a data carrier.

Notes on security

In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial security concept. Siemens products and solutions represent only one component of such a concept.

For more information on Industrial Security, see www.siemens.com/industrialsecurity.

Simulation Tool for Soft Starters (STS)

Overview



Easy input of motor and load data

More information

Simulation Tool for Soft Starters (STS), see https://support.industry.siemens.com/cs/ww/en/view/101494917

The Simulation Tool for Soft Starters (STS) provides a convenient means of designing soft starters using a simple, quick and user-friendly operator interface. Entering the motor and load data will simulate the application and prompt suggestions for suitable soft starters.



STS app

The Simulation Tool for Soft Starters (STS) is available as a free download for Windows and as an app (for Android and iOS), see "More information".

Benefits

- Simple, quick and user-friendly operator interface
- Detailed and up-to-date Siemens motor database, including IE3 and IE4 motors
- Simulation of heavy starting up to CLASS 30
- Update-capable (e.g. motors, load types, functions)
- Fast simulations with minimum input data
- Immediate, graphical curve charts of start operations with limit values
- View in table form of suitable soft starters for the application

VEW SIRIUS Soft Starter ES (TIA Portal)

Overview



Easy and clearly arranged parameter setting of the SIRIUS 3RW44 and 3RW55 soft starters with SIRIUS Soft Starter ES (TIA Portal)

More information

Technical specifications and system requirements, see https://support.industry.siemens.com/cs/ww/en/ps/24230/td

Download of the Basic version of Soft Starter ES, see https://support.industry.siemens.com/cs/ww/en/view/109811681

The SIRIUS Soft Starter ES (TIA Portal) software permits quick and easy parameterization, monitoring and diagnostics of SIRIUS 3RW44 and 3RW5 soft starters for service purposes. The device parameters can be configured directly on the PC and transferred to the soft starter through a serial cable or an optional PROFIBUS/PROFINET interface.

The powerful SIRIUS Soft Starter ES Basic tool for commissioning engineers or maintenance personnel is available as a free download in SiePortal, see "More information".

SIRIUS Soft Starter ES is integrated seamlessly when further TIA Portal-based software such as STEP 7 or WinCC is available, thus enabling users to achieve a consistent, efficient and intuitive solution for all automation tasks.

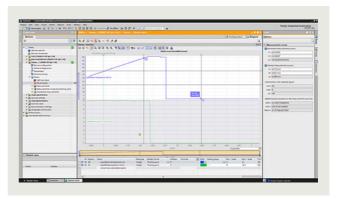
However, use of SIRIUS Soft Starter ES as stand-alone software also provides these advantages.

Efficient engineering with two program versions

The SIRIUS Soft Starter ES (TIA Portal) software program is available in two versions, which differ in their user-friendliness, scope of functions and price.

SIRIUS Soft Starter ES	Basic	Professional
Access via the local interface on the device	✓	✓
Parameter assignment	✓	✓
Operating	✓	✓
Diagnostics	✓	✓
Expert list		✓
Parameter comparison (in V18, also possible online/offline)		✓
Service data (min/max pointer, statistics data)		✓
Trace		✓
Access via PROFIBUS/PROFINET		✓
Teleservice via MPI	1	✓
Routing		✓
Bulk engineering (group function)		✓

- ✓ Function available
- -- Function not available



Graphic presentation of measured values with the trace function (oscilloscope function) of SIRIUS Soft Starter ES (TIA Portal) Professional

Additional functions

SIRIUS Soft Starter ES offers numerous advantages of the TIA Portal that can be used in an integrated working environment.

Seamless integration

When using other TIA Portal-based software such as STEP 7 or WinCC, for example, the configuration for devices and networks for all components used is created in a standardized environment.

Working with libraries

Users can create copy templates for SIRIUS 3RW44 and 3RW55 soft starter device configuration and can manage them in global or project libraries. This way, individual modules, diagrams and complete device configurations can be saved as reusable elements for frequently occurring tasks.

Teleservice via MPI

SIRIUS Soft Starter ES (TIA Portal) supports the use of MPI Teleservice (comprising the Teleservice software and various Teleservice adapters) for remote diagnostics of the devices. This facilitates diagnostics and maintenance, and it shortens response times for service purposes.

4

Parameterization, configuration and visualization with SIRIUS

SIRIUS Soft Starter ES (TIA Portal)

Benefits

- Transparent setting of the device functions and their parameters – online and offline
- Effective diagnostics functions on the soft starter and display of the most important measured values
- Trace function (oscilloscope function) for recording measured values and events (in the SIRIUS Soft Starter ES (TIA Portal) Professional software version).
- Complete transparency thanks to printout, logbook and event memory
- Parameter comparison of two configured soft starters in offline project using the Compare Editor of the TIA Portal
- In the device wizard and the parameter editor, suitable parameter values for specific applications of a soft starter can be selected for the project
- High degree of user-friendliness convenient user interface, with English, German, French, Italian, Spanish and Chinese as possible operating languages
- Time savings thanks to shorter commissioning times
- Fast, low-cost licensing using a simple licensing procedure (available online too)

Selection and ordering data

SIRIUS Soft Starter ES (TIA Portal) parameterization and service software for SIRIUS 3RW44 and 3RW5 soft starters

· Delivered without PC cable

Delivered without						
	Version	Article No.	Price per PU		PS*	PG
SIRIUS Soft Starter	ES V18 Basic					
on noo con ounter	Basic functional scope including Professional trial license					
	Engineering software, class A, 6 languages (German/English/Chinese included, French/Italian/Spanish as a download), online functions via system interface Type of delivery: Software and documentation available as a free download, see https://support.industry.siemens.com/cs/document/109811681					
SIRIUS Soft Starter	ES V18 Professional					
Combined committee	Floating license for one user Engineering software, class A, 6 languages (German/English/Chinese included, French/Italian/Spanish as a download), Combo license for parallel use of versions 2007 and V18 of SIRIUS ES, communication via system interface or PROFIBUS/PROFINET Type of delivery:					
3ZS1320-6CC14-0YA5	 Software and documentation on DVD and floating license on USB flash drive 	3ZS1320-6CC14-0YA5		1	1 unit	42H
	 Software and documentation as a download and floating license as a download 	3ZS1320-6CE14-0YB5		1	1 unit	42H
	Upgrade for Soft Starter ES 2007 Standard/Premium					
	Engineering software, class A, 6 languages (German/English/Chinese included, French/Italian/Spanish as a download), Combo license for parallel use of versions 2007 and V18 of SIRIUS ES, online functions via system interface or PROFIBUS/PROFINET					

Notes:

Soft Starter ES Standard and Premium V14 to V15.1 licenses and Soft Starter ES V16 Professional licenses can also be used for Soft Starter ES V18 Professional.

Type of delivery:

• Software and documentation on DVD and

floating license on USB flash drive

Save time, costs and CO₂ by using the download option! For a description of the software versions, see page 14/5.

3ZS1320-6CC14-0YE5

42H

1 unit

NEW SIRIUS Soft Starter ES (TIA Portal)

SET, M)		
1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	42S 42S 42S 42S 42S 42S
	1 1 1	1 1 unit

SIRIUS 3RW soft starter block library for SIMATIC PCS 7

Overview

More information

Technical specifications, see

https://support.industry.siemens.com/cs/ww/en/ps/16710/td

Overview of the available versions incl. programming manuals, Getting Started, updates and hotfixes, compatibility check

- For 3RW44, see https://support.industry.siemens.com/cs/ww/en/view/109760625
- For 3RW52 and 3RW55, see https://support.industry.siemens.com/cs/ww/en/view/109770336

The SIRIUS 3RW soft starter block library for PCS 7 can be used for easy and convenient integration of SIRIUS 3RW44, 3RW52 and 3RW55 soft starters into the SIMATIC PCS 7 process control system. The PCS 7 block library contains the diagnostics and driver blocks corresponding to the SIMATIC PCS 7 diagnostics and driver concept as well as the elements (symbols and faceplates) required for operator control and process monitoring.

Integrated functionality for optimal process control for all process control systems

In addition to the general sensor technology, the motor feeder data are increasingly being integrated into the process control system. By integrating the SIRIUS 3RW44, 3RW52 and 3RW55 soft starters into the process control system it becomes possible to prevent errors in the motor feeder simply and reliably, or to detect these errors quickly and rectify them. Downtimes are reduced to a minimum or can be prevented before they happen.

For example, the output and display of the key measured values calculated by the SIRIUS 3RW44, 3RW52 and 3RW55 soft starters is also a good aid for being able to assess and monitor the current system status.

Convenient integration with the PCS 7 block library

The PCS 7 block library can be used for easy and convenient integration of SIRIUS 3RW44, 3RW52 and 3RW55 soft starters into the SIMATIC PCS 7 process control system. The focus here is simple configuration. Functioning of the blocks is based on the PCS 7 standard libraries and is optimally harmonized with the functions of these soft starters.

Users who have previously integrated motor feeders into conventional technology via signal blocks and motor or valve blocks or, for example, already have experience with SIMOCODE blocks, are easily able to switch to SIRIUS 3RW44, 3RW52 and 3RW55.

All blocks required for the automation systems are provided by the PCS 7 block library – as are the block symbols and faceplates for the operator station required for operator control and process monitoring.

With the integration of the SIRIUS 3RW44, 3RW52 and 3RW55 into SIMATIC PDM, the system-wide device parameterization and diagnostics of these soft starters are possible from a central point.

Motor block for direct control of the drive

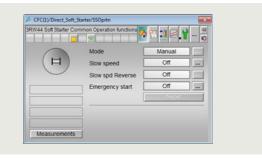
The low-voltage motors started and protected by SIRIUS 3RW44, 3RW52 and 3RW55 soft starters can be integrated into the process automation via the motor blocks. This means that they form the interface between the process control system and the motors controlled by these soft starters.

To reduce the amount of configuring work required, functions for signal processing and technological functions are integrated into one motor block.

The important measured value – the current in the motor feeder – is recorded via the soft starter and monitored for motor protection.

The motor current is accessible from the I&C system via the motor blocks

The block symbols and faceplates for the motor blocks display the motor feeders on the operator station and provide all the required information for monitoring and control as well as detailed diagnostics.



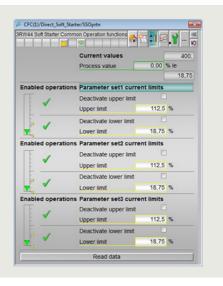
Faceplate of the motor block

Evaluation of additional motor feeder measurements

All measured values calculated by the soft starter, such as current, voltage and output of the feeder, are displayed and output via the measured value blocks. A key advantage here is that a wide range of information on important motor feeder measurements is available where required, e.g. for load monitoring.

The SIRIUS 3RW44, 3RW52 and 3RW55 soft starters are not only able to detect measured values here, but also to react if these values are exceeded or undershot, for example, via custom settings – with a motor shut-down or with a warning.

The faceplate for the measured values is accessed from the motor block faceplate.



Faceplate for measured values

Evaluation of maintenance-related motor feeder data

The SIRIUS 3RW44, 3RW52 and 3RW55 soft starters have powerful functions to detect and monitor maintenance-related motor feeder data. For example, the operating and downtimes of the motor, operating cycles and overload tripping events are detected and stored directly on the device. If required, the information already on the device is available via the statistics block in the I&C system. The display is provided on a separate faceplate for the statistics block on the operator station.

SIRIUS 3RW soft starter block library for SIMATIC PCS 7

Benefits

- Uniform and continuous integration into SIMATIC PCS 7
- Standardized blocks for simple integration and optimal operation
- With Advanced Process Library (APL)

- Greater process transparency due to greater information density in the I&C system
- System-wide device parameterization and diagnostics with SIMATIC PDM

Selection and ordering data

Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG

SIRIUS 3RW52 and 3RW55 soft starter block library for SIMATIC PCS 7 version V9.1 with Advanced Process Library (APL)



Engineering software V9.1

For one engineering station (single license) including runtime software for execution of the AS blocks in an automation system (single license), German/English

Scope of supply: AS blocks and faceplates for integrating SIRIUS 3RW52

and 3RW55 into the PCS 7 process control system with Advanced Process Library, for PCS 7 version V9.1

Type of delivery:
One license for one engineering station, one license for one automation system

• Software and documentation as software download (OSD)

3ZS1633-1XE51-0YA0

3ZS1633-1XX50-0YA0

3ZS1633-1XE50-0YA0

3ZS1633-2XX50-0YB0

3ZS1633-2XE50-0YB0

1 unit

42H

42H

42H

42H

42H

42H

1 unit

1 unit

1 unit

1 unit

Runtime license V9.1

For execution of the AS blocks in an automation system (single license)

Required for using the AS blocks of the engineering software V9.1 on an additional automation system within a plant

Type of delivery:

One license for one automation system. without software and documentation

Certificate of License (CoL) in electronic form (OSD)¹⁾

3ZS1633-2XE51-0YB0 1 unit

SIRIUS 3RW52 and 3RW55 soft starter block library for SIMATIC PCS 7 version V9 with Advanced Process Library (APL)



3ZS1633-1XX50-0YA0

Engineering software V9.0 + SP2

For one engineering station (single license) including runtime software for execution of the AS blocks in an automation system (single license), German/English

Scope of supply: AS blocks and faceplates for integrating SIRIUS 3RW52 and 3RW55 into the PCS 7 process control system with Advanced Process Library, for PCS 7 version V9.0 + SP2

Type of delivery:
One license for one engineering station, one license for one automation system

- Software and documentation on CD
- · Software and documentation as software download (OSD)

Runtime license V9.0 + SP2

For execution of the AS blocks in an automation system (single license)

Required for using the AS blocks of the engineering software V9.0 + SP2 on an additional automation system within a plant

Type of delivery:
One license for one automation system. without software and documentation

- Certificate of License (CoL) in paper form
- Certificate of License (CoL) in electronic form (OSD)1)

¹⁾ With a Certificate of License (CoL) in electronic form, the license is supplied via Online Software Delivery (OSD) as a PDF file. Notification of this with a download link is received by email.

Type of delivery:
One license for one automation system, without software and documentation • Certificate of License (CoL) in paper form

SIRIUS 3RW soft starter block library for SIMATIC PCS 7

Price PS* PG Version Article No. per PU (UNIT, SÈT, M) SIRIUS 3RW44 soft starter block library for SIMATIC PCS 7 version V9 with Advanced Process Library (APL) Engineering software V9 For one engineering station (single license) including runtime software for execution of the AS blocks in an automation system (single license), German/English Scope of supply:
AS blocks and faceplates for integrating SIRIUS 3RW44 into the PCS 7 process control system with Advanced Process Library, for PCS 7 versions V9.0+SP1 Type of delivery:
One license for one automation system, without software and documentation • Software and documentation on CD 3ZS1633-1XX03-0YA0 1 unit 42H Runtime license V9 For execution of the AS blocks in an automation system (single license) Required for using the AS blocks of the engineering software V9.0+SP1 on an additional automation system within a plant

3ZS1633-2XX03-0YB0



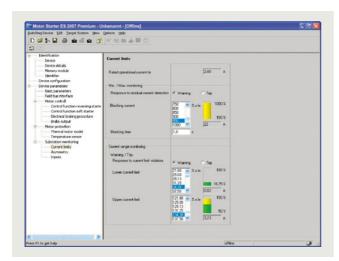
3ZS1633-1XX03-0YA0

1 unit

42H

Motor Starter ES

Overview



Motor Starter ES for parameterization, monitoring, diagnostics and testing of motor starters

More information Technical specifications and system requirements, see https://support.industry.siemens.com/cs/ww/en/ps/16713/td

Motor Starter ES is used for the commissioning, parameterization, diagnostics, documentation and preventive maintenance of SIMATIC ET 200S, ET 200pro, ECOFAST and M200D motor starters.

Interfacing is performed

- Via the local interface on the device
- With PROFIBUS DP-V1-capable motor starters from any point in PROFIBUS (applies to ET 200S DP V1/ET 200pro/ECOFAST/M200D)
- With PROFINET-capable motor starters from any point in PROFINET

(applies to ET 200S DP V1/ET 200pro/M200D)

Using Motor Starter ES, the communication-capable motor starters are easily parameterized during commissioning, monitored during normal operation and successfully diagnosed for service purposes. Preventive maintenance is supported by a function for reading out diverse statistical data (e.g. operating hours, operating cycles, cut-off currents, etc.). The user is supported during these procedures with comprehensive Help functions and plain text displays.

Motor Starter ES can either be used as a stand-alone program or it can be integrated into STEP 7 via an Object Manager.

Note:

The Motor Starter ES functionalities in relation to commissioning, parameterization and diagnostics are integrated directly in the TIA Portal from V18 and are accessible online for the SIMATIC ET 200pro, ET 200SP and M200D motor starters.

Efficient engineering with three program versions

The Motor Starter ES software program is available in three versions which differ in their user-friendliness, scope of functions and price.

Motor Starter ES	Basic	Standard	Premium
ET 200S High Feature PROFIBUS IM	1	✓	✓
ET 200S High Feature PROFINET IM	1	1	1
ECOFAST AS-Interface High Feature	1	1	
ECOFAST PROFIBUS	✓	1	1
ET 200pro PROFIBUS IM	✓	✓	✓
ET 200pro PROFINET IM	✓	✓	1
M200D AS-Interface Standard	✓	✓	(✓)
M200D PROFIBUS	✓	1	1
M200D PROFINET	/	✓	1

- ✓ Function available
- (✓) Available with restricted functionality
- Function not available

Motor Starter ES	Basic	Standard	Premium
Access via the local interface on the device	✓	1	1
Parameter assignment	✓	1	1
Operating	✓	/	1
Diagnostics		1	1
Creation of templates		✓	✓
Comparison functions		1	1
Standard-compliant printout according to EN ISO 7200		1	1
Service data (min/max pointer, statistics data)		1	1
Access via PROFIBUS			1
Access via PROFINET			1
S7 routing			1
Teleservice via MPI			1
STEP 7 Object Manager ¹⁾			1
Trace function		1	1

- ✓ Function available
- -- Function not available
- 1) Only for STEP 7 V5.x

Additional functions

Standard-compliant printouts

The software tool greatly simplifies machine documentation. It enables parameterization printouts according to ISO 7200. The elements to be printed are easy to select and group as required.

Easy creation of templates

Templates can be created for devices and applications with only minimum differences in their parameters. These templates contain all the parameters which are needed for the parameterization. In addition it is possible to specify which of these parameters are fixed and which can be adapted, e.g. by the commissioning engineer.

Teleservice via MPI

The Motor Starter ES Premium version supports the use of MPI Teleservice (comprising the Teleservice software and various Teleservice adapters) for remote diagnostics of the devices. This facilitates diagnostics and maintenance, and it shortens response times for service purposes.

14

Parameterization, configuration and visualization with SIRIUS

Motor Starter ES

Benefits

- Fast, error-free configuration and commissioning of motor starters even without extensive previous knowledge
- Transparent setting of the device functions and their parameters – online and offline
- Effective diagnostics functions on the soft starter and display of the most important measured values
- Trace function (oscilloscope function) for recording measured values and events (included in the Motor Starter ES Standard and Premium software version for M200D, PROFIBUS and PROFINET).

Selection and ordering data

Parameterization, commissioning and diagnostics software Motor Starter ES 2007

For ECOFAST Motor Starter, SIMATIC ET 200S High Feature Starter, SIMATIC ET 200pro Starter and M200D (AS-i Standard, PROFIBUS, PROFINET)

• Delivered without PC cable

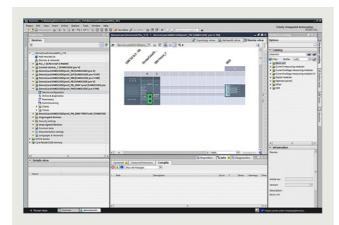
2 3 3. Od Williodi I						
	Version	Article No.	Price per PU		PS*	PG
Motor Starter ES 20	07 Basic					
Total	Floating license for one user Engineering software in limited-function version for diagnostics purposes, class A, 3 languages (German/English/French), communication via system interface Type of delivery:					
Sigins	 Software and documentation on CD and floating license on USB flash drive 	3ZS1310-4CC10-0YA5		1	1 unit	42D
3ZS1310-4CC10-0YA5	Floating license as a download	3ZS1310-4CE10-0YB5		1	1 unit	42D
Motor Starter ES 20	07 Standard					
	Floating license for one user					
AND THE STATE OF T	Engineering software, class A, 3 languages (German/English/French), communication through the system interface Type of delivery:					
Sirius	Software and documentation on CD and floating license on USB flash drive	3ZS1310-5CC10-0YA5		1	1 unit	42D
	 Floating license as a download 	3ZS1310-5CE10-0YB5		1	1 unit	42D
3ZS1310-5CC10-0YA5						
Motor Starter ES 20						
	Floating license for one user					
The second secon	Engineering software, class A, 3 languages (German/English/French), communication via system interface or PROFIBUS/PROFINET, STEP 7 Object Manager Type of delivery:					
SHEMEANS	 Software and documentation on CD and floating license on USB flash drive 	3ZS1310-6CC10-0YA5		1	1 unit	42D
3ZS1310-6CC10-0YA5	 Floating license as a download 	3ZS1310-6CE10-0YB5		1	1 unit	42D
For a description of t	he software versions, see page 14/11.					

Accessories

	Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Optional accessories						
	RS 232 interface cable Serial data connection between ET 200pro MS/FC, M200D and laptop/PC/PG or MS	3RK1922-2BP00		1	1 unit	42D
	USB interface cable Serial data connection between ET 200pro MS/FC, M200D and laptop/PC/PG or MS	6SL3555-0PA00-2AA0		1	1 unit	368
	USB/serial adapter For connecting an RS 232 PC cable to the USB interface of a PC, recommended for use in conjunction with ET 2005/ECOFAST/ET 200pro motor starters	3UF7946-0AA00-0		1	1 unit	42J

NEW SIMOCODE ES (TIA Portal)

Overview



Selection of SIMOCODE pro device configuration in SIMOCODE ES (TIA Portal)

More information

SiePortal, see www.siemens.com/product?3ZS1

Technical specifications, see

https://support.industry.siemens.com/cs/ww/en/ps/16716/td

Software download

- SIMOCODE ES (TIA Portal), Basic functional scope including Professional trial license, see https://support.industry.siemens.com/cs/document/109811683
- SIMOCODE ES 2007, see https://support.industry.siemens.com/cs/ww/en/view/109750623

SIMOCODE ES is the central software for configuration, commissioning, operation and diagnostics of SIMOCODE pro.

SIMOCODE ES (TIA Portal) is available as a powerful successor to version 2007, which is based on the central engineering framework Totally Integrated Automation Portal (TIA Portal).

The engineering software is integrated seamlessly if further TIA Portal-based software such as STEP 7 or WinCC is available, thus enabling users to achieve a consistent, efficient and intuitive solution for all automation tasks.

However, use of SIMOCODE ES as stand-alone software also provides these advantages.

Two program versions

The user can choose between two versions of SIMOCODE ES:

- SIMOCODE ES Basic
- SIMOCODE ES Professional

The powerful SIMOCODE ES Basic tool for commissioning engineers or maintenance personnel is available as a free download in SiePortal, see "More information".

SIMOCODE ES Professional is a perfect tool for engineers or configuration engineers with its extended scope of functions and integrated graphics editor. Unlike the Basic version, SIMOCODE ES Professional also permits parameter assignment and diagnostics via PROFIBUS/PROFINET/Ethernet. Indication of all operating, service and diagnostics data supplies important information about the current state of the motor and plant at all times – everywhere on PROFIBUS/PROFINET/Ethernet.

SIMOCODE ES	Basic	Professional
Access via the local interface on the device	✓	✓
Parameter assignment in list form	✓	✓
Parameter assignment via expert list		✓
Bulk engineering		✓
Working with libraries	✓	✓
Parameter printing in list form	✓	✓
Operating	✓	✓
Diagnostics	✓	✓
Test	✓	✓
Service data	✓	✓
Analog value recording ¹⁾	✓	✓
Trend display of measured values		✓
Parameterizing with convenient graphical display		✓
Parameterizing with the integrated graphics editor (CFC-based)		✓
Printing of diagrams		✓
Parameter comparison (in V18, also possible online/offline)		1
Access via PROFIBUS/PROFINET/Ethernet		✓
Teleservice via MPI		✓
Routing ²⁾		✓
Firmware update basic units ¹⁾	✓	✓

- ✓ Function available
- -- Function not available
- 1) For SIMOCODE pro V.
- 2) See https://support.industry.siemens.com/cs/ww/en/view/109738745.

Working with libraries

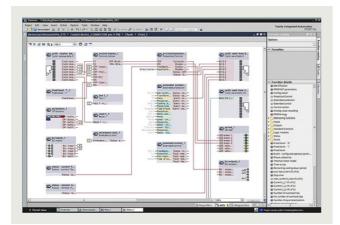
Users can create copy templates for SIMOCODE pro device configuration and can manage them in global or project libraries.

This way, individual modules, diagrams and complete device configurations can be saved as reusable elements for frequently occurring tasks.

SIMOCODE ES (TIA Portal) NEW

Integrated graphics editor

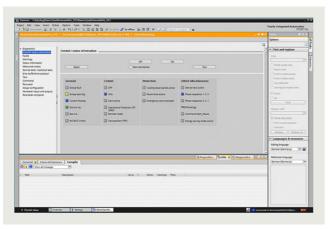
The graphics editor is part of SIMOCODE ES Professional. It is based on the Continuous Function Chart (CFC) and adds a powerful tool to the parameterization interface that enables easy parameterization of devices by drag & drop. What is more, all the parameters can also be edited directly in the graphics editor. Extremely compact documentation of all configured parameters is possible, as is the graphic online presentation of the configured device functions including all signal states during operation. In V18, the signal states of inputs can now also be set in the function charts when the "cold start" function test is active and, in this way, the device function can be tested.



Parameterize easily and ergonomically with the CFC-based graphics editor of SIMOCODE ES Professional

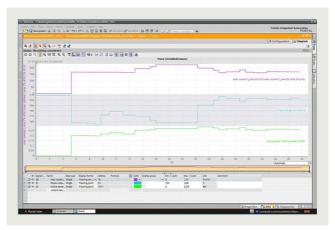
Online functions for commissioning and diagnostics

To this end, SIMOCODE ES provides powerful functions for commissioning and diagnostics of motor feeders. Besides a detailed display of status information and the causes of faults, all available measurement and statistics data can be retrieved online. Access to the fault and event memory as well as to analog values recorded on the device, e.g. current or voltage, is also possible.



Trend display of measured values

With this online function, SIMOCODE ES Professional can present the trends of different measured values. It is thus possible for example to record and evaluate the startup behavior of a motor or its behavior under different load conditions.



Live trend display of SIMOCODE ES

Additional functions

SIMOCODE ES offers numerous advantages of the TIA Portal that can be used in an integrated working environment.

Seamless integration

When using other TIA Portal-based software such as STEP 7 or WinCC, for example, the configuration for devices and networks for all components used is created in a standardized environment.

Teleservice via MPI

The SIMOCODE ES (TIA Portal) Professional version supports the use of MPI Teleservice (comprising the Teleservice software and various Teleservice adapters) for remote diagnostics of the devices. This facilitates diagnostics and maintenance, and it shortens response times for service purposes.

Commissioning functions of SIMOCODE ES

Benefits

- Easy parameterization with the graphics editor based on the Continuous Function Chart (CFC) reduces engineering work and shortens commissioning times
- Clear plant documentation by means of graphic presentation
- Detailed information, also when there are faults, is a help for maintenance personnel and shortens downtimes
- Universally applicable through stand-alone version or seamless integration into the central engineering framework when other TIA Portal-based software such as STEP 7 or WinCC are available
- Parameter changes are also possible during normal operation
- Users can create copy templates for device configurations and can manage them in global libraries

3ZS1322-6CC16-0YA5

3ZS1322-6CE16-0YB5

3ZS1322-6CC16-0YE5

3ZS1322-6CC00-0YL5

SIMOCODE ES (TIA Portal)

Selection and ordering data

Parameterization and service software for SIMOCODE pro 3UF7

• Delivered without PC cable

	Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
SIMOCODE ES V18 Ba	asic					
	Basic functional scope including Professional trial license					
	Engineering software, class A, 6 languages (German/English/Chinese included, French/Italian/Spanish as a download), for all SIMOCODE pro, online functions via system interface Type of delivery: Software and documentation available as a free download, see https://support.industry.siemens.com/cs/document/109811683					

SIMOCODE ES V18 Professional



3ZS1322-6CC16-0YA5

Floating license for one user

Engineering software, class A, 6 languages (German/English/Chinese included, French/Italian/Spanish as a download), Combo license for parallel use of versions 2007 and V18 of SIRIUS ES, for all SIMOCODE pro, online functions via system interface and PROFIBUS/PROFINET/Ethernet, parameterizing with the integrated graphics editor (CFC-based) Type of delivery:

• Software and documentation on DVD and floating license on USB flash drive

· Software and documentation as a download and floating license as a download

Upgrade for SIMOCODE ES 2007 Standard/Premium

Engineering software, class A, 6 languages (German/English/Chinese included, French/Italian/Spanish as a download), Combo license for parallel use of versions 2007 and V18 of SIRIUS ES, for all SIMOCODE pro, online functions via system interface and PROFIBUS/PROFINET/Ethernet, parameterizing with the integrated graphics editor (CFC-based) Type of delivery:

• Software and documentation on DVD and floating license on USB flash drive

Software update service

For 1 year with automatic extension, requires software version of SIMOCODE ES (TIA Portal), engineering software, class A online functions via system interface and PROFIBUS/PROFINET/Ethernet, parameterizing with integrated graphics editor (CFC-based) Type of delivery:

• Software and documentation on DVD

SIMOCODE ES Standard and Premium V12 to V15 licenses can also be used for SIMOCODE ES V16/V18 Professional. Save time, costs and CO₂ by using the download option!

Notes:

For a description of the software versions, see page 14/13. Please order PC cable separately, see "Accessories".

Accessories

	Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Optional accessorie	es					
	USB PC cable For connecting to the USB interface of a PC/PG, for communication with SIMOCODE ES via the system interface	3UF7941-0AA00-0		1	1 unit	42J
3UF7941-0AA00-0	USB/serial adapter For connecting an RS 232 PC cable to the USB interface of a PC, recommended for use in conjunction with	3UF7946-0AA00-0		1	1 unit	42J

42J

42J

42J

42J

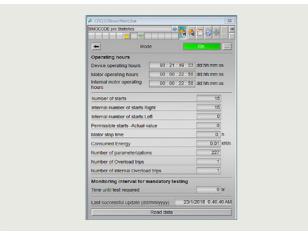
1 unit

1 unit

1 unit

SIMOCODE pro block library for SIMATIC PCS 7

Overview



Advanced Process Library (APL) - faceplates and blocks for statistical data of the SIMOCODE pro library for PCS 7

More information

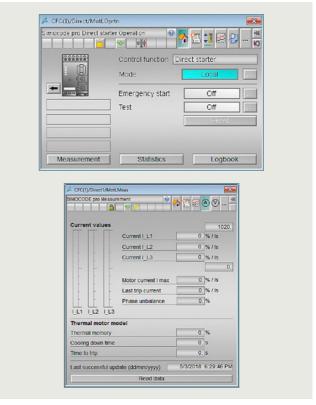
SiePortal, see www.siemens.com/product?3ZS1

Technical specifications, see

https://support.industry.siemens.com/cs/ww/en/ps/16718/td

Overview of the available versions incl. programming manuals, Getting Started, updates and hotfixes, compatibility check, see https://support.industry.siemens.com/cs/ww/en/view/109760422

The PCS 7 block library can be used for easy and convenient integration of SIMOCODE pro into the SIMATIC PCS 7 process control system. One focus here is on easy configuration, because the number of required configuration steps is reduced crucially. Configuration of the blocks is based on the PCS 7 standard configuration processes and is optimally harmonized with the functions of SIMOCODE pro. Users who have previously integrated conventional motor feeders into PCS 7 will therefore find it easy to switch to SIMOCODE pro.



Advanced Process Library (APL) - faceplates and blocks for control and measured data of the SIMOCODE pro library for PCS 7

Benefits

- Uniform and continuous integration into SIMATIC PCS 7
- Standardized blocks for simple integration and optimal operation
- Greater process transparency due to greater information density in the I&C system

SIMOCODE pro block library for SIMATIC PCS 7

Selection and ordering data

Version Article No. PS* PG Price per PU (UNIT, SET. M)

SIMOCODE pro block library for SIMATIC PCS 7 version V9.1 with Advanced Process Library (APL)



3ZS1632-1XE04-0YA0

Engineering software V9.1

For one engineering station (single license) including runtime software for execution of the AS blocks in an automation system (single license), German/English

Scope of supply: AS blocks and faceplates for integrating SIMOCODE pro into the PCS 7 process control system with Advanced Process Library, for PCS 7 version V9.1

Type of delivery: One license for one engineering station, one license for one automation system

· Software and documentation as software download (OSD)

3ZS1632-1XE04-0YA0

3ZS1632-1XE04-0YE0

3ZS1632-1XE04-0YF0

1 unit 42.1

Runtime license V9.1

For execution of the AS blocks in an automation system (single license)

Required for using the AS blocks of the engineering software V9.1 within a plant

Type of delivery:

One license for one automation system, without software and documentation

Certificate of License (CoL) in electronic form (OSD)¹⁾

3ZS1632-2XE04-0YB0 1 unit 42J

Upgrade for PCS 7 block library SIMOCODE pro V8 or V9.0²⁾

To version SIMOCODE pro V9.1 for one engineering station (single license) including runtime software for execution of the AS blocks in an automation system (single license), German/English

Scope of supply:
AS blocks and faceplates for integrating
SIMOCODE pro into the PCS 7 process control
system with Advanced Process Library,
for PCS 7 version V9.1

Type of delivery:
One license for one engineering station, one license for one automation system

• Software and documentation as software download (OSD)

Upgrade for PCS 7 block library SIMOCODE pro V7 (without APL)²⁾

To version SIMOCODE pro V9.1 (with APL) for one engineering station (single license) including runtime software for execution of the AS blocks in an automation system (single license), German/English

Scope of supply:

AS blocks and faceplates for integrating SIMOCODE pro into the PCS 7 process control system with Advanced Process Library, for PCS 7 version V9.1

Type of delivery:

One license for one engineering station, one license for one automation system

• Software and documentation as software download (OSD)

1) With a Certificate of License (CoL) in electronic form, the license is supplied via Online Software Delivery (OSD) as a PDF file. Notification of this with a download link is received by email

²⁾ The upgrade is valid equally for existing engineering software incl. runtime license and for a single runtime license

1 unit

1 unit

42J

42J

SIMOCODE pro block library for SIMATIC PCS 7

	Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
				OL1, 111)		
	k library for SIMATIC PCS 7 vanced Process Library (APL)					
	Engineering software V9.0					
STATES	For one engineering station (single license) including runtime software for execution of the AS blocks in an automation system (single license), German/English					
	Scope of supply: AS blocks and faceplates for integrating SIMOCODE pro into the PCS 7 process control system with Advanced Process Library, for PCS 7 version V9.0					
3ZS1632-1XX03-0YA0	Type of delivery: One license for one engineering station, one license for one automation system					
	 Software and documentation on CD 	3ZS1632-1XX03-0YA0		1	1 unit	42J
	Software and documentation as software download (OSD)	3ZS1632-1XE03-0YA0		1	1 unit	42J
	Runtime license V9.0					
	For execution of the AS blocks in an automation system (single license)					
	Required for using the AS blocks of the engineering software V9.0 within a plant					
	Type of delivery: One license for one automation system, without software and documentation					
	 Certificate of License (CoL) in paper form 	3ZS1632-2XX03-0YB0		1	1 unit	42J
	 Certificate of License (CoL) in electronic form (OSD)¹⁾ 	3ZS1632-2XE03-0YB0		1	1 unit	42J
	Upgrade for PCS 7 block library SIMOCODE pro V8					
	To version SIMOCODE pro V9.0 for one engineering station (single license) including runtime software for execution of the AS blocks in an automation system (single license), German/English					
	Scope of supply: AS blocks and faceplates for integrating SIMOCODE pro into the PCS 7 process control system with Advanced Process Library, for PCS 7 version V9.0					
	Type of delivery: One license for one engineering station, one license for one automation system					
	Software and documentation on CD	3ZS1632-1XX03-0YE0		1	1 unit	42J

With a Certificate of License (CoL) in electronic form, the license is supplied via Online Software Delivery (OSD) as a PDF file. Notification of this with a download link is received by email.

SIMOCODE pro block library for SIMATIC PCS 7

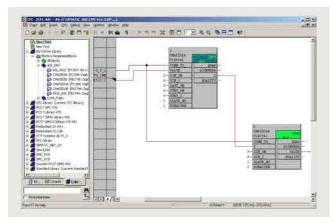
	Version	Article No.	Price per PU	PU (UNIT,	PS*	PG
			ро о	SET, M)		
SIMOCODE pro bloc without Advanced Pr	k library for SIMATIC PCS 7 rocess Library (APL)					
	Engineering software V7					
AND THE PARTY OF T	For one engineering station (single license) including runtime software for execution of the AS blocks in an automation system (single license), German/English/French Scope of supply: AS blocks and faceplates for integrating SIMOCODE pro into the PCS 7 process control system, for PCS 7 versions V7.0/V7.1 Type of delivery:					
3UF7982-0AA10-0	One license for one engineering station, one license for one automation system					
	 Software and documentation on CD 	3UF7982-0AA10-0		1	1 unit	42J
	Runtime license V7					
	For execution of the AS blocks in an automation system (single license)					
	Required for using the AS blocks of the engineering software V7 or the engineering software migration V7-V9 on an additional automation system within a plant					
	Type of delivery: One license for one automation system, without software and documentation					
	Certificate of License (CoL) in paper form	3UF7982-0AA11-0		1	1 unit	42J
	Engineering software migration V7-V9					
	For upgrading (migrating) an existing engineering software V7 of the SIMOCODE pro block library for PCS 7					
	Conditions of use: Availability of the engineering software V7 (license) of the SIMOCODE pro block library for PCS 7 for the PCS 7 version V7.0 or V7.1					
	The engineering software migration V7-V9 can be installed directly onto a system with PCS 7 version V8 or V9; installation of the previous version is unnecessary.					
	For one engineering station (single license) including runtime software for execution of the AS blocks in an automation system (single license), German/English/French					
	Scope of supply: AS blocks and faceplates for integrating SIMOCODE pro into the PCS 7 process control system					
	Type of delivery: License for upgrading an existing license for one engineering station and a plant's assigned runtime licenses					
	For PCS 7 versions V8.0/V8.1/V8.2/V9.0					
	Software and documentation on CD	3UF7982-0AA20-0		1	1 unit	42J
	Software and documentation as software download (OSD)	3UF7982-0AA20-1		1	1 unit	42J
	For PCS 7 version V9.1					
	Software and documentation as software download (OSD)	3UF7982-0AA30-1		1	1 unit	42J

7

Parameterization, configuration and visualization with SIRIUS

AS-Interface block library for SIMATIC PCS 7

Overview



AS-Interface block library for SIMATIC PCS 7 in the CFC chart

More information

Overview of the available versions incl. programming manuals, Getting Started, service packs, updates and hotfixes, compatibility check, see https://support.industry.siemens.com/cs/ww/en/view/109759605

The AS-Interface function block library for PCS 7 is integrated in the SIMATIC PCS 7 process control system and expands it for integration of the AS-Interface system.

As the result, the advantages of AS-Interface such as the considerable reduction of wiring outlay for distributed actuators/sensors and very simple installation can also be used in a system based on PCS 7.

The library contains blocks for accessing the I/O data of AS-i slaves, blocks for diagnostics of the AS-i system, and faceplates for the PCS 7 Maintenance Station.

Supported AS-Interface modules

The AS-Interface block library for PCS 7 can be used with the following AS-i master modules, see also page 2/1 onwards:

- CM AS-i Master ST (in ET 200SP station) 3RK7137-6SA00-0BC1
- CP 343-2 (in ET 200M station) 6GK7343-2AH01-0XA0
- CP 343-2P (in ET 200M station) 6GK7343-2AH11-0XA0

The support of further AS-i modules is described in the manuals of the libraries, see section "More information".

The CM AS-i Master ST module is supported with IM 155-6 PN High Feature or IM 155-6 DP High Feature within an ET 200SP station interfaced via PROFINET or PROFIBUS (ET 200SP PROFIBUS from engineering software V9.0 SP2 Update 1).

The AS-i masters CP 343-2 and CP 343-2P are supported within an ET 200M station interfaced via PROFINET or PROFIBUS.

With the CM AS-i Master ST, CP 343-2 or CP 343-2P modules, digital AS-i slaves with standard addressing and extended addressing (A/B slaves, see also note under "Application") can be operated via the library.

Analog AS-i slaves on the CM AS-i Master ST module are supported from engineering software V9.1.

Hardware and software requirements

The libraries require the following PCS 7 versions:

- Engineering software V9.1: PCS 7 version V9.1
- Engineering software V9.0: PCS 7 version V9.0

Notes:

For information on other versions, see https://support.industry.siemens.com/cs/ww/en/view/109759605.

More information on the combination of the various modules and software versions can be found using the compatibility tool, see https://support.industry.siemens.com/cs/ww/en/view/64847781.

The delivery of the engineering software includes the basic version of the library. Service packs and updates are available for downloading to adapt to the PCS 7 version used, see https://support.industry.siemens.com/cs/ww/en/view/109759605.

Benefits

- Easy connection of AS-Interface to PCS 7
- Engineering work reduced to positioning and connecting the blocks in the CFC
- With no additional configuring steps required for connection to the PCS 7 Maintenance Station, diagnostics for the AS-i system are optimally guaranteed.

Application

The AS-Interface block library for PCS 7 is used in systems based on PCS 7 where the actuators and sensors are connected using AS-Interface.

Notes:

The AS-i masters CP 343-2 and CP 343-2P do not transmit I/O data from AS-i slaves with a B address via the cyclic process image (partition), but via data records.

To prevent delays in the communication of driver blocks for B slaves, we recommend avoiding the use of AS-i slaves with B addresses for PCS 7 configurations with CP 343-2 or CP 343-2P.

AS-Interface block library for SIMATIC PCS 7

Selection and ordering data

Version Article No. PS* PG Price per PU (UNIT SET. M)

AS-Interface block library for SIMATIC PCS 7 version V9.1 with Advanced Process Library (APL)



3ZS1635-1XE04-0YA0

Engineering software V9.1

For one engineering station (single license) including runtime software for execution of the AS blocks in an automation system (single license), German/English

Scope of supply:

AS blocks and faceplates for integrating AS-Interface into the PCS 7 process control system with Advanced Process Library (APL), for PCS 7 version V9.1 and higher

Type of delivery:

One license for one engineering station, one license for one automation system

· Software and documentation as software download (OSD)

3ZS1635-1XX03-0YA0

3ZS1635-2XX03-0YB0

3ZS1635-1XE04-0YA0 1 unit

Runtime license V9.1

For execution of the AS blocks in an automation system (single license)

Required for using the AS blocks of the engineering software V9.1 on an additional automation system within a plant

Type of delivery:
One license for one automation system, without software and documentation

Certificate of License (CoL) in electronic form (OSD)¹⁾

3ZS1635-2XE04-0YB0 1 unit 42C

1

1 unit

1 unit

42C

42C

42C

AS-Interface block library for SIMATIC PCS 7 version V9.0 with Advanced Process Library (APL)



3ZS1635-1XX03-0YA0

Engineering software V9.0

For one engineering station (single license) including runtime software for execution of the AS blocks in an automation system (single license), German/English

Scope of supply:

AS blocks and faceplates for integrating AS-Interface into the PCS 7 process control system with Advanced Process Library (APL), for PCS 7 version V9.0

Type of delivery:
One license for one engineering station, one license for one automation system

• Software and documentation on CD

Runtime license V9.0

For execution of the AS blocks in an automation system (single license)

Required for using the AS blocks of the engineering software V9.0 on an additional automation system within a plant

Type of delivery: One license for one automation system, without software and documentation

• Certificate of License (CoL) in paper form

¹⁾ With a Certificate of License (CoL) in electronic form, the license is supplied via Online Software Delivery (OSD) as a PDF file. Notification of this with a download link is received by email.

7

Parameterization, configuration and visualization with SIRIUS

SIRIUS Safety ES (TIA Portal) NEW

Overview



SIRIUS Safety ES (TIA Portal): Configuration

More information

Technical specifications, see

https://support.industry.siemens.com/cs/ww/en/ps/26081/td

Download of SIRIUS Safety ES Basic, see

https://support.industry.siemens.com/cs/ww/en/view/109811685

The SIRIUS Safety ES (TIA Portal) software permits quick and easy parameterization, commissioning and diagnostics of SIRIUS 3SK2 safety relays. Device configuration and device functionality can easily be created graphically directly on the PC and transferred to the switching device through a USB cable or an optional PROFIBUS/PROFINET interface.

The powerful SIRIUS Safety ES Basic tool for commissioning engineers or maintenance personnel is available as a free download in SiePortal, see "More information".

SIRIUS Safety ES is integrated seamlessly when further TIA Portal-based software such as STEP 7 or WinCC is available, thus enabling users to achieve a consistent, efficient and intuitive solution for all automation tasks.

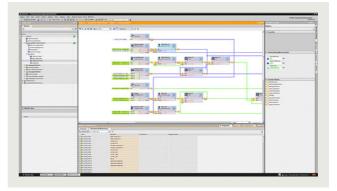
However, use of SIRIUS Safety ES (TIA Portal) as stand-alone software also provides these advantages.

Efficient engineering with two program versions

The SIRIUS Safety ES (TIA Portal) software program is available in two versions, which differ in their user-friendliness and scope of functions.

SIRIUS Safety ES (TIA Portal)	Basic	Professional
Unlimited number of function blocks		✓
Access to the local interface on the device	✓	✓
Access via PROFINET/PROFIBUS		✓
Routing		✓
Parameter comparison (in V18, also possible online/offline)		✓
Parameter assignment	✓	✓

- ✓ Function available
- -- Function not available



SIRIUS Safety ES (TIA Portal): Logic

Additional functions

SIRIUS Safety ES (TIA Portal) offers numerous advantages of the TIA Portal that can be used in an integrated working environment.

Seamless integration

When using other TIA Portal-based software such as STEP 7 or WinCC, for example, the configuration for devices and networks for all components used is created in a standardized environment.

Working with libraries

Users can create copy templates for frequently-used applications or parameters and can manage them in global or project libraries. This way, individual modules, diagrams and complete device configurations can be saved as reusable elements for frequently occurring tasks.

Interface to SIRIUS Sim 3SK2

The integrated interface to the simulation software SIRIUS Sim allows all parameterization, application testing and diagnostics to be carried out on the digital twin without any real hardware components. This saves time and capital costs.

SIRIUS Sim, see page 14/25 or https://support.industry.siemens.com/cs/ww/en/view/109763750.

Benefits

- Transparent setting of the device functions and their parameters
- Effective support during commissioning
- Comprehensive diagnostics functions
- Complete transparency thanks to printout, logbook memory
- High degree of user-friendliness convenient user interface, with English, German, French, Italian, Spanish and Chinese as possible operating languages
- Time savings thanks to shorter commissioning times
- Fast, low-cost licensing using a simple licensing procedure (available online too)

3ZS1326-2CC11-0YA5

3ZS1326-2CC11-0YE5

SIRIUS Safety ES (TIA Portal)

Selection and ordering data

Parameterization and service software for SIRIUS 3SK2 safety relays

• Delivered without PC cable

Version	Article No.	Price	PU	PS*	PG
		per PU	(UNIT,		
			SET M)		

SIRIUS Safety ES V18 Basic

Basic functional scope including Professional trial license

Engineering software, class A 6 languages (German/English/Chinese included, French/Italian/Spanish as a download), online functions via system interface Type of delivery: Software and documentation available as a free download, see

https://support.industry.siemens.com/cs/ww/en/view/109811685

SIRIUS Safety ES V18 Professional



3ZS1326-2CC10-0YA5

Floating license for one user

Engineering software, class A, 6 languages (German/English/Chinese included, French/Italian/Spanish as a download), Combo license for parallel use of versions V1.0 and V18 of the Safety ES, for all 3SK2, online functions via system interface and PROFIBUS/PROFINET. parameterizing with the integrated graphics editor (CFC-based)

Type of delivery: • Software and documentation on DVD and

floating license on USB flash drive • Software and documentation as a download and 3ZS1326-2CE11-0YB5 floating license as a download

Upgrade for Safety ES V1.0 Standard/Premium

Engineering software, class A, 6 languages (German/English/Chinese included, French/Italian/Spanish as a download), Combo license for parallel use of versions V1.0 and V18 of the Safety ES, for all 3SK2, online functions via system interface and PROFIBUS/PROFINET/Ethernet, parameterizing with the integrated graphics editor (CFC-based) Type of delivery:

• Software and documentation on DVD and floating license on USB flash drive

Notes:

For a description of the software versions, see page 14/22.

Please order PC cable separately, see 14/24.

Save time, costs and CO₂ by using the download option!

1 unit

1 unit

1 unit

41L

411

41L

SIRIUS Safety ES (TIA Portal) **NEW**

Accessories						
	Version	Article No.	Price per PU		PS*	PG
Optional accessor	ies					
3UF7941-0AA00-0	For connecting to the USB interface of a PC/PG, for communication with 3SK2 through the system interface, recommended for use in connection with 3SK2	3UF7941-0AA00-0		1	1 unit	42J
100	Interface modules					
	 For connecting 3SK2 safety relays via PROFINET 					
	VILLET TO THE	Screw terminals				
A STATE OF THE STA	- Screw terminals	3SK2511-1FA10		1	1 unit	41L
		Spring-loaded terminals (push-in)	$\stackrel{\circ}{\square}$			
3SK2511-1FA10	- Spring-loaded terminals (push-in)	3SK2511-2FA10		1	1 unit	41L
22222	 For connecting 3SK2 safety relays via PROFIBUS 					
*****		Screw terminals	+			
	- Screw terminals	3RK3511-1BA10		1	1 unit	42B
		Spring-loaded terminals	<u>~</u>			
*****	- Spring-loaded terminals	3RK3511-2BA10		1	1 unit	42B
3RK3511-1BA10						
	Connecting cable	3UF7930-0AA00-0		1	1 unit	42J
	For connecting central units with expansion modules or interface module					
	Length: 0.025 m (flat)					

3UF7930-0AA00-0

SIRIUS Sim

Overview

More information

SIRIUS Sim, see

https://support.industry.siemens.com/cs/ww/en/view/109763750

SIMIT simulation platform, see

https://www.siemens.com/us/en/products/automation/distributed-control-system/simit.html

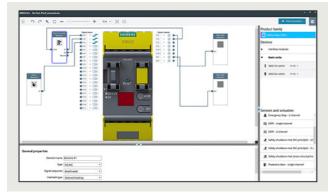
The SIRIUS simulation tool can be used to quickly and easily test functions and configurations in an office environment. These configurations can then be loaded directly into real devices.

SIRIUS Sim is available as a free download, see "More information".

General functions

- Comment function: comments can be placed in the logic diagram of the simulator.
- Simple exchange of devices and elements: when exchanging devices and elements, the connections are retained and do not have to be re-created.
- Interface to SIMIT simulation platform:
 The interface to SIMIT enables integration of the devices from
 SIRIUS Sim in the higher-level simulation context. This means
 that the behavior of the devices in the entire application can
 be simulated.

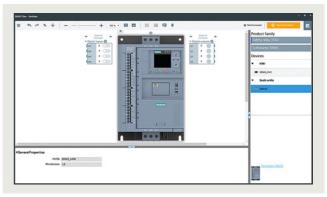
SIRIUS Sim 3SK2



SIRIUS Sim 3SK2

- Support of SIRIUS 3SK2 safety relays and SIRIUS 3SK1 output expansions as well as the SIRIUS 3RM1 fail-safe motor starters and the SIRIUS 3RQ1 force-guided coupling relays
- Display of connection status to ES tool:
 The connection status to the engineering software is displayed in the simulator. This makes it clear at first glance whether the simulator is connected to the ES tool.
- Automatic generation of the function elements:
 At the press of a button, the necessary function elements can be automatically generated based on the configuration data.
 Duplicated entry, in the engineering software and in the simulator, is unnecessary.

SIRIUS Sim 3RW55



SIRIUS Sim 3RW55

- Complete parameterization of the SIRIUS 3RW55
 High Performance and new 3RW55 Failsafe soft starters
- Complete navigation with the same menu structure as on the HMI
- Optional storage of the parameterization on a micro SD memory card for transfer to the real soft starter
- Simulation of startup and shutdown, including operating phases
- Simulation of different fault states

Benefits

- Intuitive user interface
- Already contains predefined, standard application examples
- Simple familiarization with the devices

- Application engineering and testing in the simulation results in time and cost savings
- Free download

Notes



15/2 SITOP power supply

For more information, see Catalog KT 10.1, https://support.industry.siemens.com/ cs/ww/en/view/109745655

Power supply

SITOP power supply

Overview

More information

Homepage, see www.siemens.com/sitop SiePortal, see www.siemens.com/product?SITOP Further products, see Catalog KT 10.1

Advanced power supplies



SITOP PSU8600 – the power supply system with complete TIA integration and open communication all the way to the cloud

Advanced power supplies



SITOP PSU8200 – the technology power supply for sophisticated solutions

Standard power supplies



SITOP PSU6200 – the all-round power supply for a wide variety of applications

Standard power supplies



SITOP smart – the high-performance standard power supply

Basic power supplies



SITOP PSU4200 – fresh power for basic applications

Basic power supplies



LOGO!Power – the flat power supply for distribution boards

SIMATIC design power supplies



The optimum power supply for SIMATIC S7 and more

DC/DC converters



Stable supply despite fluctuating DC voltage

Special designs and applications



Designed for special tasks and conditions

SITOP DC-UPS uninterruptible power



SITOP UPS500 with capacitors

Protection against power failure on the input side by buffering in the minutes range

SITOP UPS1600 with SITOP PSU8600 battery modules plus DC-UPS

Protection against power failure on the input side by buffering in the hours range. DC-UPS with Ethernet/PROFINET – open and system-integrated in TIA

Add-on modules



Redundancy modules

Protection against failure of a power supply unit due to redundant design of the power supply

Selectivity modules

Protection against overload and short circuit through electronic protection of 24 V or 48 V branches

Buffer modules

Protection against power failure in the seconds range

SITOP inrush current limiters

Reduction of inrush current on 1-phase or 3-phase networks



16/2	SITRAIN – Digital Industry Academy
16/4	Logistics
16/9	Standards and approvals
16/15	Quality management
16/16	Partners at Siemens
16/17	Siemens Partner Program
16/18	External partners
16/19 16/22	Industry Services Industry Services – Portfolio Online Support
16/23	Software licenses
16/25	Conditions of sale and delivery

SITRAIN - Digital Industry Academy

Introduction

SITRAIN - DIGITAL INDUSTRY ACADEMY

The Future of Learning starts **now**





SITRAIN offers a comprehensive range of knowledge on Siemens industrial products and, under the vision "Future of Learning", pursues a holistic approach that combines different forms and methods of learning. Different learning formats allow for more effective, flexible and continuous learning depending on the type of learning.

Education and training directly from the manufacturer



Industrial Automation Systems SIMATIC

Training available for: SIMATIC S7-1500. TIA Portal, SIMATIC S7-300/400, SIMATIC S7-1200



Drive Technology

Training available for: SINAMICS S120 and SINAMICS G120 low-voltage converters, SINAMICS G130 / G150 / G180 / S150



SINUMERIK CNC automation system

Training available for: SINUMERIK 840D, SINUMERIK 840D sl and SINUMERIK ONE



Process Control Systems

Training available for: SIMATIC PCS 7, SIMATIC PCS neo



Digital Enterprise

Training available for: Openness, SIMIT, OPC UA, Industrial Edge, Virtual commissioning



Industrial Communications

Training available for: OPC UA, PROFINET, SCALANCE, RUGGEDOM, Industrial Ethernet, Fieldbus communication, Industrial Security, Remote communication



Identification and Locating

Training available for: RFID, RTLS systems



Operator Control and Monitoring Systems

Training available for: SIMATIC WinCC Unified in TIA Portal, SIMATIC WinCC in TIA Portal, SIMATIC WinCC V7x



Motion Control System SIMOTION

Training available for: SIMOTION (Programming, Commissioning, Diagnostics, Service)



Smart Infrastructure

Training available for: SIRIUS, SENTRON, SIVACON, ALPHA, SIMOCODE, Circuit breakers



Process Analytics & Instrumentation

Training is available for process analytics and instrumentation, explosion protection, process gas chromatographs



Additional training offer

SIMOVE with Automated Guided Vehicles (AGV), SIPLUS CMS, Guidelines and standards for control cabinets

SITRAIN - Digital Industry Academy

Introduction

Different learning formats and methods for maximum learning success

Face-to-face training in the training center or in the virtual classroom, with fixed dates and course times, learning in a group with a learning guide? Or digital training, on your own responsibility and location-independent, on demand, 24/7? With the learning formats "Learning Journey", "Learning Membership" and "Learning Event", SITRAIN offers a wide range of different learning options in connection with didactically effective methods and modular possibilities.



Learning Journey

The combination for sustainable learning success

- The optimal mix of self-study units and guided live modules
- Includes a Learning Membership to work through the self-study modules and access on-demand content
- The SITRAIN learning consultant is available for questions and one-onone consultations
- Ideal integration into the daily work routine and adaptation to one's own learning pace.



Learning Membership

Securing knowledge through continuous learning on your own responsibility

- With access to the comprehensive and constantly growing range of self-study units on SITRAIN access, the digital learning platform
- Search and find specific learning content or simply have a look around – anytime and anywhere
- A modern learning culture through continuous learning on your own responsibility and transparency about your learning success in the team or company.



Learning Event

Acquire theoretical and practical knowledge in a compact and guided format

- You achieve a defined learning goal in the shortest possible time
- The learning consultant guides you through the practical exercises and is also exclusively available to you during the theoretical sessions for the entire duration
- Focused learning, outside of the daily work routine, in a protected learning environment – virtually, in the training center, or at your company.



Live

Learn together with others, simultaneously and guided by a learning consultant. Online, in the SITRAIN training center or at your company.



Self-reliant

Expand your knowledge self-determined and work on your learning units at your own pace and according to your own schedule.



On demand

Get the knowledge you need, exactly when you need it. Be it to answer a current question or to work on a special topic.



Individually

Talk directly with the learning consultant, clarify detailed questions and get personal coaching for transferring the learned topics to your own application.



Training cases catalog

https://www.siemens.com/ sitrain-catalog-training-cases





SITRAIN - Digital Industry Academy worldwide

You will find the regional knowledge offer in the country selection. One click will take you to the corresponding website.

Logistics

Overview

General

With regard to delivery service, communications and environmental protection, our logistics service ensures "quality from the moment of ordering right through to delivery". By designing our infrastructure according to customer requirements and implementing electronic order processing, we have successfully optimized our logistics processes.

Our delivery processes are designed such that, as a rule, a confirmed deadline is not generally exceeded. In fact, wherever possible, we aim to deliver up to three working days ahead of schedule to optimize the overall delivery situation (e.g. in anticipation of holidays and peak order periods).

We are proud of our personal consulting service, on-time deliveries and one-day delivery within Germany.

To achieve this, we supply the preferred types marked with ▶ ex warehouse¹⁾.

We regard the ISO 9001 certification and consistent quality checks as an integral part of our services.

Electronic order processing is fast, cost-efficient and error-free. Please contact us if you want to benefit from these advantages.

Packaging, packing units

The packaging in which our equipment is dispatched provides protection against dust and mechanical damage during transport, thus ensuring that you receive our products in a perfect state

We select our packaging for maximum environmental compatibility and reusability and, in particular, with a view to reducing waste.

With our multi-unit packaging and reusable packaging, we offer you specific types of packaging that are both kind to the environment and tailored to your requirements.

Your advantages at a glance:

- Lower order costs
- Cost savings through uniform-type packaging: low/no disposal costs
- Reduced time and cost thanks to short unpacking times
- "Just-in-time" delivery directly to the production line helps reduce stock: cost savings through reduction of storage area
- Fast assembly thanks to supply in sets
- Standard Euro boxes corresponding to the Euro pallet modular system – suitable for most conveyor systems
- Active contribution to environmental protection

Unless stated otherwise in the "Selection and ordering data" of this catalog, our products are supplied individually packed.

For small parts/accessories, we offer you economical packing units as standard packs containing more than one item, e.g. 5, 10, 50 or 100 units. It is essential that whole number multiples of these quantities be ordered to ensure satisfactory quality of the products and problem-free order processing.

The products are delivered in a neutral carton. The label includes warning notices, the CE mark and product description information in English and German.

In addition to the article number (MLFB) and the packed number of items in the packaging, the Instr. Order No. is also specified for the operating instructions, which can be obtained from your local Siemens representative (to find Siemens representatives, see www.siemens.com/automation-contact).

The device article number of most devices can also be acquired through the EAN barcode to simplify ordering and storage logistics.

The related master data are available from your local Siemens representative.

16/4

¹⁾ Due to the current tight delivery situation on the market, no standard delivery times or preferred types are listed for our articles in this edition of the catalog.

Current information can be found in SiePortal under the respective article number, see www.siemens.com/sirius/mall.

Logistics

Multi-unit and reusable packaging

The devices listed in the tables from page 16/6 onwards can be ordered in <u>multi-unit</u> or <u>reusable packaging</u> (further versions on request).

If ordering multi-unit or reusable packaging for the first time, please first consult your local Siemens representative with regard to pack type, quantity, delivery time and the precise order designation. Use of the reusable packaging is reserved solely for customers that have signed a packaging return agreement with their Siemens representative in advance.

Multi-unit and reusable packaging is not available as a pack type for all products. Some products are unsuited for this pack type and would only involve an increased risk of damage in transit.

For both pack types, the quantity of devices ordered (per article number) must be divisible by the pack quantity. If this is not the case, the electronic order processing system rounds up to the next integer multiple of packaging.

Multi-unit packaging



Products in a quantity sufficient to fill a multi-unit packaging: 1/2 (W96) and 1/4 (W97) ENK

As standard, multi-unit packs contain uniform-type, unpacked individual products (one device type) in an appropriately sized carton made of recyclable cardboard. The products of the SIRIUS range can be ordered in units of 1/1, 1/2, 1/4 and 1/8 standard Euro boxes (ENK).

Reusable packaging (uniform type)



Standard Euro box (ENK) made of durable molded plastic with foam inserts

Standard reusable packaging contains uniform-type, unpacked individual products (one device type) in a reusable standard Euro box (ENK) made of durable molded plastic with foam inserts for protection during transport.

The standard Euro box (ENK) also serves as transport packaging and remains the property of the supplier. The reusable packaging (ENK) plus foam inserts are returned by the customer (free of charge) to the supply base.

Please contact your Siemens representative to clarify the delivery details or conditions for delivery in reusable packaging (ENK) (to find Siemens representatives, see www.siemens.com/automation-contact). Suitable arrangements will then be agreed with you.

Set deliveries (reusable, different devices)

On request, we also deliver order-related packs of larger quantities of different types of devices in a standard Euro box (ENK).

Please contact your Siemens representative to clarify the delivery details or conditions for set supply or delivery in reusable packaging. Suitable arrangements will then be agreed with you.

Packaging dimensions

Packing material	Length	Height	Width
	mm	mm	mm
ENK	596	219	396
W96	375	190	290
W97	290	190	195
W98	290	100	195

Logistics

Multi-unit and reusable packaging, quantity in units, supplied in indivisible pack quantities with delivery time on request

SIRIUS

Devices	Size	Reusable	Multi-unit		
		X95 (1/1 ENK	W96 (1/2 EN	W97 (1/4 ENK	W98 (1/8 ENK)
BRT2 contactors					
BRT2011A1/-1A2	S00	144	72	40	
BRT2011B1/-1B2	S00	72	72	40	
BRT2012A/-2B	S00	120	60	32	
BRT2021A0/-2B0 BRT2022A0/-2B0	S0 S0	48 40	24 18	12 8	
BRT2030	S2	30	15	6	
BRT2034	S2 S2	30	15		
BRH29 snap-on auxiliary switches					
3RH2911-1F./-1GA/-1HA 3RH2911-2F./-2G./-2H./-2X.		351 321	240 196	120 100	60 50
BRH2911-2F./-2G./-2F./-2X. BRH2911-2D.		321	190		50
		02.			
BRH21 contactor relays					
3RH211A0 3RH211B0	S00 S00	144 72	72 72	40 40	
BRH212A0/-2B0	S00	120	60	32	
•					
BRV2 motor starter protectors	000	40	0.4	40	
BRV201110/15 BRV201120/25	S00 S00	43 40	24 16	12 8	
BRV202110/15	S0	43	24	12	
BRV202120/25	S0	35	16	8	
BRV20310/5	S2	24	12	5	
<u> </u>	<u> </u>				
BRU2 thermally delayed overload relays	000	0.4	00	40	
BRU2116B0 BRU2116C0	S00 S00	64 56	32 24	16 12	
BRU2126B0	S0	56	32	16	
BRU212660 BRU2126C0	SO SO	48	32 24	12	
BRU2136B0	S2	36	18		

When ordering products in <u>multi-unit packaging</u> for devices from the SIRIUS range, the article <u>number</u> of the product concerned must be supplemented with "-Z" and, <u>in addition</u>, the order code "W9." must be specified.

Ordering example: 3RT2015-1AB02-Z W97; Order quantity 40 items → Packed number of items 40 For products packed in reusable packaging, the article number must be supplemented with "-Z" and the order code "X95".

Ordering example: 3RT2018-1AB01-Z X95; Order quantity 144 items → Packed number of items 144

Logistics

SIRIUS

Multi-unit packaging with order code X90 (on request)

Devices	Size	Multi-unit or quantity per pack
	mm	X90
SlimLine Compact modules		
3RK2200-0C.00-2AA2 (SC17.5), 3RK1.05B.00-2AA2 (SC17.5F)	17.5	16
• 3RK0E00-2AA2 (SC22.5), 3RK1.0700-2AA2 (SC22.5)	22.5	12
3RQ1 coupling relays		
• 3RQ1.00EB00,EW00,GB00,GW00	17.5	16
• 3RQ1000HB00,HW00,LB00,LW00	22.5	12
3RQ2 coupling relays		
• 3RQ2000W0.	22.5	12
3RM1 motor starters		
• 3RM1.0AA.4	22.5	12
SIMOCODE pro S 3UF7 motor management and control devices		
• 3UF7020-1A.01-0, 3UF7600-1A.01-0	22.5	12
3RP25 electronic timing relays		
• 3RP2505A, 3RP2505C, 3RP251., 3RP2525A, 3RP2527, 3RP253., 3RP255.	17.5	16
• 3RP2505B, 3RP2505R, 3RP2525B, 3RP254., 3RP256., 3RP257.	22.5	12
3RS2 temperature monitoring relays		
• 3RS2500-10, 3RS2600-10, 3RS2800-10, 3RS2900-10	22.5	12
3RN2 thermistor motor protection relays		
• 3RN2000A, 3RN2010C	17.5	16
• 3RN201B, 3RN2013G, 3RN2023D	22.5	12
3SK safety relays		
• 3SK1120, 3SK1220	17.5	16
• 3SK1111, 3SK1112, 3SK1121, 3SK1122, 3SK1211, 3SK1230, 3SK2511	22.5	12

When ordering products in multi-unit packaging, the article number of the product concerned must be supplemented with "-Z" and, in addition, the order code "X90" must be specified.

Ordering examples:

- SC17.5F SlimLine Compact safety module 3RK1205-0BE00-2AA2-Z X90; Order quantity 16 items → Packed number of items 16
- SC22.5 analog SlimLine Compact module 3RK1207-0CE00-2AA2-Z X90; Order quantity 12 items → Packed number of items 12

Logistics

SIRIUS ACT

Multi-unit packaging with order code X90

Pushbuttons and indicator lights	Multi-unit or quantity per pack
	X90
Complete units (3SU11)	20
Compact units (3SU12)	
 Acoustic signaling devices, pushbuttons with extended stroke, potentiometers 	50
Actuating and signaling elements (3SU10)	
Pushbuttons, illuminated pushbuttons, indicator lights	
- 3SU100, 3SU105	100
- 3SU106	50
 Stop buttons, twin pushbuttons, mushroom pushbuttons 30/40 mm, EMERGENCY STOP mushroom pushbuttons 30/40 mm, toggle switches, selector switches, key-operated switches, ID key-operated switches, coordinate switches 	50
 Mushroom pushbuttons 60 mm, EMERGENCY STOP mushroom pushbuttons 60 mm 	40
Holders without module (3SU15)	100
Modules for actuators and indicators (3SU14)	
Contact modules	150
• LED modules	50
Enclosures (3SU18)	
Empty plastic enclosures	
- 3SU1801-0AA00-0AA2, 3SU1801-0AA00-0AB1	24
- 3SU1801-0AA00-0AC2	18
Accessories (3SU19)	
 Label holders, EMERGENCY STOP backing plates, labeling plates for potentiometers, EMERGENCY STOP labeling plates for enclosures without recesses and without inscription, single frames, dust caps for key-operated switches, adapters for mounting on DIN rails, protective collars for EMERGENCY STOP mushroom pushbuttons (40 mm, for 5 padlocks, yellow) 	100
Labeling platesSealing plugs	150
- 3SU190, 3SU195 - 3SU196	100 50

When ordering products in <u>multi-unit packaging</u> for devices from the SIRIUS ACT range, the article number of the product concerned must be supplemented with "-Z" and, <u>in addition</u>, the order code "X90" must be specified.

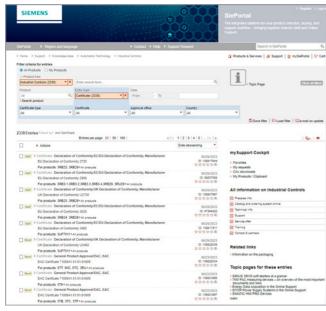
Ordering example: 3SU1000-0AB20-0AA0-Z X90; Order quantity 100 items → Packed number of items 100

Standards and approvals

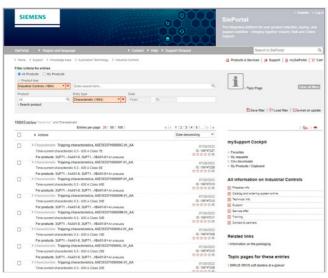
Approvals, test certificates, characteristic curves

An overview of the certificates available for Industrial Control products along with more technical documentation can be consulted daily on the internet at:

www.siemens.com/sirius/approvals



Product support: Approvals/certificates



Product support: Characteristics

Safety characteristics

In the following standards, the so-called B10 values for calculating the safety integrity or Safety Integrity Level (SIL) in functional safety at a high or continuous demand rate are required also for electromechanical switchgear:

- IEC 62061 "Safety of machines Functional safety of safetyrelated electrical, electronic and programmable electronic control systems"
- ISO 13849-1 "Safety of machines Safety-related components of controls – Part 1: General Principles"

Failure rates of electromechanical components are required for calculating the safety integrity or Safety Integrity Level (SIL) in functional safety:

- in the manufacturing industry at a high demand rate
- in the process industry at a low demand rate

Further requirements are laid down in IEC 61511-1 "Functional safety – Safety instrumented systems for the process industry sector – Part 1: Framework, definitions, system, hardware and software requirements".

The German versions of the above standards are:

- EN 62061
- EN ISO 13849
- EN 61511-1

The Safety Evaluation in the TIA Selection Tool assists in calculating the safety functions as verification for the machine documentation. It is available free of charge at www.siemens.com/safety-evaluation-tool.

More information such as notes on trainings and Safety Consulting as well as application examples with calculations are available at www.siemens.com/safety-integrated.

Definitions

 λ (t) dt is the probability that a unit which has not failed by a certain time t will fail in the following interval (t; t+dt). Failure rates have the dimension 1/time unit, e.g. 1/h. Failure rates for components are often specified in FIT (failures in time unit): 1 FIT equals 10^{-9} /h.

From the failure rate it is possible to derive a (mathematical) distribution function of the failure probability:

 $F(t) = 1 - \exp(-\lambda t)$, with λ as constant failure rate

- The mean value of this exponential distribution is also referred to as:
 - Mean Time To Failure (MTTF) in the case of irreparable components; 63.2% of components fail by the MTTF.
 - Mean Operating Time Between Failures (MTBF) in the case of reparable components.
- MTTF = 1/λ
 (MTTF is a statistical mean value but no guarantee for endurance)

Electromechanical components are often irreparable components. In general, the failure rate of monitored units changes with age.

The B10 value for devices subject to wear is expressed in number of operating cycles:

 It is the number of operating cycles after which 10% of the test specimens fail in the course of an endurance test (or: The number of operating cycles after which 10% of the devices have failed).

For low demand rates (mainly in the process industry), the failure rate and not the B10 value is used to determine the failure probability.

The safety characteristics of electromechanical SIRIUS products can be found at

https://support.industry.siemens.com/cs/ww/en/view/109739348.

Standards and approvals

Standards

IEC	EN/ EN IEC	Title
60947-1	60947-1	Low-voltage switchgear and controlgear: General rules
60947-2	60947-2	Circuit-breakers
60947-3	60947-3	Switches, disconnectors, switch-disconnectors and fuse-combination units
60947-4-1 60947-4-2	60947-4-1 60947-4-2	 Contactors and motor starters: Electromechanical contactors and motor starters Contactors and motor starters: Semiconductor motor controllers and starters, soft starters
60947-4-3	60947-4-3	Contactors and motor starters: Semiconductor controllers and contactors for non-motor loads
60947-5-1	60947-5-1	Control circuit devices and switching elements: Electromechanical control circuit devices
60947-5-2	60947-5-2	Control circuit devices and switching elements: Proximity switches
60947-5-3	60947-5-3	 Control circuit devices and switching elements: Requirements for proximity devices with defined behavior under fault conditions
60947-5-5	60947-5-5	Control circuit devices and switching elements: Electrical EMERGENCY STOP devices with mechanical latching
60947-5-6	60947-5-6	function Control circuit devices and switching elements: DC interface for proximity sensors and switching amplifiers (NAMUR)
60947-5-7	60947-5-7	Control circuit devices and switching elements: Requirements for proximity devices with analog output
60947-5-8	60947-5-8	Control circuit devices and switching elements: Three-position enabling switches
60947-5-9	60947-5-9	Control circuit devices and switching elements: Flow rate switches
60947-6-1 60947-6-2	60947-6-1 60947-6-2	 Multiple function equipment: Transfer switching equipment Multiple function equipment: Control and protective switching devices (or equipment) (CPS)
60947-7-1	60947-7-1	Ancillary equipment: Terminal blocks for copper conductors
60947-7-2	60947-7-2	Ancillary equipment: Protective conductor terminal blocks for copper conductors
60947-7-3 60947-7-4	60947-7-3 60947-7-4	 Ancillary equipment: Safety requirements for fuse terminal blocks Ancillary equipment: PCB terminal blocks for copper conductors
IEC/TS 60947-7-5		Ancillary equipment: Terminal blocks for aluminum conductors
60947-8	60947-8	Control units for built-in thermal protection (PTC) for rotating electrical machines
60947-9-1	60947-9-1	• Low-voltage switchgear and controlgear - Active arc-fault mitigation systems - Arc quenching devices
62026-2	62026-2	Network control devices (CDIs): Actuator sensor interface
60269-1	60269-1	Low-voltage fuses: General requirements
60269-4	60269-4	Low-voltage fuses: Supplementary requirements for fuse-links for the protection of semiconductor devices
60050-441		International Electrotechnical Vocabulary. Switchgear, controlgear and fuses
61439-1 61439-2	61439-1 61439-2	Low-voltage switchgear and controlgear assemblies: General rules Low-voltage switchgear and controlgear assemblies: Power switchgear and controlgear assemblies
61439-3	61439-3	Low-voltage switchgear and controlgear assemblies: Distribution boards intended to be operated
61439-4	61439-4	by ordinary persons (DBO) Low-voltage switchgear and controlgear assemblies: Particular requirements for assemblies
011001	011001	for construction sites (ACS)
61439-5 61439-6	61439-5 61439-6	Low-voltage switchgear and controlgear assemblies: Assemblies for power distribution in public networks
61439-7	61439-7	Low-voltage switchgear and controlgear assemblies: Busbar trunking systems (busways) Low-voltage switchgear and controlgear assemblies: Assemblies for specific applications such as marinas,
		camping sites, market squares, electric vehicle charging stations
	50274	Low-voltage switchgear and controlgear assemblies: Protection against electric shock - Protection against unintentional direct contact with hazardous live parts
61140	61140	Low-voltage switchgear and controlgear assemblies: Protection against electric shock - Common aspects for
		installation and equipment
60664-1	60664-1	Insulation coordination for electrical equipment in low-voltage systems; Principles, requirements and tests
60204-1	60204-1	Electrical equipment of machines: General requirements
60079-0 60079-14	60079-0 60079-14	Hazardous areas: Equipment - General requirements Hazardous areas: Electrical installations design, selection and erection
61810-1	61810-1	Electromechanical elementary relays: General requirements and safety requirements
61812-1	61812-1	Time relays for industrial and residential use: Requirements and tests
60999-1	60999-1	Connecting devices - Electrical copper conductors; Safety requirements for screw-type and screwless-type clamping
		units: General requirements and particular requirements for clamping units for conductors from 0.2 mm ² up to 35 mm ² (included)
60999-2	60999-2	Connecting devices - Electrical copper conductors; Safety requirements for screw-type and screwless-type clamping
IFO FFD 04000	01000 1 1	units: Particular requirements for clamping units for conductors above 35 mm² up to 300 mm² (included)
IEC/TR 61000-4-1	61000-4-1	Electromagnetic compatibility (EMC); Test and measuring techniques; Overview of IEC 61000-4 series
61000-6-2 61000-6-3	61000-6-2 61000-6-3	Electromagnetic compatibility (EMC); Generic standards - Immunity for industrial environments Electromagnetic compatibility (EMC); Generic standards - Emission standard for residential, commercial and
		light-industrial environments
61000-6-4	61000-6-4	Electromagnetic compatibility (EMC); Generic standards - Emission standard for industrial environments
61869-1	61869-1	Instrument transformers: General requirements
61869-2	61869-2	Instrument transformers: Additional requirements for current transformers

Standards and approvals

UL	CSA C22.2	ASME	JIS	Title
508 60947-1	 No. 60947-1			Industrial control equipment
60947-4-1	No. 60947-1 No. 60947-4-1			Low-voltage switchgear and controlgear: General rules Low-voltage switchgear and controlgear: Contactor and motor starters - Flectromechanical contactors and motor starters
60947-4-2	No. 60947-4-2			Low-voltage switchgear and controlgear: Contactors and motor-starters - AC semiconductor motor controllers and starters
60947-5-1	No. 60947-5-1			Low-voltage switchgear and controlgear: Control circuit devices and switching elements - Electromechanical control circuit devices
60947-5-2	No. 60947-5-2			Low-voltage switchgear and controlgear: Control circuit devices and switching elements - Proximity switches
60947-5-5	60947-5-5			Low-volfage switchgear and controlgear: Control circuit devices and switching elements - Electrical emergency stop device with mechanical latching function
489 1012	No. 5	 		Molded case circuit breakers, molded case switches, and circuit breaker enclosures Power units other than CLASS 2
1059 486A-486B	 No. 65			Terminal blocks Wire connectors
486E				Equipment wiring terminals for use with aluminum and/or copper conductors
50 50E	No. 94.1 No. 94.2		 	Enclosures for electrical equipment - Non-environmental considerations Enclosures for electrical equipment - Environmental considerations
	No. 14 No. 107.1			Industrial control equipment Power conversion equipment
		A17.5/ CSA B 44.1		Elevator and escalator electrical equipment
			C 8201-4-1	Low-voltage switchgear and controlgear; Contactors and motor-starters

Approval requirements valid in different countries

Siemens low-voltage switchgear and controlgear are designed, manufactured and tested according to the relevant German standards (DIN and VDE), IEC publications and European standards (EN) as well as CSA and UL standards. The standards assigned to the single devices are stated in the relevant parts of this catalog.

When designing the devices, the requirements of the various national regulations were taken into account – as far as economically feasible – in addition to the relevant VDE, EN and IEC regulations, so that the devices can be used worldwide as far as possible in standard design.

In some countries an approval is required for certain low-voltage switchgear and controlgear components (see table below). Depending on the market requirements, these components have been submitted for approval to the authorized testing institutes.

In some cases, only special switchgear versions are approved for Canada and for the USA. Such special versions are listed separately from the standard versions in the individual parts of this catalog.

For this equipment, partial limitations of the maximum permissible voltages, currents and ratings can be imposed, or special approval and, in some cases, special identification is required.

For use on board ship, the specifications of the marine classification societies must also be observed (see table on page 16/12). In some cases, they require type tests of the components to be approved.

The Chinese certification system has changed. As of November 1, 2020, the self-declaration by Siemens (Self-Declaration of Compliance (SDOC)) forms the basis of CCC and the import to China. The CCC scope, product labeling, certification procedures, implementation rules in manufacturing and regulations regarding the import to China have remained unchanged. All CCC certificates issued by CQC have been transferred to SDOCs and all CCC certificates issued by CQC are invalid as of November 1, 2020.

UKCA: As of January 1, 2025, all devices to be marketed in Great Britain require a manufacturer's declaration (UK Declaration of Conformity) and must be supplied with a UKCA mark. The declaration is based on UK regulations and the underlying British standards (BS). Alternatively, EN standards can also be applied. Otherwise, the same requirements apply as for the EU Declaration of Conformity.

Testing bodies, approval identification and approval requirements

Country	European Union	USA/Canada	China	Great Britain
Government-appointed or private, officially recognized testing bodies		UL	Self-Declaration of Compliance (Siemens)	
Mark of conformity	C€	(h)	(W)	UK
		71 °		CE
		c FL °us		until December 31, 2024
		c UL us		
Approval requirement	+	+	+	+

For more information about the approval marks, see page 16/14.

Standards and approvals

Marine classification societies

Country	Germany Norway	Great Britain	France	Italy	Poland	USA
Name	DNV	Lloyds Register of Shipping	Bureau Veritas	Registro Italiano Navale	Polski Rejestre Statków	American Bureau of Shipping
Codes	DNV	LR	BV	RINA	PRS	ABS

■ CE marking

Manufacturers of products which fall within the subject area to which EU Directives apply must identify their products, operating instructions or packaging with a CE mark of conformity.

By attaching the CE marking, the manufacturer confirms that the product conforms to the relevant basic requirements of all directives applicable to the product. The mark of conformity is a mandatory requirement for putting products into circulation throughout the EU.

All the products in this catalog are in conformance with the relevant specific EU Directives and bear the CE mark of conformity **CE**.

- Low-Voltage Directive
- EMC Directive
- Machinery Directive
- ATEX Directive
- RED Directive
- RoHS Directive

Accident prevention

Test certificates and approvals from DGUV, SUVA (Swiss National Accident Insurance Fund), TÜV or VDE are available for some devices in safety control systems. For details, see the respective product descriptions.

Standards and approvals

Ex protection certificates for SIRIUS controls

Controls that are installed in a potentially explosive atmosphere or motor protection devices that protect a motor installed in a potentially explosive atmosphere against overloading or a pump in said atmosphere from dry running must comply with certain special requirements. These requirements are laid down in the following standards:

- EN 50495
- EN IEC 60079-0
- EN 60079-1
- EN 60079-7
- EN 60079-11
- EN 60079-14
- EN 60079-17
- EN 60079-31
- EN IEC 60947-1
- EN IEC 60947-4-1
- EN 60947-4-2
- EN 60947-5-1
- EN 60947-8
- EN ISO/IEC 80079-34
- EN ISO 80079-36
- EN ISO 80079-37

Certification

Controls and motor protection devices that are brought into circulation within the member states of the EU according to EU Directive 2014/34/EU must have been constructed and tested according to the above-mentioned standards and must have a declaration of conformity from the manufacturer based on a prototype test certificate.

The quality management (QM) system of the manufacturer is subject to certain requirements and a "QM certificate" must be obtained for the manufacturer from a recognized authority.

Certification of the QM system

A certificate of approval for quality assurance production has been issued by DEKRA Testing and Certification GmbH¹⁾ under the number BVS 23 ATEX ZQS/E111 according to Directive 2014/34/EU. The quality management (QM) system is also checked within the scope of the IEC Ex Scheme. Conformity with the requirements is confirmed using document DE/BVS/QAR15.0002/11.

These certificates are valid for equipment groups I and II and categories M2 and 2: Safety and control devices for electrical equipment.

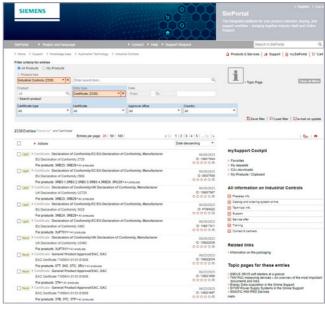
Certificates

Declarations of conformity and prototype test certificates are available at www.siemens.com/online-support for viewing and downloading. As far as explosion protection is concerned, these are available for the following products:

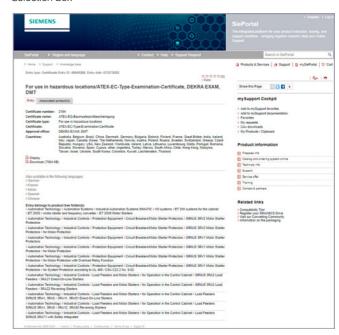
- 3RB, 3RK, 3RM, 3RN, 3RU, 3RV, 3RW, 3UF motor protection devices
- 3RS2 temperature monitoring relays
- 3SU1 LED modules

You can find more information about industrial controls for applications in explosion-protected areas at www.siemens.com/sirius/atex.

DEKRA Testing and Certification GmbH The certification authority of "DEKRA Testing and Certification GmbH" with authority number 0158 according to Article 13 of Directive 2014/34/EU of the European Parliament and Council, certifies that Siemens Amberg, Cham, Suzhou and Trutnov maintains a quality assurance system for production that satisfies Appendices IV and VII of this Directive.



Selection box



Description of certificate with view and download option

Identifying markings

All equipment must be marked according to the ATEX Directive. The ATEX identification code contains the equipment group, the approved environment, the number of the certification authority and other technical data required for explosion protection.

Standards and approvals

Certificate of the AS-International Association for AS-Interface products

AS-Interface products are tested and certified by the AS-International Association. The products have been tested in an accredited test laboratory according to testing guidelines.

Special standards for the USA and Canada

In the USA and Canada, for machine tools and processing machines in particular, supply lines are laid using rubber insulated cable enclosed in heavy-duty steel piping similar to that used for gas or water pipe systems.

The tubing system must be completely watertight and electrically conductive (especially sleeving and elbows). Since the tubing system can also be used for grounding, the threaded cable entries of enclosed units must be fitted with PG or metric thread metal adapters for the tube thread. The necessary adapters are specified for the switchgear as accessories; they should be ordered separately unless otherwise specified.

Low-voltage switchgear and controlgear for auxiliary circuits (e.g. contactor relays, commanding and signaling devices and auxiliary switches/auxiliary contacts in general) are generally only approved by UL for "Heavy Duty" or "Standard Duty" and are identified either with these specifications in addition to the maximum permissible voltage or by using an abbreviation.

The abbreviations are harmonized with IEC 60947-5-1 Annex 1 Table A.1 and correspond to the stated utilization categories.

For various switching devices detailed in the catalog, a note has been included to the effect that, above a certain voltage, the auxiliary switches/auxiliary contacts can only be used if they have the same polarity. This means that the input terminals can only be connected to the same pole of the control voltage, e.g. "600 V AC above 300 V AC same polarity".

Distinguishing features of UL approvals (for USA and Canada)

Recognized Component	Listed Product
Devices are identified on the rating plate using the "UL recognition mark": USA: Sand cRivus Canada: cRivus	Devices are identified using the "UL listing mark" on the rating plate e.g. USA: UL LISTED XXX Canada: cUL us LISTED XXX IND. CONT. EQ. (XXX stands for: UL-Control-Assign-Number)
Devices are approved as modules for "factory wiring" or other conditions of acceptability, i.e.: As devices for installation in control systems, which are selected, installed, wired and tested entirely by trained personnel in factories, workshops or elsewhere, according to the operating conditions.	Devices are approved for "field wiring", i.e.: As devices for installation in control systems, which are completely wired by trained personnel in factories, workshops or elsewhere. As single devices for sale in retail outlets in the USA/Canada.
If devices are approved as "listed products" or they are also approved as	

they are also approved as "recognized components"



For more information about UL, see page 16/11.

Quality management

Quality management

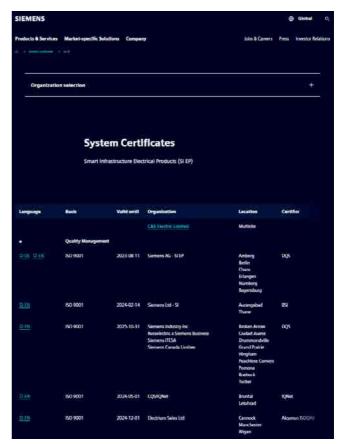
The quality management system of our "Electrical Products" Business Unit in the "Smart Infrastructure" business complies with the international standard EN ISO 9001.

The products and systems described in this catalog are developed, manufactured and sold under application of a certified quality management system according to ISO 9001.

Certificates

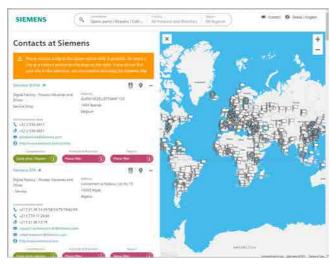
For information about available certifications of the quality management system for Industrial Controls products, please visit website address:

https://new.siemens.com/global/en/general/system-certificates/si-ep.html



Partners at Siemens

Overview



At your service locally, around the globe for consulting, sales, training, service, support, spare parts on the entire portfolio of Siemens.

Your partner can be found in our Personal Contacts Database at: www.siemens.com/automation-contact

You start by selecting

- the required competence,
- products and branches,
- a country and a city

or by a

• location search or free text search.

Siemens Partner Program

Overview

Siemens Solution and Approved Partner – Partners for your success



Highest competence in automation and drive technology

Siemens works closely together with selected partner companies around the world in order to ensure that customer requirements for all aspects of automation and drives are fulfilled as best as possible – wherever you are, and whatever the time.

We place great value on our customers acting in accordance with the same ideals which characterize Siemens as a whole: Competence, professionalism and quality. That is why continuous development through qualification and certification measures in line with global standards is a central aspect of our Partner Program. This means that with our partners, you benefit from the same high quality standards all over the world. The partner emblem is the symbol for tried and tested quality.

The partner network for industry

The Siemens Partner Program offers you expertise and experience close at hand.

Within our global network, we distinguish between Solution Partners and Approved Partners. We currently work with more than 1,500 Solution Partners around the world. Our network of over 150 Approved Partners continues to grow. In more than 80 countries worldwide.

Siemens Solution Partner - Automation Drives



At present we are working with more than 1,500 Solution Partners worldwide. They are characterized by extensive application, system and sector knowledge, as well as proven project experience, and are able to implement future-proof tailored solutions of the highest quality, based on our product and system portfolio.

Siemens Approved Partner – Value Added Reseller



With their detailed technical knowledge, Siemens Approved Partners – Value Added Resellers offer a combination of products and services that range from specialist technologies and customized modifications to the provision of high-quality system and product packages. They also provide qualified technical support and assistance.

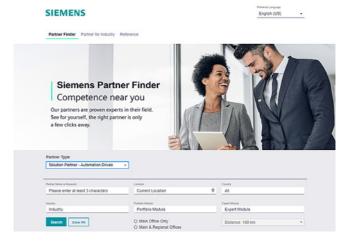
Siemens Approved Partner – Industry Services



Siemens Approved Partner – Industry Services put their unique expertise entirely at the service of enhancing your productivity and can be instrumental in ensuring the availability of your plants.

Partner Finder

The ideal partner for your task is just a mouse click away!



In the Siemens global Solution Partner Program, customers are certain to find the optimum partner for their specific requirements – with no great effort. The Partner Finder is basically a comprehensive database that showcases the profiles of all our partners.

Easy selection:

Set filters in the search screen form according to the criteria that are relevant to you. You can also directly enter the name of an existing partner.

Skills at a glance:

Gain a quick insight into the specific competencies of any particular partner with the reference reports.

Direct contact option:

Use our electronic query form:

www.siemens.com/partnerfinder

Additional information of the Siemens Partners for industry is available online at:

www.siemens.com/partnerprogram

External partners

Our partner companies – your partners

AXELENT GmbH

Internet: www.axelent.de

• Brühl Safety GmbH

Internet: www.bruehl-safety.com

Conta-Clip Verbindungstechnik GMBH

Internet: www.conta-clip.de

• EPCOS AG

A TDK Group Company Internet: www.epcos.de

• EPHY-Mess

Gesellschaft für Elektro-Physikalische Messgeräte mbH

Internet: www.ephy-mess.de

• GMC-I Messtechnik GmbH

Internet: www.gmc-instruments.de

Jacob GmbH

Elektrotechnische Fabrik Internet: www.jacob-gmbh.de

• U. I. Lapp GmbH

Internet: www.lappkabel.de

• Murrplastik Systemtechnik GmbH

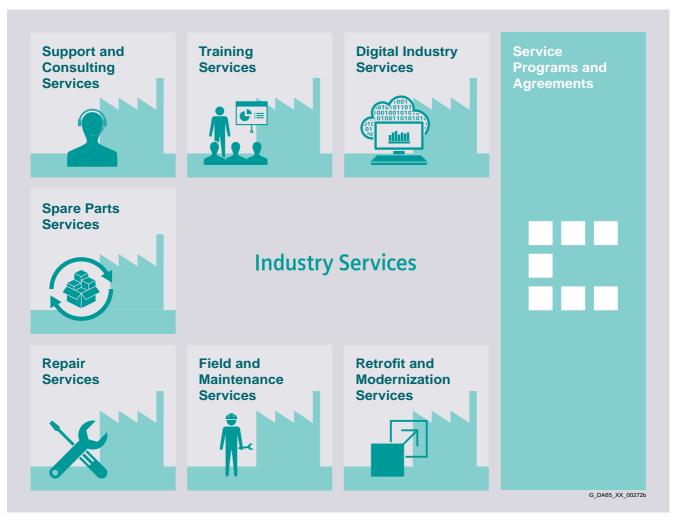
Internet: www.murrplastik.de

• Wieland Electric GmbH

Internet: www.wieland-electric.com

Industry Services – Portfolio

Overview



Keep your business running and shaping your digital future - with Industry Services

Optimizing the productivity of your equipment and operations can be a challenge, especially with constantly changing market conditions. Working with our service experts makes it easier. We understand your industry's unique processes and provide the services needed so that you can better achieve your business goals.

You can count on us to maximize your uptime and minimize your downtime, increasing your operations' productivity and reliability. When your operations have to be changed quickly to meet a new demand or business opportunity, our services give you the flexibility to adapt. Of course, we take care that your production is protected against cyber threats. We assist in keeping your operations as energy and resource efficient as possible and reducing your total cost of ownership. As a trendsetter, we ensure that you can capitalize on the opportunities of digitalization and by applying data analytics to enhance decision making: You can be sure that your plant reaches its full potential and retains this over the longer lifespan.

You can rely on our highly dedicated team of engineers, technicians and specialists to deliver the services you need – safely, professionally and in compliance with all regulations. We are there for you, where you need us, when you need us.

Appendix Industry Services

Industry Services – Portfolio

Overview (continued)



Digital Industry Services make your industrial processes transparent to gain improvements in productivity, asset availability, and energy efficiency.

Production data is generated, filtered and translated with intelligent analytics to enhance decision-making.

This is done whilst taking data security into consideration and with continuous protection against cyber-attack threats.

www.siemens.com/global/en/products/services/industry/digital-industry-services.html



From the basics and advanced to specialist skills, SITRAIN courses provide expertise right from the manufacturer – and encompass the entire spectrum of Siemens products and systems for the industry.

Worldwide, SITRAIN courses are available wherever you need a training course in more than 170 locations in over 60 countries.

https://support.industry.siemens.com/cs/ww/en/sc/2226



Industry Online Support site for comprehensive information, application examples, FAQs and support requests.

Technical and Engineering Support for advice and answers for all inquiries about functionality, handling, and fault clearance. The Service Card as prepaid support for value added services such as Priority Call Back or Extended Support offers the clear advantage of quick and easy purchasing.

Information & Consulting Services, e.g. SIMATIC System Audit; clarity about the state and service capability of your automation system or Lifecycle Information Services; transparency on the lifecycle of the products in your plants.

https://support.industry.siemens.com/cs/ww/en/sc/2235



Spare Parts Services are available worldwide for smooth and fast supply of spare parts – and thus optimal plant availability. Genuine spare parts are available for up to ten years. Logistic experts take care of procurement, transport, custom clearance, storage and order management. Reliable logistics processes ensure that components reach their destination as needed.

Since not all spare parts can be kept in stock at all times, Siemens offers a preventive measure for spare parts provisioning on the customer's premises with optimized **Spare Parts Packages** for individual products, custom-assembled drive components and entire integrated drive trains – including risk consulting.

Asset Optimization Services help you design a strategy for parts supply where your investment and carrying costs are reduced and the risk of obsolescence is avoided.

https://support.industry.siemens.com/cs/ww/en/sc/2110

Industry Services - Portfolio

Overview (continued)



Repair Services are offered on-site and in regional repair centers for fast restoration of faulty devices' functionality.

Also available are extended repair services, which include additional diagnostic and repair measures, as well as emergency services.

https://support.industry.siemens.com/cs/ww/en/sc/2154



Provide a cost-effective solution for the expansion of entire plants, optimization of systems or upgrading existing products to the latest technology and software, e.g. migration services for automation systems.

Service experts support projects from planning through commissioning and, if desired over the entire extended lifespan, e.g. Retrofit for Integrated Drive Systems for an extended lifetime of your machines and plants.

https://support.industry.siemens.com/cs/ww/en/sc/2286



Siemens specialists are available globally to provide expert field and maintenance services, including commissioning, functional testing, preventive maintenance and fault clearance.

All services can be included in customized service agreements with defined reaction times or fixed maintenance intervals.

https://support.industry.siemens.com/cs/ww/en/sc/2265



A technical Service Program or Agreement enables you to easily bundle a wide range of services into a single annual or multi-year agreement.

You pick the services you need to match your unique requirements or fill gaps in your organization's maintenance capabilities.

Programs and agreements can be customized as KPI-based and/or performance-based contracts.

https://support.industry.siemens.com/cs/ww/en/sc/2275

Industry Services

Online Support

Overview



Siemens Industry and Online Support with some 1.7 million visitors per month is one of the most popular web services provided by Siemens. It is the central access point for comprehensive technical know-how about products, systems and services for automation and drives applications as well as for process industries.

In connection with the challenges and opportunities related to digitalization you can look forward to continued support with innovative offerings.

Overview

Software types

Software requiring a license is categorized into types. The following software types have been defined:

- · Engineering software
- · Runtime software

Engineering software

This includes all software products for creating (engineering) user software, e.g. for configuring, programming, parameterizing, testing, commissioning or servicing.

Data generated with engineering software and executable programs can be duplicated for your own use or for use by third-parties free-of-charge.

Runtime software

This includes all software products required for plant/machine operation, e.g. operating system, basic system, system expansions, drivers, etc.

The duplication of the runtime software and executable programs created with the runtime software for your own use or for use by third-parties is subject to a charge.

You can find information about license fees according to use in the ordering data (e.g. in the catalog). Examples of categories of use include per CPU, per installation, per channel, per instance, per axis, per control loop, per variable, etc.

Information about extended rights of use for parameterization/configuration tools supplied as integral components of the scope of supply can be found in the readme file supplied with the relevant product(s).

License types

Siemens Digital Industries and Smart Infrastructure offers various types of software license:

- Floating license
- Single license
- Rental license
- · Rental floating license
- Trial license
- Demo license
- · Demo floating license

Floating license

The software may be installed for internal use on any number of devices by the licensee. Only the concurrent user is licensed. The concurrent user is the person using the program. Use begins when the software is started.

A license is required for each concurrent user.

Single license

Unlike the floating license, a single license permits only one installation of the software per license.

The type of use licensed is specified in the ordering data and in the Certificate of License (CoL). Types of use include for example per instance, per axis, per channel, etc.

One single license is required for each type of use defined.

Rental license

A rental license supports the "sporadic use" of engineering software. Once the license key has been installed, the software can be used for a specific period of time (the operating hours do not have to be consecutive).

One license is required for each installation of the software.

Rental floating license

The rental floating license corresponds to the rental license, except that a license is not required for each installation of the software. Rather, one license is required per object (for example, user or device).

Trial license

A trial license supports "short-term use" of the software in a non-productive context, e.g. for testing and evaluation purposes. It can be transferred to another license.

Demo license

The demo license support the "sporadic use" of engineering software in a non-productive context, for example, use for testing and evaluation purposes. It can be transferred to another license. After the installation of the license key, the software can be operated for a specific period of time, whereby usage can be interrupted as often as required.

One license is required per installation of the software.

Demo floating license

The demo floating license corresponds to the demo license, except that a license is not required for each installation of the software. Rather, one license is required per object (for example, user or device).

Certificate of License (CoL)

The CoL is the licensee's proof that the use of the software has been licensed by Siemens. A CoL is required for every type of use and must be kept in a safe place.

Downgrading

The licensee is permitted to use the software or an earlier version/release of the software, provided that the licensee owns such a version/release and its use is technically feasible.

Delivery versions

Software is constantly being updated. The following delivery versions

- PowerPack
- Upgrade

can be used to access updates.

Existing bug fixes are supplied with the ServicePack version.

PowerPack 1 4 1

PowerPacks can be used to upgrade to more powerful software. The licensee receives a new license agreement and CoL (Certificate of License) with the PowerPack. This CoL, together with the CoL for the original product, proves that the new software is licensed.

A separate PowerPack must be purchased for each original license of the software to be replaced.

Upgrade

An upgrade permits the use of a new version of the software on the condition that a license for a previous version of the product is already held.

The licensee receives a new license agreement and CoL with the upgrade. This CoL, together with the CoL for the previous product, proves that the new version is licensed.

A separate upgrade must be purchased for each original license of the software to be upgraded.

Software licenses

Overview

ServicePack

ServicePacks are used to debug existing products. ServicePacks may be duplicated for use as prescribed according to the number of existing original licenses.

License key

Siemens Digital Industries and Smart Infrastructure supplies software products with and without license keys.

The license key serves as an electronic license stamp and is also the "switch" for activating the software (floating license, rental license, etc.).

The complete installation of software products requiring license keys includes the program to be licensed (the software) and the license key (which represents the license).

Software Update Service (SUS)

As part of the SUS contract, all software updates for the respective product are made available to you free of charge for a period of one year from the invoice date. The contract will automatically be extended for one year if it is not canceled three months before it expires.

The possession of the current version of the respective software is a basic condition for entering into an SUS contract.

You can download explanations concerning license conditions from https://mall.industry.siemens.com/legal/ww/en/terms_of_trade_en.pdf

Conditions of sale and delivery

1. General Provisions

By using this catalog you can purchase hard- and software products as well as services (together hereinafter referred to as "products") described therein from Siemens Aktiengesellschaft subject to the following Terms and Conditions of Sale and Delivery (hereinafter referred to as "T&C"). Note, for products purchased from any Siemens entity having a registered office outside of Germany, the respective terms and conditions of sale and delivery of the respective Siemens entity apply exclusively. The following T&C apply exclusively for orders placed with Siemens Aktiengesellschaft, Germany.

1.1 For customers with a seat or registered office in European Union

For customers with a seat or registered office in European Union, the following terms and conditions apply subordinate to T&C:

- for products, which include specific terms and conditions in the text of the product description, these specific terms and conditions shall apply and subordinate thereto,,
- for stand-alone software products and software products forming a part of a product or project, the "General Conditions for Software Products for Infrastructure & Industry Business (German law)"¹⁾ and/or
- for consulting services the "Allgemeine Geschäftsbedingungen für Beratungsleistungen für Infrastructure & Industry Geschäft (Deutsches Recht)" (available only in German) and/or
- for other services, the "Supplementary Terms and Conditions for Services for Infrastructure & Industry Business (German Law) ("BL")*¹⁾ and/or
- for other products the "General Conditions for the Supply of Products and Services of the Electrical and Electronics Industry" 1).

In case such products should contain Open Source Software, the conditions of which shall prevail over the "General Conditions for the Supply of Products and Services of the Electrical and Electronics Industry"¹⁾, the product will be given a note as to which special conditions apply to this open source software. This shall apply mutatis mutandis for notices referring to other third-party software components.

1.2 For customers with a seat or registered office outside European Union

For customers with a seat or registered office outside European Union, the following terms and conditions apply subordinate to T&C:

- for products, which include specific terms and conditions in the description text, these specific terms and conditions shall apply and subordinate thereto,
- for consulting services the "Standard Terms and Conditions for Consulting Services for Infrastructure & Industry Business (Swiss Law)"¹) and/or
- for other services the "International Terms & Conditions for Services" supplemented by "Software Licensing Conditions" and/or
- for other products the "International Terms & Conditions for Products" supplemented by "Software Licensing Conditions" tions"

1.3 For customers with master or framework agreement

To the extent products offered are covered by an existing master or framework agreement, the terms and conditions of that agreement shall apply instead of T&C.

2. Prices

The prices are in € (Euro) ex point of delivery, exclusive of packaging.

The sales tax (value added tax) is not included in the prices. It shall be charged separately at the respective rate according to the applicable statutory legal regulations.

Prices are subject to change without prior notice. We will charge the prices valid at the time of delivery.

To compensate for variations in the price of raw materials (e.g. silver, copper, aluminum, lead, gold, dysprosium and neodym), surcharges are calculated on a daily basis using the so-called metal factor for products containing these raw materials. A surcharge for the respective raw material is calculated as a supplement to the price of a product if the basic official price of the raw material in question is exceeded.

The metal factor of a product indicates the basic official price (for those raw materials concerned) as of which the surcharges on the price of the product are applied, and with what method of calculation. The metal factor, provided it is relevant, can be found in the respective product description.

An exact explanation of the metal factor can be downloaded at: https://mall.industry.siemens.com/legal/ww/en/terms_of_trade_en.pdf

To calculate the surcharge (except in the cases of copper, dysprosium and neodym), the official price from the day prior to that on which the order was received or the release order was effected is used.

To calculate the surcharge applicable to copper, the official price from two days prior to that on which the order was received or the release order was effected is used.

To calculate the surcharge applicable to dysprosium and neodym ("rare earths"), the corresponding three-month basic average price in the quarter prior to that in which the order was received or the release order was effected is used with a one-month buffer (details on the calculation can be found in the explanation of the metal factor).

3. Additional Terms and Conditions

The dimensions are in mm. In Germany, according to the German law on units in measuring technology, data in inches apply only to devices for export.

Illustrations are not binding

Insofar as there are no remarks on the individual pages of this catalog – especially with regard to data, dimensions and weights given – these are subject to change without prior notice.

The text of the Terms and Conditions of Siemens AG can be downloaded at https://mall.industry.siemens.com/legal/ww/en/ terms_of_trade_en.pdf

Conditions of sale and delivery

4. Export Control and Sanctions Compliance

4.1 General

Customer shall comply with all applicable sanctions, embargoes and (re-)export control laws and regulations, and, in any event, with those of the European Union, the United States of America and any locally applicable jurisdiction (collectively "Export Regulations").

4.2 Checks for Products

Prior to any transaction by customer concerning products (including hardware, documentation and technology) delivered by Siemens, or products (including maintenance and technical support) performed by Siemens with a third party, customer shall check and certify by appropriate measures that

- (i) the customer's use, transfer, or distribution of such products, the brokering of contracts or the provision of other economic resources in connection with products will not be in violation of any Export Regulations, also taking into account any prohibitions to circumvent these (e.g., by undue diversion)
- (ii) the products are not intended or provided for prohibited or unauthorized non-civilian purposes (e.g. armaments, nuclear technology, weapons, or any other usage in the field of defense and military);
- (iii) customer has screened all direct and indirect parties involved in the receipt, use, transfer, or distribution of the products against all applicable restricted party lists of the Export Regulations concerning trading with entities, persons and organizations listed therein and
- (iv) products within the scope of items-related restrictions, as specified in the respective annexes to the Export Regulations, will not, unless permitted by the Export Regulations, be

 (a) exported, directly or indirectly (e.g., via Eurasian Economic Union (EAEU) countries), to Russia or Belarus, or
 (b) resold to any third party business partner that does not take a prior commitment not to export such products to Russia or Belarus.

4.3 Non-Acceptable Use of Software and Cloud Services

Customer shall not, unless permitted by the Export Regulations or respective governmental licenses or approvals,

- (i) download, install, access or use the products from or in any location prohibited by or subject to comprehensive sanctions or subject or to license requirements according to the Export Regulations:
- (ii) grant access to, transfer, (re-)export (including any "deemed (re-)exports"), or otherwise make available the products to any entity, person, or organization identified on a restricted party list of the Export Regulations:
- (iii) use the products for any purpose prohibited by the Export Regulations (e.g. use in connection with armaments, nuclear technology or weapons);
- (iv) upload to a products platform any customer content unless it is non-controlled (e.g. in the EU: AL = N; in the U.S.: ECCN = N or EAR99);
- (v) facilitate any of the afore mentioned activities by any user. Customer shall provide all users with all information necessary to ensure compliance with the Export Regulations.

4.4 Semiconductor Development

Customer will not, without advance written authorization from Siemens, use offerings for the development or production of integrated circuits at any semiconductor fabrication facility located in China meeting the criteria specified in the U.S. Export Administration Regulations, 15 C.F.R. 744.23.

4.5 Information

Upon request by Siemens, customer shall promptly provide Siemens with all information pertaining to users, the intended use and the location of use or the final destination (in the case of hardware, documentation and technology) of the products. Customer will notify Siemens prior to customer disclosing any information to Siemens that is defense-related or requires controlled or special data handling pursuant to applicable government regulations, and will use the disclosure tools and methods specified by Siemens.

4.6 Reservation

Siemens shall not be obligated to fulfill this agreement if such fulfillment is prevented by any impediments arising out of national or international foreign trade or customs requirements or any embargoes or other sanctions. Customer acknowledges that Siemens may be obliged under the Export Regulations to limit or suspend access by customer and/or users to products.

5. Miscellaneous

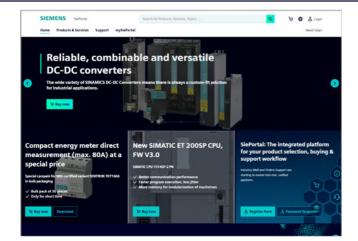
Errors excepted and subject to change without prior notice.

Notes

Notes

Selection and ordering at Siemens

SiePortal – Ordering products and downloading catalogs



Easy product selection and ordering with SiePortal

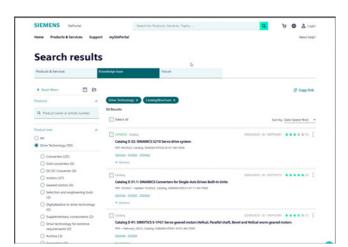
SiePortal > Products & Services

The internet ordering platform of Siemens AG is located in SiePortal. It provides you with online access to a comprehensive product spectrum that is presented in an informative, well-organized way.

Powerful search functions help you select the required products, while configurators enable you to configure complex product and system components quickly and easily. CAx data are also available for you to use.

Data transfer allows the entire procedure, from selection through ordering to tracking and tracing, to be carried out online. Availability checks, individual customer discounting, and quotation preparation are also possible.

https://sieportal.siemens.com



Downloading catalogs

SiePortal > Support > Knowledge base

You can download catalogs and brochures in PDF format from Siemens Industry Online Support without having to register.

The filter box makes it possible to perform targeted searches.

https://sieportal.siemens.com

Get more information

www.siemens.com/sirius

Published by Siemens AG

Smart Infrastructure Electrical Products Siemensstraße 10 93055 Regensburg, Germany

For the U.S. published by Siemens Industry Inc.

3617 Parkway Lane Peachtree Corners, GA 30092 United States

PDF (E86060-K1010-A101-B6-7600) KG 0124 1416 En Produced in Germany © Siemens 2024

Cybersecurity information

Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks.

In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept.

Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e. g. firewalls and/or network segmentation) are in place.

For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry.

Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats.

To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under www.siemens.com/cert.

Subject to changes and errors. The information given in this document only contains general descriptions and/or performance features which may not always specifically reflect those described, or which may undergo modification in the course of further development of the products. The requested performance features are binding only when they are expressly agreed upon in the concluded contract.

All product designations may be trademarks or other rights of Siemens AG, its affiliated companies or other companies whose use by third parties for their own purposes could violate the rights of the respective owner.