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Industrial Controls

Catalog IC 90 · 2011



SIRIUS

Answers for industry.

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Related catalogs

Contents

Industrial Controls IC 10
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Order No.:
E86060-K1010-A101-A1-7600



Industrial communication • Contactors and contactor assemblies, soft starters and solid-state switching devices • Protection equipment • Load feeders and motor starters for use in the control cabinet • Load feeders and motor starters for use in the field, high degree of protection • Monitoring and control devices • Detecting devices • Commanding and signaling devices • Transformers and power supplies • Parametrization, Configuration, Visualisization with SIRIUS

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Safety Technology for Factory Automation
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IK PI: PROFINET/Industrial Ethernet • Industrial Wireless Communicaton • PROFIBUS • SIMATIC ET200 distributed I/Os • AS-Interface • Telecontrol • Routers• ECOFAST System
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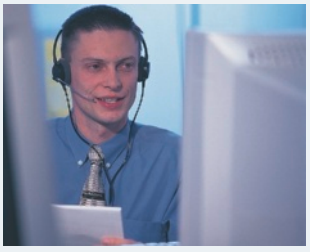
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SIRIUS
Industrial Controls

Catalog IC 90 · 2011



The products and systems listed in this catalog are manufactured/distributed using a certified quality management system which complies with EN ISO 9001 (for the Certificate Register No. see the Appendix). The certificate is recognized in all IQNet countries.

Select products and systems from the Catalog IC 10 · 2011

Supersedes:
Catalog LV 90 · 2010 (Chapters 1-12)

On the enclosed CD-ROM you will find selected catalogs in electronic form as structured PDF files in English.

For the latest updates of this catalog, please visit our Industry Mall:
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The products contained in this catalog can also be found in the interactive catalog CA 01.
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Industry Mall



Much more than a catalog. The Industry Mall.

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www.siemens.com/industrymall



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Find your products in the structure tree, in the new "Bread-crumb" navigation or with the integral search machine with expert functions. Electronic configurators are also integrated into the Mall. Enter the various characteristic values and the appropriate product will be displayed with the relevant order numbers. You can save configurations, load them and reset them to their initial status.

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Added value due to additional information

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Also available are FAQs, software downloads, certificates and technical data sheets as well as our training programs. In the image database you will find, depending on the product, 2D/3D graphics, dimension drawings and exploded drawings, characteristic curves or circuit diagrams which you can download.

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Ordering notes

Delivery time class (DT)

► Preferred type	Preferred types are available immediately from stock, i. e. are dispatched within 24 hours. Normal quantities of the products are usually delivered within the specified time following receipt of your order at our branch. In exceptional cases, the actual delivery time may differ from that specified.	The delivery times apply up to the ramp at Siemens AG (products ready for dispatch). The transport times depend on the destination and type of shipping. The standard transport time for Germany is 1 day. The delivery time classes specified here are permanently optimized. Up-to-date information can be found at www.siemens.com/industrymall. *Note:* *Please contact your local Siemens office if you have any queries about delivery time classes.*

Packaging sizes (PS)

The packaging size defines the number, e. g. of units, sets or meters, for 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 Appendix.

Dimensions

All dimensions in mm.

Symbols

In the Catalog IC 90 · 2011 you will find the symbols listed alongside. These symbols are used in conjunction with an orange background to mark special selection criteria (e. g. connections, types of coordination, etc.).

Connections	Combicon connection
	Insulation piercing method
	Fast Connect
	Spring-type terminals
	Flat connectors
	Solder pin connections
	Ring terminal lug connections
	Screw terminals
Types of coordination	Type of coordination "1"
	Type of coordination "2"
Distinguishing between units	Complete units
	Modular system

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Introduction



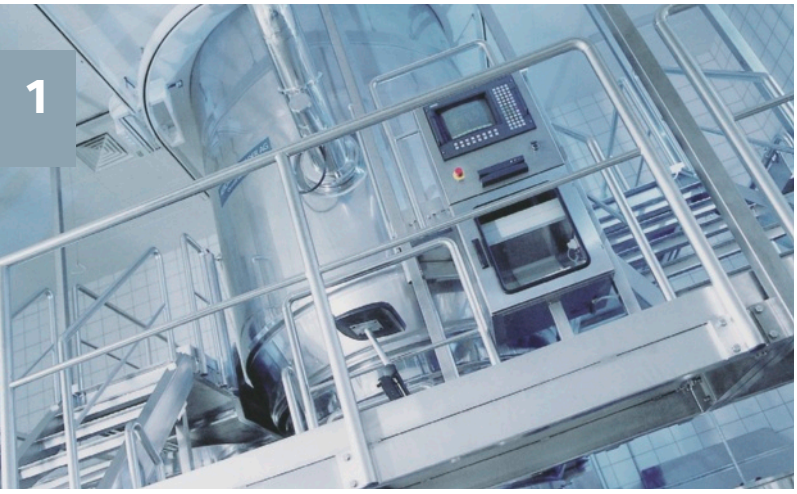
1/2 **Answers for Industry.**

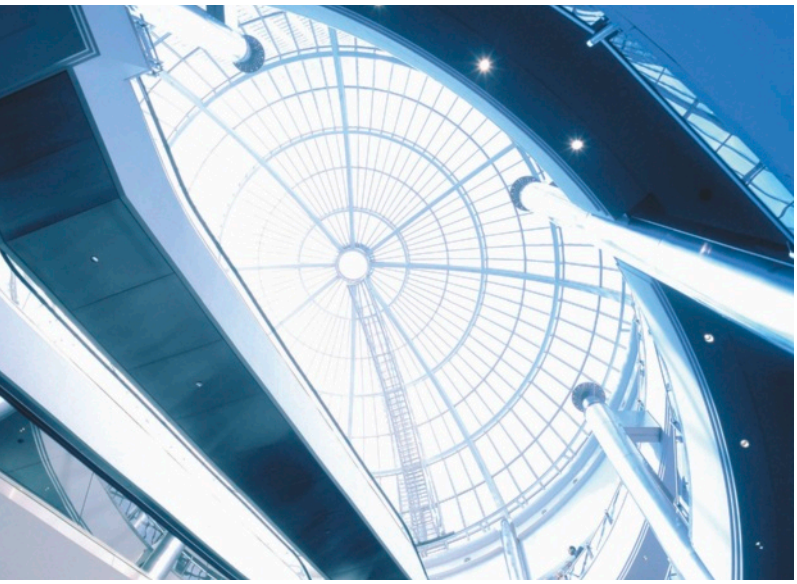
1/4 **Energy efficiency – Benefits for the environment and for your competitiveness.**

1/6 **Industrial controls. The basis for advanced solutions.**

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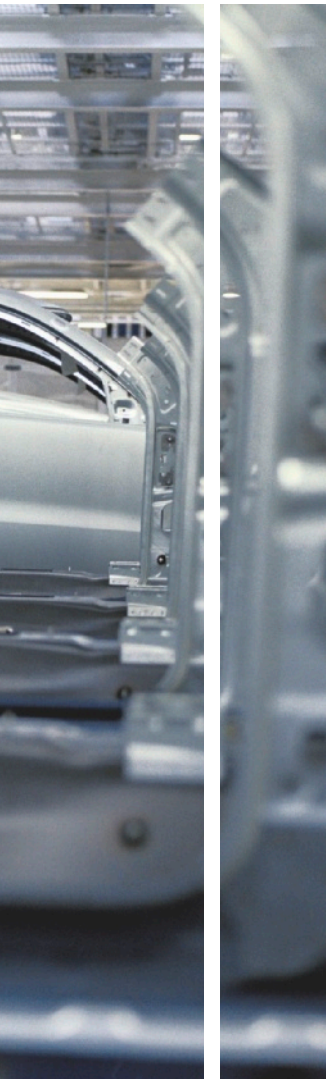
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Answers for Industry.

Siemens Industry answers the challenges in the manufacturing and the process industry as well as in the building automation business. Our drive and automation solutions based on Totally Integrated Automation (TIA) and Totally Integrated Power (TIP) are employed in all kinds of industry. In the manufacturing and the process industry. In industrial as well as in functional buildings.

Siemens offers automation, drive, and low-voltage switching technology as well as industrial software from standard products up to entire industry solutions. The industry software enables our industry customers to optimize the entire value chain – from product design and development through manufacture and sales up to after-sales service. Our electrical and mechanical components offer integrated technologies for the entire drive train – from couplings to gear units, from motors to control and drive solutions for all engineering industries. Our technology platform TIP offers robust solutions for power distribution.

The high quality of our products sets industry-wide benchmarks. High environmental aims are part of our eco-management, and we implement these aims consistently. Right from product design, possible effects on the environment are examined. Hence many of our products and systems are RoHS compliant (Restriction of Hazardous Substances). As a matter of course, our production sites are certified according to DIN EN ISO 14001, but to us, environmental protection also means most efficient utilization of valuable resources. The best example are our energy-efficient drives with energy savings up to 60 %.

Check out the opportunities our automation and drive solutions provide. And discover how you can sustainably enhance your competitive edge with us.

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Energy efficiency – benefits for the environment and for your competitiveness.

With its energy-efficient solutions and green technologies, the Siemens environmental portfolio offers a threefold benefit: for our customers, improving their bottom line through lower energy costs and higher productivity; for future generations, helping to maintain and improve the environment and living conditions; and for Siemens itself, tapping into attractive markets and securing the company's future.

A wide range of environmental technologies and energy-efficient solutions

Siemens has been supplying products and solutions for environmental protection and climate control since its earliest beginnings. To name but one example, it was back in 1873 that Werner von Siemens developed a technology for avoiding ash emissions from chimneys.

Today, we have the Siemens environmental portfolio in which we bundle those technologies which have been shown to help our customers with pollution control. These include the following:

Products and systems which are far more energy-efficient than comparable solutions, such as gas and steam turbines for solar power, low-energy light bulbs, and intelligent building services engineering

Systems which use renewable sources of energy and their components, such as wind power plants and steam turbines for solar power

Environmental technologies which we harness for the provision of clean water and purer air

The Siemens environmental portfolio covers the entire energy conversion chain – from efficient power generation and energy distribution right through to usage – and green technologies.

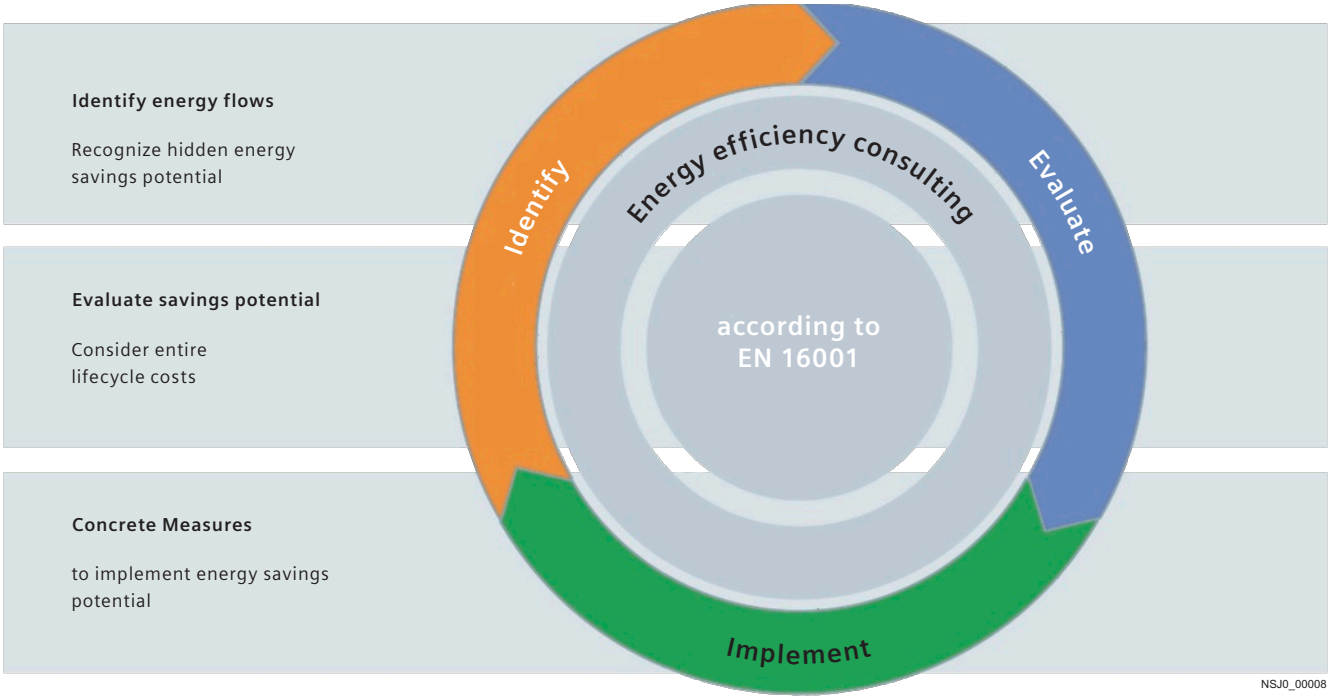


SIRIUS industrial controls

The industrial control components are fine-tuned to minimize power loss and thus provide both passive and active support in implementing efficient systems and applications.

The components of SIRIUS Innovations perform at extremely low levels of inherent loss. The new generation heralded a further significant reduction of 10 % on average. This means that not only is it possible to save on energy costs but also to reduce the amount of waste heat in the control cabinet. This then translates to a higher packing density in the control cabinet and a reduction in the required cooling efficiency.

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SIRIUS reduces power loss

Our most energy-efficient contactors are fitted with an electronic coil control. This reduces the power loss by up to 92 %.

Our soft starters use intelligent, integrated current bypass circuits. The power loss is thereby reduced by 92 % during operation.

Overload relays are fitted with an electronic release instead of a bimetal trip unit and boast not only a wider setting range but also a reduction of up to 98 % in no-load loss.

In comparison with conventional feeders, the power loss in the compact feeder has been reduced by up to 80 %. This is due to the combination of the most efficient technologies in one unit.

Energy management

Energy management can be instrumental in increasing plant productivity and thus bringing about a significant improvement to the competitive ability of a company – in all sectors of industry.

As a continuous process, a sophisticated concept will deliver a consistent reduction in energy consumption. Our energy management strategy is based on three phases: "Identify", "Evaluate" and "Implement".

Compatible hardware and software record the energy flux in the system, generating visual displays and analyzing the flows. The data thus obtained can be taken to make an initial evaluation of the potential savings and also form the basis for an intelligent and efficient energy management system.

Communication-capable SIRIUS switching and protection devices deliver measured energy data

The communication-capable SIRIUS switching and protection devices can deliver energy values continually, without any additional installation expense and input, e. g. to a higher-level energy management system, and thus offer the required transparency in energy consumption.

Innovative Siemens technology - answers for a green society!

We lead the field in terms of innovation and sustainable added value in industrial control engineering.

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Industrial controls.
The basis for innovative solutions.



High demands are made in the field of industrial controls:
Users want cost-effective solutions which can be easily integrated in control cabinets, distribution boards and distributed systems and which can communicate perfectly with each other.
Our response to their demands are SIRIUS industrial controls.

SIRIUS industrial controls

The SIRIUS range has everything you need for switching, protecting and starting loads. Products for monitoring, control, detection, commanding, signaling and power supply round off the spectrum of industrial controls.

Building control cabinets should be quick, easy, flexible and space-saving. But how can all these requirements be met simultaneously? The answer lies in the unique SIRIUS modular system up to 250 kW / 400 V, where you will find everything that you need for switching, protecting and starting motors and industrial systems.

Furthermore, all components of the SIRIUS modular system are characterized by a space-saving design and high flexibility and are optimally coordinated with each other. Configuring, installing, wiring and maintenance are extremely easy and time-saving to perform.

Regardless of whether you want to build up your own load feeders with motor starter protectors/circuit breakers or overload relays, contactors or soft starters, or decide instead in favor of preassembled feeders: SIRIUS has the right product for every application.

Continuous further development and regular innovations ensure that our customers are optimally equipped with SIRIUS and benefit from efficient solutions – today and tomorrow.

Systematic further development – SIRIUS Innovations

SIRIUS has long been synonymous world-wide with industrial controls and has been a trendsetter in this field from the very beginning. 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.

With its latest innovations for the main and control circuit, the new SIRIUS modular system has underlined its leading position once again.

The consistent further development of SIRIUS takes even better account of current market requirements, particularly the call for fewer variants, greater flexibility and reduced cost and time. The advantages for you are: higher productivity and cost efficiency in your company.

Clicking replaces wiring

In the portfolio of the SIRIUS modular system you can trust on finding perfectly coordinated and flexibly combinable components which now are even easier to install: plug in place, connect, click and that's it! Complicated wiring is a thing of the past, as are wiring errors. For you this means a significant reduction of time and cost.

Innovative through and through

The SIRIUS modular system in sizes S00 and S0 up to 40 A has been completely revised – with respect to the main and control circuit. As the result, the innovative basic components such as motor starter protectors and contactors provide a host of advantages to optimize your plant, today and in the future. Often the innovation is to be found in the details. For example, more power in the same design and the bundling of functions in basic devices for notable space savings.

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At the same time the innovations enable the greatest flexibility. Be it direct starting, reverse starting or wye-delta starting for customer assembly, as a tested combination or an "all-in-one" solution complete with the compact starter, for soft starting or for frequent switching: the SIRIUS modular system offers the perfect answer.

Another aspect at the focus of the new developments was the enhancement of plant availability. In future, SIRIUS components from the modular system can also be used at minimum expense to monitor the application. Selective plant monitoring then becomes utterly simple – with current monitoring relays integrated directly in the load feeder or configured from the controller via the load feeder connection to AS-Interface or IO-Link.

These innovations are the perfect low-end supplement to today's S2-S12 modular system up to 250 kW / 400 V and offer many new options for the construction of control cabinets.

More efficiency in control cabinet installation

The highlights of the new SIRIUS modular system are particularly numerous with regard to assembly and handling, application monitoring, connection to the controller, and customer support throughout the plant's lifecycle.

All these innovations add up to the many different possibilities of the new SIRIUS modular system as a whole – for the highest efficiency in control cabinet installation.

SIRIUS Safety Integrated

Combined with Totally Integrated Automation and Safety Integrated, our product portfolio can be bundled to create optimized systems. All in all, Siemens provides innovative controls with modern features, such as integrated communication and safety technology that work to your advantage: the basis for ground-breaking integrated solutions.

Safety Integrated by Siemens is the consistent implementation of safety technology in accordance with the concept of Totally Integrated Automation. Direct integration of safety-related functions in our standard products and the consistent integration of safety concepts in the standard automation environment offer many advantages for machine manufacturers and system operators.

Our SIRIUS Safety Integrated controls are a central element of the Siemens Safety Integrated concept. Whether for failsafe sensing, instructing and reporting, monitoring and evaluating or starting and reliable shutting down – our SIRIUS Safety Integrated controls are expert at performing safety tasks in your plant.

SIRIUS Safety Integrated uses failsafe communication using standard field bus systems, e. g. ASIsafe via AS-Interface and PROFIsafe via PROFIBUS, to solve even networked safety tasks of greater complexity. This opens the door for flexible safety solutions for compact machines or large-scale plants and for verification of compliance with the Machinery Directive up to SIL 3 /PL e with the Safety Evaluation Tool.

The free, TÜV-approved online tool is a rapid and reliable aid for the evaluation of machine safety functions. The result is a report conforming to the relevant machine documentation standards.

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Notes

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Industrial Communication



AS-Interface

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AS-Interface specification
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More technical information

can be found at
www.siemens.com/industrial-controls/support

under Product List:
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1) See Catalog D 11.1.

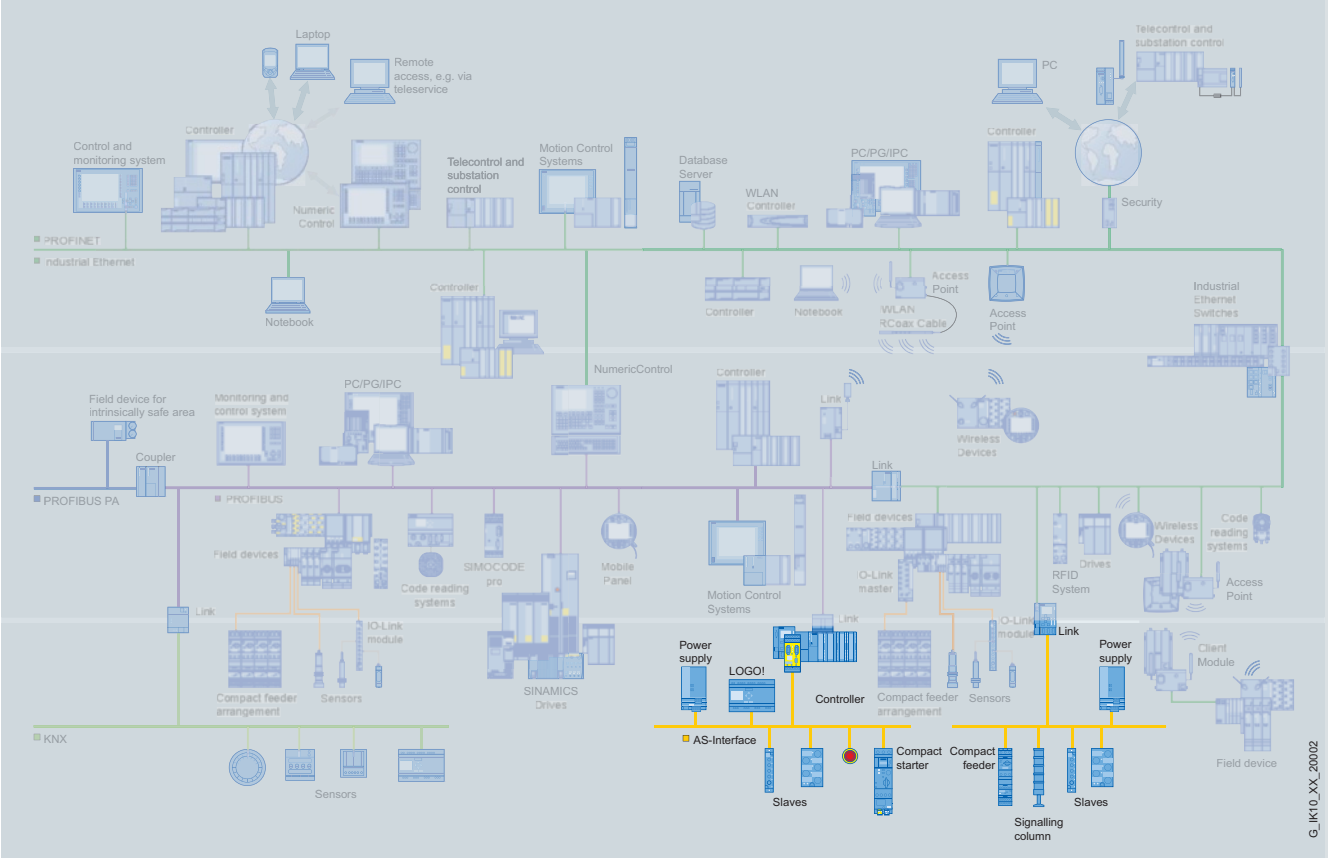
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Transmission technology

Overview

AS-Interface is an open, international standard according to EN 50295 and 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) and routers (links) which control the process or field communication as masters, and actuators and sensors which are activated as AS-Interface slaves.



Benefits

get Designed for Industry

A key feature of AS-Interface technology is the use of a shared two-conductor cable for data transmission and the distribution of auxiliary power to the sensors/actuators. A power supply unit which meets the requirements of the AS-Interface transmission method and has an external data decoupling module if required 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 piercing method.

Elaborately wired control cables in the control cabinet and marshalling 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 piercing method.

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

Application

Operating modes

Generally, master interfaces have the following operating modes:

I/O data exchange

In this operating mode the inputs and outputs of the binary AS-Interface slaves are read and written.

Analog value transmission

AS-Interface masters according to the AS-Interface Specification V2.1 or 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 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 diagnostics information read out from user programs.

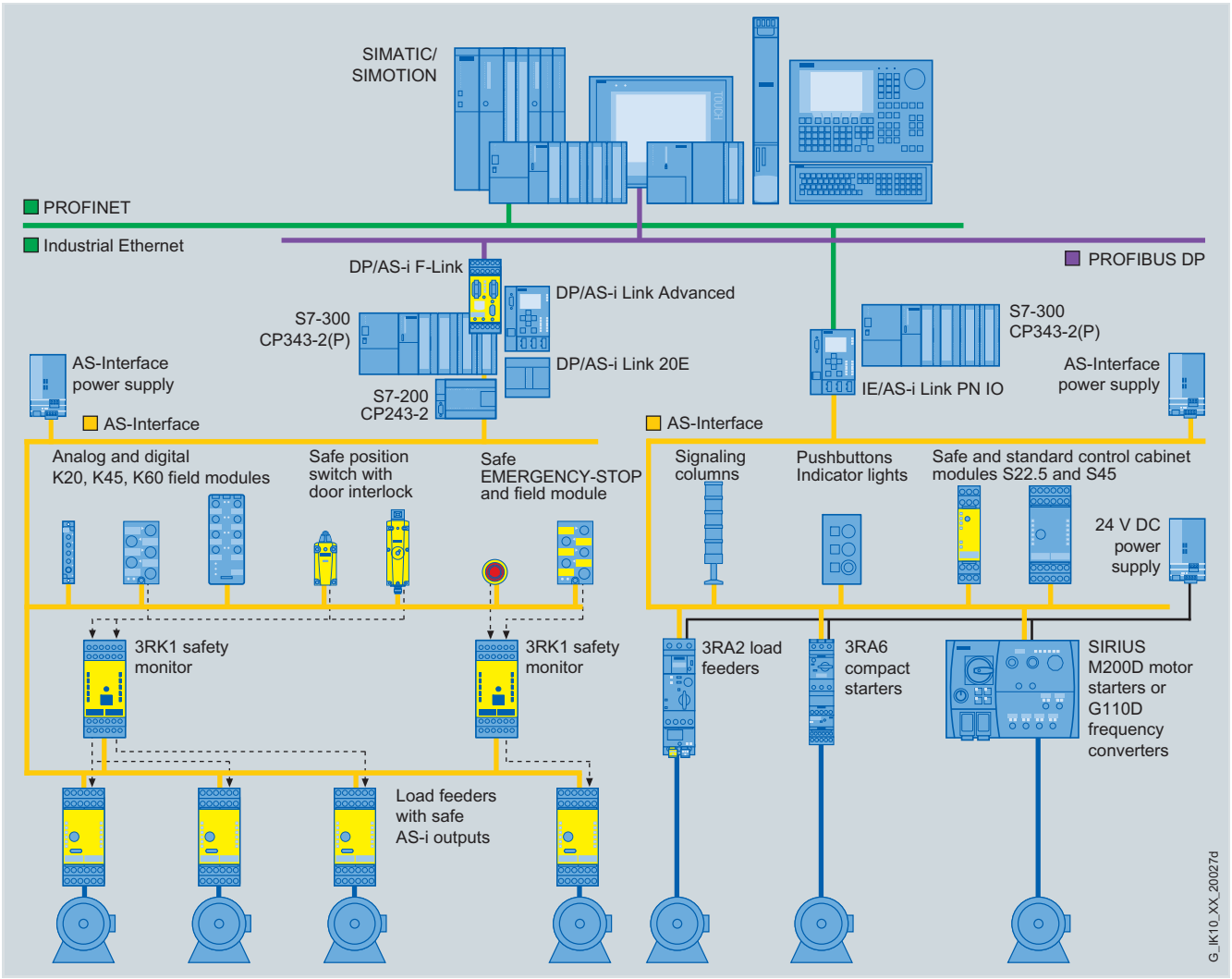
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Overview

System components

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

- Master interface modules for central control units such as SIMATIC S7, ET 200 M distributed peripherals, or routers from PROFIBUS/PROFINET to AS-Interface
- Power supply units, if required in combination with a data decoupling module for the power supply to the slaves
- AS-Interface shaped cables
- Network components such as repeaters and extension plugs, which however cannot be used for AS-i Power24V networks
- Modules for connection of standard sensors/actuators
- Actuators and sensors with integrated AS-i slave
- Safety modules for transmitting safety-oriented data through AS-Interface
- Addressing units for setting the slave addresses during commissioning



Example of a configuration with the system components

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Communication overview

Features

Standard	EN 50295 / IEC 61158
Topology	Line, star or tree structure (same as electrical wiring)
Transmission medium	Unshielded two-conductor cable ($2 \times 1.5\ mm^2$) for data and auxiliary power
Connection methods	Contacting of the AS-Interface cable by insulation piercing method
Maximum cable length	• 100 m without repeater • 200 m with extension plug • 300 m with two repeaters in series connection • 600 m with extension plugs and two repeaters in parallel switching Longer cable lengths also possible through parallel switching of more repeaters

Maximum cycle time	• 5 ms in full expansion with standard addresses • 10 ms in full expansion with A/B addresses, profile-specific for Spec 3.0 slaves
Number of stations per AS-Interface line	• 31 slaves acc. to AS-Interface Spec. V2.0 • 62 slaves (A/B technology) acc. to AS-Interface Spec. V2.1 and V3.0, integrated analog value transmission
Number of binary sensors and actuators	• Max. 124 DI/124 DO according to Spec. V2.0 • Max. 248 DI/186 DO according to Spec. V2.1 • Max. 496 DI/496 DO according to Spec. V3.0
Access control	• Cyclic polling master/slave procedure • Cyclic data acceptance from host (PLC, PC)
Error safeguard	Identification and repetition of faulty message frames

More information

AS-Interface system manual

More information is available in the AS-Interface system manual.

The English-language AS-Interface System Manual can be downloaded free from the Internet at:
http://support.automation.siemens.com/WW/view/en/26250840

A print version of the AS-Interface System Manual is also available in both English and German, see page 2/21.

Internet

You can find more information on the Internet at:
http://support.automation.siemens.com/WW/view/en/10805888/130000

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Overview



Symbol for AS-i Power24V

Parallel wiring often dominates still, particularly in applications with very few I/Os. Although AS-Interface is similarly well suited for small applications, the cost of the 30 V AS-Interface power supply unit additionally required is often a drawback.
Through the expansion of AS-Interface with AS-i Power24V and the resulting possibility of using existing standard 24 V DC power supply units in AS-i networks, AS-Interface is now also attractive for applications with a very tight budget.

Data and power in standard AS-Interface networks up to now

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 two-conductor cable. 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.

The new technology

Through the expansion of AS-Interface with AS-i Power24V it is now also possible to use 24 V standard power supply units in AS-i networks. The communication technology of AS-Interface works at the same high level of quality with an operating voltage of both 30 V DC and 24 V DC.

	Key data of AS-i Power24V
Number of slaves	Up to 62 standard slaves or up to 31 safe slaves
Topology	Any
Range	Up to 50 m
Components	• 24 V power supply unit with little residual ripple • 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

- The maximum range of 50 m must be observed in order to reach slaves and sensors with a sufficient level of voltage (at least 20 V).
- The power supply units must comply with the PELV Standard (Protective Extra Low Voltage) and have a residual ripple of < 250 mVpp. We recommend power supply units from the SITOP range, see Chapter 11 "Transformers and Power Supplies".
- When used in conjunction with standard 24 V power supply units, each AS-i network requires Power24V-capable data decoupling with adapted ground fault detection.
- 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.
- The use of repeaters or extension plugs in AS-i Power24V networks is not permitted.

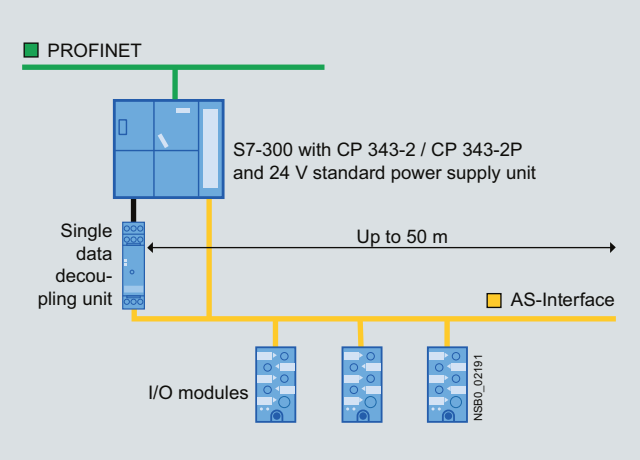
Benefits

AS-i Power24V networks incur no additional costs for an AS-Interface power supply unit because an already existing 24 V power supply unit can be used. This brings the user several benefits:

- The level of standardization of very small applications can be increased further.
- The additional advantages of a modern communication system in terms of commissioning, maintenance and diagnostics can be fully exploited.

Application

Construction of an AS-i Power24V network



Construction of an AS-i Power24V network with an AS-Interface S22.5 data decoupling module (simple network)

More information

A complete overview of AS-i Power24V-capable units currently available from Siemens can be found at
http://support.automation.siemens.com/WW/view/en/42806066

Details of AS-i Power24V can be found in the AS-Interface System Manual at
http://support.automation.siemens.com/WW/view/en/26250840

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AS-Interface safety monitors

Selection and ordering data


3RK1 105-1BE04-0CA0

Version	DT	Order No.	PS*
Basic safety monitors Version 3 With screw terminals, removable terminals, width 45 mm		**Screw terminals**	
• One enabling circuit (monitor type 1)		**3RK1 105-1AE04-0CA0**	1 unit
• Two enabling circuits (monitor type 2)		**3RK1 105-1BE04-0CA0**	1 unit
Expanded safety monitors Version 3 With screw terminals, removable terminals, width 45 mm			
• One enabling circuit (monitor type 3)		**3RK1 105-1AE04-2CA0**	1 unit
• Two enabling circuits (monitor type 4)		**3RK1 105-1BE04-2CA0**	1 unit
Expanded safety monitor with integrated safe slave Version 3 With screw terminals, removable terminals, width 45 mm			
• Two enabling circuits including control of a safe AS-i output/safe coupling (monitor type 6)		**3RK1 105-1BE04-4CA0**	1 unit
Basic safety monitors Version 3 With spring-type terminals, removable terminals, width 45 mm		**Spring-type terminals**	
• One enabling circuit (monitor type 1)		**3RK1 105-1AG04-0CA0**	1 unit
• Two enabling circuits (monitor type 2)		**3RK1 105-1BG04-0CA0**	1 unit
Expanded safety monitors Version 3 With spring-type terminals, removable terminals, width 45 mm			
• One enabling circuit (monitor type 3)		**3RK1 105-1AG04-2CA0**	1 unit
• Two enabling circuits (monitor type 4)		**3RK1 105-1BG04-2CA0**	1 unit
Expanded safety monitor with integrated safe slave Version 3 With spring-type terminals, removable terminals, width 45 mm			
• Two enabling circuits including control of a safe AS-i output/ safe coupling (monitor type 6)		**3RK1 105-1BG04-4CA0**	1 unit
Accessories			
ASIsafe CD Included in delivery: • ASIMON V3 configuration software on CD ROM, for PC (Windows 95/98, ME, 2000, NT, XP, Vista Business/Ultimate 32, Windows 7) • Diagnostics package for STEP 7 including ready-to-use HMI templates for WinCC flexible • Extensive documentation (manuals and certificates)	►	**3RK1 802-2FB06-0GA1**	1 unit
Cable sets Included in delivery: • PC configuration cable for communication between PC (serial interface) and safety monitor, length approx. 1.50 m • Transfer cable between two safety monitors, length approx. 0.25 m	►	**3RK1 901-5AA00**	1 unit
USB/serial adapters To connect a serial PC cable (for connection to serial PC interface/RS 232) to the USB port of a PC, recommended for use in conjunction with AS-i safety monitor for example		**3UF7 946-0AA00-0**	1 unit
Sealable covers For securing against unauthorized configuration of the safety monitor		**3RP1 902**	5 units
Push-in lugs For screw connection		**3RP1 903**	10 units


3RK1 901-5AA00

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Selection and ordering data

	Version		DT	Order No.	PS*
 3RK1 205-0BQ30-0AA3	**K20F compact safety modules**				
	I/O type	U_{aux} 24 V			
	2 F-DI	--		**3RK1 205-0BQ30-0AA3**	1 unit
 3RK1 205-0BQ00-0AA3	**K45F compact safety modules** Modules supplied without mounting plate				
	I/O type	U_{aux} 24 V			
	2 F-DI	--	▶	**3RK1 205-0BQ00-0AA3**	1 unit
	4 F-DI	--		**3RK1 205-0CQ00-0AA3**	1 unit
	2 F-DI/2 DO	--		**3RK1 405-0BQ20-0AA3**	1 unit
	2 F-DI/2 DO	✓		**3RK1 405-1BQ20-0AA3**	1 unit
	2 F-DI LS type 2[1]	--		**3RK1 205-0BQ21-0AA3**	1 unit
	2 F-DI LS type 4[2]	--		**3RK1 205-0BQ24-0AA3**	1 unit
 3RK1 205-0BE00-0AA2	**S22.5F SlimLine safety modules**				
	Connection	I/O type	U_{aux} 24 V		
	Screw	2 F-DI	--	**3RK1 205-0BE00-0AA2**	1 unit
		2 F-DI/2 DO	--	**3RK1 405-0BE00-0AA2**	1 unit
		2 F-DI/2 DO	✓	**3RK1 405-1BE00-0AA2**	1 unit
	Spring	2 F-DI	--	**3RK1 205-0BG00-0AA2**	1 unit
		2 F-DI/2 DO	--	**3RK1 405-0BG00-0AA2**	1 unit
		2 F-DI/2 DO	✓	**3RK1 405-1BG00-0AA2**	1 unit
 3RK1405-1SE15-0AA2	**S45F SlimLine safety modules**				
	Connection	I/O type	U_{aux} 24 V		
	Screw	1F-RO/3DI/2DO	✓	**3RK1405-1SE15-0AA2**	1 unit
	Spring	1F-RO/3DI/2DO	✓	**3RK1405-1SG15-0AA2**	1 unit

[1] Connection of Siemens light curtain FS 400 3RG7843 (type 2) through socket 1/3

[2] Connection of Siemens light curtain FS 400 3RG7846 (type 4) through socket 1/3, other makes through socket 2/3

Note:

More detailed descriptions of the AS-Interface system can be found on the CD-ROM attached to the catalogs IC 10 and IK PI.

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Communications processors CP 243-2, 343-2P, 343-2

Selection and ordering data

	Version	DT	Screw terminals ⊕ Order No.	PS*
 6GK7 243-2AX01-0XA0	**CP 243-2 communications processors** For connection of the SIMATIC S7-200 to AS-Interface; corresponds to AS-Interface Specification V2.1; dimensions (W x H x D / mm): 71 x 80 x 62 (dimensions without fixing lugs)		**6GK7 243-2AX01-0XA0**	1 unit
 6GK7 343-2AH11-0XA0	**CP 343-2P communications processors** For connection of SIMATIC S7-300 and ET 200M to AS-Interface; configuration of the AS-Interface network using the SET key or STEP 7 (V5.2 and higher); including manual on CD-ROM (English, French, German, Italian, Spanish); without front connector; corresponds to AS-Interface Specification V3.0; dimensions (W x H x D / mm): 40 x 125 x 120		**6GK7 343-2AH11-0XA0**	1 unit
 6GK7 343-2AH01-0XA0	**CP 343-2 communications processors** Basic version for connection of SIMATIC S7-300 and ET 200M to AS-Interface Configuration of the AS-i network using the SET key; including manual on CD-ROM (English, French, German, Italian, Spanish); without front connector; corresponds to AS-Interface Specification V3.0; dimensions (W x H x D / mm): 40 x 125 x 120		**6GK7 343-2AH01-0XA0**	1 unit

Accessories

Version	DT	Order No.	PS*
Front connectors, 20-pole			
• With screw terminals	⊕	**6ES7 392-1AJ00-0AA0**	1 unit
• With spring-type terminals		**6ES7 392-1BJ00-0AA0**	1 unit

More information

The manuals are also available on the Internet at
http://support.automation.siemens.com/WW/view/en/10805937/133300

AS-i Block Library for PCS 7 for easy connection of AS-Interface to PCS 7 see page 2/24.

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Selection and ordering data

	Version	DT	Order No.	PS*
 DP/AS-i LINK Advanced	**DP/AS-i LINK Advanced** Router between PROFIBUS DP and AS-Interface; Degree of protection IP20; Including COMBICON plug-in screw terminals for connecting an AS-Interface cable (two AS-Interface cables for double master) and the optional 24 V supply; including manual on CD (English, French, German, Italian, Spanish); corresponds to AS-Interface Specification 3.0; dimensions (W x H x D / mm): 90 x 132 x 88.5			
	• Combicon connection			
	- Single master with display		**6GK1 415-2BA10**	1 unit
	- Double master with display		**6GK1 415-2BA20**	1 unit
 6GK1 415-2AA10	**DP/AS-Interface Link 20E** Router between PROFIBUS DP and AS-Interface in degree of protection IP20; including screw terminals for connection of the AS-Interface cable; Including manual on CD (English, French, German, Italian, Spanish); corresponds to AS-Interface Specification V3.0; dimensions (W x H x D / mm): 90 x 80 x 60 (dimensions without fixing lugs)			
	• Screw terminals		**6GK1 415-2AA10**	1 unit
 DP/AS-i F-Link	**DP/AS-i F-Link** Router between PROFIBUS DP and AS-Interface for safety-oriented data transmission from ASIsafe to PROFIBUS DP – PROFIsafe in degree of protection IP20; corresponds to AS-Interface Specification V3.0; dimensions (W x H x D / mm): 45 x 104 x 120			
	• Screw terminals		**3RK3 141-1CD10**	1 unit
	• Spring-type terminals		**3RK3 141-2CD10**	1 unit
 IE/AS-i LINK PN IO	**IE/AS-i LINK PN IO** Router between PROFINET/Industrial Ethernet and AS-Interface; IP20 degree of protection; including COMBICON plug-in screw terminals for connecting an AS-Interface cable, (two AS-Interface cables for double master) and the optional 24 V supply; including manual on CD (English, French, German, Italian, Spanish); corresponds to AS-Interface Specification 3.0; dimensions (W x H x D / mm): 90 x 132 x 88.5			
	• Combicon connection			
	- Single master with display		**6GK1 411-2AB10**	1 unit
	- Double master with display		**6GK1 411-2AB20**	1 unit
Accessories				
	C-PLUG Exchange medium for the simple exchange of devices in the event of a fault; for accommodating configuration and application data; can be used in SIMATIC NET products with a C-PLUG slot		**6GK1 900-0AB00**	1 unit

More information

The manuals are available on the Internet:

DP/AS-i LINK Advanced at
http://support.automation.siemens.com/WW/view/en/28602701/133300

DP/AS-Interface Link 20E at
http://support.automation.siemens.com/WW/view/en/28602858/133300

DP/AS-i F-Link at
http://support.automation.siemens.com/WW/view/en/24196041

IE/AS-i LINK PN IO at
http://support.automation.siemens.com/WW/view/en/29992487/13330

Circuit examples for safety systems with DP/AS-i F-Link at
http://support.automation.siemens.com/WW/view/en/24509484

More presales information can be found at
www.siemens.com/as-interface/master.

The F-Link Object Manager must be installed for configuring HW-Config (STEP 7). The Object Manager can be downloaded free of charge from the Internet at
http://support.automation.siemens.com/WW/view/en/24724923

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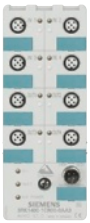
I/O modules for operation in the field, high degree of protection
Digital I/O modules IP67 - K60, IP68/IP69K - K60R

Selection and ordering data



3RK1 400-1DQ00-0AA3

Version					DT	Order No.	PS*
Digital I/O modules IP67 - K60							
• PNP transistor • Width 60 mm • Connection method: M12 • Modules supplied without mounting plate							
Type	Current carrying capacity of outputs	Slave type	Pin assignment	Sensor power supply off			
8 inputs/ 2 outputs	2 A	A/B	Special	AS-i		**3RK2 400-1HQ00-0AA3**	1 unit
8 inputs	--	Standard	Y-II	AS-i	▶	**3RK1 200-0DQ00-0AA3**	1 unit
	--	A/B	Y-II	AS-i	▶	**3RK2 200-0DQ00-0AA3**	1 unit
	--	A/B	Y-II	U_{aux}		**3RK2 200-1DQ00-1AA3**	1 unit
4 inputs/ 4 outputs	2 A	Standard	Y-II	AS-i	▶	**3RK1 400-1DQ00-0AA3**	1 unit
	2 A	Standard	Standard	AS-i	▶	**3RK1 400-1CQ00-0AA3**	1 unit
	1 A	Standard	Y-II	AS-i		**3RK1 400-1DQ01-0AA3**	1 unit
	1 A	Standard	Standard	AS-i	▶	**3RK1 400-1DQ03-0AA3**	1 unit
	2 A	A/B slave (Spec. 3.0)	Y-II	AS-i		**3RK2 400-1DQ00-0AA3**	1 unit
	2 A	A/B slave (Spec. 3.0)	Y-II	U_{aux}		**3RK2 400-1DQ00-1AA3**	1 unit
4 inputs/ 3 outputs	2 A	A/B	Y-II	AS-i	▶	**3RK2 400-1FQ03-0AA3**	1 unit
4 inputs/ 2 outputs	2 A	Standard	Y-II	AS-i	▶	**3RK1 400-1MQ00-0AA3**	1 unit
4 inputs	--	Standard	Y-II	AS-i	▶	**3RK1 200-0CQ00-0AA3**	1 unit
2 x 2 inputs / 2 x 2 outputs	1 A	Standard	Y	AS-i		**3RK1 400-1DQ02-0AA3**	1 unit
4 outputs	2 A	Standard	Y-II	AS-i	▶	**3RK1 100-1CQ00-0AA3**	1 unit
Digital I/O modules IP67 – K60, version ATEX (Ex) II 3D Ex tD A22 IP65X T75°C/60°C							
• PNP transistor • Width 60 mm • Current carrying capacity of the inputs: 200 mA • Connection method: M12 • Modules supplied without mounting plate							
Type	Current carrying capacity of outputs	Slave type	Pin assign-ment				
4 inputs/ 4 outputs	2 A	Standard	Y-II			**3RK1 400-1DQ05-0AA3**	1 unit
4 inputs	--	Standard	Y-II			**3RK1 200-0CQ05-0AA3**	1 unit
Digital I/O modules IP67 - K60 data couplers							
• Modules supplied without mounting plate							
Type	Current carrying capacity of outputs	Slave type	Pin assign-ment				
Data coupler 4 inputs/4 outputs (virtual)	--	Standard	--			**3RK1 408-8SQ00-0AA3**	1 unit
Digital I/O modules IP68/IP69K - K60R • 4 inputs/4 outputs • Width 60 mm • IP68/IP69K • Standard assignment • Current carrying capacity: - 200 mA (inputs) - 2 A (outputs) • Standard slave • Modules supplied without mounting plate						**3RK1 400-1CR00-0AA3**	1 unit



3RK1 400-1CR00-0AA3

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Selection and ordering data



3RK1 400-0GQ20-0AA3

Digital I/O modules IP67 - K45

- PNP transistor
- Width 45 mm
- Current carrying capacity of the inputs: 200 mA
- Modules supplied without mounting plate

Type	Current carrying capacity of outputs	Slave type	Pin assignment	U_{aux} 24 V	Connection methods	DT	Order No.	PS*
4 inputs	--	Standard	Standard	--	M12	▶	**3RK1 200-0CQ20-0AA3**	1 unit
	--	Standard	Standard	--	M8 screw		**3RK1 200-0CT20-0AA3**	1 unit
	--	Standard	Standard	--	M8 snap		**3RK1 200-0CU20-0AA3**	1 unit
	--	A/B	Standard	--	M12	▶	**3RK2 200-0CQ20-0AA3**	1 unit
	--	A/B	Standard	--	M8 screw		**3RK2 200-0CT20-0AA3**	1 unit
	--	A/B	Standard	--	M8 snap		**3RK2 200-0CU20-0AA3**	1 unit
2 x 2 inputs	--	A/B	Y	--	M12		**3RK2 200-0CQ22-0AA3**	1 unit
2 inputs/2 outputs	2 A[1)]	Standard	Standard	✓	M12	▶	**3RK1 400-1BQ20-0AA3**	1 unit
2 x (1 input/1 output)	0.2 A	Standard	Y	--	M12		**3RK1 400-0GQ20-0AA3**	1 unit
4 x (1 input/1 output)	0.2 A	A/B (Spec. 3.0)	Y	--	M12		**3RK2 400-0GQ20-0AA3**	1 unit
4 x (1 input/1 output)	0.5 A	A/B (Spec. 3.0)	Y	✓	M12		**3RK2 400-1GQ20-1AA3**	1 unit
3 outputs	1 A	A/B	Standard	✓	M12	▶	**3RK2 100-1EQ20-0AA3**	1 unit
4 outputs	1 A	Standard	Standard	✓	M12	▶	**3RK1 100-1CQ20-0AA3**	1 unit
2 outputs/ 2 inputs	2 A	A/B	Standard	✓	M12		**3RK2 400-1BQ20-0AA3**	1 unit

✓ Available

-- Not available



3RK2 200-0CT30-0AA3

Digital I/O modules, IP67 – K20

- Width 20 mm

Type	Current carrying capacity of outputs	Slave type	Pin assignment	Connection methods		Order No.	PS*
4 inputs	--	A/B	Standard	M8		**3RK2 200-0CT30-0AA3**	1 unit
	--	A/B	Y	M12		**3RK2 200-0CQ30-0AA3**	1 unit
2 inputs/ 2 outputs	1	A/B	Standard	M8		**3RK2 400-1BT30-0AA3**	1 unit
	1	A/B	Y	M12		**3RK2 400-1BQ30-0AA3**	1 unit
4 outputs	1	A/B (Spec. 3.0)	Standard	M8		**3RK2 100-1CT30-0AA3**	1 unit
4 inputs/ 4 outputs	1	Standard	Standard	M8		**3RK1 400-1CT30-0AA3**	1 unit
	1	A/B (Spec. 3.0)	Standard	M8		**3RK2 400-1CT30-0AA3**	1 unit
2 safe inputs	--	Standard	Y-II	M12		**3RK1 205-0BQ30-0AA3**	1 unit

[1)] The typical current carrying capacity per output increases with version "E12" from 1.5 to 2 A (available since approx. 07/2003).

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

Selection and ordering data



3RK1 207-1BQ44-0AA3



3RK2 207-2BQ50-0AA3

Version			DT	Order No.	PS*
Analog I/O modules IP67 - K60, analog profile 7.3 • Slave type: standard • Width 60 mm • Modules supplied without mounting plate					
Inputs	Type	Measuring range			
1 or 2 inputs (selectable using jumper plug at socket 3)	Current	4 ... 20 mA or ±20 mA (selectable)		**3RK1 207-1BQ40-0AA3**	1 unit
	Voltage	± 10 V or 1 ... 5 V (selectable)		**3RK1 207-2BQ40-0AA3**	1 unit
	Thermal resistance	Pt 100 or Ni 100 or 0 ... 600 Ω (selectable)		**3RK1 207-3BQ40-0AA3**	1 unit
4 inputs	Current	4 ... 20 mA or ± 20 mA (selectable)		**3RK1 207-1BQ44-0AA3**	1 unit
	Voltage	± 10 V or 1 ... 5 V (selectable)		**3RK1 207-2BQ44-0AA3**	1 unit
	Thermal resistance	Pt 100 or Ni 100 or 0 ... 600 Ω (selectable)		**3RK1 207-3BQ44-0AA3**	1 unit
Outputs	Type	Output range			
2 outputs	Current for 2-wire actuators	4 ... 20 mA or ± 20 mA or 0 ... 20 mA (selectable)		**3RK1 107-1BQ40-0AA3**	1 unit
	Voltage for 2-wire actuators	± 10 V or 0 ... 10 V or 1 ... 5 V (selectable)		**3RK1 107-2BQ40-0AA3**	1 unit
Analog I/O modules IP67 - K60, analog profile 7.A.9 • Slave type: A/B (Spec. 3.0) • Width 60 mm • Modules supplied without mounting plate					
Inputs	Type	Measuring range			
1 or 2 inputs (variably adjustable)	Current	4 ... 20 mA or ± 20 mA (selectable)		**3RK2 207-1BQ50-0AA3**	1 unit
	Voltage	± 10 V or 1 ... 5 V (selectable)		**3RK2 207-2BQ50-0AA3**	1 unit

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Selection and ordering data



3RK1 200-0CE00-0AA2



3RK1 400-0BG00-0AA2



3RK1 400-1CG00-0AA2

Version					DT	Order No.	PS*
S22.5 SlimLine modules • Inputs: PNP transistor • Width 22.5 mm							
Type	Connection	Slave type	Inputs	Outputs			
4 inputs	Screw	Standard	2-wire	--	▶	**3RK1 200-0CE00-0AA2**	1 unit
		Standard	2- and 3-wire	--	▶	**3RK1 200-0CE02-0AA2**	1 unit
		A/B slave	2- and 3-wire	--	▶	**3RK2 200-0CE02-0AA2**	1 unit
	Spring	Standard	2-wire	--		**3RK1 200-0CG00-0AA2**	1 unit
		Standard	2- and 3-wire	--		**3RK1 200-0CG02-0AA2**	1 unit
		A/B slave	2- and 3-wire	--		**3RK2 200-0CG02-0AA2**	1 unit
2 inputs/ 2 outputs	Screw	Standard	2-wire	PNP transistor 2 A	▶	**3RK1 400-0BE00-0AA2**	1 unit
		Standard	2-wire	Relays	▶	**3RK1 402-0BE00-0AA2**	1 unit
	Spring	Standard	2-wire	PNP transistor 2 A		**3RK1 400-0BG00-0AA2**	1 unit
		Standard	2-wire	Relays		**3RK1 402-0BG00-0AA2**	1 unit
4 outputs	Screw	Standard	--	PNP transistor 1 A	▶	**3RK1 100-1CE00-0AA2**	1 unit
	Spring	Standard	--	PNP transistor 1 A		**3RK1 100-1CG00-0AA2**	1 unit
S45 SlimLine modules • Inputs: PNP transistor • Width 45 mm							
Type	Connection	Slave type	Inputs	Outputs			
4 inputs/ 4 outputs	Screw	Standard	2- and 3-wire	PNP transistor 1 A	▶	**3RK1 400-1CE00-0AA2**	1 unit
		Standard	2- and 3-wire	PNP transistor 2 A	▶	**3RK1 400-1CE01-0AA2**	1 unit
		Standard	2- and 3-wire floating	PNP transistor 1 A floating	▶	**3RK1 402-3CE01-0AA2**	1 unit
		Standard	2- and 3-wire	Relays	▶	**3RK1 402-3CE00-0AA2**	1 unit
		A/B (Spec. 3.0)	2- and 3-wire	PNP transistor 2 A		**3RK2 400-1CE01-0AA2**	1 unit
	Spring	Standard	2- and 3-wire	PNP transistor 1 A		**3RK1 400-1CG00-0AA2**	1 unit
		Standard	2- and 3-wire	PNP transistor 2 A		**3RK1 400-1CG01-0AA2**	1 unit
		Standard	2- and 3-wire floating	PNP transistor 1 A floating		**3RK1 402-3CG01-0AA2**	1 unit
		Standard	2- and 3-wire	Relays		**3RK1 402-3CG00-0AA2**	1 unit
		A/B (Spec. 3.0)	2- and 3-wire	PNP transistor 2 A		**3RK2 400-1CG01-0AA2**	1 unit
4 inputs/ 3 outputs	Screw	A/B slave	2- and 3-wire	PNP transistor 2 A	▶	**3RK2 400-1FE00-0AA2**	1 unit
	Spring	A/B slave	2- and 3-wire	PNP transistor 2 A		**3RK2 400-1FG00-0AA2**	1 unit
Accessories							
Sealable covers To secure against unauthorized addressing						**3RP1 902**	5 units
Push-in lugs For screw fixing						**3RP1 903**	10 units

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

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2

Selection and ordering data

Version			DT	Order No.	PS*
 3RG9 002-0DB00	**F90 module** • Standard slave • Width 90 mm				
Type	Connection	Inputs	Outputs		
4 inputs/ 4 outputs	Screw	2- and 3-wire PNP transistor	PNP transistor 1 A	**3RG9 002-0DB00**	1 unit
		2- and 3-wire PNP transistor	PNP transistor 2 A	**3RG9 002-0DA00**	1 unit
		2- and 3-wire PNP transistor floating	PNP transistor 2 A	**3RG9 002-0DC00**	1 unit
	Combicon	2- and 3-wire PNP transistor	PNP transistor 1 A	**3RG9 004-0DB00**	1 unit
		2- and 3-wire PNP transistor	PNP transistor 2 A	**3RG9 004-0DA00**	1 unit
		2- and 3-wire PNP transistor floating	PNP transistor 2 A	**3RG9 004-0DC00**	1 unit
16 inputs	Screw	PNP transistor	--	**3RG9 002-0DE00**	1 unit
	Combicon	PNP transistor	--	**3RG9 004-0DE00**	1 unit
 3RK1 400-0CE00-0AA3	**Flat modules** 200 mA for all I/Os				
Type	Connection				
4 inputs/ 4 outputs	Screw			**3RK1 400-0CE00-0AA3**	1 unit
Accessories					
	Combicon connector sets 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			**3RX9 810-0AA00**	1 unit

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

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Selection and ordering data

	Version	DT	Order No.	PS*
Counter modules				
 3RK1 200-0CE03-0AA2	**Counter modules** Width 22.5 mm			
	• With screw terminals		**3RK1 200-0CE03-0AA2**	1 unit
	• With spring-type terminals		**3RK1 200-0CG03-0AA2**	1 unit
 3RK1 200-0CG03-0AA2				
Ground-fault detection modules, overvoltage modules				
 3RK1 408-8KE00-0AA2	**Ground-fault detection modules** Width 22.5 mm			
	• With screw terminals	▶	**3RK1 408-8KE00-0AA2**	1 unit
	• With spring-type terminals	▶	**3RK1 408-8KG00-0AA2**	1 unit
 3RK1 901-1GA00	**Overvoltage protection modules**		**3RK1 901-1GA01**	1 unit

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Illustrations are approximate

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AS-Interface power supply units

Selection and ordering data



3RX9 501–0BA00



3RX9 503–0BA00

AS-Interface power supply units, IP20

- AS-i single output 30 V DC
- With integrated ground-fault detection
- With the 2.6 A version the output power is restricted to max. 100 W (for use in NEC CLASS 2 circuits)
- Dimensions:
  Width: 50 mm (3 A / 2.6 A); 70 mm (5 A), 120 mm (8 A);
  Height: 125 mm;
  Depth: 125 mm

Output current	Input voltage	DT	Spring-type terminals Order No.	PS*
2.6 A / max. 100 W	120 / 230 V AC (selectable)	►	**3RX9 501-2BA00**	1 unit
3 A	120 / 230 V AC (selectable)	►	**3RX9 501-0BA00**	1 unit
3 A	24 V DC	►	**3RX9 501-1BA00**	1 unit
5 A	120 / 230 V AC (selectable)	►	**3RX9 502-0BA00**	1 unit
8 A	120/ 230 ... 500 V AC (selectable)	►	**3RX9 503-0BA00**	1 unit

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Illustrations are approximate

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Overview



AS-Interface S22.5 data decoupling modules
Left: screw terminal version, Right: spring-type terminal version

With the help of the S22.5 data decoupling module, the AS-Interface network can also be supplied from a standard power supply unit with 24 V DC or 30 V DC 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-type terminals
- Versions for single and double data decoupling
- Connection of several AS-Interface networks to one power supply unit is possible
- 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
- 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.

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 construction of single and multiple networks is possible

Application

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

Operation of an AS-i network with the data decoupling module and a 30 V DC 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 DC 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 Innovation contactors and compact starters (3RT2 contactors through 3RA27 function modules or 3RA6 compact starters through AS-i 3RA69 add-on modules)

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

Note:

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

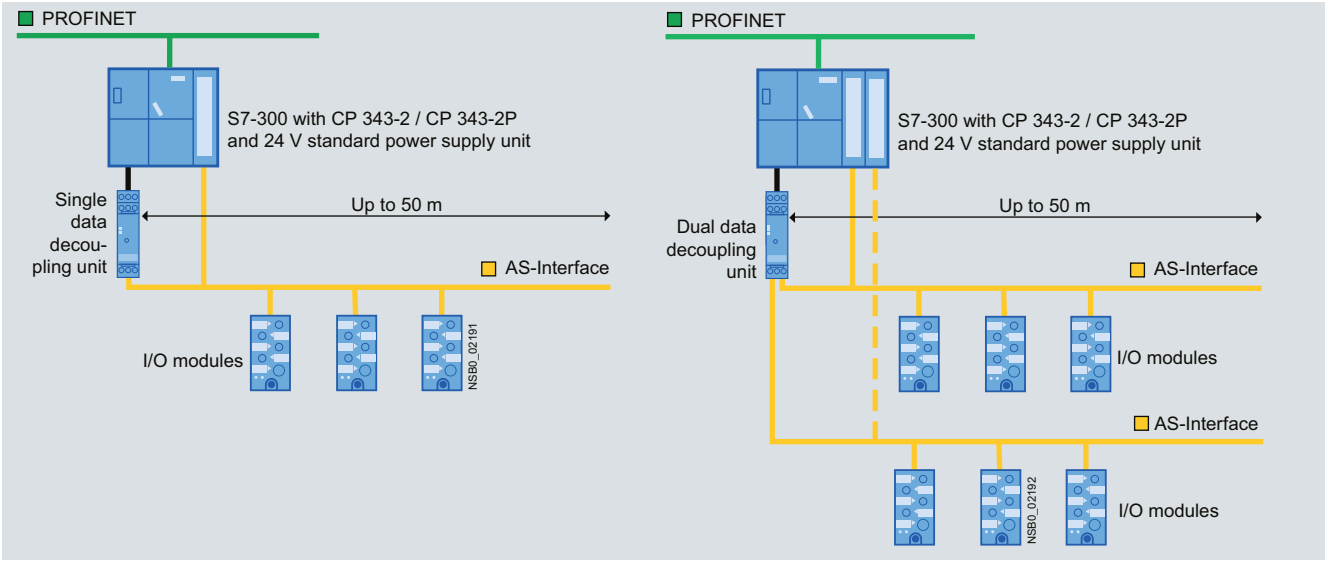
AS-i masters, AS-i slaves and the sensors and actuators supplied through the AS-i cable must be designed for the reduced voltage. Sensors and actuators for the standard voltage range of 10 to 30 V can be supplied with sufficient voltage.

The power supply units must comply with the PELV Standard (Protective Extra Low Voltage) and have a residual ripple of < 250 mVpp. We recommend power supply units from the SITOP range, see Chapter 11 "Transformers and Power Supplies" --> "Power Supplies".

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S22.5 data decoupling modules

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

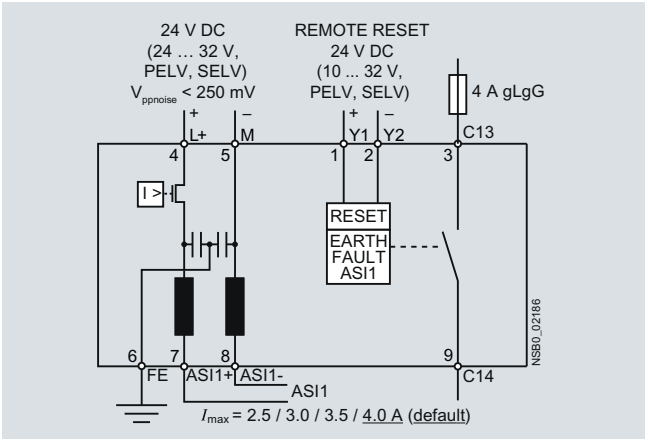


Construction of an AS-i Power24V network with an AS-Interface S22.5 data decoupling module: Left: single network, Right: multiple network

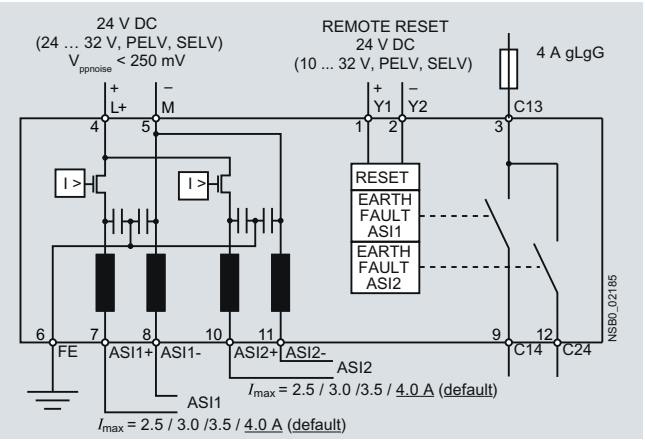
Selection and ordering data

	Version	DT	Order No.	PS*
 3RK1901-1DE12-1AA0	**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		**3RK1 901-1DE12-1AA0**	1 unit
	• Double data decoupling module, 2 x 4 A		**3RK1 901-1DE22-1AA0**	1 unit
 3RK1901-1DG12-1AA0	**S22.5 data decoupling modules** With spring-type terminals, removable terminals, width 22.5 mm, height 105 mm, depth 115 mm		**Spring-type terminals**	
	• Single data decoupling module, 1 x 4 A		**3RK1 901-1DG12-1AA0**	1 unit
	• Double data decoupling module, 2 x 4 A		**3RK1 901-1DG22-1AA0**	1 unit

Circuit diagrams



Single data decoupling module



Double data decoupling module

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Illustrations are approximate

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Selection and ordering data



3RX9 0..–0AA00

Version			DT	Order No.	PS*
AS-Interface shaped cables					
Material	Color	Quantity			
Rubber	Yellow (AS-Interface)	100-m roll	▶	**3RX9 010-0AA00**	1 unit
	Yellow (AS-Interface)	1-km drum		**3RX9 012-0AA00**	1 unit
	Black (24 V DC)	100-m roll	▶	**3RX9 020-0AA00**	1 unit
	Black (24 V DC)	1-km drum		**3RX9 022-0AA00**	1 unit
TPE	Yellow (AS-Interface)	100-m roll	▶	**3RX9 013-0AA00**	1 unit
	Yellow (AS-Interface)	1-km drum		**3RX9 014-0AA00**	1 unit
	Black (24 V DC)	100-m roll	▶	**3RX9 023-0AA00**	1 unit
	Black (24 V DC)	1-km drum		**3RX9 024-0AA00**	1 unit
TPE special version acc. to UL CLASS 2	Yellow (AS-Interface)	100-m roll		**3RX9 017-0AA00**	1 unit
	Black (24 V DC)	100-m roll		**3RX9 027-0AA00**	1 unit
PUR	Yellow (AS-Interface)	100-m roll	▶	**3RX9 015-0AA00**	1 unit
	Yellow (AS-Interface)	1-km drum		**3RX9 016-0AA00**	1 unit
	Black (24 V DC)	100-m roll	▶	**3RX9 025-0AA00**	1 unit
	Black (24 V DC)	1-km drum		**3RX9 026-0AA00**	1 unit

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Selection and ordering data

Repeaters

Version	DT	Order No.	PS*
Repeaters for AS-Interface For cable extension, including mounting plate		**6GK1 210-0SA01**	1 unit



6GK1 210-0SA01

Extension plugs

Version	DT	Order No.	PS*
AS-Interface extension plugs[1)] • Doubling of the cable length to 200 m per AS-Interface segment • Undervoltage monitoring signal by means of diagnostics LED	►	**3RK1 901-1MX00**	1 unit
AS-Interface extension plugs plus[1)] • Doubling of the cable length to 200 m per AS-Interface segment • Undervoltage monitoring signal through integrated AS-Interface slave to AS-Interface master	►	**3RK1 901-1MX01**	1 unit



3RK1 901-1MX00

1) For connection to the AS-Interface flat cable you need the AS-Interface M12 feeder, which must be ordered separately, see section "Accessories".

Addressing units

Version	DT	Order No.	PS*
AS-Interface addressing units • For AS-Interface modules and sensors and actuators with integrated AS-Interface • Including extended addressing mode for A/B slaves • For setting the AS-i address of standard slaves and A/B slaves (also for slaves according to AS-Interface Version 3.0) • Battery operation with 4 batteries type AA (IEC LR6, NEDA 15) • Scope of supply: Addressing unit, operating manual (English, French, German, Italian, Spanish), addressing cable (1.5 m with addressing plug)	►	**3RK1 904-2AB01**	1 unit



3RK1 904-2AB01

Accessories

Addressing cable with M12 plug to addressing plug (hollow plug) • Included in scope of supply of the 3RK1 904-2AB01 addressing unit • Length 1.5 m		**Z236A**[1)]	
Addressing cable, with M12 plug to M12 socket[2)] • For addressing slaves with M12 connection, e.g. K20 or K60R modules or light curtains • When using the current version of the 3RK1 904-2AB01 addressing unit • Length 1.5 m, 3-pole		**3RK1 902-4PB15-3AA0**	1 unit



3RK1902-4PB15-3AA0

1) Can be ordered only from the following address:
GMC-I Messtechnik GmbH,
Thomas-Mann-Str. 16-20,
D-90471 Nürnberg, Germany
Telephone: +49 911/8602-111
Telefax: +49 911/8602-777,
E-mail: info@gossenmetrawatt.com
Internet: www.gossenmetrawatt.com .

2) Not included in scope of supply of of the 3RK1 904-2AB01 addressing unit

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Selection and ordering data

	Version				DT	Order No.	PS*
 3RK2 703-3AB02-1AA1	**AS-Interface system manual**						
	Technical information and overview of the AS-Interface product range from Siemens, scope: approx. 600 pages						
	• German edition, paper version (black&white print)[1]					**3RK2 703-3AB02-1AA1**	1 unit
	• English edition, paper version (black&white print)[2]					**3RK2 703-3BB02-1AA1**	1 unit
 3RK1 901-1NN10	**AS-Interface compact distributors, for AS-Interface flat cable**					**3RK1 901-1NN10**	1 unit
	• Current carrying capacity up to 8 A						
	• Degree of protection IP67/IP68/IP69K						
 3RX9 801-0AA00	**AS-Interface M12 feeders**						
	Degree of protection IP67						
	For flat cable	For	Cable length	Cable end in feeder			
	AS-i	M12 socket	--	Available	▶	**3RX9 801-0AA00**	1 unit
 3RK1 901-1NR10	**AS-Interface M12 feeders**						
	Degree of protection IP67/IP68/IP69K						
	For flat cable	For	Cable length	Cable end in feeder			
	AS-i	M12 socket	--	Not available		**3RK1 901-1NR10**	1 unit
	AS-i	M12 cable box	1 m	Not available		**3RK1 901-1NR11**	1 unit
 3RK1 901-1NR11	AS-i	M12 cable box	2 m	Not available		**3RK1 901-1NR12**	1 unit
	AS-i / U_{aux}	M12 socket	--	Not available		**3RK1 901-1NR20**	1 unit
	AS-i / U_{aux}	M12 cable box	1 m	Not available		**3RK1 901-1NR21**	1 unit
 3RK1 901-1NR21	AS-i / U_{aux}	M12 cable box	2 m	Not available		**3RK1 901-1NR22**	1 unit
	AS-Interface M12 feeders, 4-fold						
	Degree of protection IP67						
	For flat cable	For	Cable length	Cable end in feeder			
 3RK1 901-1NR04	AS-i / U_{aux}	4-fold M12 socket delivery includes coupling module	--	Not available		**3RK1 901-1NR04**	1 unit
 3RK1 901-1TR00	**M12-T distributors**					**3RK1 901-1TR00**	1 unit
	• IP68						
	• 1 x M12 plug						
	• 2 x M12 box						
 6ES7 194-1KA01-0XA0	**M12 Y-shaped coupler plugs**					**6ES7 194-1KA01-0XA0**	1 unit
	For connection of two sensors to one M12 socket with Y connector						

1) Free-of-charge download from the Internet at http://support.automation.siemens.com/WW/view/en/26250840.

2) Free-of-charge download from the Internet at http://support.automation.siemens.com/WW/view/en/26250840.

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Miscellaneous accessories

	Version	DT	Order No.	PS*
 3RK1 901-1KA00	**AS-Interface sealing caps M12** For free M12 sockets	►	**3RK1 901-1KA00**	10 units
 3RK1 901-1KA01	**AS-Interface sealing caps M12, tamper-proof** For free M12 sockets		**3RK1 901-1KA01**	10 units
 3RK1 901-1PN00	**AS-Interface sealing caps M8** For free M8 sockets		**3RK1 901-1PN00**	10 units
 3RK1 901-1MD00	**AS-Interface seals M20** • For AS-Interface cable, shaped • For insertion in M20 glands		**3RK1 901-1MD00**	10 units
 3RK1 901-3QM00	**Cable adapters for flat cables** Connection of AS-Interface cable to metric gland with insulation piercing method • Continuation using standard cable - For M16 gland - For M20 gland • Continuation using pins - For M16 gland - For M20 gland		 **3RK1 901-3QM00** **3RK1 901-3QM10** **3RK1 901-3QM01** **3RK1 901-3QM11**	 1 unit 1 unit 1 unit 1 unit
 3RK1 901-3QA00	**Cable clips for cable adapters**	►	**3RK1 901-3QA00**	10 units
 3RK1 901-1MN00	**Cable terminating pieces** For sealing of open cable ends (shaped AS-Interface cable) in IP67	►	**3RK1 901-1MN00**	10 units
 3RK1 901-2EA00	**K45 mounting plates** • For wall mounting • For standard rail mounting	 ► ►	 **3RK1 901-2EA00** **3RK1 901-2DA00**	 1 unit 1 unit
 3RK1 901-0CA00	**K60 mounting plates** Suitable for all K60 compact modules • For wall mounting • For standard rail mounting	 ► ►	 **3RK1 901-0CA00** **3RK1 901-0CB01**	 1 unit 1 unit
 3RK1 902-0AR00	**Sealing sets** • For K60 mounting plate and standard distributor • Cannot be used for K45 mounting plate • One set contains one straight and one shaped seal		**3RK1 902-0AR00**	5 units
 3RK1 901-1AA00	**Jumper plugs** For changing over the 2-channel input modules		**3RK1 901-1AA00**	1 unit
	Inscription labels • For K45 and K60 compact modules • 20 x 9 mm, pastel turquoise • 19 frames with 20 labels each		**3RT1 900-1SB50**	380 units

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	Version	DT	Order No.	PS*
 3RK1 902-4GB50-4AA0	**Control cables, assembled at one end** Angular M12 socket for screw fixing, 4-pole, 4 x 0.34 mm^2 A-coded, black PUR sheath, max. 4 A			
	• Cable length 5 m		**3RK1 902-4GB50-4AA0**	1 unit
 3RK1 902-4CA00-4AA0	**Angular M12 socket** For screw fixing, 4-pole screw terminals, max. 0.75 mm^2, A-coded, max. 4 A		**3RK1 902-4CA00-4AA0**	1 unit
 3RK1 902-4BA00-5AA0	**M12 plugs** For screw fixing, 5-pole screw terminals, max. 0.75 mm^2, A-coded, max. 4 A		**3RK1 902-4BA00-5AA0**	1 unit
 3RK1 902-4DA00-5AA0	**M12 plugs, angled** For screw fixing, 5-pole screw terminals, max. 0.75 mm^2, A-coded, max. 4 A		**3RK1 902-4DA00-5AA0**	1 unit
 3RK1 902-4H...-5AA0	**Control cables, assembled at one end** M12 plugs, angled, for screw fixing, 5-pole, 5 x 0.34 mm^2, A-coded, black PUR sheath, max. 4 A			
	• Cable length 1.5 m		**3RK1 902-4HB15-5AA0**	1 unit
	• Cable length 5 m		**3RK1 902-4HB50-5AA0**	1 unit
	• Cable length 10 m		**3RK1 902-4HC01-5AA0**	1 unit
 3RK1 902-4PB15-3AA0	**Control cable, assembled at both ends** 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		**3RK1 902-4PB15-3AA0**	1 unit
	• Cable length 1.5 m			
	• Also for addressing AS-i slaves with M12 bus connection (e.g. K20, K60R compact modules, M200D motor starters)			

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AS-Interface block library for PCS 7

Selection and ordering data



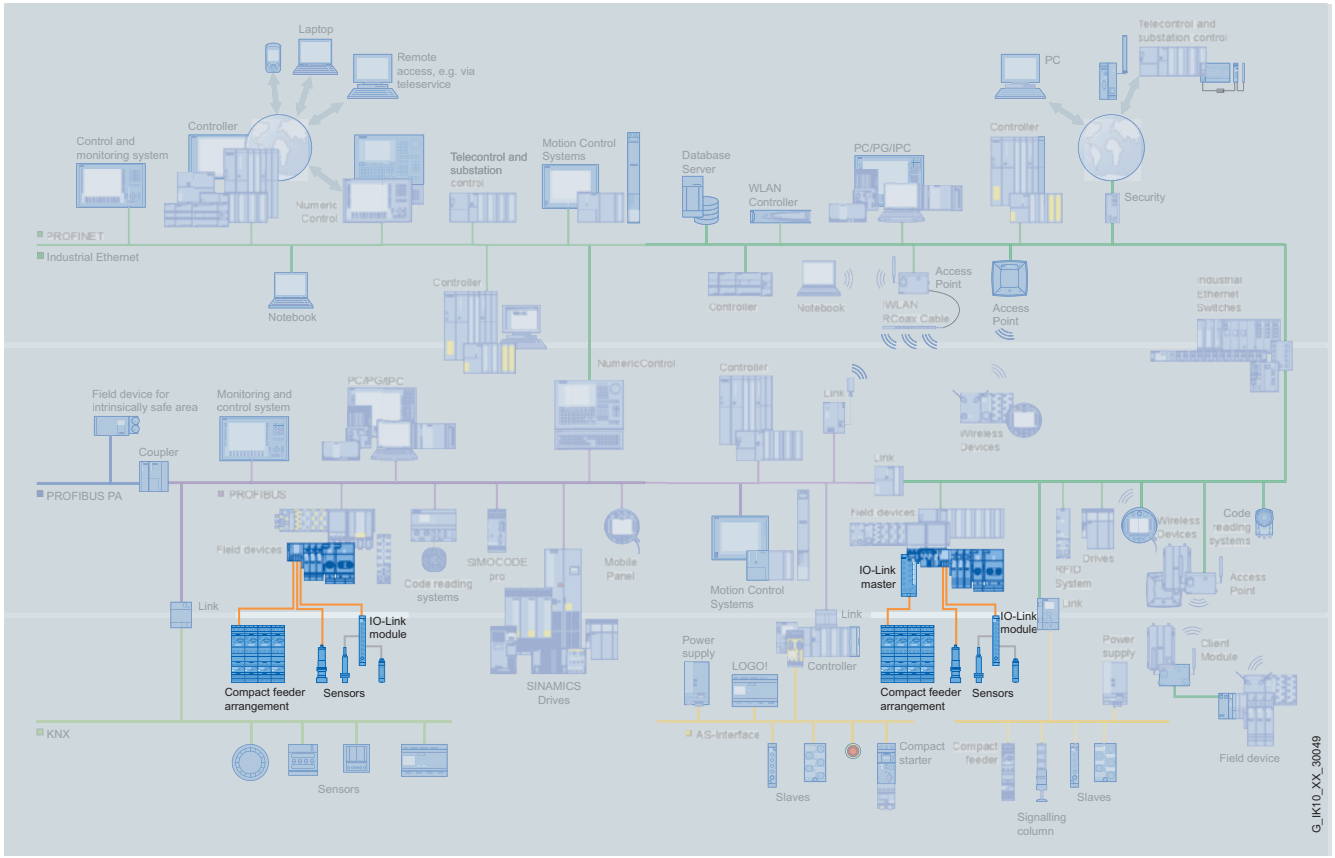
Version	DT	Order No.	PS*
AS-Interface block library for PCS 7 Engineering software for an engineering station (single license), contains: • Runtime software for execution of the AS module in an automation system (single license) • AS modules and faceplate for integrating AS-Interface into the PCS 7 process control system, for PCS 7 versions V6.1, V7.0 and V7.1 • Digital AS-i slaves supported on the AS-i CP 343-2 and CP 343-2P master • Digital and analog AS-i slaves supported on the DP/AS-i LINK Advanced • Operating language German/English selectable • Type of delivery: CD incl. electronic documentation		**3ZS1 635-1XX01-0YA0**	1 unit
Runtime license for AS-i PCS 7 library Runtime software for execution of the AS module in an automation system (single license), contains: • AS modules for integrating AS-Interface into the PCS 7 process control system versions V6.1, V7.0 and V7.1 • Type of delivery: license certificate (without software and documentation)		**3ZS1 635-2XX01-0YB0**	1 unit

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Illustrations are approximate

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Overview

IO-Link is a new 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. Extensive parameter and diagnostics data are transmitted in addition to the cyclic operating data for the connected sensor/actuators. The simple, unshielded three-wire cable customary for standard sensors is used for this purpose.



Compatibility of IO-Link

IO-Link guarantees compatibility between IO-Link-capable modules and standard modules as follows:

- IO-Link sensors can be operated as a rule on IO-Link modules (masters) as well as on standard I/O modules.
- IO-Link sensors/actuators as well as today's standard sensors/actuators can be used on IO-Link masters.
- If conventional components are used in the IO-Link system, then of course only the standard functions are available at this point.

Expansion through IO-Link I/O modules

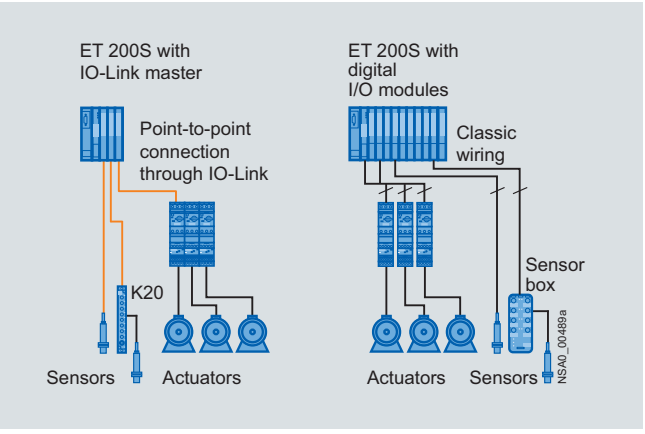
IO-Link compatibility also permits connection of standard sensors/actuators, i. e. conventional sensors/actuators can also be connected to IO-Link. This is done particularly economically with IO-Link I/O modules which enable several sensors/actuators to be connected to the control system simultaneously over one cable.

Analog signals

Another advantage of IO-Link technology is that analog signals are digitized already in the IO-Link sensor itself and are digitally transmitted by the IO-Link communication. As the result, faults are prevented and there is no extra cost for cable shielding.

Load Feeders and Motor Starters

Through IO-Link it is possible control not only sensors but also actuators in the form of load feeders and motor starters.



Possibilities for connecting load feeders and motor starters to IO-Link or in the conventional way

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Communication overview

Overview



IO-Link product family

IO-Link components

IO-Link is comprised of 2 components: IO-Link masters and IO-Link devices. They are available as listed below:

IO-Link masters



IO-Link 4SI electronic module

Masters

IO-Link master modules for ET 200S

- For 4SI IO-Link solid-state modules see IC 10 · 2011, page 2/76
- For 4SI SIRIUS solid-state modules see IC 10 · 2011, page 2/77

For IO-Link master modules for ET 200eco PN see IC 10 · 2011, page 2/78

IO-Link devices



IO-Link K20 modules with four inputs

I/O modules

IO-Link K20 modules

- For IO-Link I/O modules in general see page 2/27
- For IO-Link K20 modules see 2/28 or IC 10 · 2011, page 2/80



SIRIUS 3RA27 11 function module for IO-Link

Industrial Controls

Switching devices

Power contactors for switching motors

- SIRIUS 3RT2 contactors, 3-pole, up to 18.5 kW

See IC 10 · 2011, Chapter 3 "Controls - Contactors and Contactor Assemblies"

Contactor assemblies

- SIRIUS 3RA23 reversing contactor assemblies
- SIRIUS 3RA24 contactor assemblies for wye-delta starting

See IC 10 · 2011, Chapter 3 "Controls - Contactors and Contactor Assemblies"

SIRIUS 3RA27 function modules for IO-Link

- For direct-on-line starters
- For reversing starters
- For wye-delta starters

See IC 10 · 2011, Chapter 3 "Controls - Contactors and Contactor Assemblies"



SIRIUS 3RA64 direct-on-line starters

Motor starters for use in the control cabinet

SIRIUS 3RA6 compact starters

- 3RA64 direct-on-line starters
- 3RA65 reversing starters
- Infeed systems for 3RA6

See IC 10 · 2011, Chapter 6 "Load Feeders and Motor Starters for Use in the Control Cabinet"



overload relay SIRIUS 3RB24

Overload relays

3RB24 solid-state overload relays

- Evaluation modules
- Current measuring modules from 0.3 ... 630 A
- In conjunction with contactors for use as direct-on-line, reversing and wye-delta starters

Benefits

The IO-Link system offers decisive advantages for connecting complex (intelligent) sensors/actuators:

- Dynamic changing of sensor/actuator parameters directly by the PLC
- Consistent storage of parameters enables devices to be exchanged during operation, without a PC or programming device, through re-parameterization from the PLC
- Fast commissioning thanks to central data storage
- Consistent diagnostic information as far as the sensor/actuator level
- Uniform and greatly reduced wiring of different sensors/actuators/controls
- Integrated communication: Transmission of process data and service data between sensors/actuators and the control system
- Uniform and transparent configuring and programming through use of a parameterization tool integrated in SIMATIC STEP 7 (Port Configurator Tool, PCT)
- Transparent representation of all parameter and diagnostics data

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 diagnostic data to the control system
- Wiring-optimized replacement of sensor boxes for the connection of binary sensors through IO-Link I/O modules
- Wiring-optimized connection of controls to the control system

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. Central data storage means that it is possible to exchange an IO-Link sensor/actuator without a PC or programming device.

Integration in STEP 7

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

- Easy and quick engineering
- Consistent data storage
- Speedy locating and rectifying of faults

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	Order No.	Page
IO-Link: I/O modules		
 I/O modules **I/O modules** The technology of the IO-Link I/O modules expands IO-Link from a pure point-to-point wiring method in the direction of distributed structures. IO-Link I/O modules are used in particular where sensor boxes were used up to now for the connection of binary sensors. The use of sensor boxes with accordingly complex and error-prone wiring is therefore no longer necessary.	**3RK5**	2/28
IO-Link: Industrial Controls		
Starters and contactor assemblies for direct-on-line, reversing and wye-delta starting can be connected to IO-Link through function modules without any additional, complicated wiring.		
 3RT20 1.-1B...-0CC0 contactor **Contactors and Contactor Assemblies** Power contactors for switching motors and contactor assemblies • Notable reduction of wiring in the control circuit • Integrated mechanical interlocking • Prevention of wiring errors in the main circuit	**3RT2, 3RA23, 3RA24**	Ch. 3
 SIRIUS 3RA27 -11 function module for IO-Link SIRIUS function modules for IO-Link • Connection of the communication-capable 3RT2, 3RA23, 3RA24 power contactors 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 thanks to operation of feeders instead of individual contactors • Enhanced operational reliability and quick wiring thanks to spring-type connections • Can be flexibly combined with many automation solutions using the open, standardized IO-Link wiring system • Small number of variants by using identical modules for size S00 and S0 contactors Your advantage: shortening of mounting and start-up times	**3RA27 11**	Ch. 3
 SIRIUS 3RA64 direct-on-line starter **Motor starters for operation in the control cabinet** SIRIUS 3RA6 compact starters, 3RA64 direct-on-line starters, 3RA65 reversing starters • Degree of protection IP20 • Very compact load feeders with the integrated functionality of a solid-state overload relay • Up to 15 kW/400 V • Wide setting range • Practically weld-free contacts Your advantage: compact solution with minimum wiring outlay and many different diagnostics options	**3RA64, 3RA65**	Ch. 6
 overload relay SIRIUS 3RB24 **Overload relays** 3RB24 solid-state overload relays • Evaluation unit for full motor protection • For current measuring modules S00 … S12 • Current setting: 0.3 … 630 A • CLASS 5 … 30 • Tripping in the event of overload, phase failure, and phase unbalance • Comprehensive diagnostics • Degree of protection IP20 • Optional operator panel	**3RB24**	Ch. 5

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IO-Link K20 modules

Selection and ordering data

	Type	Pin assignment	Connection methods	DT	Order No.	PS*
	IO-Link K20 modules					
 3RK5 010-0BA10-0AA0	• 4 inputs	Y	M12		**3RK5 010-0BA10-0AA0**	1 unit
 3RK5 010-0CA00-0AA0	• 8 inputs	Standard	M8		**3RK5 010-0CA00-0AA0**	1 unit

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

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Controls – Contactors and Contactor Assemblies

3



3/2 **Introduction**

Power Contactors for Switching Motors

3/6 General data

3/10 SIRIUS 3RT20 contactors, 3-pole, 3 ... 18.5 kW new

3/15 SIRIUS 3RT10 contactors, 3-pole, 15 ... 250 kW

3/20 SIRIUS 3RT12 vacuum contactors, 3-pole, 110 ... 250 kW

3/21 3TF6 vacuum contactors, 3-pole, 335 ... 450 kW

Contactor Assemblies

3RA23, 3RA13, 3RA24, 3RA14 Contactor Assemblies

3/22 SIRIUS 3RA23 reversing contactor assemblies new

3/27 SIRIUS 3RA13 reversing contactor assemblies

3/30 SIRIUS 3RA24 contactor assemblies for wye-delta starting new

3/35 SIRIUS 3RA14 contactor assemblies for wye-delta starting

Contactors for Special Applications

3/39 SIRIUS 3RT14 contactors for resistive loads (AC-1), 3-pole, 140 ... 690 A

3/40 SIRIUS 3RT23 contactors for resistive loads (AC-1), 4-pole, 4 NO, 18 ... 50 A new

3/41 SIRIUS 3RT13 contactors for resistive loads (AC-1), 4-pole, 4 NO, 60 ... 140 A

3/43 SIRIUS 3RT25 contactors, 4-pole, 2 NO + 2 NC, 4 ... 11 kW new

3/43 SIRIUS 3RT15 contactors, 4-pole, 2 NO + 2 NC, 18.5 kW

3/44 SIRIUS 3RT16 capacitor contactors, 12.5 ... 50 kvar

Contactor Relays

3/45 SIRIUS 3RH2 contactor relays, 4- and 8-pole new

3/48 SIRIUS 3RH24 latched contactor relays, 4-pole new

3/49 SIRIUS 3RH21 coupling relays for switching auxiliary circuits, 4-pole new

Coupling Contactors

3/50 SIRIUS 3RT20 coupling contactors (interface), 3-pole, 3 ... 15 kW new

Coupling Relays

3TX7 Coupling Contactors, Narrow Design

3/52 Relay couplers

3/54 Relay couplers with plug-in connection

3/55 Semiconductor couplers

SIRIUS 3RS18 Coupling Contactors with Industrial Housing

3/56 Relay couplers

Coupling Relays with LZS/LZX Plug-in Relays

3/57 Plug-in relay couplers

Power Relays/Miniature Contactors

3/60 3TG10 contactors, 4-pole, 4 kW

Function Modules for Mounting onto SIRIUS 3RT2 Contactors new

3/61 Introduction

3/62 SIRIUS function modules

3/64 SIRIUS function modules for IO-Link

IC 10 SIRIUS function modules for AS-Interface

Accessories and Spare Parts

For 3RT2, 3RH2 Contactors and Contactor Relays new

3/68 Accessories for 3RT2, 3RH2 contactors and contactor relays

3/80 Spare parts for 3RT2 contactors

For 3RT1, 3RH1 Contactors and Contactor Relays

3/81 Accessories for 3RT1, 3RH1 contactors and contactor relays

For 3T Contactors and Contactor Relays

3/90 Accessories for 3TF6 contactors

More technical information

can be found at
www.siemens.com/industrial-controls/support
under Product List:
- Technical specifications

under Entry List:
- Updates
- Downloads
- FAQ
- Manuals
- Characteristic curves
- Certificates

and at
www.siemens.de/industrial-controls/configurators
- Configurators

Note:

The 3RT1, 3RA1 and 3RH1 devices (sizes S00/S0 to S12) can be found

- *in Catalog Add-On LV 1 AO · 2011 on the CD-ROM or in the Information and Download Center*
- *in the interactive catalog CA 01*
- *in the Industry Mall*

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Introduction

Overview





Size			S00				S0					
Type			3RT20 1				3RT20 2					
3RT20 contactors												
Type			**3RT20 15**	**3RT20 16**	**3RT20 17**	**3RT20 18**	**3RT20 23**	**3RT20 24**	**3RT20 25**	**3RT20 26**	**3RT20 27**	**3RT20 28**
AC, DC operation			(p. 3/11, 3/13)				(p. 3/12, 3/14)					
Type			--				--					
AC-3												
I_e/AC-3/400 V		A	7	9	12	16	9	12	16	25	32	38
400 V		**kW**	**3**	**4**	**5.5**	**7.5**	**4**	**5.5**	**7.5**	**11**	**15**	**18.5**
230 V		kW	2.2	3	3	4	3	3	4	5.5	7.5	7.5
500 V		kW	3.5	4.5	5.5	7.5	4.5	7.5	10	11	18.5	18.5
690 V		kW	4	5.5	5.5	7.5	5.5	7.5	11	11	18.5	18.5
1000 V		kW	--	--	--	--	--	--	--	--	--	--
AC-4 (for $I_a = 6 \times I_e$)												
400 V		**kW**	**3**	**4**	**4**	**5.5**	**4**	**5.5**	**7.5**	**7.5**	**11**	**11**
400 V (200 000 operating cycles)		kW	1.15	2	2	2.5	2	2.6	3.5	4.4	6	6
AC-1 (40 °C, ≤ 690 V)												
I_e	3RT20	**A**	**18**	**22**	**22**	**22**	**40**	**40**	**40**	**50**	**50**	**50**
Accessories for contactors												
Auxiliary switch blocks	On front		**3RH29 11**		(p. 3/68)		**3RH29 11**		(p. 3/68)			
	Lateral		**3RH29 11**		(p. 3/71)		**3RH29 21**		(p. 3/71)			
Timing relay blocks			**3RA28 1.**		(p. 3/61, 3/63)		**3RA28 1.**		(p. 3/61, 3/63)			
Function modules			**3RA27 1.-. AA00**		(p. 3/61, 3/66)		**3RA27 1.-. AA00**		(p. 3/61, 3/66)			
Surge suppressors			**3RT29 16**		(p. 3/75)		**3RT29 26**		(p. 3/75)			
3RU2 and 3RB3 overload relays (Protection Equipment --> Overload Relays)												
3RU21, thermal, CLASS 10			**3RU21 16**	0.11 ... 16 A	(Chap. 5)		**3RU21 26**	1.8 ... 40 A	(Chap. 5)			
3RB30/31, solid-state, CLASS 5, 10, 20 and 30			**3RB30 16** **3RB31 13**	0.1 ... 16 A	(Chap. 5)		**3RB30 26** **3RB31 23**	0.1 ... 40 A	(Chap. 5)			
3RV20 motor starter protectors (Protection Equipment --> Motor Starter Protectors)												
Type			**3RV20 11**	0.11 ... 16 A	(Chap. 5)		**3RV20 21**	11 ... 40 A	(Chap. 5)			
Link modules			**3RA29 11**		(Chap. 5)		**3RA29 21**		(Chap. 5)			
3RA23 reversing contactor assemblies												
Complete units		Type	**3RA23 15**	**3RA23 16**	**3RA23 17**	**3RA23 18**	--	**3RA23 24**	**3RA23 25**	**3RA23 26**	**3RA23 27**	**3RA23 28**
			(p. 3/23)					(p. 3/25)				
400 V		**kW**	**3**	**4**	**5.5**	**7.5**		**5.5**	**7.5**	**11**	**15**	**18.5**
Assembly kits/wiring modules			**3RA29 13-2AA.**		(p. 3/26)		--	**3RA29 23-2AA.**		(p. 3/26)		
Function modules			**3RA27 1.-. BA00**		(p. 3/61)		--	**3RA27 1.-. BA0**		(p. 3/61)		
3RA24 contactor assemblies for wye-delta starting												
Complete units		Type	**3RA24 15**	**3RA24 16**	**3RA24 17**		**3RA24 23**		**3RA24 25**	**3RA24 26**		
			(p. 3/31)				(p. 3/33)					
400 V		**kW**	**5.5**	**7.5**	**11**		**11**		**15/18.5**	**22**		
Assembly kits/wiring modules			**3RA29 13-2BB.**		(p. 3/34)		**3RA29 23-2BB.**		(p. 3/34)			
Function modules			**3RA27 1.-. CA00**		(p. 3/61)		**3RA27 1.-. CA00**		(p. 3/61)			

Note:

For safety characteristics for contactors, see Catalog IC 10 · 2011 on the attached CD-ROM: "Appendix" --> "Standards and approvals" --> "Overview"

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Size			**S2**			**S3**			**S6**		
Type			3RT10 3			3RT1. 4			3RT1. 5		
3RT10 contactors												
Type			**3RT10 34**	**3RT10 35**	**3RT10 36**	**3RT10 44**	**3RT10 45**	**3RT10 46**	**3RT10 54**	**3RT10 55**	**3RT10 56**
AC, DC operation			(p. 3/15, 3/16)			(p. 3/15, 3/16)			(p. 3/17)		
Type			--			--			--		
AC-3											
I_e/AC-3/400 V		A	32	40	50	65	80	95	115	150	185
400 V		**kW**	**15**	**18.5**	**22**	**30**	**37**	**45**	**55**	**75**	**90**
230 V		kW	7.5	11	15	18.5	22	22	37	45	55
500 V		kW	18.5	22	30	37	45	55	75	90	110
690 V	3RT10/12	kW	18.5	22	22	45	55	55	110	132	160
1000 V	3RT10/12	kW	--	--	--	30	37	37	75	90	90
AC-4 (for I_a = 6 x I_e)											
400 V		**kW**	**15**	**18.5**	**22**	**30**	**37**	**45**	**55**	**75**	**90**
400 V (200 000 operating cycles)	3RT10/12	kW	8.2	9.5	12.6	15.1	17.9	22	29	38	45
AC-1 (40 °C, ≤ 690 V)											
I_e	3RT10/12	**A**	**50**	**60**	**60**	**100**	**120**	**120**	**160**	**185**	**215**
3RT14 AC-1 contactors											
Type			--			**3RT14 46**		(p. 3/39)	**3RT14 56**		(p. 3/39)
I_e/AC-1/40 °C/≤ 690 V		**A**	--			**140**			**275**		
Accessories for contactors											
Auxiliary switch blocks	On front		**3RH19 21**		(p. 3/81)						
	Lateral		**3RH19 21**		(p. 3/83)						
Terminal covers			**3RT19 36-4EA2**		(p. 3/88)	**3RT19 46-4EA1/2**		(p. 3/88)	**3RT19 56-4EA1/2/3**		(p. 3/88)
Box terminal blocks			--			--			**3RT19 55/56-4G**		(p. 3/88)
Surge suppressors			**3RT19 26/36**		(p. 3/86)				**3RT19 56-1C** (RC element)		(p. 3/86)
3RU1 and 3RB2 overload relays (Protection Equipment --> Overload Relays)											
3RU11, thermal, CLASS 10			**3RU11 36**	5.5 ... 50 A	(Chap. 5)	**3RU11 46**	18 ... 100 A	(Chap. 5)	--		
3RB20/21, solid-state, CLASS 5, 10, 20 and 30			**3RB20 36** **3RB21 36**	6 ... 50 A	(Chap. 5)	**3RB20 46** **3RB21 46**	12.5 ... 100 A	(Chap. 5)	**3RB20 56** **3RB21 56**	50 ... 200 A	(Chap. 5)
3RB22/23, solid-state, CLASS 5, 10, 20 and 30			**3RB2. 83 + 3RB29 06**	10 ... 100 A	(Chap. 5)				**3RB2. 83 + 3RB29 56**	20 ... 200 A	(Chap. 5)
3RV10 motor starter protectors (Protection Equipment --> Motor Starter Protectors)											
Type			**3RV10 31**	22 ... 50 A	(Chap. 5)	**3RV10 41**	45 ... 100 A	(Chap. 5)	--		
Link modules			**3RA19 31**		(Chap. 5)	**3RA19 41**		(Chap. 5)	--		
3RA13 reversing contactor assemblies											
Complete units	Type		**3RA13 34** (p. 3/27)	**3RA13 35**	**3RA13 36**	**3RA13 44** (p. 3/28)	**3RA13 45**	**3RA13 46**	--		
400 V		**kW**	**15**	**18.5**	**22**	**30**	**37**	**45**	**55**	**75**	**90**
Assembly kits/wiring modules			**3RA19 33-2A**		(p. 3/29)	**3RA19 43-2A**		(p. 3/29)	**3RA19 53-2A**		(p. 3/29)
Mechanical interlocks			**3RA19 24-1A/-2B**		(p. 3/29)				**3RA19 54-2A**		(p. 3/29)
3RA14 contactor assemblies for wye-delta starting											
Complete units	Type		**3RA14 34** (p. 3/35)	**3RA14 35** (p. 3/36)	**3RA14 36**	**3RA14 44** (p. 3/37)	**3RA14 45**		--		
400 V		**kW**	**22/30**	**37**	**45**	**55**	**75**		--		
Assembly kits/wiring modules			**3RA19 33-2B/-2C**		(p. 3/38)	**3RA19 43-2B/-2C**		(p. 3/38)	**3RA19 53-2B**		(p. 3/38)

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Introduction







Size			**S10**			**S12**		**14**	
Type			3RT1. 6			3RT1. 7		3TF6	
3RT10 contactors • 3RT12 and 3TF68/69 vacuum contactors									
Type AC, DC operation			**3RT10 64** (p. 3/17)	**3RT10 65**	**3RT10 66**	**3RT10 75** (p. 3/17)	**3RT10 76**	**--**	
Type			**3RT12 64** (p. 3/20)	**3RT12 65**	**3RT12 66**	**3RT12 75** (p. 3/20)	**3RT12 76**	**3TF68** (p. 3/21)	**3TF69**
AC-3									
I_e/AC-3/400 V		A	225	265	300	400	500	630	820
400 V		**kW**	**110**	**132**	**160**	**200**	**250**	**335**	**450**
230 V		kW	55	75	90	132	160	200	260
500 V		kW	160	160	200	250	355	434	600
690 V	3RT10/12	kW	200	250	250	400	400/500	600	800
1000 V	3RT10/12	kW	90/315	132/355	132/400	250/560	250/710	600	800
AC-4 (for I_a = 6 x I_e)									
400 V		**kW**	**110**	**132**	**160**	**200**	**250**	**355**	**400**
400 V (200 000 operating cycles)	3RT10/12	kW	54/78	66/93	71/112	84/140	98/161	168	191
AC-1 (40 °C, ≤ 690 V)									
I_e	3RT10/12	**A**	**275/330**	**330**	**330**	**430/610**	**610**	**700**	**910**
3RT14 AC-1 contactors									
Type			**3RT14 66**		(p. 3/39)	**3RT14 76**	(p. 3/39)	**--**	
I_e/AC-1/40 °C/≤ 690 V		**A**	**400**			**690**		**--**	
Accessories for contactors									
Auxiliary switch blocks	On front		**3RH19 21**		(p. 3/81)			**--**	
	Lateral		**3RH19 21**		(p. 3/83)			**3TY7 561**	(p. 3/83)
Terminal covers			**3RT19 66-4EA1/2/3**		(p. 3/88)			**3TX7 686/696**	(p. 3/90)
Box terminal blocks			**3RT19 66-4G**		(p. 3/88)			**--**	
Surge suppressors			**3RT19 56-1C** (RC element)		(p. 3/86)			**3TX7 572**	(p. 3/90)
3RU1 and 3RB2 overload relays (Protection Equipment --> Overload Relays)									
3RU11, thermal, CLASS 10			**--**			**--**		**--**	
3RB20/21, solid-state, CLASS 5, 10, 20 and 30			**3RB20 66** **3RB21 66**	55 ... 630 A	(Chap. 5)	**3RB20 66** **3RB21 66**	160 ... 630 A (Chap. 5)	**3RB20 66** **3RB21 66**	160 ... 630 A (Chap. 5)
3RB22/23, solid-state, CLASS 5, 10, 20 and 30			**3RB2. 83 + 3RB29 66**	63 ... 630 A	(Chap. 5)				
3RV10 motor starter protectors (Protection Equipment --> Motor Starter Protectors)									
Type			**--**			**--**		**--**	
Link modules			**--**			**--**		**--**	
3RA13 reversing contactor assemblies									
Complete units		Type	**--**			**--**		**3TD68 04**	
400 V		**kW**	**110**	**132**	**160**	**200**	**250**	**335**	
Assembly kits/wiring modules			**3RA19 63-2A**		(p. 3/29)	**3RA19 73-2A**	(p. 3/29)	**3TX7 680-1A**	
Mechanical interlocks			**3RA19 54-2A**		(p. 3/29)			**3TX7 686-1A**	
3RA14 contactor assemblies for wye-delta starting									
Complete units		Type	**--**			**--**		**3TE68 04**	
400 V		**kW**	**--**			**--**		**630**	
Assembly kits/wiring modules			**3RA19 63-2B**		(p. 3/38)	**3RA19 73-2B**	(p. 3/38)	**3TX7 680-1B**	

Note:

For safety characteristics for contactors, see Catalog IC 10 · 2011 on the attached CD-ROM: "Appendix" --> "Standards and approvals" --> "Overview"

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3TX7



3RS18



LZS/LZX



3TG10

		Order No.	Page
Coupling links, narrow design			
Relay couplers	• Width 6.2 mm (1 NO, 1 CO), 12.5 mm and 17.5 mm • Output coupling links • Input coupling links with hard gold-plating	3TX7 002, 3TX7 003, 3TX7 004, 3TX7 005	3/52
Plug-in base couplers, complete with relay	• Width 6.2 mm (1 NO, 1 CO) • Relays, replaceable	3TX7 014-1..00	3/54
Plug-in base couplers, complete with relay and hard gold-plating	• Width 6.2 mm (1 CO)	3TX7 014-1..02	3/54
Semiconductor couplers	• Output 1 semiconductor, triac or transistor	3TX7 002, 3TX7 004, 3TX7 005	3/55
Coupling relays in industrial housing			
Relay couplers	• Protective separation up to 300 V between contacts and relay circuits • 1, 2 and 3 changeover contacts • Hard gold-plated contacts in combination and wide voltage range versions	3RS18	3/56
Coupling relays with plug-in relays			
Plug-in relay couplers with 2, 3 and 4 changeover contacts	• Switching capacity 12 A/10 A/6 A • Width 27 mm • Base optionally with or without logical isolation	LZS/LZX:PT	3/57
Plug-in relay couplers with 3 changeover contacts and circular base	• Switching capacity 6 A • 11-pole circular base • Width 38 mm	LZS/LZX:MT	3/57
Plug-in relay couplers with 1 or 2 changeover contacts	• Switching capacity 16 A/8 A • Width 15.5 mm • Base optionally with or without logical isolation	LZS/LZX:RT	3/59
Miniature contactors (power relays)			
With screw and flat connectors		3TG10	3/60

Connection methods

The contactors and relays are available with screw terminals (box terminals or flat connectors) or with spring-type terminals. Some device types are also available with plug-type connectors.

- Screw terminals
- Spring-type terminals
- Flat connectors
- Plug-in terminals
- Solder pin connections

The terminals are indicated in the corresponding tables by the symbols shown on orange backgrounds.

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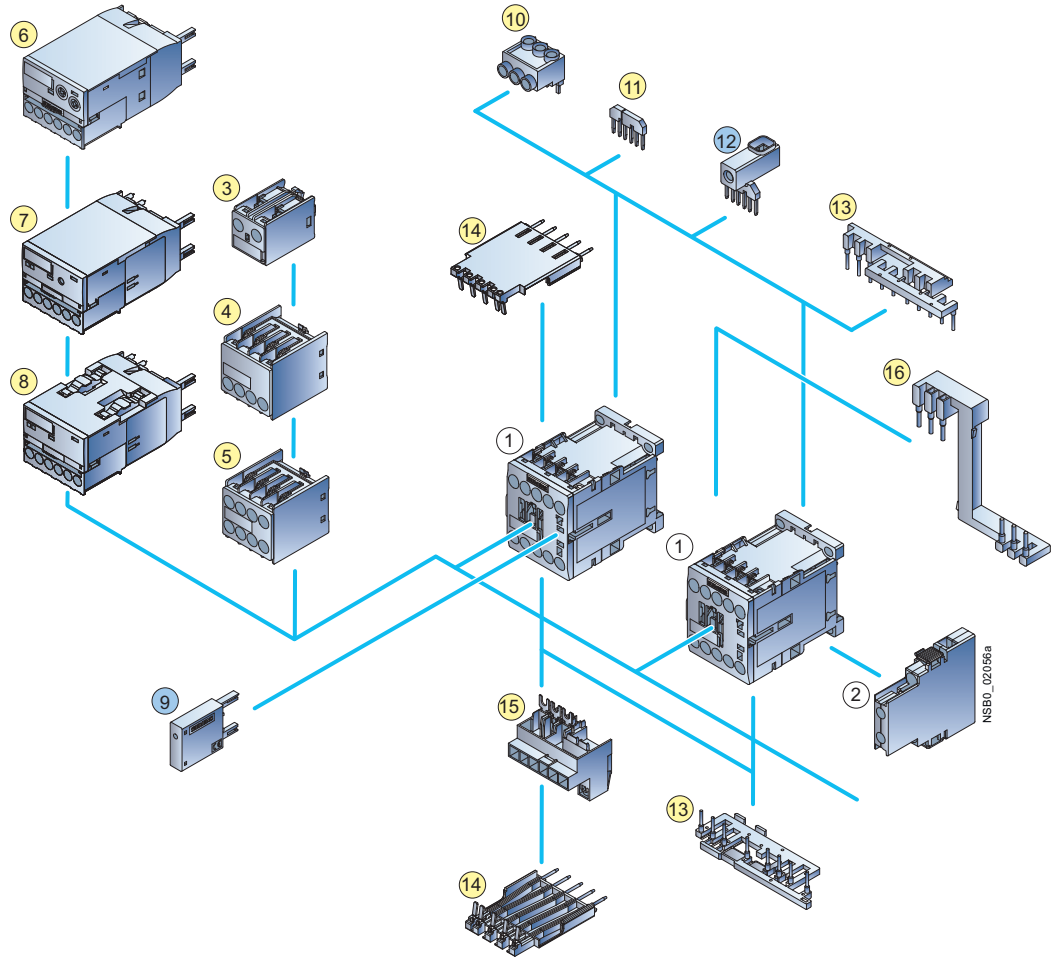
General data

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 contactors and coupling relays
Size S00 with mountable accessories



(1) Contactor size S00

(2) 1-pole auxiliary switch block, laterally mountable
(3) 1-pole auxiliary switch block, for snapping onto the front Cable entry from the top
(4) 2-pole auxiliary switch block, for snapping onto the front Cable entry from the bottom
(5) 4-pole auxiliary switch block, for snapping onto the front
(6) 3RA28 function module
(7) 3RA27 function module for AS-Interface, direct starting
(8) 3RA27 function module for IO-Link, direct starting
(9) Surge suppressor with/without LED
(10) Three-phase feeder terminal
(11) Star jumper, 3-pole, without connecting terminal
(12) Link for paralleling, 3-pole, with connecting terminal
(13) Wiring modules, on the top and bottom (reversing duty)
(14) Solder pin adapter
(15) Connection module (adapter and connector) for contactors with screw-type connection
(16) Safety main current connector for two contactors

For contactors
For contactors and coupling contactors (interface)

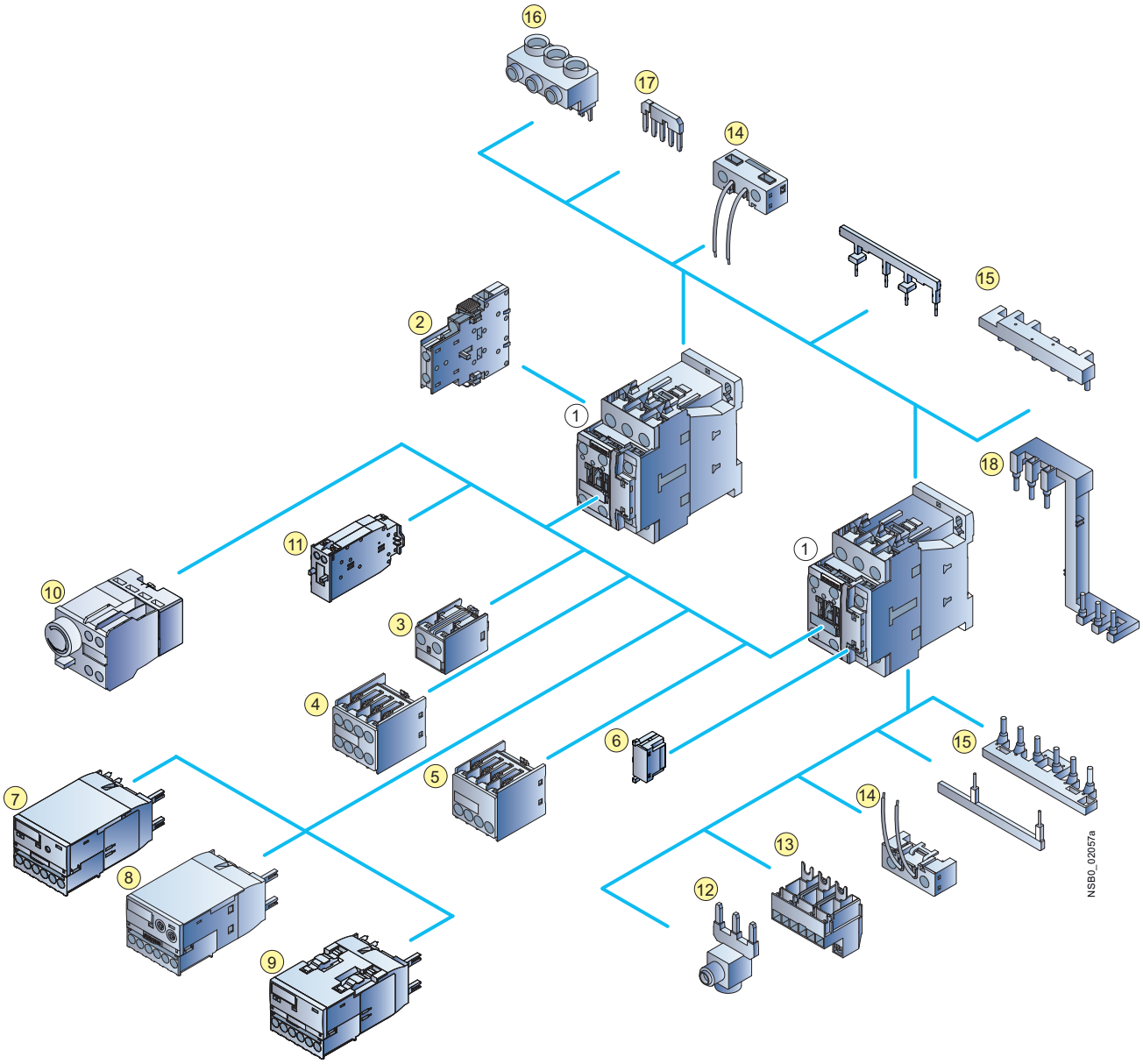
For accessories see pages 3/68 to 3/79.

For contactor assemblies see pages 3/23 to 3/25.
For assembly kit for reversing contactor assemblies (mech. interlocking, wiring modules) see page 3/26.

For mountable overload relays see Chapter 5 "Protection Equipment --> Overload Relays".
For fuseless load feeders, see Chapter 6 "Load Feeders and Motor Starters" --> "3RA Fuseless Load Feeders".

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3RT2 contactors and coupling relays
Size S0 with mountable accessories



① Contactor size S0

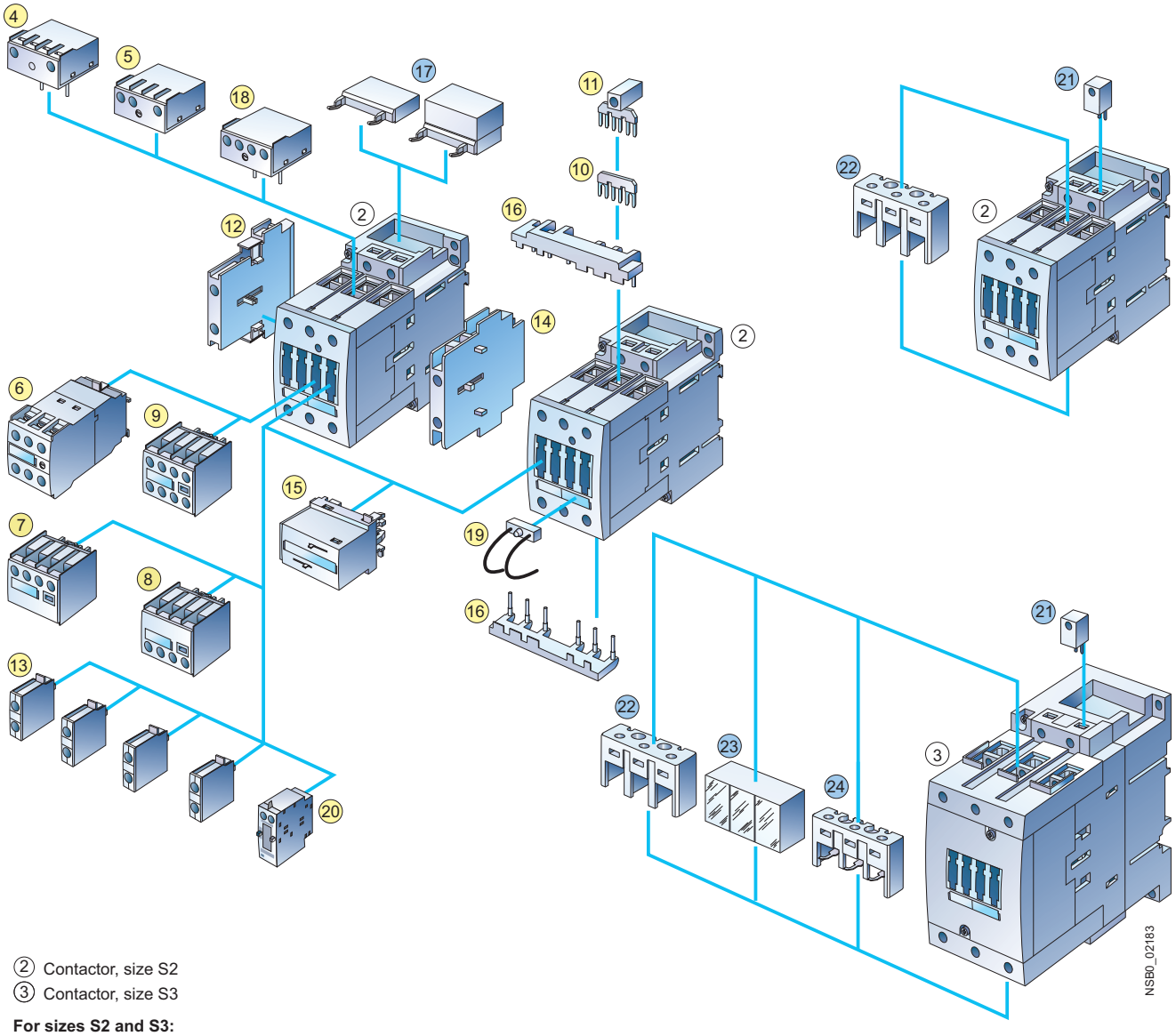
② 1-pole auxiliary switch block, laterally mountable
③ 1-pole auxiliary switch block, for snapping onto the front Cable entry from the top
④ 4-pole auxiliary switch block, for snapping onto the front
⑤ 2-pole auxiliary switch block, for snapping onto the front Cable entry from the bottom
⑥ Surge suppressor with/without LED
⑦ 3RA27 function module for AS-Interface, direct starting
⑧ 3RA28 function module
⑨ 3RA27 function module for IO-Link, direct starting
⑩ Pneumatic delay block
⑪ Mechanical latching block
⑫ Link for paralleling, 3-pole, with connecting terminal
⑬ Connection module (adapter and plug) for contactors with screw-type connection
⑭ Coil terminal module, on the top and bottom
⑮ Wiring modules, on the top and bottom (reversing duty)
⑯ Three-phase feeder terminal
⑰ Link for paralleling (star jumper), 3-pole, without connecting terminal
⑱ Safety main current connector for two contactors

For accessories see pages 3/68 to 3/79.

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General data

3RT1 contactors
Sizes S2 and S3 with mountable accessories



② Contactor, size S2
③ Contactor, size S3

For sizes S2 and S3:

④ Solid-state time-delay block, ON-delay
⑤ Solid-state time-delay block, OFF-delay
⑥ Auxiliary switch block, solid-state time-delay (ON or OFF-delay or wye-delta function)
⑦ 2-pole auxiliary switch block, cable entry from above
⑧ 2-pole auxiliary switch block, cable entry from below
⑨ 4-pole auxiliary switch block (terminal designations according to EN 50012 or EN 50005)
⑩ Link for paralleling (star jumper), 3-pole, without connecting terminal
⑪ Link for paralleling, 3-pole, with connecting terminal
⑫ 2-pole auxiliary switch block, laterally mountable left or right (terminal designations according to EN 50012 or EN 50005)
⑬ Single-pole auxiliary switch block (up to 4 can be snapped on)
⑭ Mechanical interlock, laterally mountable
⑮ Mechanical interlock, mountable to the front
⑯ Wiring connectors on the top and bottom (reversing duty)
⑰ Surge suppressor (varistor, RC element, diode assembly), can be mounted on the top or bottom
⑱ Mechanical latching interface for mounting directly onto contactor coil
⑲ LED module for indicating contactor operation

Only for size S2:

⑳ Mechanical latching

Only for sizes S2 and S3:

㉑ Coil repeat terminal for making contactor assemblies
㉒ Terminal cover for box terminal

Only for size S3:

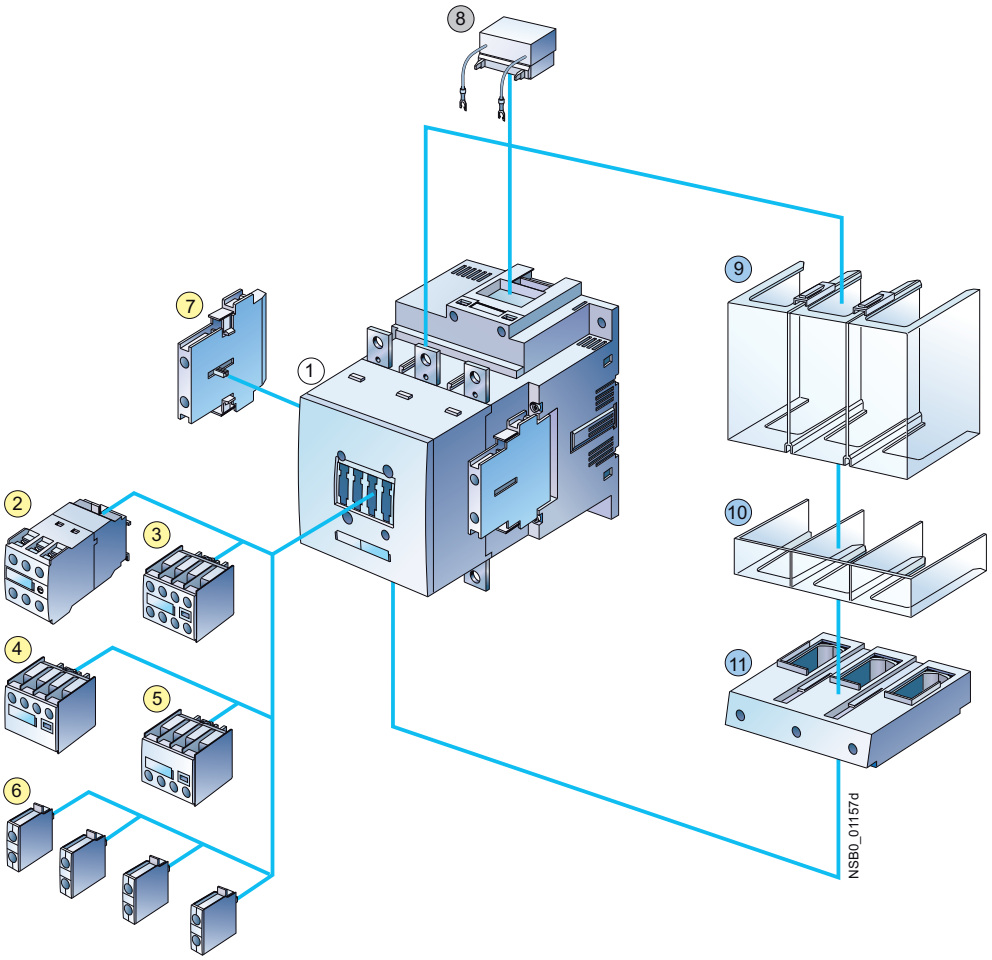
㉓ Terminal cover for cable lug and bar connection
㉔ Auxiliary conductor terminal, 3-pole

Accessories identical for sizes S2 and S3
Accessories differ according to size

For accessories see pages 3/81 to 3/89.

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3RT1 contactors
Sizes S6 to S12 with mountable accessories
(illustration for basic unit)



(1) 3RT10 and 3RT14 air-break contactors, sizes S6, S10 and S12

(2) Auxiliary switch block, solid-state time-delay (ON or OFF-delay or wye-delta function)
(3) 4-pole auxiliary switch block (terminal designations according to EN 50012 or EN 50005)
(4) 2-pole auxiliary switch block, cable entry from above
(5) 2-pole auxiliary switch block, cable entry from below
(6) Single-pole auxiliary switch block (up to 4 can be snapped on)
(7) 2-pole auxiliary switch block, laterally mountable left or right (terminal designations according to EN 50012 or EN 50005) (identical for S0 to S12)
(8) Surge suppressor (RC element) for plugging into top of withdrawable coil

(9) Terminal cover for cable lug and busbar connection, different for sizes S6 and S10/S12
(10) Terminal cover for box terminal, different for sizes S6 and S10/S12
(11) Box terminal block, different for sizes S6 and S10/S12

Accessories identical for sizes S0 to S12
Accessories identical for sizes S6 to S12
Accessories differ according to size

For accessories see pages 3/81 to 3/89.

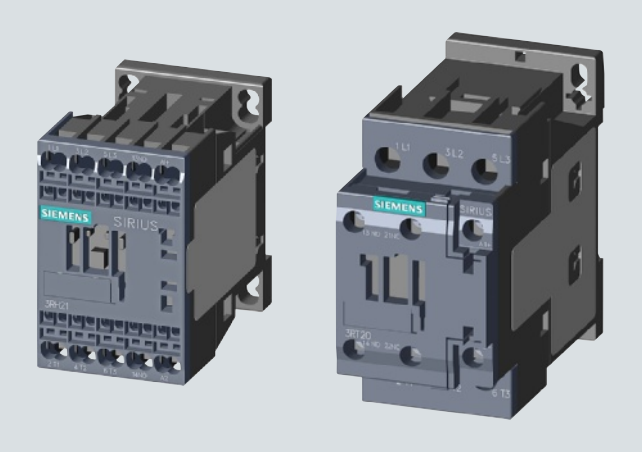
For mountable overload relays see Chapter 5 "Protection Equipment --> Overload Relays".

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SIRIUS 3RT20 contactors, 3-pole, 3 ... 18.5 kW

Overview

Sizes S00 and S0, up to 18.5 kW



Contactor size S00 with spring-type terminals and contactor size S0 with screw terminals

Standards

IEC 60947-1, EN 60947-1,
IEC 60947-4-1, EN 60947-4-1,
IEC 60947-5-1, EN 60947-5-1 (auxiliary switches)

The 3RT2 contactors are climate-proof and are suitable and tested for use worldwide.

If the devices are used in ambient conditions which deviate from common industrial conditions (EN 60721-3-3 "Stationary Use, Weather-Protected"), information must be obtained about possible restrictions with regard to the reliability and endurance of the device and possible protective measures. In this case contact our Technical Assistance.

3RT2 contactors are finger-safe according to EN 50274. The devices with ring terminal lug connection comply with degree of protection IP20 when fitted with the related terminal cover.

Auxiliary contact complement

Size S00 contactors have an auxiliary contact integrated in the basic unit. The basic units size S0 contain two integrated auxiliary contacts (1 NO + 1 NC).

All basic units (except coupling contactors) can be extended with auxiliary switch blocks. For size S0 and higher, complete units with 2 NO + 2 NC are available (terminal designation according to EN 50012); the auxiliary switch block can be removed.

- Additional auxiliary switches with a maximum of four auxiliary contacts can be mounted. The combination of a 2-pole auxiliary switch for mounting on the front and an auxiliary switch for mounting on the side is not permitted.
- Of the maximum number of auxiliary contacts (integrated plus mountable) possible on the device, no more than four NC contacts are permitted for both sizes.

In addition, complete units with permanently mounted auxiliary switch block (2 NO + 2 NC according to EN 50012) are offered for sizes S00 and S0.

Contact reliability

If voltages ≤ 110 V and currents ≤ 100 mA are to be switched, the auxiliary contacts of the 3RT2 contactor or 3RH21 contactor relay should be used as they guarantee a high level of contact reliability.

These auxiliary contacts are suitable for solid-state circuits with currents ≥ 1 mA at a voltage ≥ 17 V.

Connection methods

The 3RT2 contactors are available with screw terminals, spring-type terminals or ring terminal lug connections.

Short-circuit protection of the contactors

For short-circuit protection of the contactors without overload relay see "Technical specifications" (see Catalog IC 10, Chapter 3). For short-circuit protection of the contactors with overload relay see Catalog IC 10, Chapter 5 "Overload Relays".

To assemble fuseless motor feeders you must select combinations of motor starter protector and contactor as explained in "3RA2 Load Feeders" (see Catalog IC 10).

Motor protection

3RU21 thermal overload relays or 3RB30 solid-state overload relays can be fitted to the 3RT2 contactors for protection against overload. The overload relays must be ordered separately (see Chapter 5, "Overload Relays").

Ratings of induction motors

The quoted rating (in kW) refers to the output power on the motor shaft (according to the nameplate).

Control supply voltage

All contactors are available with AC or DC operation. Available in addition on the contactors size S0 is a UC operating mechanism which can be operated with AC (45 to 70 Hz) as well as with DC.

Surge suppression

3RT2 contactors can be retrofitted with RC elements, varistors, suppressor diodes or diode assemblies (assembly of diode and Zener diode for short break times) for damping opening surges in the coil.

The surge suppressors are plugged onto the front of size S00 contactors. Space is provided for them next to a snap-on auxiliary switch block.

The surge suppressors can be plugged onto the front of size S0 contactors.

Note:

The OFF-delay of the NO contact and the ON-delay of the NC contact are increased if the contactor coils are attenuated against voltage peaks (noise suppression diode 6 to 10 times; diode assembly 2 to 6 times, varistor and suppressor diode +2 to 5 ms).

S00 and S0 contactors with communication interface

The S00 and S0 contactors with communication interface are essential for mounting the SIRIUS function modules for connection to the control system through IO-Link or AS-Interface (see page 3/61 and 3/64).

Further information on the IO-Link and AS-Interface bus systems can be found in Chapter 2 "Industrial Communication".

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Selection and ordering data

AC operation



3RT20 1.-1A...



3RT20 1.-2A...

Rated data for utilization category			Auxiliary contacts			Rated control supply voltage U_s at 50/60 Hz	DT	Screw terminals	PS*	DT	Spring-type terminals	PS*
AC-2 and AC-3, T_u: up to 60 °C		AC-1, T_u: 40 °C	Ident. No.	Version				Order No.			Order No.	
Operational current I_e up to 400 V	Rating of induction motors at 50 Hz and **400 V**	Operational current I_e up to 690 V		NO	NC							
A	**kW**	A		NO	NC	V AC						
For screw and snap-on mounting onto TH 35 standard mounting rail												
Size S00 [1][2]												
7	**3**	18	**10**	1	--	24	▶	**3RT20 15-1AB01**	1 unit ▶		**3RT20 15-2AB01**	1 unit
						110	▶	**3RT20 15-1AF01**	1 unit ▶		**3RT20 15-2AF01**	1 unit
						230	▶	**3RT20 15-1AP01**	1 unit ▶		**3RT20 15-2AP01**	1 unit
			01	--	1	24	▶	**3RT20 15-1AB02**	1 unit ▶		**3RT20 15-2AB02**	1 unit
						110	▶	**3RT20 15-1AF02**	1 unit ▶		**3RT20 15-2AF02**	1 unit
						230	▶	**3RT20 15-1AP02**	1 unit ▶		**3RT20 15-2AP02**	1 unit
9	**4**	22	**10**	1	--	24	▶	**3RT20 16-1AB01**	1 unit ▶		**3RT20 16-2AB01**	1 unit
						110	▶	**3RT20 16-1AF01**	1 unit ▶		**3RT20 16-2AF01**	1 unit
						230	▶	**3RT20 16-1AP01**	1 unit ▶		**3RT20 16-2AP01**	1 unit
			01	--	1	24	▶	**3RT20 16-1AB02**	1 unit ▶		**3RT20 16-2AB02**	1 unit
						110	▶	**3RT20 16-1AF02**	1 unit ▶		**3RT20 16-2AF02**	1 unit
						230	▶	**3RT20 16-1AP02**	1 unit ▶		**3RT20 16-2AP02**	1 unit
12	**5.5**	22	**10**	1	--	24	▶	**3RT20 17-1AB01**	1 unit ▶		**3RT20 17-2AB01**	1 unit
						110	▶	**3RT20 17-1AF01**	1 unit ▶		**3RT20 17-2AF01**	1 unit
						230	▶	**3RT20 17-1AP01**	1 unit ▶		**3RT20 17-2AP01**	1 unit
			01	--	1	24	▶	**3RT20 17-1AB02**	1 unit ▶		**3RT20 17-2AB02**	1 unit
						110	▶	**3RT20 17-1AF02**	1 unit ▶		**3RT20 17-2AF02**	1 unit
						230	▶	**3RT20 17-1AP02**	1 unit ▶		**3RT20 17-2AP02**	1 unit
16	**7.5**	22	**10**	1	--	24	▶	**3RT20 18-1AB01**	1 unit ▶		**3RT20 18-2AB01**	1 unit
						110	▶	**3RT20 18-1AF01**	1 unit ▶		**3RT20 18-2AF01**	1 unit
						230	▶	**3RT20 18-1AP01**	1 unit ▶		**3RT20 18-2AP01**	1 unit
			01	--	1	24	▶	**3RT20 18-1AB02**	1 unit ▶		**3RT20 18-2AB02**	1 unit
						110	▶	**3RT20 18-1AF02**	1 unit ▶		**3RT20 18-2AF02**	1 unit
						230	▶	**3RT20 18-1AP02**	1 unit ▶		**3RT20 18-2AP02**	1 unit

Other voltages according to page 3/19 on request.

For accessories, see page 3/68.

1) The 3RT20 contactors are also available with ring terminal lug connection. Please contact your local Siemens representative for information about these versions.

2) For size S00: Coil operating range
at 50 Hz: 0.8 ... 1.1 × U_s,
at 60 Hz: 0.85 ... 1.1 × U_s.

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

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Power Contactors for Switching Motors

SIRIUS 3RT20 contactors, 3-pole, 3 ... 18.5 kW

AC operation



3RT20 2.-1A.00



3RT20 2.-2A..00



3RT20 2.-1A.04



3RT20 2.-2A.04

Rated data for utilization category AC-2 and AC-3, T_u: up to 60 °C		AC-1, T_u: 40 °C	Auxiliary contacts		Rated control supply voltage U_s at 50 Hz	DT	Screw terminals	PS*	DT	Spring-type terminals	PS*
Operational current I_e up to 400 V	Rating of induction motors at 50 Hz and **400 V**	Operational current I_e up to 690 V	Ident. No.	Version			Order No.			Order No.	
A	**kW**	A		NO NC	V AC						
For screw and snap-on mounting onto TH 35 standard mounting rail											
Size S0[1]											
9	**4**	40	**11**	1 1	24	▶	**3RT20 23-1AB00**	1 unit		**3RT20 23-2AB00**	1 unit
					110	▶	**3RT20 23-1AF00**	1 unit	▶	**3RT20 23-2AF00**	1 unit
					230	▶	**3RT20 23-1AP00**	1 unit	▶	**3RT20 23-2AP00**	1 unit
12	**5.5**	40	**11**	1 1	24	▶	**3RT20 24-1AB00**	1 unit	▶	**3RT20 24-2AB00**	1 unit
					110	▶	**3RT20 24-1AF00**	1 unit	▶	**3RT20 24-2AF00**	1 unit
					230	▶	**3RT20 24-1AP00**	1 unit	▶	**3RT20 24-2AP00**	1 unit
16	**7.5**	40	**11**	1 1	24	▶	**3RT20 25-1AB00**	1 unit	▶	**3RT20 25-2AB00**	1 unit
					110	▶	**3RT20 25-1AF00**	1 unit	▶	**3RT20 25-2AF00**	1 unit
					230	▶	**3RT20 25-1AP00**	1 unit	▶	**3RT20 25-2AP00**	1 unit
25	**11**	40	**11**	1 1	24	▶	**3RT20 26-1AB00**	1 unit	▶	**3RT20 26-2AB00**	1 unit
					110	▶	**3RT20 26-1AF00**	1 unit	▶	**3RT20 26-2AF00**	1 unit
					230	▶	**3RT20 26-1AP00**	1 unit	▶	**3RT20 26-2AP00**	1 unit
32	**15**	50	**11**	1 1	24	▶	**3RT20 27-1AB00**	1 unit	▶	**3RT20 27-2AB00**	1 unit
					110	▶	**3RT20 27-1AF00**	1 unit	▶	**3RT20 27-2AF00**	1 unit
					230	▶	**3RT20 27-1AP00**	1 unit	▶	**3RT20 27-2AP00**	1 unit
38	**18.5**	50	**11**	1 1	24	▶	**3RT20 28-1AB00**	1 unit	▶	**3RT20 28-2AB00**	1 unit
					110	▶	**3RT20 28-1AF00**	1 unit	▶	**3RT20 28-2AF00**	1 unit
					230	▶	**3RT20 28-1AP00**	1 unit		**3RT20 28-2AP00**	1 unit
With mounted auxiliary switch block (removable)[2] Terminal designations according to EN 50012											
9	**4**	40	**22**	2 2	24		**3RT20 23-1AB04**	1 unit		**3RT20 23-2AB04**	1 unit
					230	▶	**3RT20 23-1AP04**	1 unit	▶	**3RT20 23-2AP04**	1 unit
12	**5.5**	40	**22**	2 2	24		**3RT20 24-1AB04**	1 unit		**3RT20 24-2AB04**	1 unit
					110		**3RT20 24-1AF04**	1 unit		**3RT20 24-2AF04**	1 unit
					230	▶	**3RT20 24-1AP04**	1 unit	▶	**3RT20 24-2AP04**	1 unit
16	**7.5**	40	**22**	2 2	24		**3RT20 25-1AB04**	1 unit		**3RT20 25-2AB04**	1 unit
					110		**3RT20 25-1AF04**	1 unit		**3RT20 25-2AF04**	1 unit
					230	▶	**3RT20 25-1AP04**	1 unit	▶	**3RT20 25-2AP04**	1 unit
25	**11**	40	**22**	2 2	24		**3RT20 26-1AB04**	1 unit		**3RT20 26-2AB04**	1 unit
					110		**3RT20 26-1AF04**	1 unit		**3RT20 26-2AF04**	1 unit
					230	▶	**3RT20 26-1AP04**	1 unit	▶	**3RT20 26-2AP04**	1 unit
32	**15**	50	**22**	2 2	24		**3RT20 27-1AB04**	1 unit		**3RT20 27-2AB04**	1 unit
					110		**3RT20 27-1AF04**	1 unit		**3RT20 27-2AF04**	1 unit
					230	▶	**3RT20 27-1AP04**	1 unit	▶	**3RT20 27-2AP04**	1 unit
38	**18.5**	50	**22**	2 2	24		**3RT20 28-1AB04**	1 unit		**3RT20 28-2AB04**	1 unit
					110		**3RT20 28-1AF04**	1 unit		**3RT20 28-2AF04**	1 unit
					230	▶	**3RT20 28-1AP04**	1 unit	▶	**3RT20 28-2AP04**	1 unit

Other voltages according to page 3/19 on request.

For accessories, see page 3/68.

1) The 3RT20 contactors are also available with ring terminal lug connection. Please contact your local Siemens representative for information about these versions.

2) Order No. for the auxiliary switch block (removable): 3RH29 11-.HA11

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

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DC operation · DC solenoid system



3RT20 1.-1B...0



3RT20 1.-2B...

Rated data for utilization category			Auxiliary contacts			Rated control supply voltage U_s	DT	Screw terminals	PS*	DT	Spring-type terminals	PS*
AC-2 and AC-3, T_u: Up to 60 °C		AC-1, T_u: 40 °C	Ident. No.	Version								
Operational current I_e up to 400 V	Rating of induction motors at 50 Hz and **400 V**	Operational current I_e up to 690 V		NO	NC			Order No.			Order No.	
A	**kW**	A				V DC						
For screw and snap-on mounting onto TH 35 standard mounting rail												
Size S00[1]												
7	**3**	18	**10**	1	--	24	▶	**3RT20 15-1BB41**	1 unit ▶		**3RT20 15-2BB41**	1 unit
						220		**3RT20 15-1BM41**	1 unit		**3RT20 15-2BM41**	1 unit
			01	--	1	24	▶	**3RT20 15-1BB42**	1 unit ▶		**3RT20 15-2BB42**	1 unit
						220		**3RT20 15-1BM42**	1 unit		**3RT20 15-2BM42**	1 unit
9	**4**	22	**10**	1	--	24	▶	**3RT20 16-1BB41**	1 unit ▶		**3RT20 16-2BB41**	1 unit
						220		**3RT20 16-1BM41**	1 unit		**3RT20 16-2BM41**	1 unit
			01	--	1	24	▶	**3RT20 16-1BB42**	1 unit ▶		**3RT20 16-2BB42**	1 unit
						220		**3RT20 16-1BM42**	1 unit		**3RT20 16-2BM42**	1 unit
12	**5.5**	22	**10**	1	--	24	▶	**3RT20 17-1BB41**	1 unit ▶		**3RT20 17-2BB41**	1 unit
						220		**3RT20 17-1BM41**	1 unit		**3RT20 17-2BM41**	1 unit
			01	--	1	24	▶	**3RT20 17-1BB42**	1 unit ▶		**3RT20 17-2BB42**	1 unit
						220		**3RT20 17-1BM42**	1 unit		**3RT20 17-2BM42**	1 unit
16	**7.5**	22	**10**	1	--	24	▶	**3RT20 18-1BB41**	1 unit ▶		**3RT20 18-2BB41**	1 unit
						220		**3RT20 18-1BM41**	1 unit		**3RT20 18-2BM41**	1 unit
			01	--	1	24	▶	**3RT20 18-1BB42**	1 unit ▶		**3RT20 18-2BB42**	1 unit
						220		**3RT20 18-1BM42**	1 unit		**3RT20 18-2BM42**	1 unit
Contactors with communications interface Terminal designations according to EN 50012 or EN 50005												
7	**3**	18	**10**	1	--	24	▶	**3RT20 15-1BB41-0CC0**	1 unit ▶		**3RT20 15-2BB41-0CC0**	1 unit
			01	--	1	24	▶	**3RT20 15-1BB42-0CC0**	1 unit ▶		**3RT20 15-2BB42-0CC0**	1 unit
9	**4**	22	**10**	1	--	24	▶	**3RT20 16-1BB41-0CC0**	1 unit ▶		**3RT20 16-2BB41-0CC0**	1 unit
			01	--	1	24	▶	**3RT20 16-1BB42-0CC0**	1 unit ▶		**3RT20 16-2BB42-0CC0**	1 unit
12	**5.5**	22	**10**	1	--	24	▶	**3RT20 17-1BB41-0CC0**	1 unit ▶		**3RT20 17-2BB41-0CC0**	1 unit
			01	--	1	24	▶	**3RT20 17-1BB42-0CC0**	1 unit ▶		**3RT20 17-2BB42-0CC0**	1 unit
16	**7.5**	22	**10**	1	--	24	▶	**3RT20 18-1BB41-0CC0**	1 unit ▶		**3RT20 18-2BB41-0CC0**	1 unit
			01	--	1	24	▶	**3RT20 18-1BB42-0CC0**	1 unit ▶		**3RT20 18-2BB42-0CC0**	1 unit

Other voltages according to page 3/19 on request.

For accessories, see page 3/68.

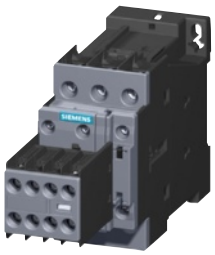
[1] The 3RT20 contactors are also available with ring terminal lug connection. Please contact your local Siemens representative for information about these special contactor versions with ring terminal lug connection.

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

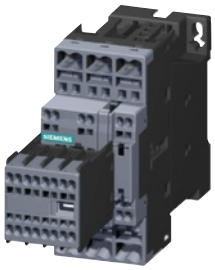
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SIRIUS 3RT20 contactors, 3-pole, 3 ... 18.5 kW

DC operation · DC solenoid system



3RT20 2.-1B.44



3RT20 2.-2B.44



3RT20 2.-1B.40



3RT20 2.-2B.40

Rated data for utilization category			Auxiliary contacts		Rated control supply voltage U_s	DT	Screw terminals	PS*	DT	Spring-type terminals	PS*
AC-2 and AC-3, T_u: Up to 60 °C		AC-1, T_u: 40 °C	Ident. No.	Version							
Operational current I_e up to 400 V	Rating of induction motors at 50 Hz and **400 V**	Operational current I_e up to 690 V					Order No.			Order No.	
A	**kW**	A		NO NC	V DC						
For screw and snap-on mounting onto TH 35 standard mounting rail											
Size S0[1]											
9	**4**	40	**11**	1 1	24	▶	**3RT20 23-1BB40**	1 unit ▶		**3RT20 23-2BB40**	1 unit
12	**5.5**	40	**11**	1 1	24	▶	**3RT20 24-1BB40**	1 unit ▶		**3RT20 24-2BB40**	1 unit
					220		**3RT20 24-1BM40**	1 unit		**3RT20 24-2BM40**	1 unit
16	**7.5**	40	**11**	1 1	24	▶	**3RT20 25-1BB40**	1 unit ▶		**3RT20 25-2BB40**	1 unit
					220		**3RT20 25-1BM40**	1 unit		**3RT20 25-2BM40**	1 unit
25	**11**	40	**11**	1 1	24	▶	**3RT20 26-1BB40**	1 unit ▶		**3RT20 26-2BB40**	1 unit
					220		**3RT20 26-1BM40**	1 unit		**3RT20 26-2BM40**	1 unit
32	**15**	50	**11**	1 1	24	▶	**3RT20 27-1BB40**	1 unit ▶		**3RT20 27-2BB40**	1 unit
					220		**3RT20 27-1BM40**	1 unit		**3RT20 27-2BM40**	1 unit
38	**18.5**	50	**11**	1 1	24	▶	**3RT20 28-1BB40**	1 unit ▶		**3RT20 28-2BB40**	1 unit
					220		**3RT20 28-1BM40**	1 unit		**3RT20 28-2BM40**	1 unit
With mounted auxiliary switch block (removable)[2] Terminal designations according to EN 50012											
9	**4**	40	**22**	2 2	24	▶	**3RT20 23-1BB44**	1 unit ▶		**3RT20 23-2BB44**	1 unit
12	**5.5**	40	**22**	2 2	24	▶	**3RT20 24-1BB44**	1 unit ▶		**3RT20 24-2BB44**	1 unit
16	**7.5**	40	**22**	2 2	24	▶	**3RT20 25-1BB44**	1 unit ▶		**3RT20 25-2BB44**	1 unit
25	**11**	40	**22**	2 2	24	▶	**3RT20 26-1BB44**	1 unit ▶		**3RT20 26-2BB44**	1 unit
32	**15**	50	**22**	2 2	24	▶	**3RT20 27-1BB44**	1 unit ▶		**3RT20 27-2BB44**	1 unit
38	**18.5**	50	**22**	2 2	24	▶	**3RT20 28-1BB44**	1 unit ▶		**3RT20 28-2BB44**	1 unit
Contactors with communications interface Terminal designations according to EN 50012 or EN 50005											
9	**4**	40	**22**	1 1	24	▶	**3RT20 23-1BB40-0CC0**	1 unit ▶		**3RT20 23-2BB40-0CC0**	1 unit
12	**5.5**	40	**22**	1 1	24	▶	**3RT20 24-1BB40-0CC0**	1 unit ▶		**3RT20 24-2BB40-0CC0**	1 unit
16	**7.5**	40	**22**	1 1	24	▶	**3RT20 25-1BB40-0CC0**	1 unit ▶		**3RT20 25-2BB40-0CC0**	1 unit
25	**11**	40	**22**	1 1	24	▶	**3RT20 26-1BB40-0CC0**	1 unit ▶		**3RT20 26-2BB40-0CC0**	1 unit
32	**15**	50	**22**	1 1	24	▶	**3RT20 27-1BB40-0CC0**	1 unit ▶		**3RT20 27-2BB40-0CC0**	1 unit
38	**18.5**	50	**22**	1 1	24	▶	**3RT20 28-1BB40-0CC0**	1 unit ▶		**3RT20 28-2BB40-0CC0**	1 unit

Other voltages according to page 3/19 on request.

For accessories, see page 3/68.

[1] The 3RT20 contactors are also available with ring terminal lug connection. Please contact your local Siemens representative for information about these special contactor versions with ring terminal lug connection.

[2] Order No. for the auxiliary switch block (removable): 3RH29 11-.HA11

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

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Selection and ordering data

AC operation


3RT10 3.-1A.00


3RT10 3.-3A.00


3RT10 3.-1A.04


3RT10 4.-1A.00


3RT10 4.-3A.00

Rated data for utilization category			Auxiliary contacts			Rated control supply voltage U_s at 50 Hz	DT	Screw terminals	PS*	DT	Spring-type terminals For coil terminals	PS*
AC-2 and AC-3, T_u: Up to 60 °C		AC-1, T_u: 40 °C	Ident. No.	Version				Order No.			Order No.	
Operational current I_e at 500 V	Rating of induction motors at 50 Hz and **400 V**	Operational current I_e up to 690 V		NO	NC							
A	**kW**	A				V AC						
For screw and snap-on mounting onto TH 35 standard mounting rail												
Size S2												
32	**15**	50	--	--	--	24	▶	**3RT10 34-1AB00**	1 unit		**3RT10 34-3AB00**	1 unit
						110	▶	**3RT10 34-1AF00**	1 unit		**3RT10 34-3AF00**	1 unit
						230	▶	**3RT10 34-1AP00**	1 unit	▶	**3RT10 34-3AP00**	1 unit
40	**18.5**	60	--	--	--	24	▶	**3RT10 35-1AB00**	1 unit		**3RT10 35-3AB00**	1 unit
						110	▶	**3RT10 35-1AF00**	1 unit		**3RT10 35-3AF00**	1 unit
						230	▶	**3RT10 35-1AP00**	1 unit	▶	**3RT10 35-3AP00**	1 unit
50	**22**	60	--	--	--	24	▶	**3RT10 36-1AB00**	1 unit		**3RT10 36-3AB00**	1 unit
						110	▶	**3RT10 36-1AF00**	1 unit		**3RT10 36-3AF00**	1 unit
						230	▶	**3RT10 36-1AP00**	1 unit	▶	**3RT10 36-3AP00**	1 unit
Size S2 **With mounted auxiliary switch block (removable)[1)]** Terminal designations according to EN 50012												
32	**15**	50	**22**	2	2	230	▶	**3RT10 34-1AP04**	1 unit		**--**	
40	**18.5**	60	**22**	2	2	230	▶	**3RT10 35-1AP04**	1 unit		**--**	
50	**22**	60	**22**	2	2	230	▶	**3RT10 36-1AP04**	1 unit		**--**	
For screw and snap-on mounting onto TH 35 and TH 75 standard mounting rail												
Size S3												
65	**30**	100	--	--	--	24	▶	**3RT10 44-1AB00**	1 unit		**3RT10 44-3AB00**	1 unit
						110	▶	**3RT10 44-1AF00**	1 unit		**3RT10 44-3AF00**	1 unit
						230	▶	**3RT10 44-1AP00**	1 unit	▶	**3RT10 44-3AP00**	1 unit
80	**37**	120	--	--	--	24	▶	**3RT10 45-1AB00**	1 unit		**3RT10 45-3AB00**	1 unit
						110	▶	**3RT10 45-1AF00**	1 unit		**3RT10 45-3AF00**	1 unit
						230	▶	**3RT10 45-1AP00**	1 unit	▶	**3RT10 45-3AP00**	1 unit
95	**45**	120	--	--	--	24	▶	**3RT10 46-1AB00**	1 unit		**3RT10 46-3AB00**	1 unit
						110	▶	**3RT10 46-1AF00**	1 unit		**3RT10 46-3AF00**	1 unit
						230	▶	**3RT10 46-1AP00**	1 unit	▶	**3RT10 46-3AP00**	1 unit
Size S3 **With mounted auxiliary switch block (removable)[1)]** Terminal designations according to EN 50012												
65	**30**	100	**22**	2	2	230	▶	**3RT10 44-1AP04**	1 unit		**--**	
80	**37**	120	**22**	2	2	230	▶	**3RT10 45-1AP04**	1 unit		**--**	
95	**45**	120	**22**	2	2	230	▶	**3RT10 46-1AP04**	1 unit		**--**	

Other voltages according to page 3/19 on request.

For accessories, see page 3/81.

[1)] Order No. for the auxiliary switch block (removable): 3RH19 21-1HA22 (2 NO + 2 NC according to EN 50012; 22E).

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

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Power Contactors for Switching Motors

SIRIUS 3RT10 contactors, 3-pole, 15 ... 250 kW

DC operation · DC solenoid system


3RT10 3.-1B.40


3RT10 3.-3B.40


3RT10 4.-1B.40


3RT10 4.-1B.44


3RT10 4.-3B.40

Rated data for utilization category AC-2 and AC-3, T_u: Up to 60 °C		AC-1, T_u: 40 °C	Auxiliary contacts			Rated control supply voltage U_s	DT	Screw terminals	PS*	DT	Spring-type terminals For coil terminals	PS*
Operational current I_e at 400 V	Rating of induction motors at 50 Hz and **400 V**	Operational current I_e up to 690 V	Ident. No.	Version NO	Version NC			Order No.			Order No.	
A	**kW**	A		NO	NC	V DC						
For screw and snap-on mounting onto TH 35 standard mounting rail												
Size S2												
32	**15**	50	--	--	--	24 220	►	**3RT10 34-1BB40** **3RT10 34-1BM40**	1 unit 1 unit	►	**3RT10 34-3BB40** **3RT10 34-3BM40**	1 unit 1 unit
40	**18.5**	60	--	--	--	24 220	►	**3RT10 35-1BB40** **3RT10 35-1BM40**	1 unit 1 unit	►	**3RT10 35-3BB40** **3RT10 35-3BM40**	1 unit 1 unit
50	**22**	60	--	--	--	24 220	►	**3RT10 36-1BB40** **3RT10 36-1BM40**	1 unit 1 unit	►	**3RT10 36-3BB40** **3RT10 36-3BM40**	1 unit 1 unit
Size S2												
With mounted auxiliary switch block (removable)[1)] Terminal designations according to EN 50012												
32	**15**	50	**22**	2	2	24 220	►	**3RT10 34-1BB44** **3RT10 34-1BM44**	1 unit 1 unit		**--** **--**	
40	**18.5**	60	**22**	2	2	24 220	►	**3RT10 35-1BB44** **3RT10 35-1BM44**	1 unit 1 unit		**--** **--**	
50	**22**	60	**22**	2	2	24 220	►	**3RT10 36-1BB44** **3RT10 36-1BM44**	1 unit 1 unit		**--** **--**	
For screw and snap-on mounting onto TH 35 and TH 75 standard mounting rail												
Size S3												
65	**30**	100	--	--	--	24 220	►	**3RT10 44-1BB40** **3RT10 44-1BM40**	1 unit 1 unit	►	**3RT10 44-3BB40** **3RT10 44-3BM40**	1 unit 1 unit
80	**37**	120	--	--	--	24 220	►	**3RT10 45-1BB40** **3RT10 45-1BM40**	1 unit 1 unit	►	**3RT10 45-3BB40** **3RT10 45-3BM40**	1 unit 1 unit
95	**45**	120	--	--	--	24 220	►	**3RT10 46-1BB40** **3RT10 46-1BM40**	1 unit 1 unit	►	**3RT10 46-3BB40** **3RT10 46-3BM40**	1 unit 1 unit
Size S3												
With mounted auxiliary switch block (removable)[1)] Terminal designations according to EN 50012												
65	**30**	100	**22**	2	2	24 220	►	**3RT10 44-1BB44** **3RT10 44-1BM44**	1 unit 1 unit		**--** **--**	
80	**37**	120	**22**	2	2	24 220	►	**3RT10 45-1BB44** **3RT10 45-1BM44**	1 unit 1 unit		**--** **--**	
95	**45**	120	**22**	2	2	24 220	►	**3RT10 46-1BB44** **3RT10 46-1BM44**	1 unit 1 unit		**--** **--**	

Other voltages according to page 3/19 on request.

For accessories, see page 3/81.

[1)] Order No. for the auxiliary switch block (removable): 3RH19 21-1HA22 (2 NO + 2 NC according to EN 50012; 22E).

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

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SIRIUS 3RT10 contactors, 3-pole, 15 ... 250 kW

AC/DC operation (40 to 60 Hz, DC)
Withdrawable coils with integrated coil circuit (varistor)
Auxiliary and control conductors: Screw terminals or spring-type terminals
Main conductors: busbar connections, for 3RT10 54 (55 kW) box terminals[1)]


3RT1. 5.


3RT1. 6.


3RT1. 7

Size	Rated data for utilization category AC-2 and AC-3, T_u: Up to 60 °C					AC-1, T_u: 40 °C	Auxiliary contacts, lateral		Rated control supply voltage U_s	DT	Screw terminals	PS*	DT	Spring-type terminals For coil and auxiliary switch terminals	PS*
	Operational current I_e	Rating of induction motors at 50 Hz and				Operational current I_e	Version				Order No.			Order No.	
	Up to 500 V	230 V	**400 V**	500 V	690 V	Up to 690 V									
	A	kW	**kW**	kW	kW	A	NO	NC	V AC/DC						
Conventional operating mechanisms															
S6	115	37	**55**	75	110	160	2	2	110 ... 127	▶	**3RT10 54-1AF36**	1 unit		**3RT10 54-3AF36**	1 unit
									220 ... 240	▶	**3RT10 54-1AP36**	1 unit		**3RT10 54-3AP36**	1 unit
	150	45	**75**	90	132	185	2	2	110 ... 127	▶	**3RT10 55-6AF36**	1 unit		**3RT10 55-2AF36**	1 unit
									220 ... 240	▶	**3RT10 55-6AP36**	1 unit		**3RT10 55-2AP36**	1 unit
	185	55	**90**	110	160	215	2	2	110 ... 127	▶	**3RT10 56-6AF36**	1 unit		**3RT10 56-2AF36**	1 unit
									220 ... 240	▶	**3RT10 56-6AP36**	1 unit		**3RT10 56-2AP36**	1 unit
S10	225	55	**110**	160	200	275	2	2	110 ... 127	▶	**3RT10 64-6AF36**	1 unit		**3RT10 64-2AF36**	1 unit
									220 ... 240	▶	**3RT10 64-6AP36**	1 unit		**3RT10 64-2AP36**	1 unit
	265	75	**132**	160	250	330	2	2	110 ... 127	▶	**3RT10 65-6AF36**	1 unit		**3RT10 65-2AF36**	1 unit
									220 ... 240	▶	**3RT10 65-6AP36**	1 unit		**3RT10 65-2AP36**	1 unit
	300	90	**160**	200	250	330	2	2	110 ... 127	▶	**3RT10 66-6AF36**	1 unit		**3RT10 66-2AF36**	1 unit
									220 ... 240	▶	**3RT10 66-6AP36**	1 unit		**3RT10 66-2AP36**	1 unit
S12	400	132	**200**	250	400	430	2	2	110 ... 127	▶	**3RT10 75-6AF36**	1 unit		**3RT10 75-2AF36**	1 unit
									220 ... 240	▶	**3RT10 75-6AP36**	1 unit		**3RT10 75-2AP36**	1 unit
	500	160	**250**	355	400	610	2	2	110 ... 127	▶	**3RT10 76-6AF36**	1 unit		**3RT10 76-2AF36**	1 unit
									220 ... 240	▶	**3RT10 76-6AP36**	1 unit		**3RT10 76-2AP36**	1 unit
Solid-state operating mechanisms · for 24 V DC PLC output															
S6	115	37	**55**	75	110	160	2	2	96 ... 127		**3RT10 54-1NF36**	1 unit		**3RT10 54-3NF36**	1 unit
									200 ... 277	▶	**3RT10 54-1NP36**	1 unit		**3RT10 54-3NP36**	1 unit
	150	45	**75**	90	132	185	2	2	96 ... 127		**3RT10 55-6NF36**	1 unit		**3RT10 55-2NF36**	1 unit
									200 ... 277	▶	**3RT10 55-6NP36**	1 unit		**3RT10 55-2NP36**	1 unit
	185	55	**90**	110	160	215	2	2	96 ... 127		**3RT10 56-6NF36**	1 unit		**3RT10 56-2NF36**	1 unit
									200 ... 277	▶	**3RT10 56-6NP36**	1 unit		**3RT10 56-2NP36**	1 unit
S10	225	55	**110**	160	200	275	2	2	96 ... 127		**3RT10 64-6NF36**	1 unit		**3RT10 64-2NF36**	1 unit
									200 ... 277		**3RT10 64-6NP36**	1 unit		**3RT10 64-2NP36**	1 unit
	265	75	**132**	160	250	330	2	2	96 ... 127		**3RT10 65-6NF36**	1 unit		**3RT10 65-2NF36**	1 unit
									200 ... 277		**3RT10 65-6NP36**	1 unit		**3RT10 65-2NP36**	1 unit
	300	90	**160**	200	250	330	2	2	96 ... 127		**3RT10 66-6NF36**	1 unit		**3RT10 66-2NF36**	1 unit
									200 ... 277		**3RT10 66-6NP36**	1 unit		**3RT10 66-2NP36**	1 unit
S12	400	132	**200**	250	400	430	2	2	96 ... 127		**3RT10 75-6NF36**	1 unit		**3RT10 75-2NF36**	1 unit
									200 ... 277		**3RT10 75-6NP36**	1 unit		**3RT10 75-2NP36**	1 unit
	500	160	**250**	355	400	610	2	2	96 ... 127		**3RT10 76-6NF36**	1 unit		**3RT10 76-2NF36**	1 unit
									200 ... 277		**3RT10 76-6NP36**	1 unit		**3RT10 76-2NP36**	1 unit

Other voltages according to page 3/19 on request.
For accessories, see page 3/81.

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

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SIRIUS 3RT10 contactors, 3-pole, 15 ... 250 kW

AC/DC operation (40 to 60 Hz, DC)
Withdrawable coils with integrated coil circuit (varistor)
Auxiliary and control conductors: screw terminals
Main conductors: busbar connections, for 3RT10 54 (55 kW) box terminals[1)]
Remaining lifetime indicator (RLT)



3RT10 56-6P. .



3RT10 56-6Q. .

Size	Rated data AC-2 and AC-3, T_u: Up to 60 °C Operational current I_e up to 500 V	Ratings of induction motors at 50 Hz and 230 V	400 V	500 V	690 V	AC-1, T_u: 40 °C Operational current I_e up to 690 V	Auxiliary contacts, lateral Version NO	NC	Rated control supply voltage U_s	DT	Screw terminals Order No.	PS*
	A	kW	**kW**	kW	kW	A	NO	NC	V AC/DC			
Solid-state operating mechanisms · with 24 V DC PLC relay output · with RLT												
Terminal designations of the auxiliary contacts according to EN 50012												
S6	115	37	**55**	75	110	160	1	1	96 … 127 200 … 277		**3RT10 54-1PF35** **3RT10 54-1PP35**	1 unit 1 unit
	150	45	**75**	90	132	185	1	1	96 … 127 200 … 277		**3RT10 55-6PF35** **3RT10 55-6PP35**	1 unit 1 unit
	185	55	**90**	110	160	215	1	1	96 … 127 200 … 277		**3RT10 56-6PF35** **3RT10 56-6PP35**	1 unit 1 unit
S10	225	55	**110**	160	200	275	1	1	96 … 127 200 … 277		**3RT10 64-6PF35** **3RT10 64-6PP35**	1 unit 1 unit
	265	75	**132**	160	250	330	1	1	96 … 127 200 … 277		**3RT10 65-6PF35** **3RT10 65-6PP35**	1 unit 1 unit
	300	90	**160**	200	250	330	1	1	96 … 127 200 … 277		**3RT10 66-6PF35** **3RT10 66-6PP35**	1 unit 1 unit
S12	400	132	**200**	250	400	430	1	1	96 … 127 200 … 277		**3RT10 75-6PF35** **3RT10 75-6PP35**	1 unit 1 unit
	500	160	**250**	355	400	610	1	1	96 … 127 200 … 277		**3RT10 76-6PF35** **3RT10 76-6PP35**	1 unit 1 unit
Solid-state operating mechanisms · with AS-Interface · with RLT												
Terminal designations of the auxiliary contacts according to EN 50012												
S6	115	37	**55**	75	110	160	1	1	96 … 127 200 … 277		**3RT10 54-1QF35** **3RT10 54-1QP35**	1 unit 1 unit
	150	45	**75**	90	132	185	1	1	96 … 127 200 … 277		**3RT10 55-6QF35** **3RT10 55-6QP35**	1 unit 1 unit
	185	55	**90**	110	160	215	1	1	96 … 127 200 … 277		**3RT10 56-6QF35** **3RT10 56-6QP35**	1 unit 1 unit
S10	225	55	**110**	160	200	275	1	1	96 … 127 200 … 277		**3RT10 64-6QF35** **3RT10 64-6QP35**	1 unit 1 unit
	265	75	**132**	160	250	330	1	1	96 … 127 200 … 277		**3RT10 65-6QF35** **3RT10 65-6QP35**	1 unit 1 unit
	300	90	**160**	200	250	330	1	1	96 … 127 200 … 277		**3RT10 66-6QF35** **3RT10 66-6QP35**	1 unit 1 unit
S12	400	132	**200**	250	400	430	1	1	96 … 127 200 … 277		**3RT10 75-6QF35** **3RT10 75-6QP35**	1 unit 1 unit
	500	160	**250**	355	400	610	1	1	96 … 127 200 … 277		**3RT10 76-6QF35** **3RT10 76-6QP35**	1 unit 1 unit

Other voltages according to page 3/19 on request.
For accessories, see page 3/81.

[1)] Alternatively the 3RT10 54-1 contactor (55 kW) can be supplied with busbar connections instead of box terminals.
Without additional price. In the 8th position of the Order No. the **"1"** must be replaced with **"6"**, e.g. 3RT10 54-**6**. .35.

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

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Options

Rated control supply voltages (the 10th and 11th position of the order number must be changed)

Rated control supply voltage U_s	Contactor type	3RT20 1, 3RT23 1, 3RT25 1	3RT20 2, 3RT10 3, 3RT10 4 / 3RT14 4	3RT23 2, 3RT13 3, 3RT13 4	3RT25 2, 3RT15 3	3RT16 17, 3RT16 27, 3RT16 47
	Size	S00	S0, S2, S3	S0, S2, S3	S0, S2	S00, S0, S3
Sizes S00 to S3						
AC operation[1]						
Solenoid coils for 50 Hz[2] (exception: Size S00: 50 and 60 Hz[2])						
24 V AC		B0	B0	B0	B0	B0
42 V AC		D0	D0	--	--	--
48 V AC		H0	H0	--	--	--
110 V AC		F0	F0	F0	F0	F0
230 V AC		P0	P0	P0	P0	P0
240 V AC		U0	U0	U0	U0	U0
400 V AC		V0	V0	V0	V0	V0
Solenoid coils for 50 and 60 Hz[2]						
24 V AC		B0	C2	C2	C2	C2
42 V AC		D0	D2	D2	D2	--
48 V AC		H0	H2	H2	H2	--
110 V AC		F0	G2	G2	G2	G2
220 V AC		N2	N2	N2	N2	N2
230 V AC		P0	L2	L2	L2	L2
240 V AC		P2	P2	P2	P2	P2
Solenoid coils (for USA and Canada[3]**)**						
50 Hz	**60 Hz**					
110 V AC	120 V AC	K6	K6	K6	K6	K6
220 V AC	240 V AC	P6	P6	P6	P6	P6
Solenoid coils (for Japan)						
50/60 Hz[4]	**60 Hz**[5]					
100 V AC	110 V AC	G6	G6	G6	G6	G6
200 V AC	220 V AC	N6	N6	N6	N6	N6
400 V AC	440 V AC	R6	R6	R6	R6	R6
DC operation[1]						
12 V DC		A4	--	--	--	--
24 V DC		B4	B4	B4	B4	--
42 V DC		D4	D4	D4	D4	--
48 V DC		W4	W4	--	--	--
60 V DC		E4 (only 3RT20 1)	E4	--	--	--
110 V DC		F4	F4	F4	F4	--
125 V DC		G4	G4	G4	G4	--
220 V DC		M4	M4	M4	M4	--
230 V DC		P4	P4	--	--	--

Examples

AC operation	3RT10 34-1A**G2**0	Contactor with screw terminals; with solenoid coil for 50/60 Hz for rated control supply voltage 110 V AC.
DC operation	3RT10 34-3B**G4**0	Contactor with spring-type terminals; for rated control supply voltage 125 V DC.

Rated control supply voltage U_s	Contactor type	3RT1. 5.-.A, 3RT1. 6.-.A, 3RT1. 7.-.A	Rated control supply voltage U_s	Contactor type	3RT1. 5.-.N, 3RT1. 6.-.N, 3RT1. 7.-.N	3RT1. 5.-.P/Q, 3RT1. 6.-.P/Q, 3RT1. 7.-.P/Q
$U_{s\,min}$ ... $U_{s\,max}$[6]	Size	S6, S10, S12	$U_{s\,min}$ ... $U_{s\,max}$[6]	Size	S6, S10, S12	S6, S10, S12
Sizes S6 to S12						
UC operation (AC 40 ... 60 Hz, DC)						
Conventional operating mechanism			**Solid-state operating mechanism**			
23 ... 26 V AC/DC		B3	21 ... 27.3 V AC/DC		B3	--
42 ... 48 V AC/DC		D3	96 ... 127 V AC/DC		F3	F3
110 ... 127 V AC/DC		F3	200 ... 277 V AC/DC		P3	P3
200 ... 220 V AC/DC		M3				
220 ... 240 V AC/DC		P3				
240 ... 277 V AC/DC		U3				
380 ... 420 V AC/DC		V3				
440 ... 480 V AC/DC		R3				
500 ... 550 V AC/DC		S3				
575 ... 600 V AC/DC		T3				

1) For deviating coil voltages and coil operating ranges of sizes S00 and S0, the 24 V DC SITOP Power power supply unit with wide range input (93 to 264 V AC; 30 to 264 V DC) can be used for coil excitation (see Chapter 11).

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_s.

3) Coil operating range
Size S00: at 50 Hz: 0.85.... 1.1 x U_s
at 60 Hz: 0.8 ... 1.1 x U_s
Sizes S0 ... S3: at 50 Hz and 60 Hz: 0.8 ... 1.1 x U_s.

4) Coil operating range:
Size S00: at 50/60 Hz: 0.85 to 1.1 x U_s
Sizes S0 ... S3: at 50 Hz: 0.8 to 1.1 x U_s
at 60 Hz: 0.85 to 1.1 x U_s.

5) Coil operating range:
at 60 Hz: 0.8 to 1.1 x U_s.

6) Operating range:
0.8 x $U_{s\,min}$ to 1.1 x $U_{s\,max}$.

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SIRIUS 3RT12 vacuum contactors, 3-pole, 110 ... 250 kW

Selection and ordering data

AC/DC operation (40 Hz to 60 Hz, DC)
Withdrawable coils with integrated coil circuit (Varistor)
Auxiliary and control conductors: screw terminals
Main conductors: busbar connections



3RT12 6.



3RT12 7.

Size	Rated data AC-2 and AC-3, T_u: Up to 60 °C					AC-1, T_u: 40 °C	Auxiliary contacts, lateral Version		Rated control supply voltage U_s	DT	**Screw terminals**	PS*
	Operational current I_e up to	Ratings of induction motors at 50 Hz and				Operational current I_e up to					Order No.	
	1000 V	230 V	**400 V**	500 V	690 V	1000 V						
	A	kW	**kW**	kW	kW	A	NO	NC	V AC/DC			
Conventional operating mechanisms												
Terminal designations of the auxiliary contacts according to EN 50012												
S10	225	55	**110**	160	200	330	2	2	110 ... 127 220 ... 240		**3RT12 64-6AF36** **3RT12 64-6AP36**	1 unit 1 unit
	265	75	**132**	160	250	330	2	2	110 ... 127 220 ... 240		**3RT12 65-6AF36** **3RT12 65-6AP36**	1 unit 1 unit
	300	90	**160**	200	250	330	2	2	110 ... 127 220 ... 240		**3RT12 66-6AF36** **3RT12 66-6AP36**	1 unit 1 unit
S12	400	132	**200**	250	400	610	2	2	110 ... 127 220 ... 240		**3RT12 75-6AF36** **3RT12 75-6AP36**	1 unit 1 unit
	500	160	**250**	355	500	610	2	2	110 ... 127 220 ... 240		**3RT12 76-6AF36** **3RT12 76-6AP36**	1 unit 1 unit
Solid-state operating mechanisms · for 24 V DC PLC output												
Terminal designations of the auxiliary contacts according to EN 50012												
S10	225	55	**110**	160	200	330	2	2	96 ... 127 200 ... 277		**3RT12 64-6NF36** **3RT12 64-6NP36**	1 unit 1 unit
	265	75	**132**	160	250	330	2	2	96 ... 127 200 ... 277		**3RT12 65-6NF36** **3RT12 65-6NP36**	1 unit 1 unit
	300	90	**160**	200	250	330	2	2	96 ... 127 200 ... 277		**3RT12 66-6NF36** **3RT12 66-6NP36**	1 unit 1 unit
S12	400	132	**200**	250	400	610	2	2	96 ... 127 200 ... 277		**3RT12 75-6NF36** **3RT12 75-6NP36**	1 unit 1 unit
	500	160	**250**	355	500	610	2	2	96 ... 127 200 ... 277		**3RT12 76-6NF36** **3RT12 76-6NP36**	1 unit 1 unit

Other voltages according to page 3/19 on request.
For accessories, see page 3/83.

Note:
Vacuum contactors are basically unsuitable for switching DC voltage.

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

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3TF6 vacuum contactors, 3-pole, 335 ... 450 kW

Selection and ordering data

Main conductors: Busbar connections
Auxiliary and control conductors: Screw terminals
AC operation: Electronically controlled solenoid operation with high EMC[1] and overvoltage protection of the coil (varistor)
DC economy circuit: With 3TC44 reversing contactor for series resistor



3TF68, 3TF69

Rated data AC-2 and AC-3 (up to 55 °C) Operational current I_e up to 690 V	Rating of induction motors at 50 Hz and 230 V	**400 V**	500 V	690 V	1000 V	AC-1 Operational current I_e (at 40 °C)	Auxiliary contacts Version NO	NC	Rated control supply voltage U_s	DT	**Screw terminals** Order No.	PS*
A	kW	**kW**	kW	kW	kW	A			V			
AC operation 50/60 Hz[1]												
630	200	**335**	434	600	--	700	4	4	110 ... 132 AC, 50/60 Hz 200 ... 240 AC, 50/60 Hz	▶	**3TF68 44-0CF7** **3TF68 44-0CM7**	1 unit 1 unit
630	200	**335**	434	600	600	700	4	4	110 ... 132 AC, 50/60 Hz 200 ... 240 AC, 50/60 Hz		**3TF68 44-8CF7** **3TF68 44-8CM7**	1 unit 1 unit
820	260	**450**	600	800	--	910	4	4	110 ... 132 AC, 50/60 Hz 200 ... 240 AC, 50/60 Hz	▶	**3TF69 44-0CF7** **3TF69 44-0CM7**	1 unit 1 unit
820	260	**450**	600	800	800	910	4	4	110 ... 132 AC, 50/60 Hz 200 ... 240 AC, 50/60 Hz		**3TF69 44-8CF7** **3TF69 44-8CM7**	1 unit 1 unit
DC operation · DC economy circuit[2]												
630	200	**335**	434	600	--	700	3	3	24 DC		**3TF68 33-1DB4**	1 unit
					600	700	3	3	24 DC		**3TF68 33-8DB4**	1 unit
820	260	**450**	600	800	--	910	3	3	24 DC		**3TF69 33-1DB4**	1 unit
					800	910	3	3	24 DC		**3TF69 33-8DB4**	1 unit
AC operation 50/60 Hz with DC economy circuit[2)3)] . For AC operation which is subject to strong interference												
630	200	**335**	434	600	--	700	3	3	110 ... 120 AC, 50/60 Hz 220 ... 240 AC, 50/60 Hz 380 ... 420, AC 50/60 Hz		**3TF68 33-1QG7** **3TF68 33-1QL7** **3TF68 33-1QV7**	1 unit 1 unit 1 unit
					600	700	3	3	220 ... 240 AC, 50/60 Hz		**3TF68 33-8QL7**	1 unit
820	260	**450**	600	800	--	910	3	3	110 ... 120 AC, 50/60 Hz 220 ... 240 AC, 50/60 Hz 380 ... 420 AC, 50/60 Hz		**3TF69 33-1QG7** **3TF69 33-1QL7** **3TF69 33-1QV7**	1 unit 1 unit 1 unit
					800	910	3	3	110 ... 120 AC, 50/60 Hz 220 ... 240 AC, 50/60 Hz		**3TF69 33-8QG7** **3TF69 33-8QL7**	1 unit 1 unit

For accessories, see page 3/90.

1) For electromagnetic compatibility (EMC) see note on technical specifications on page 3/1.
3TF68/69 vacuum contactors are supplied with integrated overvoltage damping for the main current paths. The surge suppression circuit is not required for operation in circuits with DC choppers, frequency converters or speed-variable operating mechanisms, for example.
The circuit could be damaged by the voltage peaks and harmonics and cause phase-to-phase short-circuits. For this reason, the contactors can also be supplied without integrated overvoltage damping. Without additional price.
The order number must include **"-Z"** and the order code **"A02"**.

2) On these versions, a magnetic system is used in the DC economy circuit. A varistor can be retrofitted. A 3TC44 17-4A. reversing contactor with preassembled connecting cable (approx. 1 m) is included in the scope of supply of the vacuum contactor.

3) On this version, a magnetic system with rectifier is used in the DC economy circuit.

Rated control supply voltages (the 10th and 11th position of the order number must be changed)

Rated control supply voltage U_s	**Contactor type** **3TF6. 44-.C.., 3TF6. 44-.D..**
AC operation 50/60 Hz	
110 ... 132 V AC	F7
200 ... 240 V AC	M7
230 ... 277 V AC	P7
380 ... 460 V AC	Q7
500 ... 600 V AC	S7
DC operation · DC economy circuit	
24 V DC	B4
110 V DC	F4
125 V DC	G4
220 V DC	M4
230 V DC	P4

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

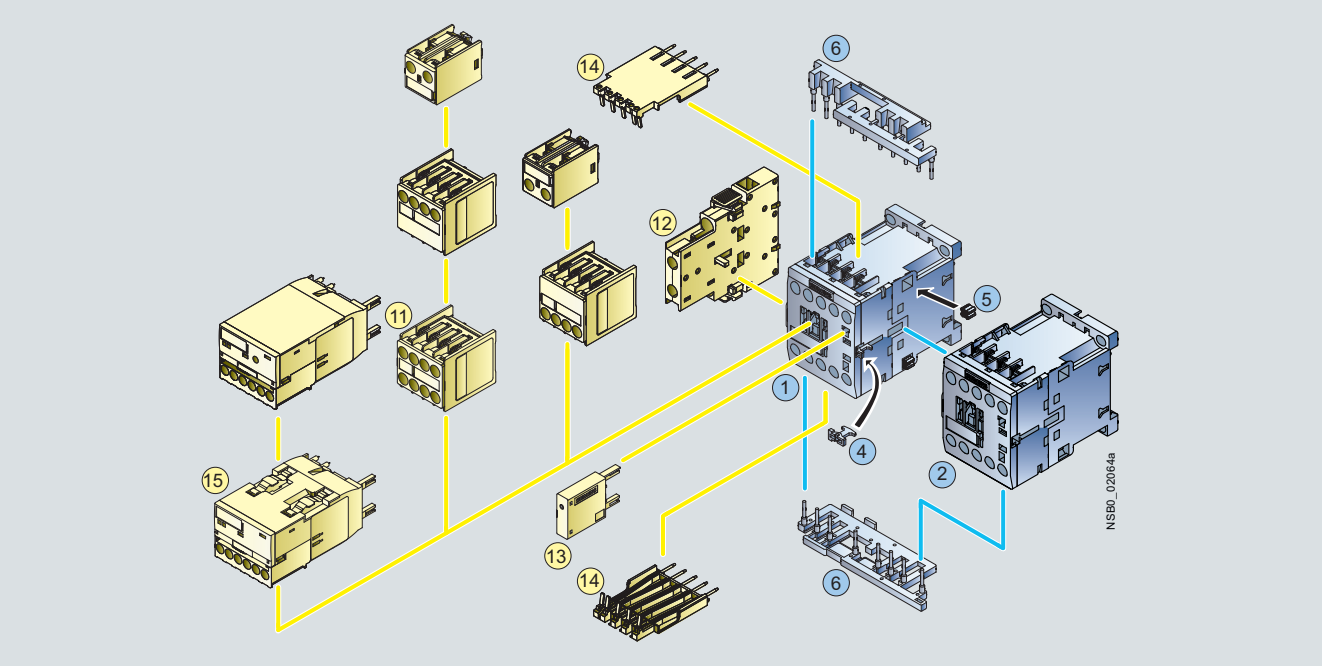
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SIRIUS 3RA23 reversing contactor assemblies

Selection and ordering data

Fully wired and tested contactor assemblies · Size S00 · up to 7.5 kW

The figure shows the version with screw terminals



Mountable accessories

Accessories		Order No.	Page
11	Auxiliary switch block, front[1]	3RH29 11-1....	3/68
12	Auxiliary switch block, lateral	3RH29 21-1DA..	3/71
13	Surge suppressor	3RT29 16-1....	3/75
14	Solder pin adapter	3RT19 16-4KA1	3/78
15	Function module for connection to the control system	3RT27 1.-1BA00	3/66

Fully wired and tested contactor assemblies

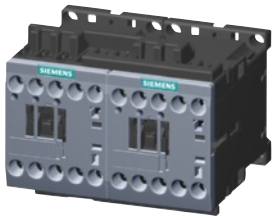
Individual parts		Order No. Q11	Order No. Q12	Page
1 2	Contactor, 3 kW	3RT20 15	3RT20 15	3/11, 3/13
1 2	Contactor, 4 kW	3RT20 16	3RT20 16	3/11, 3/13
1 2	Contactor, 5.5 kW	3RT20 17	3RT20 17	3/11, 3/13
1 2	Contactor, 7.5 kW	3RT20 18	3RT20 18	3/11, 3/13
4 5 6	Assembly kit comprising:	3RA29 13-2AA1		3/29
	4 Mechanical interlock			
	5 2 connecting clips for 2 contactors			
	6 Wiring modules on the top and bottom for connecting the main current paths, electrical interlock included[2], interruptible (NC contact interlock)			

[1] Auxiliary switch block according to EN 50005 must be used.

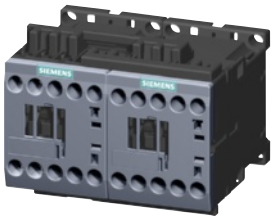
[2] 3RT20 1. contactors with one NC contact in the basic unit are required for the electrical interlock.

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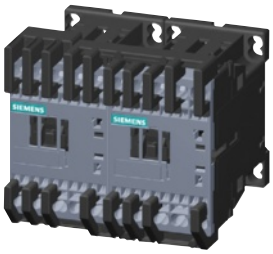
Fully wired and tested contactor assemblies[2] · Size S00 · up to 7.5 kW



3RA23 18-8XE30-1BB4



3RA23 1.-8XB30-1A.0



3RA23 1.-8XB30-2A.0

Rated data AC-2 and AC-3					Rated control supply voltage U_s [1]	DT	Screw terminals	PS*	DT	Spring-type terminals	PS*
Operational current I_e up to	Rating of induction motors at 50 Hz and						Order No.			Order No.	
400 V	230 V	**400 V**	500 V	690 V							
A	kW	**kW**	kW	kW	V						
AC operation, 50/60 Hz											
7	2.2	**3**	3.5	4	24 AC		**3RA23 15-8XB30-1AB0**	1 unit		**3RA23 15-8XB30-2AB0**	1 unit
					110 AC		**3RA23 15-8XB30-1AF0**	1 unit		**3RA23 15-8XB30-2AF0**	1 unit
					230 AC		**3RA23 15-8XB30-1AP0**	1 unit		**3RA23 15-8XB30-2AP0**	1 unit
9	3	**4**	4.5	5.5	24 AC		**3RA23 16-8XB30-1AB0**	1 unit		**3RA23 16-8XB30-2AB0**	1 unit
					110 AC		**3RA23 16-8XB30-1AF0**	1 unit		**3RA23 16-8XB30-2AF0**	1 unit
					230 AC		**3RA23 16-8XB30-1AP0**	1 unit		**3RA23 16-8XB30-2AP0**	1 unit
12	3	**5.5**	5.5	5.5	24 AC		**3RA23 17-8XB30-1AB0**	1 unit		**3RA23 17-8XB30-2AB0**	1 unit
					110 AC		**3RA23 17-8XB30-1AF0**	1 unit		**3RA23 17-8XB30-2AF0**	1 unit
					230 AC		**3RA23 17-8XB30-1AP0**	1 unit		**3RA23 17-8XB30-2AP0**	1 unit
16	4	**7.5**	7.5	7.5	24 AC		**3RA23 18-8XB30-1AB0**	1 unit		**3RA23 18-8XB30-2AB0**	1 unit
					110 AC		**3RA23 18-8XB30-1AF0**	1 unit		**3RA23 18-8XB30-2AF0**	1 unit
					230 AC		**3RA23 18-8XB30-1AP0**	1 unit		**3RA23 18-8XB30-2AP0**	1 unit
DC operation											
7	2.2	**3**	3.5	4	24 DC		**3RA23 15-8XB30-1BB4**	1 unit		**3RA23 15-8XB30-2BB4**	1 unit
9	3	**4**	4.5	5.5	24 DC		**3RA23 16-8XB30-1BB4**	1 unit		**3RA23 16-8XB30-2BB4**	1 unit
12	3	**5.5**	5.5	5.5	24 DC		**3RA23 17-8XB30-1BB4**	1 unit		**3RA23 17-8XB30-2BB4**	1 unit
16	4	**7.5**	7.5	7.5	24 DC		**3RA23 18-8XB30-1BB4**	1 unit		**3RA23 18-8XB30-2BB4**	1 unit
With communication interface											
7	2.2	**3**	3.5	4	24 DC		**3RA23 15-8XE30-1BB4**	1 unit		**3RA23 15-8XE30-2BB4**	1 unit
9	3	**4**	4.5	5.5	24 DC		**3RA23 16-8XE30-1BB4**	1 unit		**3RA23 16-8XE30-2BB4**	1 unit
12	3	**5.5**	5.5	5.5	24 DC		**3RA23 17-8XE30-1BB4**	1 unit		**3RA23 17-8XE30-2BB4**	1 unit
16	4	**7.5**	7.5	7.5	24 DC		**3RA23 18-8XE30-1BB4**	1 unit		**3RA23 18-8XE30-2BB4**	1 unit

[1] Coil operating range
at 50 Hz: 0.8 ... 1.1 x U_s;
at 60 Hz: 0.85 ... 1.1 x U_s.

[2] The contactors integrated in the contactor assemblies have no unassigned auxiliary contacts.

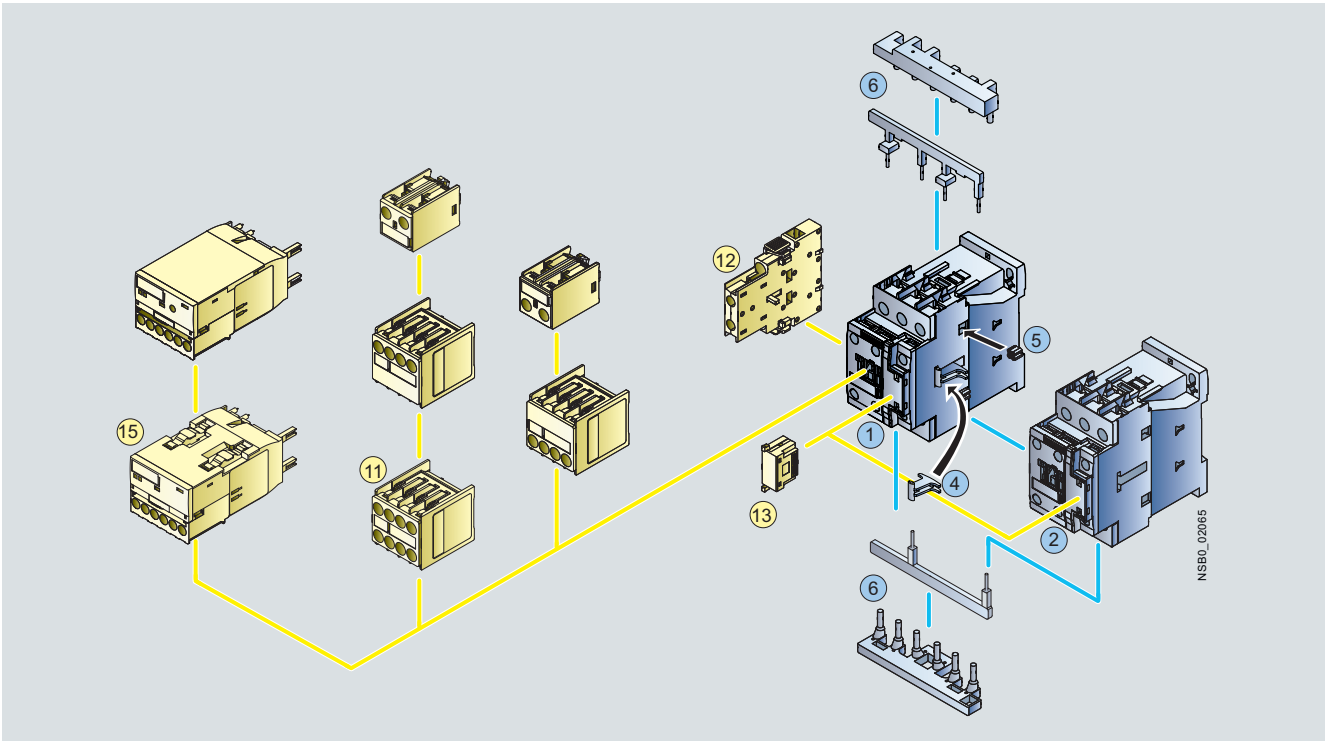
*** You can order this quantity or a multiple thereof.**
Illustrations are approximate

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SIRIUS 3RA23 reversing contactor assemblies

Fully wired and tested contactor assemblies · Size S0 · up to 18.5 kW

The figure shows the version with screw terminals



Mountable accessories

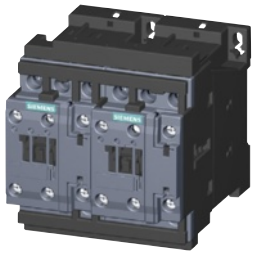
Individual parts	Order No.	Page
11 Auxiliary switch block, front	3RH29 21-1....	3/68
12 Auxiliary switch block, lateral	3RH29 21-1DA..	3/71
13 Surge suppressor	3RT29 26-1....	3/75
15 Function module for connection to the control system	3RT27 1.-1BA00	3/66

Fully wired and tested contactor assemblies

Individual parts		Order No. Q11	Order No. Q12	Page
1 2	Contactor, 5.5 kW	3RT20 24	3RT20 24	3/12, 3/14
1 2	Contactor, 7.5 kW	3RT20 25	3RT20 25	3/12, 3/14
1 2	Contactor, 11 kW	3RT20 26	3RT20 26	3/12, 3/14
1 2	Contactor, 15 kW	3RT20 27	3RT20 27	3/12, 3/14
1 2	Contactor, 18.5 kW	3RT20 28	3RT20 28	3/12, 3/14
4 5 6	Assembly kit comprising:	3RA29 23-2AA1		3/29
	4 Mechanical interlock			
	5 2 connecting clips for 2 contactors			
	6 Wiring modules on the top and bottom for connecting the main current paths, electrical interlock included (NC contact interlock)			

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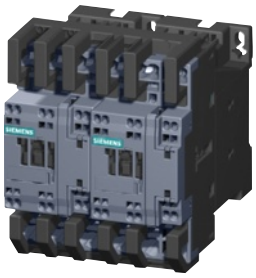
Fully wired and tested contactor assemblies · Size S0 · up to 18.5 kW



3RA23 24-8XE30-1BB4



3RA23 2.-8XB30-1A.2



3RA23 2.-8XB30-2A.2

Rated data AC-2 and AC-3					Rated control supply voltage U_s [1]	DT	Screw terminals	PS*	DT	Spring-type terminals	PS*
Operational current I_e up to	Rating of induction motors at 50 Hz and						Order No.			Order No.	
400 V	230 V	**400 V**	500 V	690 V							
A	kW	**kW**	kW	kW	V						
AC operation, 50/60 Hz											
12	3	**5.5**	7.5	7.5	24 AC		**3RA23 24-8XB30-1AC2**	1 unit		**3RA23 24-8XB30-2AC2**	1 unit
					110 AC		**3RA23 24-8XB30-1AG2**	1 unit		**3RA23 24-8XB30-2AG2**	1 unit
					230 AC		**3RA23 24-8XB30-1AL2**	1 unit		**3RA23 24-8XB30-2AL2**	1 unit
16	4	**7.5**	10	11	24 AC		**3RA23 25-8XB30-1AC2**	1 unit		**3RA23 25-8XB30-2AC2**	1 unit
					110 AC		**3RA23 25-8XB30-1AG2**	1 unit		**3RA23 25-8XB30-2AG2**	1 unit
					230 AC		**3RA23 25-8XB30-1AL2**	1 unit		**3RA23 25-8XB30-2AL2**	1 unit
25	5.5	**11**	11	11	24 AC		**3RA23 26-8XB30-1AC2**	1 unit		**3RA23 26-8XB30-2AC2**	1 unit
					110 AC		**3RA23 26-8XB30-1AG2**	1 unit		**3RA23 26-8XB30-2AG2**	1 unit
					230 AC		**3RA23 26-8XB30-1AL2**	1 unit		**3RA23 26-8XB30-2AL2**	1 unit
32	7.5	**15**	18.5	18.5	24 AC		**3RA23 27-8XB30-1AC2**	1 unit		**3RA23 27-8XB30-2AC2**	1 unit
					110 AC		**3RA23 27-8XB30-1AG2**	1 unit		**3RA23 27-8XB30-2AG2**	1 unit
					230 AC		**3RA23 27-8XB30-1AL2**	1 unit		**3RA23 27-8XB30-2AL2**	1 unit
38	7.5	**18.5**	18.5	18.5	24 AC		**3RA23 28-8XB30-1AC2**	1 unit		**3RA23 28-8XB30-2AC2**	1 unit
					110 AC		**3RA23 28-8XB30-1AG2**	1 unit		**3RA23 28-8XB30-2AG2**	1 unit
					230 AC		**3RA23 28-8XB30-1AL2**	1 unit		**3RA23 28-8XB30-2AL2**	1 unit
DC operation											
12	3	**5.5**	7.5	7.5	24 DC		**3RA23 24-8XB30-1BB4**	1 unit		**3RA23 24-8XB30-2BB4**	1 unit
16	4	**7.5**	10	11	24 DC		**3RA23 25-8XB30-1BB4**	1 unit		**3RA23 25-8XB30-2BB4**	1 unit
25	5.5	**11**	11	11	24 DC		**3RA23 26-8XB30-1BB4**	1 unit		**3RA23 26-8XB30-2BB4**	1 unit
32	7.5	**15**	18.5	18.5	24 DC		**3RA23 27-8XB30-1BB4**	1 unit		**3RA23 27-8XB30-2BB4**	1 unit
38	7.5	**18.5**	18.5	18.5	24 DC		**3RA23 28-8XB30-1BB4**	1 unit		**3RA23 28-8XB30-2BB4**	1 unit
With communication interface											
12	3	**5.5**	7.5	7.5	24 DC		**3RA23 24-8XE30-1BB4**	1 unit		**3RA23 24-8XE30-2BB4**	1 unit
16	4	**7.5**	10	11	24 DC		**3RA23 25-8XE30-1BB4**	1 unit		**3RA23 25-8XE30-2BB4**	1 unit
25	5.5	**11**	11	11	24 DC		**3RA23 26-8XE30-1BB4**	1 unit		**3RA23 26-8XE30-2BB4**	1 unit
32	7.5	**15**	18.5	18.5	24 DC		**3RA23 27-8XE30-1BB4**	1 unit		**3RA23 27-8XE30-2BB4**	1 unit
38	7.5	**18.5**	18.5	18.5	24 DC		**3RA23 28-8XE30-1BB4**	1 unit		**3RA23 28-8XE30-2BB4**	1 unit

[1] Coil operating range
at 50 Hz: 0.8 ... 1.1 × U_s; at 60 Hz: 0.85 ... 1.1 × U_s.

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

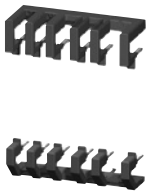
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SIRIUS 3RA23 reversing contactor assemblies

Components for customer assembly



3RA29 23-2AA1



3RA29 23-2AA2

For contactors Type	Size	Version	DT	Screw terminals Order No.	PS*	DT	Spring-type terminals Order No.	PS*
Assembly kits for making 3-pole contactor assemblies								
3RT20 1	**S00-S00**	The assembly kit contains: mechanical interlock; 2 connecting clips for 2 contactors, wiring modules on the top and bottom						
		• For main, auxiliary and control circuits		**3RA29 13-2AA1**	1 unit		**3RA29 13-2AA2**	1 unit
3RT20 2	**S0-S0**	The assembly kit contains: mechanical interlock; 2 connecting clips for 2 contactors, wiring modules on the top and bottom						
		• For main, auxiliary and control circuits		**3RA29 23-2AA1**	1 unit		**--**	
		• Only for main circuit[1)]		**--**			**3RA29 23-2AA2**	1 unit
Wiring modules (single)								
3RT20 1	**S00-S00**	Top (in-phase)		**3RA29 13-3DA1**	5 units		**3RA29 13-3DA2**	5 units
		Bottom (with phase reversal)		**3RA29 13-3EA1**	5 units		**3RA29 13-3EA2**	5 units
3RT20 2	**S0-S0**	Top (in-phase)		**3RA29 23-3DA1**	5 units		**3RA29 23-3DA2**	5 units
		Bottom (with phase reversal)		**3RA29 23-3EA1**	5 units		**3RA29 23-3EA2**	5 units
Mechanical connectors								
		For lateral interlock, without contactor clearance						
3RT20 1	**S00-S00**	For 3- and 4-pole contactors		**3RA29 12-2H**	10 units		**3RA29 12-2H**	10 units
3RT20 2	**S0-S0**	For 3- and 4-pole contactors		**3RA29 22-2H**	10 units		**3RA29 22-2H**	10 units

1) Version in size S0 with spring-type terminals:
Only the wiring modules for the main circuit are included.
No connectors are included for the auxiliary and control circuit.

For function modules for IO-Link and AS-Interface see page 3/61 and 3/66.

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

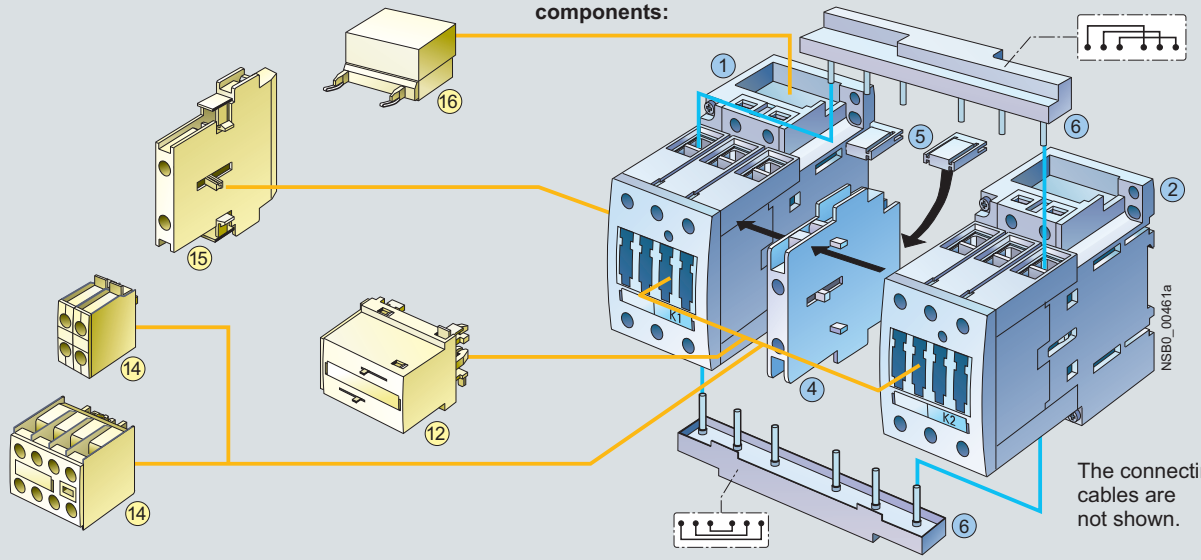
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Selection and ordering data

Fully wired and tested contactor assemblies · Size S2 · up to 22 kW

Mountable accessories (to be ordered separately):

The fully wired and tested contactor assembly includes the following components:



Accessories		Order No.	Page
12	Mechanical interlock, front	3RA19 24-1A	3/29
14	Auxiliary switch block, front	3RH19 21-1CA..	3/81
15	Auxiliary switch block, lateral	3RH19 21-1EA..	3/83
16	Surge suppressor	3RT19 26-1.... 3RT19 36-1....	3/86

Individual parts		Order No. K1	Order No. K2	Page
1 2	Contactor, 15 kW	3RT10 34	3RT10 34	3/15
1 2	Contactor, 18.5 kW	3RT10 35	3RT10 35	3/15
1 2	Contactor, 22 kW	3RT10 36	3RT10 36	3/15
4	Mechanical interlock, lateral	3RA19 24-2B		3/29
5 6	Assembly kit	3RA19 33-2A		3/29

The assembly kit contains:

5 2 connecting clips for 2 contactors with 10 mm distance

6 Wiring modules on the top and bottom for connecting the main current paths



3RA13 3.-8XB30-1...

Rated data AC-2 and AC-3					Rated control supply voltage U_s [1]	DT	Screw terminals	PS*
Operational current I_e up to	Rating of induction motors at 50 Hz and						Order No.	
500 V	230 V	**400 V**	500 V	690 V				
A	kW	**kW**	kW	kW	V			
AC operation, 50/60 Hz								
32	7.5	**15**	18.5	18.5	24 AC		**3RA13 34-8XB30-1AC2**	1 unit
					110 AC		**3RA13 34-8XB30-1AG2**	1 unit
					230 AC		**3RA13 34-8XB30-1AL2**	1 unit
40	11	**18.5**	22	22	24 AC		**3RA13 35-8XB30-1AC2**	1 unit
					110 AC		**3RA13 35-8XB30-1AG2**	1 unit
					230 AC		**3RA13 35-8XB30-1AL2**	1 unit
50	15	**22**	30	22	24 AC		**3RA13 36-8XB30-1AC2**	1 unit
					110 AC		**3RA13 36-8XB30-1AG2**	1 unit
					230 AC		**3RA13 36-8XB30-1AL2**	1 unit
DC operation								
32	7.5	**15**	18.5	18.5	24 DC		**3RA13 34-8XB30-1BB4**	1 unit
40	11	**18.5**	22	22	24 DC		**3RA13 35-8XB30-1BB4**	1 unit
50	15	**22**	30	22	24 DC		**3RA13 36-8XB30-1BB4**	1 unit

[1] Coil operating range
at 50 Hz: 0.8 ... 1.1 x U_s; at 60 Hz: 0.85 ... 1.1 x U_s.

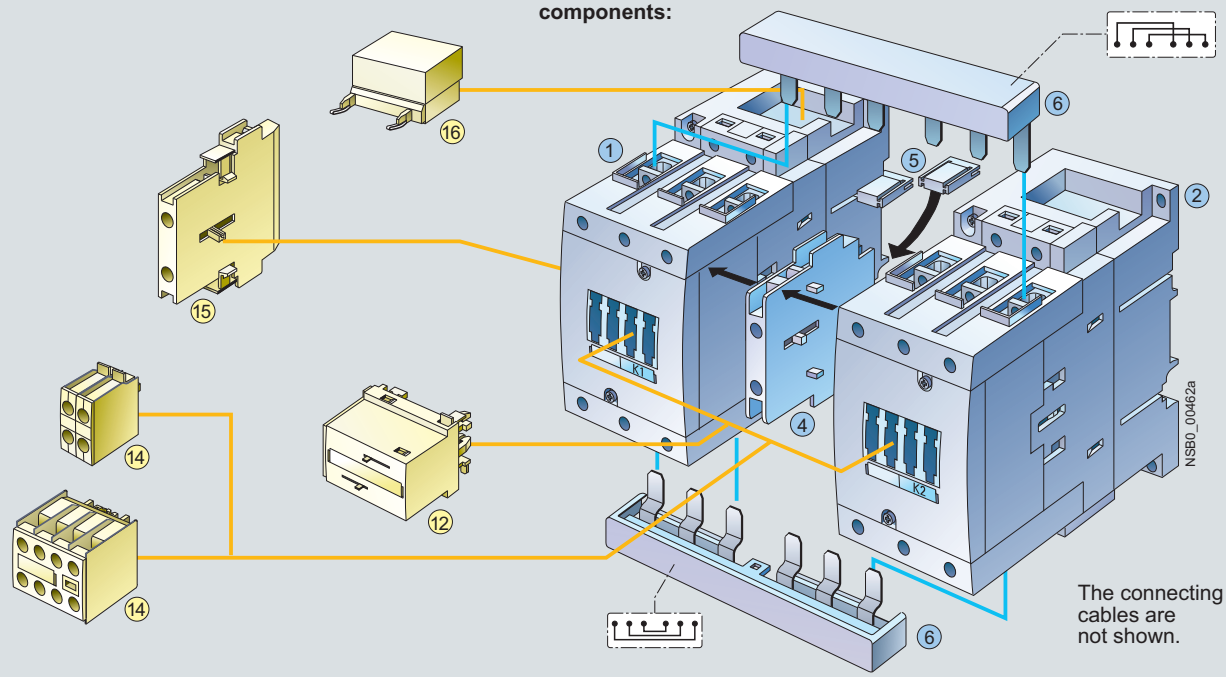
*** You can order this quantity or a multiple thereof.**
Illustrations are approximate

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SIRIUS 3RA13 reversing contactor assemblies

Fully wired and tested contactor assemblies · Size S3 · up to 45 kW

Mountable accessories (to be ordered separately): **The fully wired and tested contactor assembly includes the following components:**



Accessories		Order No.	Page
12	Mechanical interlock, front	3RA19 24-1A	3/29
14	Auxiliary switch block, front	3RH19 21-1CA..	3/81
15	Auxiliary switch block, lateral	3RH19 21-1EA..	3/83
16	Surge suppressor	3RT19 26-1.... 3RT19 36-1....	3/86

Individual parts		Order No. K1	Order No. K2	Page
1 2	Contactor, 30 kW	3RT10 44	3RT10 44	3/15
1 2	Contactor, 37 kW	3RT10 45	3RT10 45	3/15
1 2	Contactor, 45 kW	3RT10 46	3RT10 46	3/15
4	Mechanical interlock, lateral	3RA19 24-2B		3/29
	Assembly kit	3RA19 43-2A		3/29
5 6	The assembly kit contains:			
	5 2 connecting clips for 2 contactors with 10 mm distance			
	6 Wiring modules on the top and bottom for connecting the main current paths			



3RA13 4.-8XB30-1...

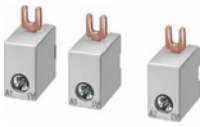
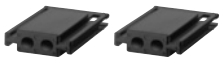
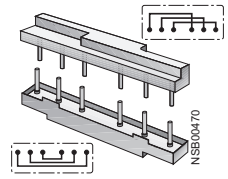
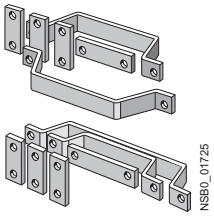
Rated data AC-2 and AC-3 Operational current I_e up to 500 V	Ratings of induction motors at 50 Hz and 230 V	400 V	500 V	690 V	Rated control supply voltage U_s [1]	DT	Screw terminals Order No.	PS*
A	kW	**kW**	kW	kW	V			
AC operation at 50/60 Hz								
65	18.5	**30**	37	45	24 AC		**3RA13 44-8XB30-1AC2**	1 unit
					110 AC		**3RA13 44-8XB30-1AG2**	1 unit
					230 AC		**3RA13 44-8XB30-1AL2**	1 unit
80	22	**37**	45	55	24 AC		**3RA13 45-8XB30-1AC2**	1 unit
					110 AC		**3RA13 45-8XB30-1AG2**	1 unit
					230 AC		**3RA13 45-8XB30-1AL2**	1 unit
95	22	**45**	55	55	24 AC		**3RA13 46-8XB30-1AC2**	1 unit
					110 AC		**3RA13 46-8XB30-1AG2**	1 unit
					230 AC		**3RA13 46-8XB30-1AL2**	1 unit
DC operation								
65	18.5	**30**	37	45	24 DC		**3RA13 44-8XB30-1BB4**	1 unit
80	22	**37**	45	55	24 DC		**3RA13 45-8XB30-1BB4**	1 unit
95	22	**45**	55	55	24 DC		**3RA13 46-8XB30-1BB4**	1 unit

[1] Coil operating range
at 50 Hz: 0.8 ... 1.1 x U_s; at 60 Hz: 0.85 ... 1.1 x U_s.

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

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Components for customer assembly

	For contactors Type	Size	Version	Order No.	PS*
Mechanical interlocks					
 3RA19 24-1A mounted onto 2 contactors	3RT10 3 3RT10 4 3RT13 3 3RT13 4 3RT14 4 3RT15 3	**S2** **S3**	**Laterally mountable**[1] Each with one auxiliary contact (1 NC contact) per contactor (can only be used to connect contactors which are not more than 1 size larger or smaller. The mounting depth of the smaller contactor has to be adapted.)	**3RA19 24-2B**	1 unit
	3RT10 3 3RT10 4	**S2** **S3**	**Can be mounted onto the front**[2] Onto contactor sizes S2 and S3 (for contactors of the same size) *Note:* *Sizes S2 and S3:* *Use 3RA19 32-2C mechanical connectors.*	**3RA19 24-1A**	1 unit
 3RA19 54-2A	3RT1. 5 3RT1. 6 3RT1. 7	**S6** **S10** **S12**	**Laterally mountable**, without auxiliary contacts Contactor sizes S6, S10 and S12 can be interlocked with each other as required; no adaptation of mounting depth is necessary. Contactor clearance 10 mm.	**3RA19 54-2A**	1 unit
Coil repeat terminals					
 3RA19 23-3B	3RT10 3 3RT10 4	**S2, S3**	For the coil terminals A1 and A2 for reversing starters (contactor sizes S2 and S3). 2 x A1 and 1 x A2 required per assembly. (1 set contains 10 x A1 and 5 x A2)	**3RA19 23-3B**	1 unit
Base plates					
	3RT10 5 3RT1. 6 3RT1. 7	**S6** **S10** **S12**	For customer assembly of reversing contactor assemblies	**3RA19 52-2A** **3RA19 62-2A** **3RA19 72-2A**	1 unit 1 unit 1 unit
Assembly kits for making 3-pole contactor assemblies					
  3RA19 33-2A	3RT10 3	**S2**	The assembly kit contains: 2 connecting clips for 2 contactors; wiring modules on the top and bottom	**3RA19 33-2A**	1 unit
	3RT10 4	**S3**	The assembly kit contains: 2 connecting clips for 2 contactors; wiring modules on the top and bottom	**3RA19 43-2A**	1 unit
 3RA19 53-2M	3RT10 5	**S6**	The assembly kit contains: Wiring modules on the top and bottom (for connection with box terminal)	**3RA19 53-2A**	1 unit
	3RT10 5 3RT1. 6 3RT1. 7	**S6** **S10** **S12**	The assembly kit contains: Wiring modules on the top and bottom (for connection without box terminal)	**3RA19 53-2M** **3RA19 63-2A** **3RA19 73-2A**	1 unit 1 unit 1 unit

[1] Can also be used for 4-pole contactors with sizes S2 and S3.

[2] Can also be used for size S0 4-pole contactors.

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

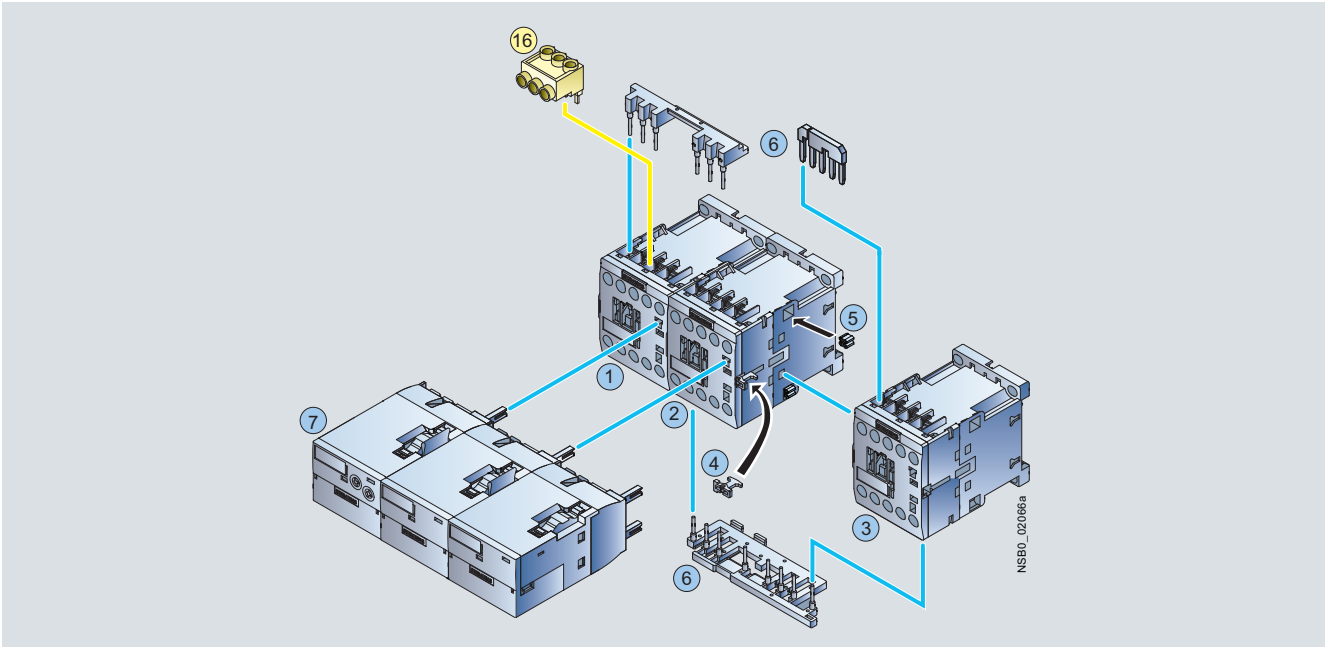
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SIRIUS 3RA24 contactor assemblies for wye-delta starting

Selection and ordering data

Fully wired and tested contactor assemblies · Size S00-S00-S00 · up to 11 kW

The figure shows the version with screw terminals



Mountable accessories

Individual parts		Order No.	Page
⑯	Three-phase feeder terminal[3]	3RA29 13-3K	3/34

Fully wired and tested contactor assemblies

Individual parts		Order No. Q11[1]	Q13[2]	Q12[2]	Page
①②③	Contactor, 5.5 kW	3RT20 15	3RT20 15	3RT20 15	3/11, 3/13
①②③	Contactor, 7.5 kW	3RT20 17	3RT20 17	3RT20 15	3/11, 3/13
①②③	Contactor, 11 kW	3RT20 18	3RT20 18	3RT20 16	3/11, 3/13
④⑤⑥	Assembly kit comprising ④ Mechanical interlock ⑤ 4 connecting clips ⑥ Wiring modules on the top and bottom for connecting the main current paths	3RA29 13-2BB1			3/34
⑦	Function modules for wye-delta starting	3RA28 16-0EW20			3/66

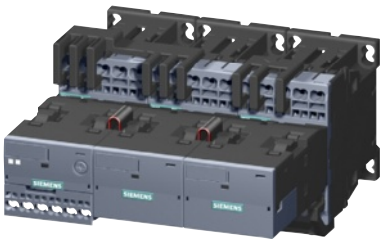
[1] Use version with 1 NO.
[2] Use version with 1 NC.
[3] Part ⑯ can only be mounted with contactors with screw terminal.

Note:

When using the function modules for contactor assemblies for wye-delta starting, no other auxiliary switches are allowed to be connected to the basic units.

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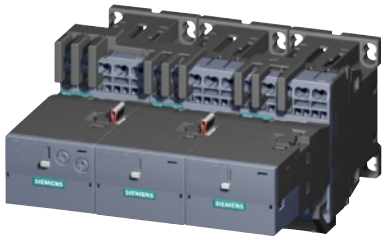
Fully wired and tested contactor assemblies · Size S00-S00-S00 · up to 11 kW



3RA24 1.-8XE31-2BB4



3RA24 1.-8XF31-1A.0



3RA24 1.-8XF31-2A.0

Rated data AC-3					Rated control supply voltage U_s [1]	DT	Screw terminals	PS*	DT	Spring-type terminals	PS*
Operational current I_e up to	Rating of induction motors at 50 Hz and						Order No.			Order No.	
400 V	230 V	**400 V**	500 V	690 V							
A	kW	**kW**	kW	kW	V						
AC operation, 50/60 Hz											
12	3.3	**5.5**	7.2	9.2	24 AC		**3RA24 15-8XF31-1AB0**	1 unit		**3RA24 15-8XF31-2AB0**	1 unit
					110 AC		**3RA24 15-8XF31-1AF0**	1 unit		**3RA24 15-8XF31-2AF0**	1 unit
					230 AC		**3RA24 15-8XF31-1AP0**	1 unit		**3RA24 15-8XF31-2AP0**	1 unit
16	4.7	**7.5**	10.3	9.2	24 AC		**3RA24 16-8XF31-1AB0**	1 unit		**3RA24 16-8XF31-2AB0**	1 unit
					110 AC		**3RA24 16-8XF31-1AF0**	1 unit		**3RA24 16-8XF31-2AF0**	1 unit
					230 AC		**3RA24 16-8XF31-1AP0**	1 unit		**3RA24 16-8XF31-2AP0**	1 unit
25	5.5	**11**	11	11	24 AC		**3RA24 17-8XF31-1AB0**	1 unit		**3RA24 17-8XF31-2AB0**	1 unit
					110 AC		**3RA24 17-8XF31-1AF0**	1 unit		**3RA24 17-8XF31-2AF0**	1 unit
					230 AC		**3RA24 17-8XF31-1AP0**	1 unit		**3RA24 17-8XF31-2AP0**	1 unit
DC operation											
12	3.3	**5.5**	7.2	9.2	24 DC		**3RA24 15-8XF31-1BB4**	1 unit		**3RA24 15-8XF31-2BB4**	1 unit
16	4.7	**7.5**	10.3	9.2	24 DC		**3RA24 16-8XF31-1BB4**	1 unit		**3RA24 16-8XF31-2BB4**	1 unit
25	5.5	**11**	11	11	24 DC		**3RA24 17-8XF31-1BB4**	1 unit		**3RA24 17-8XF31-2BB4**	1 unit
For IO-Link connection											
12	3.3	**5.5**	7.2	9.2	24 DC		**3RA24 15-8XE31-1BB4**	1 unit		**3RA24 15-8XE31-2BB4**	1 unit
16	4.7	**7.5**	10.3	9.2	24 DC		**3RA24 16-8XE31-1BB4**	1 unit		**3RA24 16-8XE31-2BB4**	1 unit
25	5.5	**11**	11	11	24 DC		**3RA24 17-8XE31-1BB4**	1 unit		**3RA24 17-8XE31-2BB4**	1 unit
For AS-Interface connection											
12	3.3	**5.5**	7.2	9.2	24 DC		**3RA24 15-8XH31-1BB4**	1 unit		**3RA24 15-8XH31-2BB4**	1 unit
16	4.7	**7.5**	10.3	9.2	24 DC		**3RA24 16-8XH31-1BB4**	1 unit		**3RA24 16-8XH31-2BB4**	1 unit
25	5.5	**11**	11	11	24 DC		**3RA24 17-8XH31-1BB4**	1 unit		**3RA24 17-8XH31-2BB4**	1 unit

[1] Coil operating range
at 50 Hz: 0.8 ... 1.1 x U_s; at 60 Hz: 0.85 ... 1.1 x U_s.

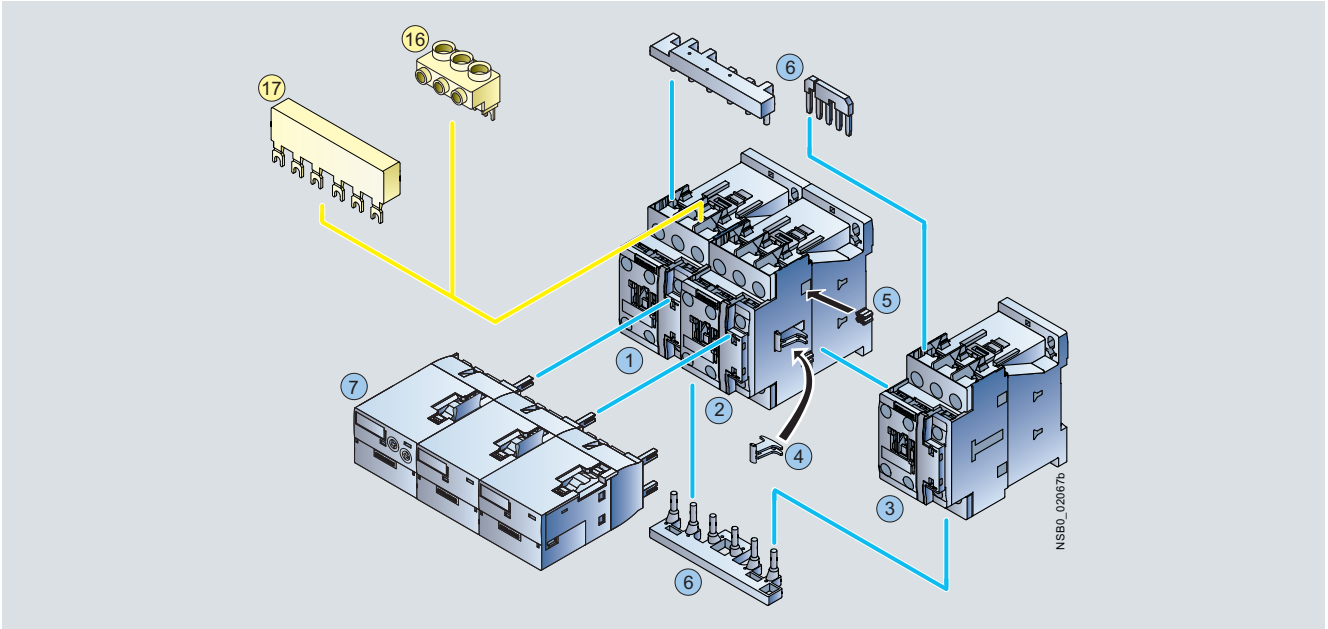
*** You can order this quantity or a multiple thereof.**
Illustrations are approximate

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SIRIUS 3RA24 contactor assemblies for wye-delta starting

Fully wired and tested contactor assemblies · Size S0-S0-S0 · up to 22 kW

The figure shows the version with screw terminals



Mountable accessories

Individual parts	Order No.	Page
(16) Three-phase feeder terminal[1)]	3RV29 25-5AB	3/34
(17) Three-phase busbar[1)]	3RV19 15-1AB	3/34

[1)] The parts (16) and (17) can only be mounted with contactors with screw terminal.

Fully wired and tested contactor assemblies

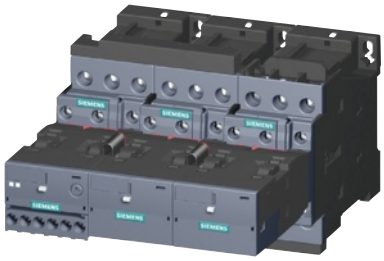
Individual parts	Order No. Q11	Q13	Q12	Page
(1)(2)(3) Contactor, 11 kW	3RT20 24	3RT20 24	3RT20 24	3/12, 3/14
(1)(2)(3) Contactor, 15/18.5 kW	3RT20 26	3RT20 26	3RT20 24	3/12, 3/14
(1)(2)(3) Contactor, 22 kW	3RT20 27	3RT20 27	3RT20 26	3/12, 3/14
(4)(5)(6) Assembly kit	3RA29 23-2BB1			3/34
The assembly kit contains: (4) Mechanical interlock (5) Connecting clips (6) Wiring modules on the top and bottom for connecting the main current paths				
(7) Function modules for wye-delta starting	3RA28 16-0EW20			3/66

Note:

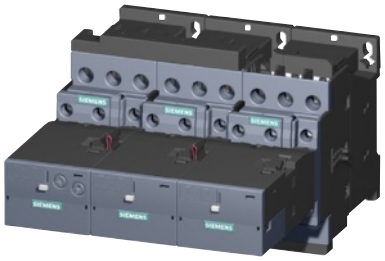
When using the function modules for contactor assemblies for wye-delta starting, no other auxiliary switches are allowed to be connected to the basic units.

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Fully wired and tested contactor assemblies · Size S0-S0-S0 · up to 22 kW



3RA24 2.-8XE32-1BB4



3RA24 2.-8XF32-1A.2



3RA24 2.-8XF32-2A.2

Rated data AC-3					Rated control supply voltage U_s [1]	DT	Screw terminals	PS*	DT	Spring-type terminals	PS*
Operational current I_e up to	Rating of induction motors at 50 Hz and						Order No.			Order No.	
400 V	230 V	**400 V**	500 V	690 V							
A	kW	**kW**	kW	kW	V						
AC operation, 50/60 Hz											
25	7.1	**11**	15.6	19	24 AC		**3RA24 23-8XF32-1AC2**	1 unit		**3RA24 23-8XF32-2AC2**	1 unit
					110 AC		**3RA24 23-8XF32-1AG2**	1 unit		**3RA24 23-8XF32-2AG2**	1 unit
					230 AC		**3RA24 23-8XF32-1AL2**	1 unit		**3RA24 23-8XF32-2AL2**	1 unit
32 / 40	11.4	**15 / 18.5**	19	19	24 AC		**3RA24 25-8XF32-1AC2**	1 unit		**3RA24 25-8XF32-2AC2**	1 unit
					110 AC		**3RA24 25-8XF32-1AG2**	1 unit		**3RA24 25-8XF32-2AG2**	1 unit
					230 AC		**3RA24 25-8XF32-1AL2**	1 unit		**3RA24 25-8XF32-2AL2**	1 unit
50	--	**22**	19	19	24 AC		**3RA24 26-8XF32-1AC2**	1 unit		**3RA24 26-8XF32-2AC2**	1 unit
					110 AC		**3RA24 26-8XF32-1AG2**	1 unit		**3RA24 26-8XF32-2AG2**	1 unit
					230 AC		**3RA24 26-8XF32-1AL2**	1 unit		**3RA24 26-8XF32-2AL2**	1 unit
DC operation											
25	7.1	**11**	15.6	19	24 DC		**3RA24 23-8XF32-1BB4**	1 unit		**3RA24 23-8XF32-2BB4**	1 unit
32 / 40	11.4	**15 / 18.5**	19	19	24 DC		**3RA24 25-8XF32-1BB4**	1 unit		**3RA24 25-8XF32-2BB4**	1 unit
50	--	**22**	19	19	24 DC		**3RA24 26-8XF32-1BB4**	1 unit		**3RA24 26-8XF32-2BB4**	1 unit
For IO-Link connection											
25	7.1	**11**	15.6	19	24 DC		**3RA24 23-8XE32-1BB4**	1 unit		**3RA24 23-8XE32-2BB4**	1 unit
32 / 40	11.4	**15 / 18.5**	19	19	24 DC		**3RA24 25-8XE32-1BB4**	1 unit		**3RA24 25-8XE32-2BB4**	1 unit
50	--	**22**	19	19	24 DC		**3RA24 26-8XE32-1BB4**	1 unit		**3RA24 26-8XE32-2BB4**	1 unit
For AS-Interface connection											
25	7.1	**11**	15.6	19	24 DC		**3RA24 23-8XH32-1BB4**	1 unit		**3RA24 23-8XH32-2BB4**	1 unit
32 / 40	11.4	**15 / 18.5**	19	19	24 DC		**3RA24 25-8XH32-1BB4**	1 unit		**3RA24 25-8XH32-2BB4**	1 unit
50	--	**22**	19	19	24 DC		**3RA24 26-8XH32-1BB4**	1 unit		**3RA24 26-8XH32-2BB4**	1 unit

[1] Coil operating range at 50 Hz: 0.8 ... 1.1 x U_s ; at 60 Hz: 0.85 ... 1.1 x U_s.

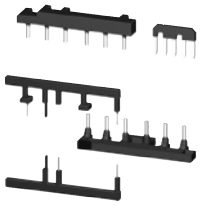
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Illustrations are approximate

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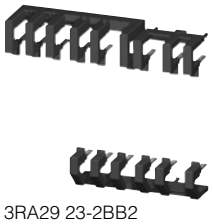
3RA23, 3RA13, 3RA24, 3RA14 Contactor Assemblies

SIRIUS 3RA24 contactor assemblies for wye-delta starting

Components for customer assembly



3RA29 23-2BB1



3RA29 23-2BB2

For contactors	Size	Version	DT	Screw terminals	PS*	DT	Spring-type terminals	PS*
Type				Order No.			Order No.	
Assembly kits[1] for making 3-pole contactor assemblies								
3RT20 1	**S00**	The assembly kit contains: mechanical interlock, 4 connecting clips, star jumper, wiring modules on the top and bottom						
		• For main, auxiliary and control circuits		**3RA29 13-2BB1**	1 unit		**3RA29 13-2BB2**	1 unit
3RT20 2	**S0**	The assembly kit contains: mechanical interlock, 4 connecting clips, star jumper, wiring modules on the top and bottom						
		• For main, auxiliary and control circuits		**3RA29 23-2BB1**	1 unit		**--**	
		• Only for main circuit[2]		**--**			**3RA29 23-2BB2**	1 unit



3RV29 25-5AB



3RV19 15-1AB



3RT19 16-4BA31



3RT29 16-4BA32

Three-phase feeder terminal								
		Feeder terminal blocks for the line contactor for large conductor cross-sections						
3RT20 1	**S00**	• Conductor cross-section 6 mm²		**3RA29 13-3K**	10 units		**--**	
3RT20 2	**S0**	• Conductor cross-section 16 mm²	►	**3RV29 25-5AB**	1 unit		**--**	
Three-phase busbars								
3RT20 2	**S0**	Bridging phase-by-phase of all input terminals of the line contactor (Q11) and the delta contactor (Q13)	►	**3RV19 15-1AB**	1 unit		**--**	
Links for paralleling, 3-pole (star jumpers)								
3RT20 1	**S00**	Without connecting terminal (the links for paralleling can be reduced by one pole)	►	**3RT19 16-4BA31**	1 unit	►	**3RT29 16-4BA32**	1 unit
3RT20 2	**S0**		►	**3RT19 26-4BA31**	1 unit	►	**3RT29 26-4BA32**	1 unit

[1] When using the function modules for wye-delta starting, the wiring modules for the auxiliary current are not required.

[2] Version in size S0 with spring-type terminals:
Only the wiring modules for the main circuit are included.
No connectors are included for the auxiliary and control circuit.

For function modules for IO-Link and AS-Interface see page 3/61 and 3/66.

Note:

When using the function modules for contactor assemblies for wye-delta starting, no other auxiliary switches are allowed to be connected to the basic units.

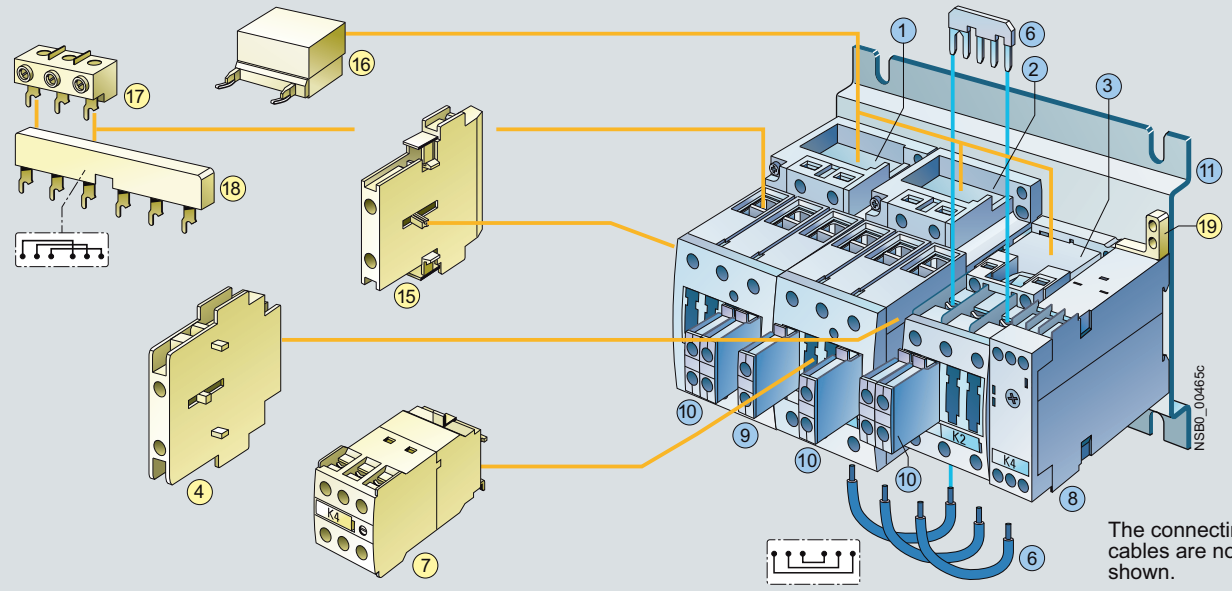
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Illustrations are approximate

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Selection and ordering data

Fully wired and tested contactor assemblies · Size S2-S2-S0 · up to 30 kW

Mountable accessories (to be ordered separately): **The fully wired and tested contactor assembly includes the following components:**



Accessories		Order No.	Page
4	Mechanical interlock, lateral Depth compensation required K3: 1.5 mm; K2: 0 mm[1]	3RA19 24-2B	3/29
7	Solid-state time-delay auxiliary switch block, front[2]	3RT19 26-2G...	3/85
15	Auxiliary switch block, lateral	3RH19 21-1EA..	3/83
16	Surge suppressor	3RT19 26-1.... 3RT19 36-1....	3/86
17	Three-phase feeder terminal	3RV19 35-5A	3/38
18	Three-phase busbar	3RV19 35-1A	3/38
19	Push-in lug[3] for screw fixing of timing relay	3RP19 03	[4]

Individual parts		Order No. K1	K3	K2	Page
1 2 3	Contactor, 22/30 kW	3RT10 34	3RT10 34	3RT10 26	3/15
8	Timing relay, lateral	3RP15 74-1N.30			[4]
9	Auxiliary switch block with 1 unassigned NO contact	3RH19 21-1CA10			3/81
10	Auxiliary switch block for local control - 2 units - 3 units	 3RH19 21-1CA01 3RH19 21-1CA10			 3/81 3/81
11	Base plate	3RA19 32-2E			3/38
6	Assembly kit	3RA19 33-2C			3/38

The assembly kit contains the star jumper on the top and the wiring module on the bottom for connecting the main current paths.

1) Use the 3RA19 32-2B base plate for this configuration.

2) Generally possible. If a solid-state time-delay auxiliary switch block is mounted onto the front of K3, a standard auxiliary switch block can only be mounted onto the side of K3.

3) Not included in the scope of supply of the preassembled contactor assemblies; can be ordered as an accessory.

4) See "Monitoring and Control Devices" --> "3RP, 7PV Timing Relays" --> "3RP15 Timing Relays in Industrial Enclosure, 22.5 mm".

Rated data AC-3					Rated control supply voltage U_s[1]	DT	Screw terminals	PS*
Operational current I_e up to	Rating of induction motors at 50 Hz and						Order No.	
400 V	230 V	**400 V**	500 V	690 V				
A	kW	**kW**	kW	kW	V			
AC operation, 50/60 Hz								
50 / 65	19.6	**22 / 30**	35	34	24 AC		**3RA14 34-8XC21-1AC2**	1 unit
					110 AC		**3RA14 34-8XC21-1AG2**	1 unit
					230 AC	►	**3RA14 34-8XC21-1AL2**	1 unit
DC operation								
50 / 65	19.6	**22 / 30**	35	34	24 DC	►	**3RA14 34-8XC21-1BB4**	1 unit



3RA14 34-8XC21-1...

1) Coil operating range at 50 Hz: 0.8 ... 1.1 x U_s; at 60 Hz: 0.85 ... 1.1 x U_s.

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

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Contactor Assemblies

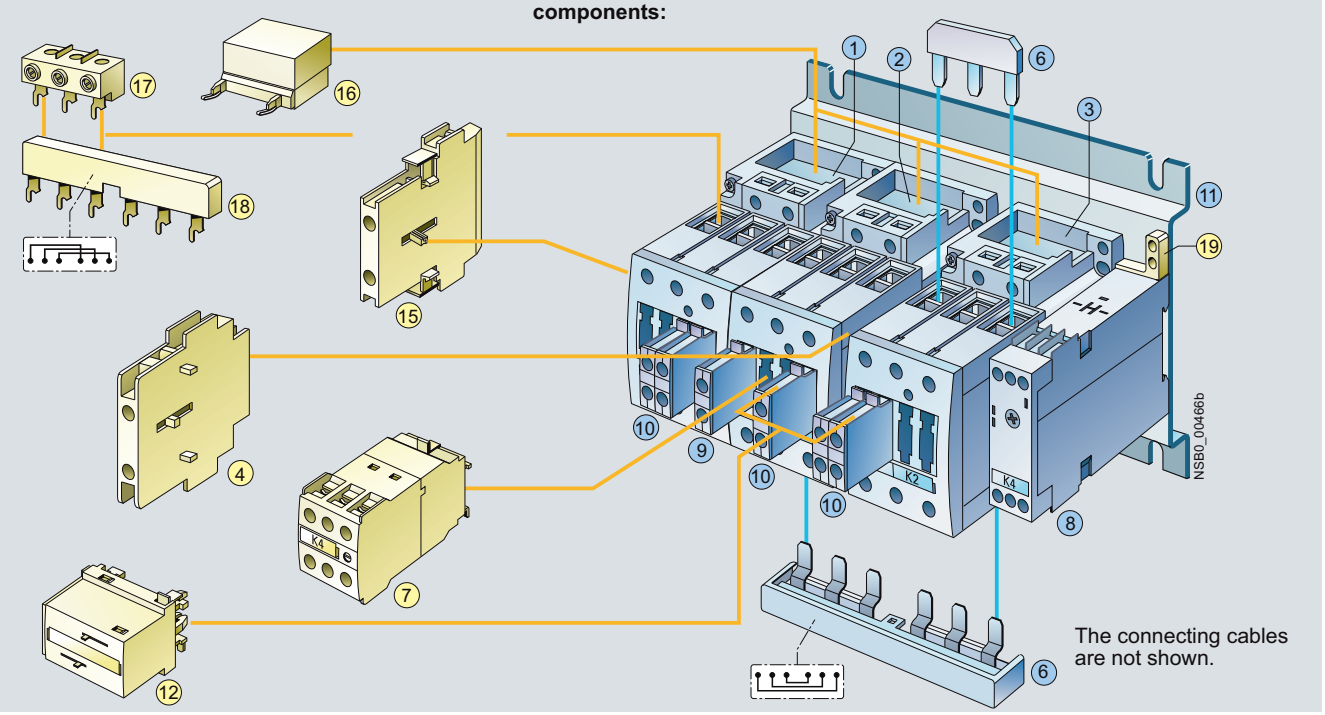
3RA23, 3RA13, 3RA24, 3RA14 Contactor Assemblies

SIRIUS 3RA14 contactor assemblies for wye-delta starting

Fully wired and tested contactor assemblies · Size S2-S2-S2 · up to 45 kW

Mountable accessories (to be ordered separately):

The fully wired and tested contactor assembly includes the following components:



Accessories		Order No.	Page
4	Mechanical interlock, lateral	3RA19 24-2B	3/29
7	Solid-state time-delay auxiliary switch block, front[1]	3RT19 26-2G...	3/85
12	Mechanical interlock, front	3RA19 24-1A	3/29
15	Auxiliary switch block, lateral	3RH19 21-1EA..	3/83
16	Surge suppressor	3RT19 26-1.... 3RT19 36-1....	3/86
17	Three-phase feeder terminal	3RV19 35-5A	3/38
18	Three-phase busbar	3RV19 35-1A	3/38
19	Push-in lug[2] for screw fixing the timing relay	3RP19 03	[3]

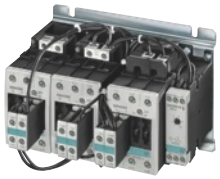
Individual parts		Order No. K1	K3	K2	Page
1 2 3	Contactor, 37 kW	3RT10 35	3RT10 35	3RT10 34	3/15
1 2 3	Contactor, 45 kW	3RT10 36	3RT10 36	3RT10 34	3/15
8	Timing relay, lateral	3RP15 74-1N.30			[3]
9	Auxiliary switch block with 1 unassigned NO contact	3RH19 21-1CA10			3/81
10	Auxiliary switch block for local control - 2 units - 3 units	 3RH19 21-1CA01 3RH19 21-1CA10			 3/81
11	Base plate	3RA19 32-2F			3/38
6	Assembly kit	3RA19 33-2B			3/38

The assembly kit contains the star jumper on the top and the wiring module on the bottom for connecting the main current paths.

[1] Generally possible. If a solid-state time-delay auxiliary switch block is mounted onto the front of K3, a standard auxiliary switch block can only be mounted onto the side of K3.

[2] Not included in the scope of supply of the preassembled contactor assemblies; can be ordered as an accessory.

[3] See "Monitoring and Control Devices" --> "3RP, 7PV Timing Relays" --> "3RP15 Timing Relays in Industrial Enclosure, 22.5 mm".



3RA14 3.-8XC21-1...

Rated data AC-3 Operational current I_e up to 400 V	Ratings of induction motors at 50 Hz and 230 V	**400 V**	500 V	690 V	Rated control supply voltage U_s[1]	DT	**Screw terminals** Order No.	PS*
A	kW	**kW**	kW	kW	V			
AC operation, 50/60 Hz								
80	25	**37**	51	63	24 AC		**3RA14 35-8XC21-1AC2**	1 unit
					110 AC		**3RA14 35-8XC21-1AG2**	1 unit
					230 AC	►	**3RA14 35-8XC21-1AL2**	1 unit
86	27	**45**	55	63	24 AC		**3RA14 36-8XC21-1AC2**	1 unit
					110 AC		**3RA14 36-8XC21-1AG2**	1 unit
					230 AC	►	**3RA14 36-8XC21-1AL2**	1 unit
DC operation								
80	25	**37**	51	63	24 DC		**3RA14 35-8XC21-1BB4**	1 unit
86	27	**45**	55	63	24 DC		**3RA14 36-8XC21-1BB4**	1 unit

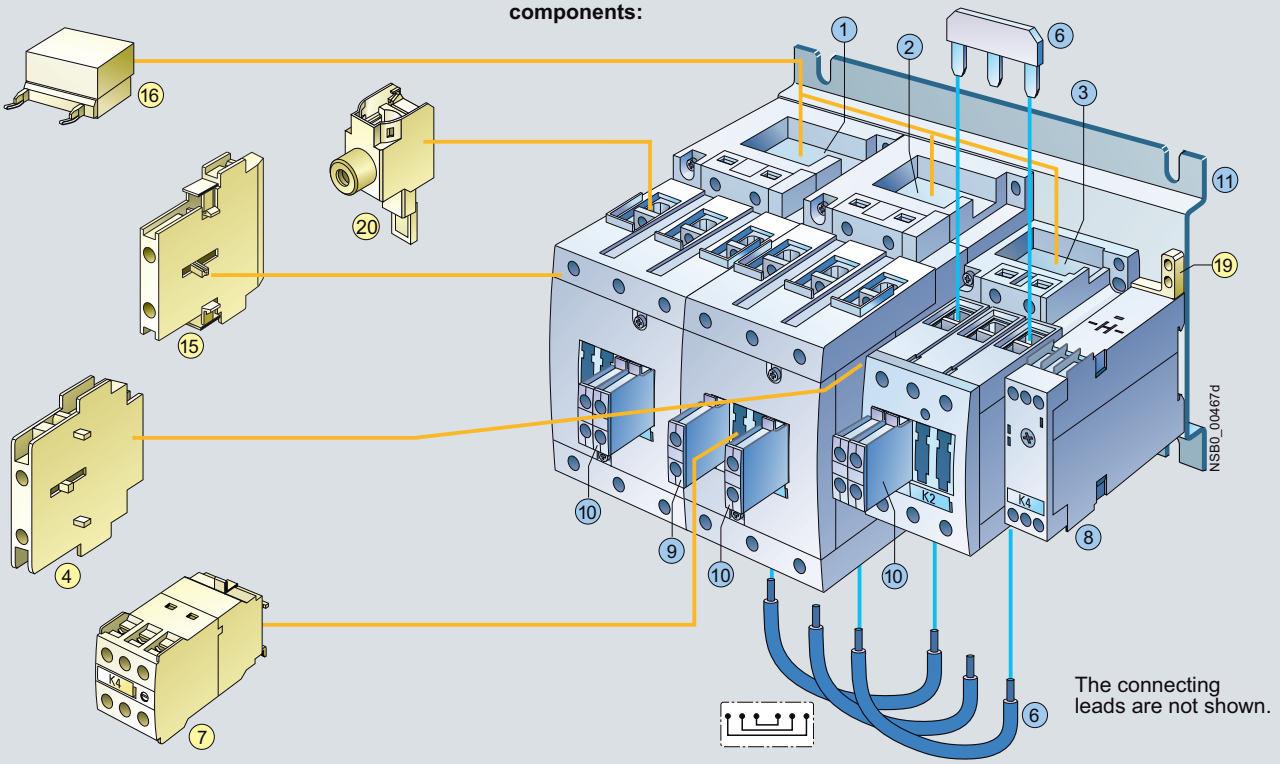
[1] Coil operating range at 50 Hz: 0.8 ... 1.1 x U_s; at 60 Hz: 0.85 ... 1.1 x U_s.

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

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Fully wired and tested contactor assemblies · Size S3-S3-S2 · up to 75 kW

Mountable accessories (to be ordered separately): **The fully wired and tested contactor assembly includes the following components:**



Accessories		Order No.	Page
4	Mechanical interlock, lateral Depth compensation required K3: 0 mm; K2: 27.5 mm[1]	3RA19 24-2B	3/29
7	Solid-state time-delay auxiliary switch block, front[2]	3RT19 26-2G...	3/85
15	Auxiliary switch block, lateral	3RH19 21-1EA..	3/83
16	Surge suppressor	3RT19 .6-1....	3/86
19	Push-in lug[3] for screw fixing the timing relay	3RP19 03	[4]
20	Single-phase feeder terminals	3RA19 43-3L	3/38

Individual parts		Order No. K1	K3	K2	Page
1 2 3	Contactor, 55 kW	3RT10 44	3RT10 44	3RT10 35	3/15
1 2 3	Contactor, 75 kW	3RT10 45	3RT10 45	3RT10 36	3/15
8	Timing relay, lateral	3RP15 74-1N.30			[4]
9	Auxiliary switch block with 1 unassigned NO contact	3RH19 21-1CA10			
10	Auxiliary switch block for local control				3/81
	- 2 units	3RH19 21-1CA01			
	- 3 units	3RH19 21-1CA10			3/81
11	Base plate	3RA19 42-2E			3/38
6	Assembly kit	3RA19 43-2C			3/38

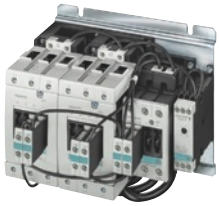
The assembly kit contains the star jumper on the top and the wiring module on the bottom for connecting the main current paths.

1) Use the 3RA19 42-2B base plate for this configuration.

2) Generally possible. If a solid-state time-delay auxiliary switch block is mounted onto the front of K3, a standard auxiliary switch block can only be mounted onto the side.

3) Not included in the scope of supply of the preassembled contactor assemblies; can be ordered as an accessory.

4) See "Monitoring and Control Devices" --> "3RP, 7PV Timing Relays" --> "3RP15 Timing Relays in Industrial Enclosure, 22.5 mm".



3RA14 4.-8XC21-1...

Rated data AC-3					Rated control supply voltage U_s[1]	DT	Screw terminals	PS*
Operational current I_e up to	Ratings of induction motors at 50 Hz and						Order No.	
400 V	230 V	**400 V**	500 V	690 V				
A	kW	**kW**	kW	kW	V			
AC operation, 50/60 Hz								
115	37	**55**	81	93	24 AC		**3RA14 44-8XC21-1AC2**	1 unit
					110 AC		**3RA14 44-8XC21-1AG2**	1 unit
					230 AC	▶	**3RA14 44-8XC21-1AL2**	1 unit
150	47	**75**	103	110	24 AC		**3RA14 45-8XC21-1AC2**	1 unit
					110 AC		**3RA14 45-8XC21-1AG2**	1 unit
					230 AC	▶	**3RA14 45-8XC21-1AL2**	1 unit
DC operation								
115	37	**55**	81	93	24 DC		**3RA14 44-8XC21-1BB4**	1 unit
150	47	**75**	103	110	24 DC		**3RA14 45-8XC21-1BB4**	1 unit

1) Coil operating range at 50 Hz: 0.8 ... 1.1 x U_s; at 60 Hz: 0.85 ... 1.1 x U_s.

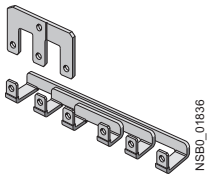
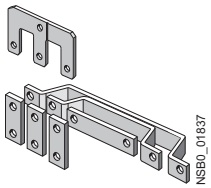
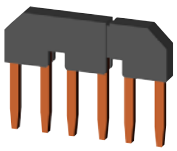
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3RA23, 3RA13, 3RA24, 3RA14 Contactor Assemblies

SIRIUS 3RA14 contactor assemblies for wye-delta starting

Components for customer assembly

	Version	Size	DT	Order No.	PS*
Assembly kits					
 NSB0_01836 3RA19 53-2B	The assembly kit contains: Star jumper, wiring module on the bottom (Wiring module on the top is not included in the scope of supply. A double infeed between the line contactor and the delta contactor is recommended.)	**S2-S2-S0** **S2-S2-S2** **S3-S3-S2** **S3-S3-S3** **S6-S6-S6** **S6-S6-S6** **S10-S10-S10** **S12-S12-S12**	▶ ▶ ▶ ▶	**3RA19 33-2C** **3RA19 33-2B** **3RA19 43-2C** **3RA19 43-2B** **3RA19 53-2B** **3RA19 53-2N** **3RA19 63-2B** **3RA19 73-2B**	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit 1 unit 1 unit
 NSB0_01837 3RA19 53-2N, 3RA19 63-2B, 3RA19 73-2B					
Single-phase feeder terminals					
	Conductor cross-section: 95 mm^2	**S3**		**3RA19 43-3L**	1 unit
Three-phase feeder terminal					
	Feeder terminal block for the line contactor for large conductor cross-sections Conductor cross-section: 50 mm^2	**S2**	▶	**3RV19 35-5A**	1 unit
Three-phase busbars					
	Bridging phase-by-phase of all input terminals of the line contactor (K1) and the delta contactor (K3)	**S2**	▶	**3RV19 35-1A**	1 unit
Links for paralleling, 3-pole (star jumpers)					
 3RT19 26-4BA31	Without connecting terminal (the links for paralleling can be reduced by one pole)	**S2** **S3** **S6**[1] **S10, S12**[1]	▶ ▶ ▶ ▶	**3RT19 36-4BA31** **3RT19 46-4BA31** **3RT19 56-4BA31** **3RT19 66-4BA31**	1 unit 1 unit 1 unit 1 unit
Base plates					
	For customer assembly of contactor assemblies for wye-delta starting with a **laterally mounted** timing relay				
	Side-by-side mounting 10 mm distance between K3 and K2 Side-by-side mounting	**S2, S2, S0** **S2, S2, S2** **S3, S3, S2**		**3RA19 32-2E** **3RA19 32-2F** **3RA19 42-2E**	1 unit 1 unit 1 unit
	10 mm distance between K1, K3 and K2	**S6, S6, S3** **S6, S6, S6** **S10, S10, S6** **S10, S10, S10** **S12, S12, S10** **S12, S12, S12**		**3RA19 52-2E** **3RA19 52-2F** **3RA19 62-2E** **3RA19 62-2F** **3RA19 72-2E** **3RA19 72-2F**	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit
	For customer assembly of contactor assemblies for wye-delta starting with **a front-mounted** timing relay, 10 mm distance between K1, K3 and K2	**S2, S2, S0** **S2, S2, S2** **S3, S3, S2**		**3RA19 32-2B** **3RA19 32-2B** **3RA19 42-2B**	1 unit 1 unit 1 unit

[1] The 3RT19 56-4EA1 (S6) or 3RT19 66-4EA1 (S10, S12) cover can be used for touch protection.

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

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SIRIUS 3RT14 contactors for resistive loads (AC-1), 3-pole, 140 ..690 A

Selection and ordering data

Size S3: AC or DC operation
Auxiliary switches: can be retrofitted

Size	Rated data AC-1, T_u: 40 °C					Rated control supply voltage U_s	DT	Screw terminals	PS*
	Operational current I_e	Ratings of AC loads (p.f. = 0.95) at						Order No.	
	Up to 690 V	230 V	400 V	500 V	690 V				
	A	kW	kW	kW	kW	V			
For screw and snap-on mounting onto TH 35 and TH 75 standard mounting rail									
	AC operation								
S3	**140**	53	92	115	159	24, 50 Hz		**3RT14 46-1AB00**	1 unit
						110, 50 Hz		**3RT14 46-1AF00**	1 unit
						230, 50 Hz	▶	**3RT14 46-1AP00**	1 unit
	DC operation · DC solenoid system								
S3	**140**	53	92	115	159	24 DC	▶	**3RT14 46-1BB40**	1 unit
						220 DC		**3RT14 46-1BM40**	1 unit



3RT14 46-1A..0

Sizes S6 to S12: UC operation (AC 40 Hz to 60 Hz/DC)
Withdrawable coils · Integrated coil circuit (varistor)
Main conductors: Busbar connections
Auxiliary and control conductors: Screw terminals

Size	Rated data AC-1, T_u: 40 °C					Auxiliary contacts		Rated control supply voltage U_s	DT	Screw terminals	PS*
	Operational current I_e	Ratings of AC loads (p.f. = 0.95) at				Version				Order No.	
	Up to 690 V	230 V	400 V	500 V	690 V						
	A	kW	kW	kW	kW	NO	NC	V			
Conventional operating mechanisms											
S6	**275**	105	180	225	310	2	2	110 ... 127	▶	**3RT14 56-6AF36**	1 unit
								220 ... 240	▶	**3RT14 56-6AP36**	1 unit
S10	**400**	151	263	329	454	2	2	110 ... 127	▶	**3RT14 66-6AF36**	1 unit
								220 ... 240	▶	**3RT14 66-6AP36**	1 unit
S12	**690**	261	454	568	783	2	2	110 ... 127		**3RT14 76-6AF36**	1 unit
								220 ... 240	▶	**3RT14 76-6AP36**	1 unit
Solid-state operating mechanisms · for 24 V DC PLC output											
S6	**275**	105	180	225	310	2	2	96 ... 127		**3RT14 56-6NF36**	1 unit
								200 ... 277		**3RT14 56-6NP36**	1 unit
S10	**400**	151	263	329	454	2	2	96 ... 127		**3RT14 66-6NF36**	1 unit
								200 ... 277		**3RT14 66-6NP36**	1 unit
S12	**690**	261	454	568	783	2	2	96 ... 127		**3RT14 76-6NF36**	1 unit
								200 ... 277		**3RT14 76-6NP36**	1 unit
Solid-state operating mechanism for 24 V DC PLC output/PLC relay output, with RLT remaining lifetime indicator											
S6	**275**	105	180	225	310	1	1	96 ... 127		**3RT14 56-6PF35**	1 unit
								200 ... 277		**3RT14 56-6PP35**	1 unit
S10	**400**	151	263	329	454	1	1	200 ... 277		**3RT14 66-6PP35**	1 unit
S12	**690**	261	454	568	783	1	1	200 ... 277		**3RT14 76-6PP35**	1 unit
Solid-state operating mechanism · with AS-Interface and RLT remaining lifetime indicator											
S6	**275**	105	180	225	310	1	1	96 ... 127		**3RT14 56-6QF35**	1 unit
								200 ... 277		**3RT14 56-6QP35**	1 unit
S10	**400**	151	263	329	454	1	1	200 ... 277		**3RT14 66-6QP35**	1 unit
S12	**690**	261	454	568	783	1	1	200 ... 277		**3RT14 76-6QP35**	1 unit



3RT14 6.

Other voltages according to page 3/19 on request.
For accessories, see page 3/81.

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

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SIRIUS 3RT23 contactors for resistive loads (AC-1), 4-pole, 4 NO, 18 ... 50 A

Overview

Mountable auxiliary contacts

Size S00: 4 auxiliary contacts, including no more than 3 NC.
Size S0: 4 additional auxiliary contacts.

Selection and ordering data

AC operation or DC operation · DC solenoid system
Main contacts: 4 NO



3RT23 1.-1A.00



3RT23 1.-2A.00



3RT23 2.-1A.00



3RT23 2.-2A.00

Rated data AC-1, T_u: 40/60 °C			Auxiliary contacts		Rated control supply voltage U_s	DT	Screw terminals	PS*	DT	Spring-type terminals	PS*
Operational current I_e	Ratings of AC loads (p.f. = 0.95) at 50 Hz and 400 V		Ident. No.	Version			Order No.			Order No.	
A	kW			NO NC	V AC						
For screw and snap-on mounting onto TH 35 standard mounting rail											
AC operation											
Size S00[1]											
Auxiliary switches can be retrofitted											
18 / 16	**12 / 11**	**--**	--	--	24, 50/60 Hz		**3RT23 16-1AB00**	1 unit		**3RT23 16-2AB00**	1 unit
					110, 50/60 Hz		**3RT23 16-1AF00**	1 unit		**3RT23 16-2AF00**	1 unit
					230, 50/60 Hz		**3RT23 16-1AP00**	1 unit		**3RT23 16-2AP00**	1 unit
22 / 20	**14.5 / 13**	**--**	--	--	24, 50/60 Hz		**3RT23 17-1AB00**	1 unit		**3RT23 17-2AB00**	1 unit
					110, 50/60 Hz		**3RT23 17-1AF00**	1 unit		**3RT23 17-2AF00**	1 unit
					230, 50/60 Hz		**3RT23 17-1AP00**	1 unit		**3RT23 17-2AP00**	1 unit
Size S0											
Terminal designations acc. to EN 50012											
35 / 30[2]	**22 / 20**	**11**	1	1	24, 50 Hz		**3RT23 25-1AB00**	1 unit		**3RT23 25-2AB00**	1 unit
					110, 50 Hz		**3RT23 25-1AF00**	1 unit		**3RT23 25-2AF00**	1 unit
					230, 50 Hz		**3RT23 25-1AP00**	1 unit		**3RT23 25-2AP00**	1 unit
40 / 35[2]	**26 / 23**	**11**	1	1	24, 50 Hz		**3RT23 26-1AB00**	1 unit		**3RT23 26-2AB00**	1 unit
					110, 50 Hz		**3RT23 26-1AF00**	1 unit		**3RT23 26-2AF00**	1 unit
					230, 50 Hz		**3RT23 26-1AP00**	1 unit		**3RT23 26-2AP00**	1 unit
50[2]	**33**	**11**	1	1	24, 50 Hz		**3RT23 27-1AB00**	1 unit		**3RT23 27-2AB00**	1 unit
					110, 50 Hz		**3RT23 27-1AF00**	1 unit		**3RT23 27-2AF00**	1 unit
					230, 50 Hz		**3RT23 27-1AP00**	1 unit		**3RT23 27-2AP00**	1 unit
DC operation · DC solenoid system											
Size S00											
Auxiliary switches can be retrofitted											
18 / 16	**12 / 11**	**--**	--	--	24 DC		**3RT23 16-1BB40**	1 unit		**3RT23 16-2BB40**	1 unit
					220 DC		**3RT23 16-1BM40**	1 unit		**3RT23 16-2BM40**	1 unit
22 / 20	**14.5 / 13**	**--**	--	--	24 DC		**3RT23 17-1BB40**	1 unit		**3RT23 17-2BB40**	1 unit
					220 DC		**3RT23 17-1BM40**	1 unit		**3RT23 17-2BM40**	1 unit
Size S0											
Terminal designations acc. to EN 50012											
35 / 30[2]	**22 / 20**	**11**	1	1	24 DC		**3RT23 25-1BB40**	1 unit		**3RT23 25-2BB40**	1 unit
					220 DC		**3RT23 25-1BM40**	1 unit		**3RT23 25-2BM40**	1 unit
40 / 35[2]	**26 / 23**	**11**	1	1	24 DC		**3RT23 26-1BB40**	1 unit		**3RT23 26-2BB40**	1 unit
					220 DC		**3RT23 26-1BM40**	1 unit		**3RT23 26-2BM40**	1 unit
50[2]	**33**	**11**	1	1	24 DC		**3RT23 27-1BB40**	1 unit		**3RT23 27-2BB40**	1 unit
					220 DC		**3RT23 27-1BM40**	1 unit		**3RT23 27-2BM40**	1 unit

Other voltages according to page 3/19 on request.
For accessories, see page 3/68.
For spare parts, see page 3/80.

[1] For size S00: Coil operating range
at 50 Hz: 0.8 ... 1.1 x U_s,
at 60 Hz: 0.85 ... 1.1 x U_s.

[2] Minimum conductor cross-section 10 mm².

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

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SIRIUS 3RT13 contactors for resistive loads (AC-1), 4-pole, 4 NO, 60 ... 140 A

Selection and ordering data

AC operation or DC operation · DC solenoid system
Main contacts: 4 NO contacts
Auxiliary switches: Can be retrofitted



3RT13 3.-1A.00



3RT13 4.-1B.40

Rated data AC-1, T_u: 40/60 °C		Rated control supply voltage U_s	DT	Screw terminals	PS*	DT	Spring-type terminals	PS*
Operational current I_e	Ratings of AC loads (p.f. = 0.95) at 50 Hz and 400 V			Order No.			Order No.	
A	kW	V						
For screw and snap-on mounting onto TH 35 standard mounting rail[1]								
AC operation								
Snap-on auxiliary switch blocks according to EN 50012 or EN 50005								
Size S2								
60 / 55	**39 / 36**	24, 50 Hz		**3RT13 36-1AB00**	1 unit		--	
		110, 50 Hz		**3RT13 36-1AF00**	1 unit		--	
		230, 50 Hz	►	**3RT13 36-1AP00**	1 unit		--	
Size S3								
110 / 100	**72 / 66**	24, 50 Hz		**3RT13 44-1AB00**	1 unit		--	
		110, 50 Hz		**3RT13 44-1AF00**	1 unit		--	
		230, 50 Hz	►	**3RT13 44-1AP00**	1 unit		--	
140 / 120	**92 / 79**	24, 50 Hz		**3RT13 46-1AB00**	1 unit		--	
		110, 50 Hz		**3RT13 46-1AF00**	1 unit		--	
		230, 50 Hz	►	**3RT13 46-1AP00**	1 unit		--	
DC operation · DC solenoid system								
Snap-on auxiliary switch blocks according to EN 50012 or EN 50005								
Size S2								
60 / 55	**39 / 36**	24 DC	►	**3RT13 36-1BB40**	1 unit		--	
		220 DC		**3RT13 36-1BM40**	1 unit		--	
Size S0)								
110 / 100	**72 / 66**	24 DC		**3RT13 44-1BB40**	1 unit		--	
		220 DC		**3RT13 44-1BM40**	1 unit		--	
140 / 120	**92 / 79**	24 DC		**3RT13 46-1BB40**	1 unit		--	
		220 DC		**3RT13 46-1BM40**	1 unit		--	

Other voltages according to page 3/19 on request.
For accessories, see page 3/81.

[1] Size S3 also for mounting on TH 75 standard mounting rails.

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

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SIRIUS 3RT25 contactors, 4-pole, 2 NO + 2 NC, 4 ... 11 kW

Overview

Size S0 contactors have 2 auxiliary contacts 1 NO and 1 NC integrated in the basic unit.

Mountable auxiliary contacts

Size S00 and S0

4 additional auxiliary contacts, including no more than 2 NC.

Note:
Single device for pole reversal; not suitable for reversing duty. 3RT25 contactors are not suitable for switching a load between 2 current sources.

Selection and ordering data

AC operation or DC operation · DC solenoid system
Main contacts: 2 NO + 2 NC


3RT25 1.-1....


3RT25 1.-2....


3RT25 2.-1....


3RT25 2.-2....

Rated data			Auxiliary contacts			Rated control supply voltage U_s	DT	Screw terminals	PS*	DT	Spring-type terminals	PS*
AC-2/AC-3, T_u: Up to 60 °C		AC-1, T_u: 40/60 °C	Ident. No.	Version								
Operational current I_e At 400 V	Rating of induction motors at 50 Hz and **400 V**	Operational current I_e		NO	NC			Order No.			Order No.	
A	**kW**	A		NO	NC	V						
For screw and snap-on mounting onto TH 35 standard mounting rail												
AC operation												
Size S00[1]												
Auxiliary switches can be retrofitted												
9	**4**	18 / 16	**--**	--	--	24, 50/60 Hz		**3RT25 16-1AB00**	1 unit		**3RT25 16-2AB00**	1 unit
						110, 50/60 Hz		**3RT25 16-1AF00**	1 unit		**3RT25 16-2AF00**	1 unit
						230, 50/60 Hz		**3RT25 16-1AP00**	1 unit		**3RT25 16-2AP00**	1 unit
12	**5.5**[2]	22 / 20	**--**	--	--	24, 50/60 Hz		**3RT25 17-1AB00**	1 unit		**3RT25 17-2AB00**	1 unit
						110, 50/60 Hz		**3RT25 17-1AF00**	1 unit		**3RT25 17-2AF00**	1 unit
						230, 50/60 Hz		**3RT25 17-1AP00**	1 unit		**3RT25 17-2AP00**	1 unit
16	**7.5**[2]	22 / 20	**--**	--	--	24, 50/60 Hz		**3RT25 18-1AB00**	1 unit		**3RT25 18-2AB00**	1 unit
						110, 50/60 Hz		**3RT25 18-1AF00**	1 unit		**3RT25 18-2AF00**	1 unit
						230, 50/60 Hz		**3RT25 18-1AP00**	1 unit		**3RT25 18-2AP00**	1 unit
Size S0												
Terminal designations acc. to EN 50011												
25	**11**	40 / 35	**11**	1	1	24, 50 Hz		**3RT25 26-1AB00**	1 unit		**3RT25 26-2AB00**	1 unit
						110, 50 Hz		**3RT25 26-1AF00**	1 unit		**3RT25 26-2AF00**	1 unit
						230, 50 Hz		**3RT25 26-1AP00**	1 unit		**3RT25 26-2AP00**	1 unit
DC operation · DC solenoid system												
Size S00												
Auxiliary switches can be retrofitted												
9	**4**	18 / 16	**--**	--	--	24 DC		**3RT25 16-1BB40**	1 unit		**3RT25 16-2BB40**	1 unit
						220 DC		**3RT25 16-1BM40**	1 unit		**3RT25 16-2BM40**	1 unit
12	**5.5**[2]	22 / 20	**--**	--	--	24 DC		**3RT25 17-1BB40**	1 unit		**3RT25 17-2BB40**	1 unit
						220 DC		**3RT25 17-1BM40**	1 unit		**3RT25 17-2BM40**	1 unit
16	**7.5**[2]	22 / 20	**--**	--	--	24 DC		**3RT25 18-1BB40**	1 unit		**3RT25 18-2BB40**	1 unit
						220 DC		**3RT25 18-1BM40**	1 unit		**3RT25 18-2BM40**	1 unit
Size S0												
Terminal designations acc. to EN 50011												
20	**11**	40 / 35	**11**	1	1	24 DC		**3RT25 26-1BB40**	1 unit		**3RT25 26-2BB40**	1 unit
						220 DC		**3RT25 26-1BM40**	1 unit		**3RT25 26-2BM40**	1 unit

Other voltages according to page 3/19 on request.
For accessories, see page 3/68.
For spare parts, see page 3/80.

[1] For size S00: Coil operating range
at 50 Hz: 0.8 ... 1.1 x U_s;
at 60 Hz: 0.85 ... 1.1 x U_s.

[2] The NC contact can switch no more than 4 kW.

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

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SIRIUS 3RT15 contactors, 4-pole, 2 NO + 2 NC, 18.5 kW

Overview

Mountable auxiliary contacts

Maximum 4 auxiliary contacts can be either laterally mounted or snapped onto the top (auxiliary switch blocks acc. to EN 50012 or EN 50005).

Note:
Single device for pole reversal; not suitable for reversing duty. 3RT15 contactors are not suitable for switching a load between two current sources.

Selection and ordering data

AC operation or DC operation · DC solenoid system
Main contacts: 2 NO + 2 NC [1)]
Auxiliary switches: Can be retrofitted



3RT15 35-1....

Rated data AC-2/AC-3, T_u: Up to 60 °C		AC-1, T_u: 40/60 °C	Rated control supply voltage U_s	DT	**Screw terminals**	PS*	DT	**Spring-type terminals**	PS*
Operational current I_e At 400 V	Ratings of induction motors at 50 Hz and **400 V**	Operational current I_e			Order No.			Order No.	
A	**kW**	A	V						
For screw and snap-on mounting onto TH 35 standard mounting rail									
AC operation									
Size S2									
Snap-on auxiliary switch blocks according to EN 50012 or EN 50005									
40	**18.5**	55 / 50	24, 50 Hz	▶	**3RT15 35-1AB00**	1 unit		--	
			110, 50 Hz		**3RT15 35-1AF00**	1 unit		--	
			230, 50 Hz		**3RT15 35-1AP00**	1 unit		--	
DC operation · DC solenoid system									
Size S2									
Snap-on auxiliary switch blocks according to EN 50012 or EN 50005									
40	**18.5**	55 / 50	24 DC	▶	**3RT15 35-1BB40**	1 unit		--	
			220 DC		**3RT15 35-1BM40**	1 unit		--	

Other voltages according to page 3/19 on request.
For accessories, see page 3/81.

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

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SIRIUS 3RT16 capacitor contactors, 12.5 ... 50 kvar

Overview

The 3RT16 capacitor contactors are special versions of the 3RT10 contactors size S00 to S3. The capacitors are precharged by means of the mounted leading NO contacts and resistors; only then do the main contacts close.

This prevents disturbances in the network and welding of the contactors.

Only discharged capacitors are permitted to be switched on with capacitor contactors.

Capacitor switching capacity of the basic 3RT10 contactor version (see note on Technical Information on page 3/1).

Auxiliary switches

The auxiliary switch block which is snapped onto the capacitor contactor contains the three leading NO contacts and in the case of S00 one standard NC contact and in the case of S0 and S3 one standard NO contact, which is unassigned. Size S00 also contains another unassigned NO contact in the basic unit.

In addition, a 2-pole auxiliary switch block can be mounted laterally on the 3RT16 47 capacitor contactors (2 NO, 2 NC or 1 NO + 1 NC versions); type 3RH19 21-1EA.. The fitting of auxiliary switches for 3RT16 17 and 3RT16 27 is not expandable.

Selection and ordering data

AC operation
Screw terminals



3RT16 17-1A.03



3RT16 27-1A.01



3RT16 47-1A.01

Utilization category AC-6b Switching of AC capacitors for an ambient temperature of 60 °C[1]				Auxiliary contacts, unassigned			Rated control supply voltage U_s[2]		DT	Screw terminals	PS*
Capacitor rating at operational voltage 50/60 Hz				Ident. No.	Version					Order No.	
At 230 V	At 400 V	At 525 V	At 690 V		NO	NC					
kvar	kvar	kvar	kvar				V AC	Hz			
For screw and snap-on mounting onto TH 35 standard mounting rail											
Size S00											
3 ... 7.5	5 ... 12.5	7.5 ... 15	10 ... 21	**11**	1	1	24	50 / 60		**3RT16 17-1AB03**	1 unit
							110			**3RT16 17-1AF03**	1 unit
							230		▶	**3RT16 17-1AP03**	1 unit
Size S0[3]											
3.5 ... 15	6 ... 25	7.8 ... 30	10 ... 42	**10**	1	--	24	50		**3RT16 27-1AB01**	1 unit
							110			**3RT16 27-1AF01**	1 unit
							230		▶	**3RT16 27-1AP01**	1 unit
Size S3											
3.5 ... 30	5 ... 50	7.5 ... 60	10 ... 84	**10**	1	--	24	50		**3RT16 47-1AB01**	1 unit
							110			**3RT16 47-1AF01**	1 unit
							230		▶	**3RT16 47-1AP01**	1 unit

Other voltages according to page 3/19 on request.
For accessories, see page 3/83.

1) For size S3: 55 °C.

2) Operating range: 0.85 ... 1.1 x U_s.

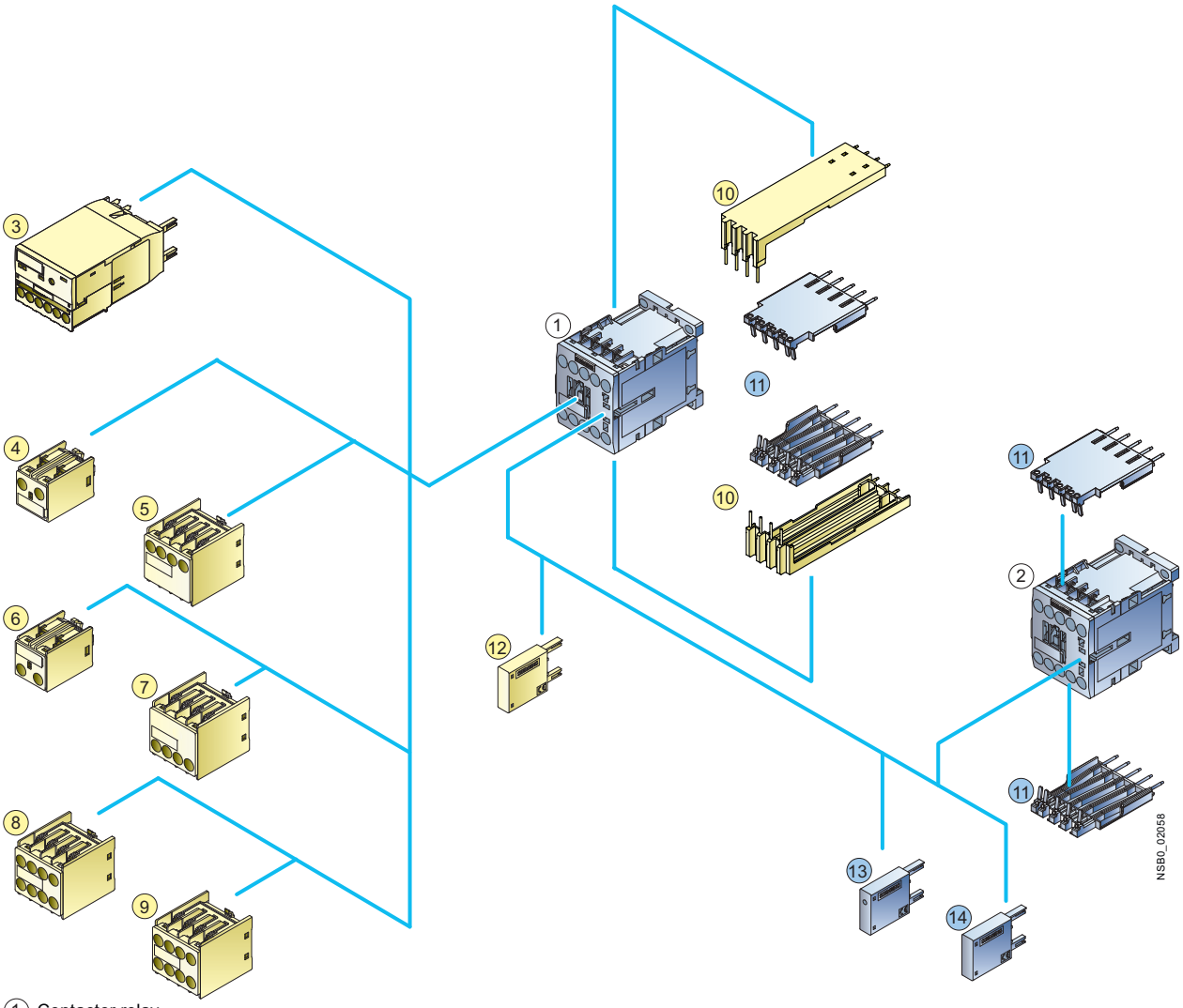
3) For conductor cross-sections > 6 mm^2 use 3RV19 25-5AB connecting terminals (2 units).

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

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Overview

Contactor relays and coupling relays
Size S00 with accessories



1 Contactor relay
2 Coupling relay for auxiliary circuits
3 Solid-state timing relay block
4 1-pole auxiliary switch block, cable entry from the top
5 2-pole auxiliary switch block, cable entry from the top
6 1-pole auxiliary switch block, cable entry from the bottom
7 2-pole auxiliary switch block, cable entry from the bottom
8 4-pole auxiliary switch block
(terminal designations according to EN 50011 or EN 50005)
9 2-pole auxiliary switch block, solid-state compatible version
(terminal designations according to EN 50005)
10 Solder pin adapter for contactor relays with 4-pole auxiliary switch block
11 Solder pin adapter for contactor and coupling relays
12 Additional load module for increasing the permissible residual current
13 Surge suppressor with LED
14 Surge suppressor without LED

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SIRIUS 3RH2 contactor relays, 4- and 8-pole

Standards

IEC 60947-1, EN 60947-1,
IEC 60947-5-1, EN 60947-5-1

The 3RH2 contactor relays have screw terminals, spring-type terminals or ring terminal lug connections. Four contacts are available in the basic unit.

The 3RH2 contactor relays are climate-proof. They are finger-safe according to EN 50274. The devices with ring terminal lug connection comply with degree of protection IP20 when fitted with the related terminal cover.

Contact reliability

High contact stability at low voltages and currents, suitable for solid-state circuits with currents ≥ 1 mA at a voltage of ≥ 17 V.

Auxiliary switch blocks

The 3RH2 contactor relays can be expanded by up to four contacts by the addition of snap-on auxiliary switch blocks.

Of the auxiliary contacts (integrated plus mountable) possible on the device, no more than four NC contacts are permitted.

In addition, fully mounted 3RH22 8-pole contactor relays are available; the mounted 4-pole auxiliary switch block in the 2nd tier is not removable. The terminal designations are according to EN 50011.

These versions are built according to special Swiss regulations SUVA and are distinguished externally by a red labeling plate.

Surge suppression

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 opening surges in the coil.

Note:
The OFF-delay of the NO contact and the ON-delay of the NC contact are increased if the contactor coils are attenuated against voltage peaks (noise suppression diode 6 to 10 times; diode assembly 2 to 6 times, varistor +2 to 5 ms).

Selection and ordering data

AC operation

Size S00



3RH21 ..-1....



3RH21 ..-2....



3RH22 ..-1....



3RH22 ..-2....

Rated operational current I_e/AC-15/AC-14 at **230 V**	Contacts Ident. No.	Version NO	Version NC	Rated control supply voltage U_s at 50/60 Hz[2]	DT	Screw terminals[1] Order No.	PS*	DT	Spring-type terminals Order No.	PS*
A				V AC						
For screw and snap-on mounting onto TH 35 standard mounting rail										
Terminal designations according to EN 50011										
10	**40E**	4	--	24	▶	**3RH21 40-1AB00**	1 unit		**3RH21 40-2AB00**	1 unit
				110	▶	**3RH21 40-1AF00**	1 unit		**3RH21 40-2AF00**	1 unit
				230	▶	**3RH21 40-1AP00**	1 unit	▶	**3RH21 40-2AP00**	1 unit
	31E	3	1	24	▶	**3RH21 31-1AB00**	1 unit		**3RH21 31-2AB00**	1 unit
				110	▶	**3RH21 31-1AF00**	1 unit	▶	**3RH21 31-2AF00**	1 unit
				230	▶	**3RH21 31-1AP00**	1 unit	▶	**3RH21 31-2AP00**	1 unit
	22E	2	2	24	▶	**3RH21 22-1AB00**	1 unit		**3RH21 22-2AB00**	1 unit
				110	▶	**3RH21 22-1AF00**	1 unit	▶	**3RH21 22-2AF00**	1 unit
				230	▶	**3RH21 22-1AP00**	1 unit	▶	**3RH21 22-2AP00**	1 unit
• **With permanently mounted auxiliary switch block**										
10[3]	**44E**	4	4	230		**3RH22 44-1AP00**	1 unit		**3RH22 44-2AP00**	1 unit
	62E	6	2	230		**3RH22 62-1AP00**	1 unit		**3RH22 62-2AP00**	1 unit

Other voltages according to page 3/47 on request.

For accessories see pages 3/68 to 3/72.

1) The 3RH21 contactor relays are also available with ring terminal lug connection. Please contact your local Siemens representative for information about the special contactor versions with ring terminal lug connection.

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_s.

3) For AC-15/AC-14 the following applies: I_e = 6 A for mounted auxiliary contacts.

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

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DC operation · DC solenoid system

Size S00



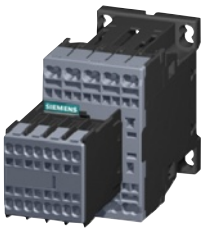
3RH21 ..-1....



3RH21 ..-2....



3RH22 ..-1....



3RH22 ..-2....

Rated operational current I_e/AC-15/AC-14 at **230 V**	Contacts Ident. No.	Version		Rated control supply voltage U_s	DT	**Screw terminals**[1]	PS*	DT	**Spring-type terminals**	PS*
						Order No.			Order No.	
A		NO	NC	V DC						
For screw and snap-on mounting onto TH 35 standard mounting rail										
Terminal designations according to EN 50011										
10	**40E**	4	--	24	▶	**3RH21 40-1BB40**	1 unit	▶	**3RH21 40-2BB40**	1 unit
				220	▶	**3RH21 40-1BM40**	1 unit		**3RH21 40-2BM40**	1 unit
	31E	3	1	24	▶	**3RH21 31-1BB40**	1 unit	▶	**3RH21 31-2BB40**	1 unit
				220	▶	**3RH21 31-1BM40**	1 unit		**3RH21 31-2BM40**	1 unit
	22E	2	2	24	▶	**3RH21 22-1BB40**	1 unit	▶	**3RH21 22-2BB40**	1 unit
				220	▶	**3RH21 22-1BM40**	1 unit		**3RH21 22-2BM40**	1 unit
• **With permanently mounted auxiliary switch block**										
10[2]	**44E**	4	4	24	▶	**3RH22 44-1BB40**	1 unit		**3RH22 44-2BB40**	1 unit
	62E	6	2	24	▶	**3RH22 62-1BB40**	1 unit		**3RH22 62-2BB40**	1 unit

Other voltages according to options on request.

For accessories see pages 3/68 to 3/72.

1) The 3RH21 contactor relays are also available with ring terminal lug connection. Please contact your local Siemens representative for information about the special contactor versions with ring terminal lug connection.

2) For AC-15/AC-14 the following applies: I_e = 6 A for mounted auxiliary contacts.

Options

Rated control supply voltages (the 10th and 11th position of the order number must be changed)

Rated control supply voltage U_s	Contactor type Control supply voltage at	3RH21
AC operation		
Solenoid coils for 50/60 Hz and 60 Hz		
50/60 Hz[1]	**60 Hz**	
24 V AC	--	B0
42 V AC	--	D0
48 V AC	--	H0
110 V AC	--	F0
220 V AC	--	N2
230 V AC	--	P0
400 V AC	--	V0
Solenoid coils for USA and Canada[2]		
50 Hz	**60 Hz**	
110 V AC	120 V AC	K6
220 V AC	240 V AC	P6
Solenoid coils for Japan[3]		
50/60 Hz	**60 Hz**	
100 V AC	110 V AC	G6
200 V AC	220 V AC	N6
400 V AC	440 V AC	R6

Rated control supply voltage U_s	Contactor type Control supply voltage at	3RH21
DC operation		
12 V DC		A4
24 V DC		B4
42 V DC		D4
48 V DC		W4
60 V DC		E4
110 V DC		F4
125 V DC		G4
220 V DC		M4
230 V DC		P4

1) Coil operating range
at 50 Hz: 0.8 to 1.1 x U_s
at 60 Hz: 0.85 to 1.1 x U_s.

2) Coil operating range
at 50 Hz: 0.85 to 1.1 x U_s
at 60 Hz: 0.8 to 1.1 x U_s.

3) Coil operating range
at 50/60 Hz: 0.85 to 1.1 x U_s
at 60 Hz: 0.8 to 1.1 x U_s.

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

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SIRIUS 3RH24 latched contactor relays, 4-pole

Overview

Standards

IEC 60947-1, EN 60947-1,
IEC 60947-5-1, EN 60947-5-1

The terminal designations comply with EN 50011.

Auxiliary switches

The number of auxiliary contacts can be extended by means of front auxiliary switch blocks (max. 4 contacts).

Control circuit

The contactor coil and the coil of the release solenoid are both designed for uninterrupted duty.

RC elements, varistors, diodes or diode assemblies can be fitted to both coils from the front for damping opening surges in the coil.

The contactor relay can also be switched on and released manually (for minimum actuating times see note on technical specifications on page 3/1).

Selection and ordering data



3RH24 . . -1. . . .

Rated operational current I_e/AC-15/AC-14 at **230 V**	Contacts Ident. No. acc. to EN 50011	Version NO	Version NC	Rated control supply voltage U_s	DT	**Screw terminals** Order No.	PS*
A				V			
For screw and snap-on mounting onto TH 35 standard mounting rail							
Terminal designations according to EN 50011							
AC operation							
				AC 50/60 Hz[1]			
10	**40 E**	4	--	24		**3RH24 40-1AB00**	1 unit
				110		**3RH24 40-1AF00**	1 unit
				230		**3RH24 40-1AP00**	1 unit
	31 E	3	1	24		**3RH24 31-1AB00**	1 unit
				110		**3RH24 31-1AF00**	1 unit
				230		**3RH24 31-1AP00**	1 unit
	22 E	2	2	24		**3RH24 22-1AB00**	1 unit
				110		**3RH24 22-1AF00**	1 unit
				230		**3RH24 22-1AP00**	1 unit
DC operation · DC solenoid system							
				DC			
10	**40 E**	4	--	24		**3RH24 40-1BB40**	1 unit
				110		**3RH24 40-1BF40**	1 unit
				220		**3RH24 40-1BM40**	1 unit
	31 E	3	1	24		**3RH24 31-1BB40**	1 unit
				110		**3RH24 31-1BF40**	1 unit
				220		**3RH24 31-1BM40**	1 unit
	22 E	2	2	24		**3RH24 22-1BB40**	1 unit
				110		**3RH24 22-1BF40**	1 unit
				220		**3RH24 22-1BM40**	1 unit

For accessories see pages 3/68 to 3/72.

[1] Coil operating range
at 50 Hz: 0.8 to 1.1 x U_s
at 60 Hz: 0.85 to 1.1 × U_s.

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

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Overview

DC operation

IIEC 60947-1, EN 60947-1,
IEC 60947-5-1, EN 60947-5-1

The 3RH21 coupling relays for switching auxiliary circuits are tailored to the special requirements of working with electronic controls.

The 3RH21 coupling relays cannot be extended with auxiliary switch blocks.

Coupling relays have a low power consumption and an extended coil operating range.

Depending on the version, the solenoid coils are supplied either without overvoltage damping (3RH21 ..-.HB40 or 3RH21 ..-.MB40-0KT0 versions) or with a diode or suppressor diode connected as standard.

Selection and ordering data

DC operation
Low power consumption

Extended operating range of the solenoid coil
Integrated coil circuit



3RH21 ..-1.B40



3RH21 ..-2.B40

Rated operational current I_e/AC-15/AC-14 at **230 V**	Auxiliary contacts Ident. No. acc. to EN 50011	Version		DT	Screw terminals	PS*	DT	Spring-type terminals	PS*
					Order No.			Order No.	
A		NO	NC						
For screw and snap-on mounting onto TH 35 standard mounting rail									
Size S00									
Terminal designations according to EN 50011 (no auxiliary switch blocks can be mounted)									
Diode, varistor or RC element, attachable									
Rated control supply voltage U_s = 24 V DC, coil operating range **0.7 to 1.25 x U_s** Power consumption of the coils **2.8 W** at 24 V									
10	**40E**	4	--		**3RH21 40-1HB40**	1 unit		**3RH21 40-2HB40**	1 unit
	31E	3	1		**3RH21 31-1HB40**	1 unit		**3RH21 31-2HB40**	1 unit
	22E	2	2		**3RH21 22-1HB40**	1 unit		**3RH21 22-2HB40**	1 unit
Rated control supply voltage U_s = 24 V DC, coil operating range **0.85 to 1.85 x U_s** Power consumption of the coils **1.6 W** at 24 V									
10	**40E**	4	--		**3RH21 40-1MB40-0KT0**	1 unit		**3RH21 40-2MB40-0KT0**	1 unit
	31E	3	1		**3RH21 31-1MB40-0KT0**	1 unit		**3RH21 31-2MB40-0KT0**	1 unit
	22E	2	2		**3RH21 22-1MB40-0KT0**	1 unit		**3RH21 22-2MB40-0KT0**	1 unit
With integrated coil circuit (diode)									
Rated control supply voltage U_s = 24 V DC, coil operating range **0.7 to 1.25 x U_s** Power consumption of the coils **2.8 W** at 24 V									
10	**40E**	4	--		**3RH21 40-1JB40**	1 unit		**3RH21 40-2JB40**	1 unit
	31E	3	1	▶	**3RH21 31-1JB40**	1 unit	▶	**3RH21 31-2JB40**	1 unit
	22E	2	2	▶	**3RH21 22-1JB40**	1 unit		**3RH21 22-2JB40**	1 unit
Rated control supply voltage U_s = 24 V DC, coil operating range **0.85 to 1.85 x U_s** Power consumption of the coils **1.6 W** at 24 V									
10	**40E**	4	--		**3RH21 40-1VB40**	1 unit		**3RH21 40-2VB40**	1 unit
	31E	3	1		**3RH21 31-1VB40**	1 unit		**3RH21 31-2VB40**	1 unit
	22E	2	2		**3RH21 22-1VB40**	1 unit		**3RH21 22-2VB40**	1 unit
With integrated coil circuit (suppressor diode)									
Rated control supply voltage U_s = 24 V DC, coil operating range **0.7 to 1.25 x U_s** Power consumption of the coils **2.8 W** at 24 V									
10	**40E**	4	--		**3RH21 40-1KB40**	1 unit		**3RH21 40-2KB40**	1 unit
	31E	3	1	▶	**3RH21 31-1KB40**	1 unit	▶	**3RH21 31-2KB40**	1 unit
	22E	2	2	▶	**3RH21 22-1KB40**	1 unit	▶	**3RH21 22-2KB40**	1 unit
Rated control supply voltage U_s = 24 V DC, coil operating range **0.85 to 1.85 x U_s** Power consumption of the coils **1.6 W** at 24 V									
10	**40E**	4	--		**3RH21 40-1SB40**	1 unit		**3RH21 40-2SB40**	1 unit
	31E	3	1		**3RH21 31-1SB40**	1 unit		**3RH21 31-2SB40**	1 unit
	22E	2	2		**3RH21 22-1SB40**	1 unit		**3RH21 22-2SB40**	1 unit

For surge suppressors see page 3/75.

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

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SIRIUS 3RT20 coupling contactors (interface), 3-pole, 3 ... 15 kW

Application

DC operation

IEC 60947-1, EN 60947-1,
IEC 60947-4-1, EN 60947-4-1,
IEC 60947-5-1, EN 60947-5-1 (auxiliary switches)

The 3RT20 coupling contactors for switching motors are tailored to the special requirements of working with electronic controls.

The 3RT20 1 coupling contactors cannot be extended with auxiliary switch blocks.

Coupling contactors have a low power consumption and an extended solenoid coil operating range.

Depending on the version, the solenoid coils are supplied either without overvoltage damping (3RT20 1.-1HB4. and 3RT20 1.-.MB4.-0KT0) or with a diode, suppressor diode or varistor connected as standard.

Selection and ordering data

DC operation
Low power consumption
Extended operating range of the solenoid coil



3RT20 1.-1.B4.



3RT20 1.-2.B4.

Rated data AC-2 and AC-3 T_u: Up to 60 °C		Auxiliary contacts			DT	Screw terminals	PS*	DT	Spring-type terminals	PS*
Operational current I_e up to	Rating of induction motors at 50 Hz and	Ident. No.	Version			Order No.			Order No.	
400 V	**400 V**		NO	NC						
A	**kW**									
For screw and snap-on mounting onto TH 35 standard mounting rail										
Size S00										
Diode, varistor or RC element, attachable										
Terminal designations according to EN 50012 (no auxiliary switch blocks can be mounted)										
Rated control supply voltage U_s = 24 V DC, coil operating range **0.7 to 1.25** x U_s										
Power consumption of the coils **2.8 W** at 24 V										
7	**3**	**10**	1	--		**3RT20 15-1HB41**	1 unit		**3RT20 15-2HB41**	1 unit
		01	--	1		**3RT20 15-1HB42**	1 unit		**3RT20 15-2HB42**	1 unit
9	**4**	**10**	1	--		**3RT20 16-1HB41**	1 unit		**3RT20 16-2HB41**	1 unit
		01	--	1		**3RT20 16-1HB42**	1 unit		**3RT20 16-2HB42**	1 unit
12	**5.5**	**10**	1	--		**3RT20 17-1HB41**	1 unit		**3RT20 17-2HB41**	1 unit
		01	--	1	▶	**3RT20 17-1HB42**	1 unit		**3RT20 17-2HB42**	1 unit
Rated control supply voltage U_s = 24 V DC, coil operating range **0.85 to 1.85 x U_s**										
Power consumption of the coils **1.6 W** at 24 V										
7	**3**	**10**	1	--		**3RT20 15-1MB41-0KT0**	1 unit		**3RT20 15-2MB41-0KT0**	1 unit
		01	--	1		**3RT20 15-1MB42-0KT0**	1 unit		**3RT20 15-2MB42-0KT0**	1 unit
9	**4**	**10**	1	--		**3RT20 16-1MB41-0KT0**	1 unit		**3RT20 16-2MB41-0KT0**	1 unit
		01	--	1		**3RT20 16-1MB42-0KT0**	1 unit		**3RT20 16-2MB42-0KT0**	1 unit
12	**5.5**	**10**	1	--		**3RT20 17-1MB41-0KT0**	1 unit		**3RT20 17-2MB41-0KT0**	1 unit
		01	--	1		**3RT20 17-1MB42-0KT0**	1 unit		**3RT20 17-2MB42-0KT0**	1 unit
With integrated coil circuit (diode)										
Terminal designations according to EN 50012 (no auxiliary switch blocks can be mounted)										
Rated control supply voltage U_s = 24 V DC, coil operating range **0.7 to 1.25** x U_s										
Power consumption of the coils **2.8 W** at 24 V										
7	**3**	**10**	1	--		**3RT20 15-1JB41**	1 unit		**3RT20 15-2JB41**	1 unit
		01	--	1		**3RT20 15-1JB42**	1 unit		**3RT20 15-2JB42**	1 unit
9	**4**	**10**	1	--	▶	**3RT20 16-1JB41**	1 unit		**3RT20 16-2JB41**	1 unit
		01	--	1	▶	**3RT20 16-1JB42**	1 unit		**3RT20 16-2JB42**	1 unit
12	**5.5**	**10**	1	--		**3RT20 17-1JB41**	1 unit		**3RT20 17-2JB41**	1 unit
		01	--	1		**3RT20 17-1JB42**	1 unit		**3RT20 17-2JB42**	1 unit

For surge suppressors see page 3/75.

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

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SIRIUS 3RT20 coupling contactors (interface), 3-pole, 3 ... 15 kW

DC operation
Low power consumption
Extended operating range of the solenoid coil


3RT20 1.-1.B4.


3RT20 1.-2.B4.


3RT20 1.-1.B4.


3RT20 2.-2KB40

Rated data AC-2 and AC-3 T_u: Up to 60 °C		Auxiliary contacts			DT	Screw terminals	PS*	DT	Spring-type terminals	PS*
Operational current I_e up to	Ratings of induction motors at 50 Hz and	Ident. No.	Version			Order No.			Order No.	
400 V	**400 V**									
A	**kW**		NO	NC						
For screw and snap-on mounting onto TH 35 standard mounting rail										
Size S00										
With integrated coil circuit (diode)										
Terminal designations according to EN 50012 (no auxiliary switch blocks can be mounted)										
Rated control supply voltage U_s = 24 V DC, coil operating range **0.85 to 1.85 x U_s**										
Power consumption of the coils **1.6 W** at 24 V										
7	**3**	**10**	1	--		**3RT20 15-1VB41**	1 unit		**3RT20 15-2VB41**	1 unit
		01	--	1		**3RT20 15-1VB42**	1 unit		**3RT20 15-2VB42**	1 unit
9	**4**	**10**	1	--		**3RT20 16-1VB41**	1 unit		**3RT20 16-2VB41**	1 unit
		01	--	1		**3RT20 16-1VB42**	1 unit		**3RT20 16-2VB42**	1 unit
12	**5.5**	**10**	1	--		**3RT20 17-1VB41**	1 unit		**3RT20 17-2VB41**	1 unit
		01	--	1		**3RT20 17-1VB42**	1 unit		**3RT20 17-2VB42**	1 unit
With integrated coil circuit (suppressor diode)										
Terminal designations according to EN 50012 (no auxiliary switch blocks can be mounted)										
Rated control supply voltage U_s = 24 V DC, coil operating range **0.7 to 1.25** x **U_s**										
Power consumption of the coils **2.8 W** at 24 V										
7	**3**	**10**	1	--		**3RT20 15-1KB41**	1 unit		**3RT20 15-2KB41**	1 unit
		01	--	1		**3RT20 15-1KB42**	1 unit ▶		**3RT20 15-2KB42**	1 unit
9	**4**	**10**	1	--	▶	**3RT20 16-1KB41**	1 unit		**3RT20 16-2KB41**	1 unit
		01	--	1		**3RT20 16-1KB42**	1 unit		**3RT20 16-2KB42**	1 unit
12	**5.5**	**10**	1	--		**3RT20 17-1KB41**	1 unit ▶		**3RT20 17-2KB41**	1 unit
		01	--	1		**3RT20 17-1KB42**	1 unit ▶		**3RT20 17-2KB42**	1 unit
Rated control supply voltage U_s = 24 V DC, coil operating range **0.85 to 1.85 x U_s**										
Power consumption of the coils **1.6 W** at 24 V										
7	**3**	**10**	1	--		**3RT20 15-1SB41**	1 unit		**3RT20 15-2SB41**	1 unit
		01	--	1		**3RT20 15-1SB42**	1 unit		**3RT20 15-2SB42**	1 unit
9	**4**	**10**	1	--		**3RT20 16-1SB41**	1 unit		**3RT20 16-2SB41**	1 unit
		01	--	1		**3RT20 16-1SB42**	1 unit		**3RT20 16-2SB42**	1 unit
12	**5.5**	**10**	1	--		**3RT20 17-1SB41**	1 unit		**3RT20 17-2SB41**	1 unit
		01	--	1		**3RT20 17-1SB42**	1 unit		**3RT20 17-2SB42**	1 unit
Size S0										
With integrated coil circuit (varistor)										
Terminal designations according to EN 50012										
Rated control supply voltage U_s = 24 V DC, coil operating range **0.7 to 1.25 x U_s**										
Power consumption of the coils **4.5 W** at 24 V										
12	**5.5**	**11**	1	1	▶	**3RT20 24-1KB40**	1 unit		**3RT20 24-2KB40**	1 unit
16	**7.5**	**11**	1	1		**3RT20 25-1KB40**	1 unit		**3RT20 25-2KB40**	1 unit
25	**11**	**11**	1	1	▶	**3RT20 26-1KB40**	1 unit		**3RT20 26-2KB40**	1 unit
32	**15**	**11**	1	1	▶	**3RT20 27-1KB40**	1 unit		**3RT20 27-2KB40**	1 unit

For accessories, see page 3/72.

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Illustrations are approximate

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Overview

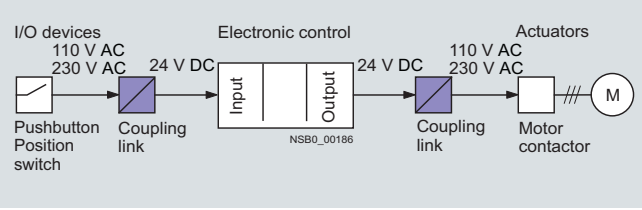
AC and DC operation

EN 60947-5-1

In the coupling links in double-decker design, the connections are arranged on two levels; the units are extremely compact. Connection method: screw or spring-type terminals. For test purposes, versions are available with manual-0-automatic switches.

The input and output coupling links differ with regard to the positioning of the terminals and the LEDs. For equipment identification purposes, each coupling link has a blank labeling plate.

The semiconductor couplers have a low power consumption and are therefore particularly well suited for solid-state systems.



Application example: Motor control

Note:
With semiconductors, the switching current is not dependent on the inductance of the load, i. e. the switching current for a DC-13 load is the same as that for an inductive 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 any number of operating cycles because this does not affect the endurance of the semiconductor provided it is not overheated.

Selection and ordering data

AC and DC operation · for snap-on mounting onto TH 35 standard mounting rail

	Rated control supply voltage U_s at AC 50/60 Hz	Operating range	Contacts Version		Width W	DT	Order No.	PS*
	V		NO	CO	mm			
3TX7 002 relay coupling links with screw terminals								
 3TX7 002-1....	**Output coupling links**						**Screw terminals**	
	24 AC/DC	0.8 ... 1.25 U_s	1	--	11.5	▶	**3TX7 002-1AB00**	1 unit
	24 AC/DC	0.8 ... 1.25 U_s	1[1)]	--	11.5	▶	**3TX7 002-1AB02**	1 unit
	24 AC/DC	0.8 ... 1.25 U_s	--	1	17.5	▶	**3TX7 002-1BB00**	1 unit
	230 AC/DC	0.8 ... 1.1 U_s	--	1	17.5	▶	**3TX7 002-1BF00**	1 unit
	24 AC/DC	0.8 ... 1.25 U_s	2[2)]	--	22.5	▶	**3TX7 002-1CB00**	1 unit
	24 AC/DC	0.8 ... 1.25 U_s	--	2[1) 2)]	22.5	▶	**3TX7 002-1FB02**	1 unit
 3TX7 002-2....	**Input coupling links**							
	24 AC/DC	0.8 ... 1.25 U_s	1	--	11.5	▶	**3TX7 002-2AB00**	1 unit
	110 AC/DC	0.8 ... 1.1 U_s	1	--	11.5	▶	**3TX7 002-2AE00**	1 unit
	230 AC/DC[2)]	0.8 ... 1.1 U_s	1	--	11.5	▶	**3TX7 002-2AF00**	1 unit
	230 AC/DC[2)]	0.8 ... 1.1 U_s	1	--	11.5	▶	**3TX7 002-2AF05**	1 unit
	230 AC/DC	0.8 ... 1.1 U_s	--	1[1) 3)]	17.5	▶	**3TX7 002-2BF02**	1 unit
3TX7 003 relay coupling links with spring-type terminals								
 3TX7 003	**Output coupling links**						**Spring-type terminals**	
	24 AC/DC	0.8 ... 1.25 U_s	1	--	11.5	▶	**3TX7 003-1AB00**	1 unit
	24 AC/DC	0.8 ... 1.25 U_s	--	1	17.5	▶	**3TX7 003-1BB00**	1 unit
	24 AC/DC	0.8 ... 1.25 U_s	2[2)]	--	22.5	▶	**3TX7 003-1CB00**	1 unit
	Input coupling links							
	230 AC/DC	0.8 ... 1.1 U_s	1	--	11.5		**3TX7 003-2AF00**	1 unit

Note:
For coil voltages which are not listed, see SITOP power DC Power Supplies, e.g. 6EP1 331-2BA10 and 6EP1 731-2BA00, in Chapter 11 under "Transformers and Power Supplies".

1) Hard gold-plated contacts.

2) Different potential up to 300 V permitted; no protective separation.

3) Observe max. permissible cable length (see Technical specifications, page 3/1).

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Illustrations are approximate

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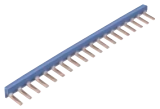
	Rated control supply voltage U_s at AC 50/60 Hz	Operating range	Contacts Version		Manual-0-auto-matic switch for testing purposes	Width W	DT	Order No.	PS*
	V		NO	CO		mm			
3TX7 004 relay couplers with screw terminals									
 3TX7 004-1LB0.	**Output coupling links**							**Screw terminals**	
	24 AC/DC	0.7 ... 1.25 U_s	--	1	Without	6.2	▶	**3TX7 004-1LB00**	1 unit
	24 AC/DC	0.7 ... 1.25 U_s	--	1[2]	Without	6.2	▶	**3TX7 004-1LB02**	1 unit
	24 AC/DC	0.7 ... 1.25 U_s	--	1	With	12.5	▶	**3TX7 004-1BB10**	1 unit
	230 AC/DC	0.8 ... 1.1 U_s	--	1	Without	6.2	▶	**3TX7 004-1LF00**	1 unit
	230 AC/DC	0.8 ... 1.1 U_s	--	1	Without	12.5[1]	▶	**3TX7 004-1BF05**	1 unit
	24 AC/DC	0.7 ... 1.25 U_s	1	--	Without	6.2	▶	**3TX7 004-1MB00**	1 unit
	230 AC/DC	0.8 ... 1.1 U_s	1	--	Without	6.2	▶	**3TX7 004-1MF00**	1 unit
	Input coupling links								
	24 AC/DC	0.7 ... 1.25 U_s	1[2]	--	Without	6.2	▶	**3TX7 004-2MB02**	1 unit
	110 AC/DC	0.8 ... 1.1 U_s	1[2]	--	Without	6.2	▶	**3TX7 004-2ME02**	1 unit
	230 AC/DC	0.8 ... 1.1 U_s	1[2]	--	Without	6.2	▶	**3TX7 004-2MF02**	1 unit
3TX7 005 relay couplers with spring-type terminals									
 3TX7 005-2MB02	**Output coupling links**							**Spring-type terminals**	
	24 AC/DC	0.7 ... 1.25 U_s	--	1	Without	6.2	▶	**3TX7 005-1LB00**	1 unit
	24 AC/DC	0.7 ... 1.25 U_s	--	1[2]	Without	6.2	▶	**3TX7 005-1LB02**	1 unit
	110 AC/DC	0.7 ... 1.25 U_s	--	1	Without	6.2		**3TX7 005-1LN00**	1 unit
	230 AC/DC	0.8 ... 1.1 U_s	--	1	Without	6.2	▶	**3TX7 005-1LF00**	1 unit
	24 AC/DC	0.7 ... 1.25 U_s	1	--	Without	6.2	▶	**3TX7 005-1MB00**	1 unit
	230 AC/DC	0.8 ... 1.1 U_s	1	--	Without	6.2	▶	**3TX7 005-1MF00**	1 unit
	Input coupling links								
	24 AC/DC	0.7 ... 1.25 U_s	1[2]	--	Without	6.2		**3TX7 005-2MB02**	1 unit
	230 AC/DC	0.8 ... 1.1 U_s	1[2]	--	Without	6.2		**3TX7 005-2MF02**	1 unit

Note:
For replacement products, see 3RS18 coupling links with industrial housing or other 3TX7 0 products.

For coil voltages which are not listed, see SITOP power DC Power Supplies, e.g. 6EP1 331-2BA10 and 6EP1 731-2BA00, in Chapter 11 under "Transformers and Power Supplies".

1) For long cables.
2) Hard gold-plated contacts.

Accessories

	For coupling links Type	Version	DT	Order No.	PS*
Connecting combs, blue					
 3TX7 004-8AA00	3TX7 004	For linking the same potentials 24 terminals, current carrying capacity for infeed max. 26 A Width 6.2 mm	▶	**3TX7 004-8AA00**	1 unit
Connecting cables, blue					
 3TX7 004-8BA00	3TX7 002 and 3TX7 004 with screw terminals 3TX7 003 and 3TX7 005 with spring-type terminals	With infeed, blue 24 terminals, current carrying capacity for infeed max. 12 A Length of cable between 2 terminals approx. 11 cm		**3TX7 004-8BA00**	1 unit

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Relay couplers with plug-in connection

Overview

Coupling links are used to connect signals from and to a PLC. The plug-in relays enable the relay to be replaced at the end of its service life without detaching the wiring. For easy linking of the signals, each terminal can be jumpered using an external connecting comb.

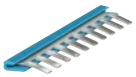
Freewheel diode with reverse polarity protection for DC supply, bridge rectifier for AC input

Note:
If inductive loads are connected in parallel, the endurance of the relay couplers can be increased.

Selection and ordering data

	Rated control supply voltage U_s at AC 50/60 Hz	Operating range	Contacts Version		DT	Screw terminals	PS*	DT	Spring-type terminals	PS*
						Order No.			Order No.	
	V		NO	CO						
Plug-in base couplers, 6.2 mm, complete with relay										
 3TX7 014-1AM00	24 DC	0.85 ... 1.1 U_s	1	--		**3TX7 014-1AM00**	5 units		**3TX7 015-1AM00**	5 units
			--	1		**3TX7 014-1BM00**	5 units		**3TX7 015-1BM00**	5 units
	24 AC/DC	0.7 ... 1.25 U_s	--	1		**3TX7 014-1BB00**	5 units		**3TX7 015-1BB00**	5 units
	115 AC/DC	0.8 ... 1.1 U_s	--	1		**3TX7 014-1BE00**	5 units		**3TX7 015-1BE00**	5 units
	230 AC/DC	0.8 ... 1.1 U_s	--	1		**3TX7 014-1BF00**	5 units		**3TX7 015-1BF00**	5 units
Plug-in base couplers, 6.2 mm, complete with relay and hard gold-plating										
	24 DC	0.85 ... 1.1 U_s	--	1		**3TX7 014-1BM02**	5 units		**3TX7 015-1BM02**	5 units
	24 AC/DC	0.7 ... 1.25 U_s	--	1		**3TX7 014-1BB02**	5 units		**3TX7 015-1BB02**	5 units
	115 AC/DC	0.8 ... 1.1 U_s	--	1		**3TX7 014-1BE02**	5 units		**3TX7 015-1BE02**	5 units
	230 AC/DC	0.8 ... 1.1 U_s	--	1		**3TX7 014-1BF02**	5 units		**3TX7 015-1BF02**	5 units

[1] The versions with hard gold-plated contacts feature high contact reliability (also for low currents) and are therefore especially suitable for steady-state inputs of programmable logic controllers.

	For coupling links Type	Version	DT	Order No.	PS*
Connecting combs, blue					
 3TX7 014-7AA00	3TX7 014 and 3TX7 015	For linking the same potentials 16 terminals, current carrying capacity for infeed max. 6 A		**3TX7 014-7AA00**	5 units
Galvanic isolation plates					
 3TX7 014-7CE00	3TX7 014 and 3TX7 015	--		**3TX7 014-7CE00**	10 units

Note:
For further information on relay replacement modules, see Catalog LV 1 · 2011 or the Industry Mall.

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

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Selection and ordering data

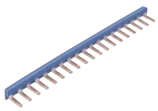
AC and DC operation · for snap-on mounting onto TH 35 standard mounting rail

	Rated control supply voltage U_s at AC 50/60 Hz	Switching voltage	Switching current	Manual-0-automatic switch for testing purposes	Width W	DT	Order No.	PS*
	V	V	A		mm			
3TX7 002 semiconductor couplers with screw terminals, 1 transistor								
 3TX7 002	**Output coupling links**						**Screw terminals**	
	24 DC	48 ... 264 AC	1.8	--	12.5	▶	**3TX7 002-3AB00**	1 unit
		< 60 DC	1.5	--	11.5	▶	**3TX7 002-3AB01**	1 unit
	Input coupling links							
	24 AC/DC	< 30 DC	0.1	--	12.5	▶	**3TX7 002-4AB00**	1 unit
	110 … 240 AC	< 30 DC	0.1	--	12.5	▶	**3TX7 002-4AG00**	1 unit
3TX7 004 semiconductor couplers with screw terminals								
 3TX7 004-3AB04	**Output coupling links**							
	24 DC	≤ 48 DC	0.5	--	6.2	▶	**3TX7 004-3AB04**	1 unit
	24 DC	11 ... 30 DC	1.5	--	6.2	▶	**3TX7 004-3PB54**	1 unit
	24 DC	≤ 30 DC	3	--	6.2	▶	**3TX7 004-3PB74**	1 unit
	110 ... 230 AC/DC	≤ 30 DC	3	--	6.2		**3TX7 004-3PG74**	1 unit
	24 DC	≤ 30 DC	5	--	12.5	▶	**3TX7 004-3AC04**	1 unit
	24 DC	≤ 30 DC	5	Yes	12.5		**3TX7 004-3AC14**	1 unit
	24 DC	24 ... 250 AC	2	--	12.5	▶	**3TX7 004-3AC03**	1 unit
	Input coupling links							
	110 ... 230 AC/DC	≤ 30 DC	0.1	--	6.2	▶	**3TX7 004-4PG24**	1 unit
3TX7 005 semiconductor couplers with spring-type terminals								
	Output coupling links						**Spring-type terminals**	
	24 DC	≤ 48 DC	0.5	--	6.2	▶	**3TX7 005-3AB04**	1 unit
	24 DC	11 ... 30 DC	1.5	--	6.2	▶	**3TX7 005-3PB54**	1 unit
	24 DC	≤ 30 DC	3	--	6.2		**3TX7 005-3PB74**	1 unit
	110 ... 230 AC/DC			--	6.2		**3TX7 005-3PG74**	1 unit
	24 DC	≤ 30 DC	5	--	12.5	▶	**3TX7 005-3AC04**	1 unit
	24 DC			Yes	12.5		**3TX7 005-3AC14**	1 unit
	24 DC	24 ... 250 AC	2	--	12.5		**3TX7 005-3AC03**	1 unit
	Input coupling links							
	110 ... 230 AC/DC	≤ 30 DC	0.1	--	6.2	▶	**3TX7 005-4PG24**	1 unit

Note:
For replacement products, see 3RS18 coupling links with industrial housing or other 3TX7 0 products.

For coil voltages which are not listed, see SITOP power DC Power Supplies, e.g. 6EP1 331-2BA10 and 6EP1 731-2BA00, in Chapter 11 "Transformers and Power Supplies".

Accessories

	For coupling links Type	Version	DT	Order No.	PS*
Connecting combs, blue					
 3TX7 004-8AA00	3TX7 004	For linking the same potentials 24 terminals, current carrying capacity for infeed max. 26 A Width 6.2 mm	▶	**3TX7 004-8AA00**	1 unit
Connecting cables, blue					
 3TX7 004-8BA00	3TX7 002 and 3TX7 004 with screw terminals 3TX7 003 and 3TX7 005 with spring-type terminals	With infeed, blue 24 terminals, current carrying capacity for infeed max. 12 A length of cable between 2 terminals approx. 11 cm in each case		**3TX7 004-8BA00**	1 unit

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

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Relay couplers

Overview

The new 3RS18 coupling relays are couplers in the proven 22.5 mm industrial enclosure. This enclosure supports the same connection methods as for the 3RP15 timing relays (see Chapter 8) including spring-type connection; 2 wires can be clamped.

The series comprises devices with up to 3 changeover contacts with screw terminals and spring-type terminals and in combination voltage and wide voltage range versions.

The relay coils are protected internally with noise suppression diodes.

Versions:

- Wide voltage range: One connection for a wide voltage range
- Combination voltage: Two connections for different voltages
- Versions with solid-state compatible outputs (hard gold-plating)
- 1, 2 or 3 changeover contacts

Note:
The position of the connection points on the device is based on the principle of logical separation, i. e. the coil terminals A1, A2, A3 are above and the terminals for the changeover contacts 11, 12, 14 etc. are below.

Selection and ordering data

	Rated control supply voltage U_s at AC 50/60 Hz	Operating range	Connection U_s	Contacts Version	DT	Order No.	PS*
	V			CO contact			
Coupling relays with industrial housing with screw terminals, 22.5 mm							
 3RS18 00-1....	**Wide voltage range**					**Screw terminals**	
	24 ... 240 AC/DC	0.85 ... 1.1 U_s	A1 - A2	2		**3RS18 00-1BW00**	1 unit
				3		**3RS18 00-1HW00**	1 unit
				3 [1]		**3RS18 00-1HW01**	1 unit
	Combination voltage						
	24 AC/DC and 110 ... 120 AC	0.85 ... 1.1 U_s 0.85 ... 1.1 U_s	A3 - A2 or A1 - A2	1		**3RS18 00-1AQ00**	1 unit
				2		**3RS18 00-1BQ00**	1 unit
				3		**3RS18 00-1HQ00**	1 unit
				3 [1]		**3RS18 00-1HQ01**	1 unit
	24 AC/DC and 220 ... 240 AC	0.85 ... 1.1 U_s 0.85 ... 1.1 U_s	A3 - A2 or A1 - A2	1		**3RS18 00-1AP00**	1 unit
				2		**3RS18 00-1BP00**	1 unit
				3		**3RS18 00-1HP00**	1 unit
				3 [1]		**3RS18 00-1HP01**	1 unit
Coupling relays with industrial housing with spring-type terminals, 22.5 mm							
	Wide voltage range					**Spring-type terminals**	
	24 ... 240 AC/DC	0.85 ... 1.1 U_s	A1 - A2	2		**3RS18 00-2BW00**	1 unit
				3		**3RS18 00-2HW00**	1 unit
				3 [1]		**3RS18 00-2HW01**	1 unit
	Combination voltage						
	24 AC/DC and 110 ... 120 AC	0.85 ... 1.1 U_s 0.85 ... 1.1 U_s	A3 - A2 or A1 - A2	1		**3RS18 00-2AQ00**	1 unit
				2		**3RS18 00-2BQ00**	1 unit
				3		**3RS18 00-2HQ00**	1 unit
				3 [1]		**3RS18 00-2HQ01**	1 unit
	24 AC/DC and 220 ... 240 AC	0.85 ... 1.1 U_s 0.85 ... 1.1 U_s	A3 - A2 or A1 - A2	1		**3RS18 00-2AP00**	1 unit
				2		**3RS18 00-2BP00**	1 unit
				3		**3RS18 00-2HP00**	1 unit
				3 [1]		**3RS18 00-2HP01**	1 unit

[1] Hard gold-plated contacts.

Accessories

	Version	Use	DT	Order No.	PS*
Protective caps and push-in lugs for industrial enclosures					
 3RP19 03	**Push-in lugs** For screw fixing, 2 units are required for each device	For devices with 1 or 2 CO contacts		**3RP19 03**	10 units
 3RP19 02	**Sealable covers** for securing against unauthorized adjustment of setting knobs	For devices with 1 or 2 CO contacts		**3RP19 02**	5 units

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

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Overview

Plug-in relay coupling links can be ordered as complete units or as individual modules for customer assembly.

Mounting

The relays are plugged into the base and this is snapped onto a TH 35 standard mounting rail according to EN 60715.

A fixing bracket can be ordered for the MT series that additionally fixes the relay into a plug-in base (under conditions of increased mechanical stress). For the RT and PT series, a combined fixing and ejection bracket is available which can be used to disassemble the relay where access is difficult, for example, when relays are mounted side-by-side.

They can be mounted as required.

Function

The semiconductor couplers have a low power consumption and are therefore particularly well suited for solid-state systems. In the versions equipped with LEDs, these indicate the switching state. The LZS:PT/MT plug-in relay couplers have a test button. This can be used to force the plug-in relay coupler into the switching state and to lock it. This is indicated by a raised petrol-colored lever.

Surge suppression

The 24 V DC relays LZX:RT and LZX: PT with LEDs can be supplied with, all others without integral surge suppression (freewheel diode connected in parallel with A1/A2). The positive supply voltage must be connected to coil terminal A1.

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 safe isolation, transfer of the voltage of one circuit to another circuit is prevented to a suitable degree of safety (requirements and tests are described in EN 60947-1 in Appendix N).

Control with solid-state output

In the case of solid-state outputs (e.g. proximity switches) 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 plug-in relay coupler.

Selection and ordering data

	Version	Rated control supply voltage U_s at AC 50/60 Hz	Contacts, number of CO contacts	Width	DT	Order No.	PS*
		V		mm			
Complete units, 11- and 14-pole, PT series							
 LZS:PT3A5L24	**Complete units with plug-in base** for snap-on mounting onto TH 35 standard mounting rail comprising: • Coupling relays with plug-in relays • Standard plug-in base with screw terminals • LED module (version 24 V DC: LED module with freewheel diode) • Fixing/ejection brackets • Labels					**Screw terminals**	
	3 CO contacts	24 DC	3	28		**LZS:PT3A5L24**	5 units
		24 AC				**LZS:PT3A5R24**	5 units
		115 AC				**LZS:PT3A5S15**	5 units
		230 AC				**LZS:PT3A5T30**	5 units
	4 CO contacts	24 DC	4	28		**LZS:PT5A5L24**	5 units
		24 AC				**LZS:PT5A5R24**	5 units
		115 AC				**LZS:PT5A5S15**	5 units
		230 AC				**LZS:PT5A5T30**	5 units
	Complete units with plug-in base with logical separation for snap-on mounting onto TH 35 standard mounting rail comprising: • Coupling relays with plug-in relays • Plug-in base with logical isolation and screw terminals • LED module (version 24 V DC: LED module with freewheel diode) • Fixing/ejection brackets • Labels						
	4 CO contacts	24 DC	4	28		**LZS:PT5B5L24**	5 units
		24 AC				**LZS:PT5B5R24**	5 units
		115 AC				**LZS:PT5B5S15**	5 units
		230 AC				**LZS:PT5B5T30**	5 units

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

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Coupling Relays with LZS/LZX Plug-In Relays

Plug-in relay couplers

	Version	Rated control supply voltage U_s at AC 50/60 Hz	Contacts, number of CO contacts	Width	DT	Order No.	PS*
		V		mm			
Complete units, 8- and 14-pole, PT series							
	Complete units with plug-in base with logical separation for snap-on mounting onto TH 35 standard mounting rail comprising: • Coupling relays with plug-in relays • Plug-in base with logical separation and plug-in terminals (push-in) • LED module (version 24 V DC: LED module with freewheel diode) • Fixing/ejection brackets • Labels					**Plug-in terminals**	
 LZS:PT5D5L24	2 CO contacts	24 DC				**LZS:PT2D5L24**	5 units
		230 AC				**LZS:PT2D5T30**	5 units
	4 CO contacts	24 DC	4	28		**LZS:PT5D5L24**	5 units
		24 AC				**LZS:PT5D5R24**	5 units
		115 AC				**LZS:PT5D5S15**	5 units
		230 AC				**LZS:PT5D5T30**	5 units
Accessories, PT series							
 3TX7 004-8BA00	**Connecting combs for PT screw base**						
	6-pole, 10 A current carrying capacity, natural-colored				►	**LZS:PT170R6**	10 units
	Connecting brackets for PT push-in base						
	2-pole, 10 A current carrying capacity, natural-colored				►	**LZS:PT170P1**	10 units

	Version	Rated control supply voltage U_s at AC 50/60 Hz	Contacts, number of CO contacts	Width	DT	Order No.	PS*
		V		mm			
Individual modules for customer assembly, MT series							
	Industrial relays, 11-pole						
 LZX:MT326024	**Industrial relays with test bracket**						
	Without LED	24 DC	3	35.5		**LZX:MT321024**	1 unit
	With LED				►	**LZX:MT323024**	1 unit
	Without LED	24 AC	3	35.5		**LZX:MT326024**	1 unit
	With LED					**LZX:MT328024**	1 unit
	Without LED	115 AC	3	35.5		**LZX:MT326115**	1 unit
	With LED					**LZX:MT328115**	1 unit
	Without LED	230 AC	3	35.5		**LZX:MT326230**	1 unit
	With LED					**LZX:MT328230**	1 unit
 LZS:MT78750	**Plug-in bases** for mounting onto TH 35 standard mounting rail					**Screw terminals**	
			--	38	►	**LZS:MT78750**	1 unit
	Retaining brackets						
		--	--	38	►	**LZS:MT28800**	1 unit

Note:
For individual modules for customer assembly, PT series, see the Industry Mall or Interactive Catalog CA 01.

Note:
For coil voltages which are not listed see SITOP Power DC power supplies, e.g. 6EP1 331-2AB10 and 6EP1 731-2AB00, in Chapter 11 "Transformers and Power Supplies".

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Illustrations are approximate

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	Version	Rated control supply voltage U_s at AC 50/60 Hz	Contacts, number of CO contacts	Width	DT	Order No.	PS*
		V		mm			
Complete units, 8-pole, 5 mm pinning, RT series							
 LZS:RT4A4T30	**Complete units with plug-in base** for snap-on mounting onto TH 35 standard mounting rail comprising: • Coupling relays with plug-in relays • Standard plug-in base with screw terminals • LED module (version 24 V DC: LED module with freewheel diode) • Fixing/ejection brackets • Labels					**Screw terminals** ⊕	
	1 CO contact	24 DC	1	15.5		**LZS:RT3A4L24**	5 units
		24 AC				**LZS:RT3A4R24**	5 units
		115 AC				**LZS:RT3A4S15**	5 units
		230 AC				**LZS:RT3A4T30**	5 units
	2 CO contacts	24 DC	2	15.5		**LZS:RT4A4L24**	5 units
		24 AC				**LZS:RT4A4R24**	5 units
		115 AC				**LZS:RT4A4S15**	5 units
		230 AC				**LZS:RT4A4T30**	5 units
 LZS:RT4B4T30	**Complete units with plug-in base with logical separation** for snap-on mounting onto TH 35 standard mounting rail comprising: • Coupling relays with plug-in relays • Plug-in base with logical isolation and screw terminals • LED module (version 24 V DC: LED module with freewheel diode) • Fixing/ejection brackets • Labels						
	1 CO contact	24 DC	1	15.5		**LZS:RT3B4L24**	5 units
		24 AC				**LZS:RT3B4R24**	5 units
		115 AC				**LZS:RT3B4S15**	5 units
		230 AC				**LZS:RT3B4T30**	5 units
	2 CO contacts	24 DC	2	15.5		**LZS:RT4B4L24**	5 units
		24 AC				**LZS:RT4B4R24**	5 units
		115 AC				**LZS:RT4B4S15**	5 units
		230 AC				**LZS:RT4B4T30**	5 units
 LZS:RT3D4L24	**Complete units with plug-in base with logical separation** for snap-on mounting onto TH 35 standard mounting rail comprising: • Coupling relays with plug-in relays • Plug-in base with logical separation and plug-in terminals (push-in) • LED module (version 24 V DC: LED module with freewheel diode) • Fixing/ejection brackets • Labels					**Plug-in terminals** ⊡	
	1 CO contact	24 DC	1	15.5		**LZS:RT3D4L24**	5 units
		24 AC				**LZS:RT3D4R24**	5 units
		115 AC				**LZS:RT3D4S15**	5 units
		230 AC				**LZS:RT3D4T30**	5 units
	2 CO contacts	24 DC	2	15.5		**LZS:RT4D4L24**	5 units
		24 AC				**LZS:RT4D4R24**	5 units
		115 AC				**LZS:RT4D4S15**	5 units
		230 AC				**LZS:RT4D4T30**	5 units
Accessories, RT series							
 3TX7 004-8BA00	**Connecting combs for RT screw base**						
	8-pole, 10 A current carrying capacity, natural-colored				►	**LZS:RT170R8**	10 units
	Connecting brackets for PT push-in base						
	2-pole, 10 A current carrying capacity, natural-colored				►	**LZS:RT170P1**	10 units

Note:
For individual modules for customer assembly, RT series, see the Industry Mall or Interactive Catalog CA 01.

Note:
For coil voltages which are not listed, see SITOP power DC Power Supplies, e.g. 6EP1 331-2BA10 and 6EP1 731-2BA00, in Chapter 11 "Transformers and Power Supplies".

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Illustrations are approximate

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3TG10 contactors, 4-pole, 4 kW

Overview

Version

The 3TG10 power relays/miniature contactors with 4 main contacts are available with screw terminals or 6.3 mm × 0.8 mm flat connectors. The versions with screw terminals are climate-proof and finger-safe according to EN 61140.

The 3TG10 miniature contactors are characterized by their width of only 36 mm.

Surge suppression

The 3TG10 power relays/miniature contactors have an integrated protective circuit against opening surges.

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.

AC and DC operation

EN 60947-1, EN 60947-4-1, EN 60947-5-1

Overload and short-circuit protection

The 3UA7 overload relay can be used for overload protection. This applies to mounting onto contactors and to stand-alone installation.

Selection and ordering data

For screw and snap-on mounting onto TH 35 standard mounting rail

Rated data Utilization category				Main contacts		Rated control supply voltage U_s	DT	Order No.	PS*
AC-1 Switching of resistive loads at 55 °C		AC-2 and AC-3		Version					
Operational current I_e up to 400 V	Power of AC loads at 50 Hz and 400 V	Operational current I_e up to 400 V[1]	Power of AC loads at 50 Hz and 400 V	NO	NC				
A	kW	A	kW			V			
4-pole · Hum-free · With screw terminals									
Terminal designations according to EN 50012									
AC operation, 45 ... 450 Hz								**Screw terminals**	
20	13	8.4	4	4	--	24 AC	▶	**3TG10 10-0AC2**	1 unit
						110 AC	▶	**3TG10 10-0AG2**	1 unit
						230 AC	▶	**3TG10 10-0AL2**	1 unit
				3	1	24 AC	▶	**3TG10 01-0AC2**	1 unit
						110 AC	▶	**3TG10 01-0AG2**	1 unit
						230 AC	▶	**3TG10 01-0AL2**	1 unit
DC operation									
20	13	8.4	4	4	--	24 DC	▶	**3TG10 10-0BB4**	1 unit
				3	1	24 DC	▶	**3TG10 01-0BB4**	1 unit
4-pole · Hum-free · With flat connectors 6.3 mm x 0.8 mm									
Terminal designations according to EN 50012									
AC operation, 45 ... 450 Hz								**Flat connectors**	
16	10	8.4	4	4	--	24 AC	▶	**3TG10 10-1AC2**	1 unit
						110 AC		**3TG10 10-1AG2**	1 unit
						230 AC	▶	**3TG10 10-1AL2**	1 unit
				3	1	24 AC		**3TG10 01-1AC2**	1 unit
						110 AC		**3TG10 01-1AG2**	1 unit
						230 AC	▶	**3TG10 01-1AL2**	1 unit
DC operation									
16	10	8.4	4	4	--	24 DC		**3TG10 10-1BB4**	1 unit
		8.4	4	3	1	24 DC		**3TG10 01-1BB4**	1 unit



3TG10 ..-0...



3TG10 ..-1...

Accessories

Version	Max. rated operational currents I_e/AC-1 (at 55 °C) of the contactors	Max. conductor cross-sections	DT	Order No.	PS*
Type		mm²			
Links for paralleling (insulated star jumpers)					
3-pole, without connecting terminal[1)2)]	16	--	▶	**3RT19 16-4BA31**	1 unit
3-pole, with connecting terminal[1)3)]	40	25	▶	**3RT19 16-4BB31**	1 unit
4-pole, with connecting terminal[1)4)]	40	25		**3RT19 16-4BB41**	1 unit

1) The links for paralleling can be reduced by one pole. The rated operational currents apply to each pole.
2) Replacement for 3TX4 490-2C.
3) Replacement for 3TX4 490-2A.
4) Replacement for 3TX4 490-2B.

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Illustrations are approximate

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Function Modules for Mounting onto SIRIUS 3RT2 Contactors

Overview

The function modules for mounting onto contactors enable the assembly of starters and contactor assemblies for direct-on-line, reversing and wye-delta starting without any additional, complicated wiring of the individual components.

They include the key control functions required for the particular feeder, e.g. timing and interlocking, and can be connected to the control system by either parallel wiring or through IO-Link or AS-Interface.

Version	SIRIUS function modules	SIRIUS function modules for IO-Link[1]	SIRIUS function modules for AS-Interface[1]
For direct-on-line starting	Timing relays: ON-delay or OFF-delay with semiconductor output With screw or spring-type terminals 	With screw or spring-type terminals 	With screw or spring-type terminals 
For reversing starting	Wiring modules for sizes S00 and S0 With screw or spring-type terminals (with screw terminals for main and control circuit) 	1 function module for size S00 and S0 with screw and spring-type terminals, plus the respective wiring modules 	1 function module for size S00 and S0 with screw and spring-type terminals, plus the respective wiring modules 
For wye-delta starting	1 function module for size S00 and S0, screw and spring-type connection of the contactors, plus the respective wiring modules[2] 	For wye-delta starting: 1 function module for size S00 and S0, screw and spring-type connection, plus the respective wiring modules[2] 	For wye-delta starting: 1 function module for size S00 and S0, screw and spring-type connection, plus the respective wiring modules[2] 
Accessories	Sealable covers 	Operator panel for autonomous controlling of up to 4 feeders Module connector for the grouping of starters Connection cable between the operator panel and the feeder group Sealable covers 	AS-Interface addressing units Sealable covers 

[1] Use of the communication-capable function modules for IO-Link or AS-Interface requires contactors with communication interface (see pages 3/13 and 3/14).

[2] The modules for the control current wiring, which are included in the wiring kit, are not required.

Note:
When using the function modules, no other auxiliary switches are allowed to be connected to the basic units.

Note:
The function modules for AS-Interface are not included in this catalog. See Catalog IC 10 · 2011 or the Industry Mall.

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SIRIUS function modules

Overview

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.

SIRIUS function modules for direct-on-line starting

All solid-state timing relays which can be mounted onto 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.

A protection circuit (varistor) is integrated in each module.

The solid-state 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.

SIRIUS function modules for reversing starting

The wiring kits for reversing starters enable the cost-effective assembly of contactor assemblies. They can be used for all applications with reversing duty up to 18.5 kW.

SIRIUS function modules for wye-delta starting

Both interlocking and timing functions are required for the assembly of wye-delta starters. With the function modules for 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 to 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 spring-type terminals in the two sizes S00 and S0. To start the wye-delta starter, only the first of the three contactors (line contactor) is actuated. All other functions then take place inside the individual modules.

This also offers advantages if the timing function was previously implemented in a control system, 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 connecting clips.

A protection circuit (varistor) is integrated in the basic module.

Application

The snap-on function modules for direct-on-line starting are used above all for realizing timing functions independently of the control system.

With the OFF-delay time 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 even if the plant and its control system have already been switched off.

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 function modules for wye-delta starting are mostly used where current-limiting measures for starting a drive are required, e.g. for large fans and ventilators, 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 error-free.

Benefits

The use of snap-on function modules for direct-on-line starting (timing relays) results in the following advantages:

- Reduction of control current wiring
- Prevention of wiring errors
- Reduction of testing costs
- Implementation of timing 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)

The use of function modules for wye-delta starting results in the following advantages:

- Operation solely through the line contactor A1/A2 – no further wiring needed
- Reduction of the control current wiring inside the contactor assembly and to the higher-level control system where applicable
- 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
- No control current wiring thanks to plug-in design and connecting cables
- Mechanically coded assembly enables easy configuration and reliable wiring
- Fewer versions – one module kit for screw and spring-type connection and for the two sizes S00 and S0
- Mechanical interlocking (with wiring kit for the main circuit)

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Function Modules for Mounting onto SIRIUS 3RT2 Contactors

Selection and ordering data



3RA28 16-0EW20



3RA28 11-1....



3RA28 12-2....

For contactors	Rated control supply voltage U_s [1]	Time setting range t	DT	Screw terminals	PS*	DT	Spring-type terminals	PS*
Type	V	s		Order No.			Order No.	
Solid-state timing relays with semiconductor output, for snapping onto the front								
	The electrical connection between the timing relay and the contactor underneath is established automatically when it is snapped on and locked.							
	With ON-delay Two-wire version, varistor integrated							
3RT20 1., 3RT20 2.[2] 3RH21 3RH24	24 ... 240 AC/DC	0.05 ...100 (1, 10, 100, selectable)		**3RA28 11-1CW10**	1 unit		**3RA28 11-2CW10**	1 unit
	OFF-delay with auxiliary voltage Varistor integrated							
3RT20 1., 3RT20 2.[2] 3RH21) 3RH24	24 ... 240 AC/DC	0.05 ...100 (1, 10, 100, selectable)		**3RA28 12-1DW10**	1 unit		**3RA28 12-2DW10**	1 unit
Assembly kits for reversing starting								
	Assembly kits for making 3-pole contactor assemblies The assembly kit contains: mechanical interlock, 2 connecting clips for 2 contactors, wiring modules on the top and bottom							
3RT20 1.	• For size S00			**3RA29 13-2AA1**	1 unit		**3RA29 13-2AA2**	1 unit
3RT20 2.	• For size S0			**3RA29 23-2AA1**	1 unit		**3RA29 23-2AA2**	1 unit
Assembly kits for wye-delta starting								
	Assembly kits for making 3-pole contactor assemblies The assembly kit contains: Mechanical interlock, 4 connecting clips for 3 contactors; star jumper, wiring modules on the top and bottom							
3RT20 1.	• For size S00			**3RA29 13-2BB1**	1 unit		**3RA29 13-2BB2**	1 unit
3RT20 2.	• For size S0 (only main current for version with spring-type terminals)			**3RA29 23-2BB1**	1 unit		**3RA29 23-2BB2**	1 unit
Function modules for wye-delta starting								
	The electrical connection between the function module and the contactor assembly is established automatically by snapping on and plugging in the connecting cables.							
	Wye-delta function (varistor integrated)							
3RT20 1., 3RT20 2.[2]	24 ... 240 AC/DC	0.5 ... 60 (10, 30, 60 selectable)		**3RA28 16-0EW20**	1 unit		**3RA28 16-0EW20**	1 unit
	Individual modules							
	24 ... 240 AC/DC	Basic modules for wye-delta starting		**3RA29 12-0**	1 unit		**3RA29 12-0**	1 unit
	--	Coupling modules for wye-delta starting		**3RA29 11-0**	1 unit		**3RA29 11-0**	1 unit
Accessories								
	Sealable covers for 3RA27, 3RA28, 3RA29			**3RA29 10- 0**	5 units		**3RA29 10- 0**	5 units

[1] AC voltage values apply for 50 Hz and 60 Hz.

[2] Cannot be fitted onto coupling relays.

Note:
When using the function modules, no other auxiliary switches are allowed to be connected to the basic units.

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

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SIRIUS function modules for IO-Link

Overview

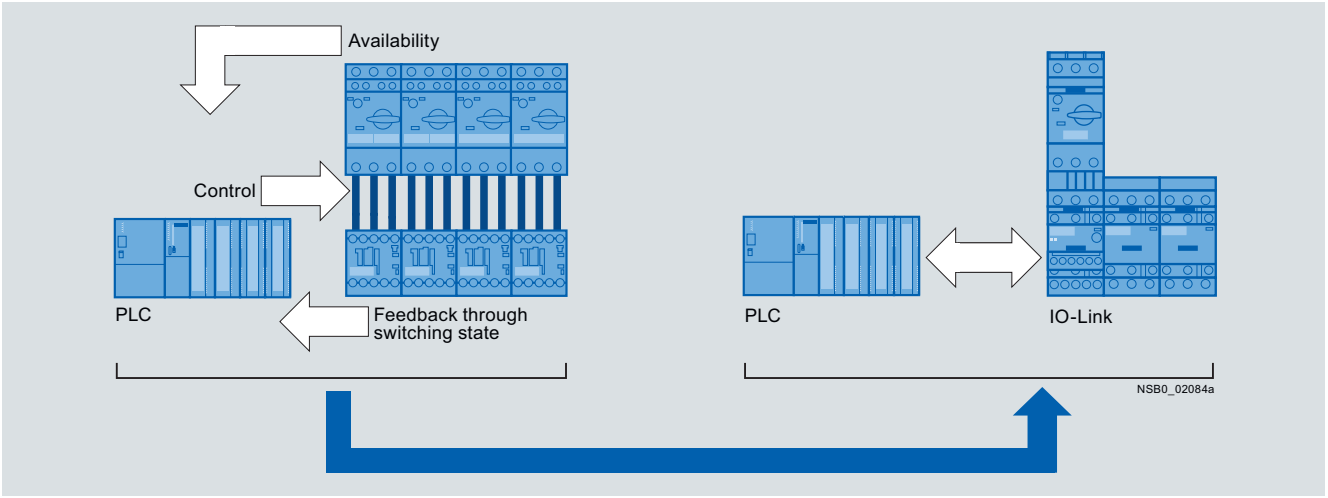
The SIRIUS function modules for IO-Link enable the assembly of starters and contactor assemblies for direct-on-line, reversing and wye-delta starting without any additional, complicated wiring of the individual components. They include the key control functions required for the particular feeder, e.g. timing and interlocking. The electrical and mechanical connection to the contactor is established by snapping on and locking. 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 concerning 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.

Through this type of connection to the control system, a maximum of wiring is saved.

The following essential signals are transmitted:

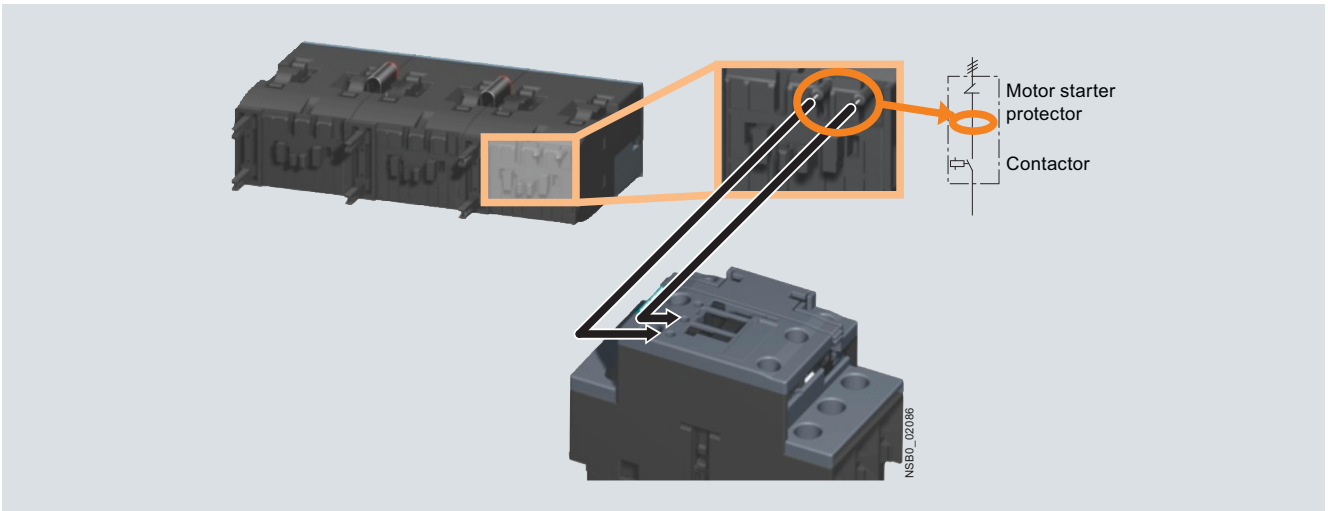
- Availability of the feeder in response to an indirect inquiry from the motor starter protector
- Starter operation
- Feedback concerning the switching state of the starter



Signal transmission through IO-Link

The inquiry from the motor starter protector 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.

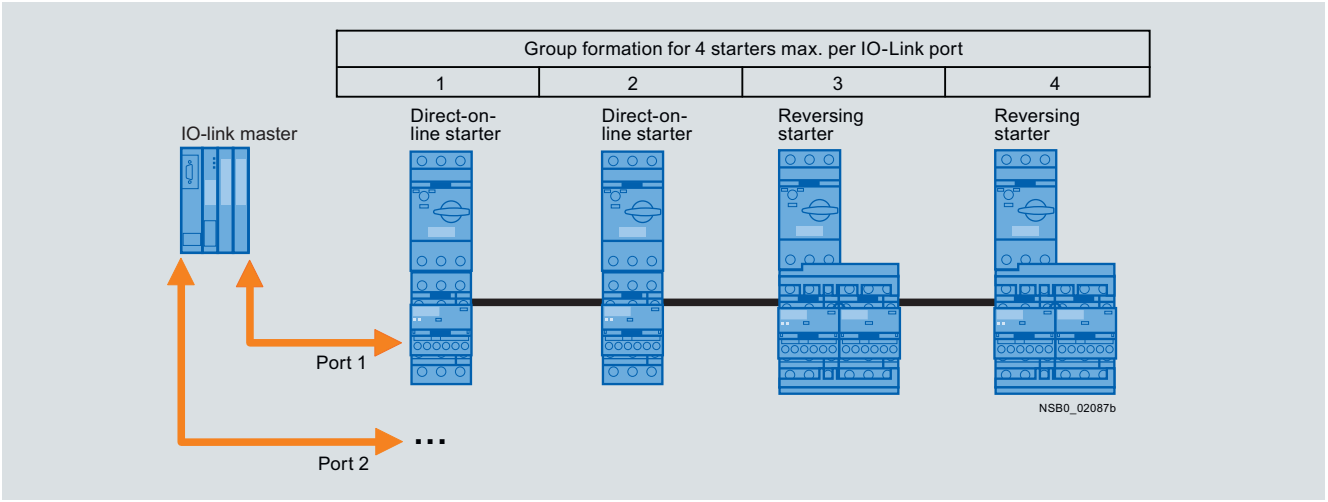
This requires special versions of the contactors with communication interface (see pages 3/13 and 3/14).



Availability signal through voltage pick-off

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By grouping up to four starters it is possible to connect up to 16 starters to one master of the ET 200S. In this case all the signals of the individual controls are made available directly in the process image of the input through only 3 individual wires per starter group. If the same potential is present at the master of the ET 200S and at the switching devices, the wiring can be further reduced by connecting the power supply for the contactor coils via jumpers to the communication wires.



Group formation with IO-Link

In case of a malfunction, the corresponding error signals are also sent directly to the PLC in acyclic mode. This is in addition to the transmission of the switching signals and status signals.

Possible error signals:

- Device defect
- No main voltage (motor starter protector tripped)
- No control supply voltage
- Limit position on the right / on the left
- Manual mode
- Process image fault

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 as-delivered state.

Local manual operation of the complete starter group is also straight-forward using a hand-held 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.

Application

The use of SIRIUS function modules with IO-Link is recommended 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.

Benefits

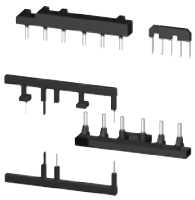
- Reduction of the control current wiring to no more than three cables for four feeders
- Elimination of testing costs and wiring errors
- Reduction of configuration work
- Integration in TIA means clear diagnostics if a fault occurs
- Dispensing with IO modules saves space in the control cabinet
- All essential timing and interlocking functions for reversing duty and wye-delta starting are integrated
- No additive protection circuit required

Further information on the IO-Link bus systems can be found in Chapter 2 "Industrial Communication".

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SIRIUS function modules for IO-Link

Selection and ordering data

Version	DT	Screw terminals	PS*	DT	Spring-type terminals	PS*
		Order No.			Order No.	
Function modules for direct-on-line starting						
 3RA27 11-1AA00  3RA27 11-2AA00 **IO-Link connection** Includes one module connector for assembling an IO-Link group		**3RA27 11-1AA00**	1 unit		**3RA27 11-2AA00**	1 unit
Function modules for reversing starting[1]						
 3RA27 11-1BA00 **IO-Link connection**, comprising one basic module, one coupling module and an additional module connector for assembling an IO-Link group		**3RA27 11-1BA00**	1 unit		**3RA27 11-2BA00**	1 unit
 3RA29 23-2AA1 **Assembly kits for making 3-pole contactor assemblies** The assembly kit contains: mechanical interlock; 2 connecting clips for 2 contactors, wiring modules on the top and bottom						
• For size S00		**3RA29 13-2AA1**	1 unit		**3RA29 13-2AA2**	1 unit
• For size S0						
- For main, auxiliary and control current		**3RA29 23-2AA1**	1 unit		**--**	
- Only for main current[4]		**--**			**3RA29 23-2AA2**	1 unit
Function modules for wye-delta starting[2]						
 3RA27 11-1CA00 **IO-Link connection**, comprising one basic module and two coupling modules, plus an additional module connector for assembling an IO-Link group		**3RA27 11-1CA00**	1 unit		**3RA27 11-2CA00**	1 unit
 3RA29 23-2BB1 **Assembly kits for making 3-pole contactor assemblies**[3] The assembly kit contains: Mechanical interlock, 4 connecting clips for 3 contactors; star jumper, wiring modules on the top and bottom						
• For size S00		**3RA29 13-2BB1**	1 unit		**3RA29 13-2BB2**	1 unit
• For size S0						
- For main, auxiliary and control current		**3RA29 23-2BB1**	1 unit		**--**	
- Only for main current[4]		**--**			**3RA29 23-2BB2**	1 unit

Matching contactors with communication interface required (see the Industry Mall or Interactive Catalog CA 01).

For matching IO-Link masters see Chapter 2 "Industrial Communication".

Note:
When using the function modules, no other auxiliary switches are allowed to be connected to the basic units.

1) For prewired contactor assemblies for reversing starting with communication interface see pages 3/23 and 3/25. When these contactor assemblies are used, the assembly kit for the wiring is already integrated.

2) For complete contactor assemblies for wye-delta starting including function modules see pages 3/31 and 3/33.

3) When using the function modules for wye-delta starting, the wiring modules for the auxiliary current are not required.

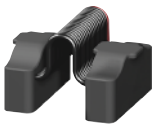
4) Version in size S0 with spring-type terminals:
Only the wiring modules for the main circuit are included.
No connectors are included for the auxiliary and control circuit.

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

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Function Modules for Mounting onto SIRIUS 3RT2 Contactors

SIRIUS function modules for IO-Link

	Version	DT	Order No.	PS*
Accessories				
 3RA27 11-0EE0.	**Module connector set**, comprising: • 2 module connectors, 14-pole, short + 2 interface covers		**3RA27 11-0EE01**	1 unit
	Module connector, 14-pole, 8 cm • For size jump S00-S0 + 1 space		**3RA27 11-0EE02**	1 unit
	Module connector, 14-pole, 21 cm • For diverse space combinations		**3RA27 11-0EE03**	1 unit
	Module connector, 10-pole, 8 cm • For separate auxiliary voltage supply within an IO-Link group		**3RA27 11-0EE04**	1 unit
 3RA29 10-0	**Sealable covers** For 3RA27, 3RA28, 3RA29		**3RA29 10-0**	5 units
	Manual Function modules for IO-Link		**3ZX1 012-0RA27-1AB1**	1 unit
Operator panels [1]				
 3RA69 35-0A	**Operator panels (set)** • 1 x operator panel • 1 x enabling module • 1 x interface cover • 1 x fixing terminal		**3RA69 35-0A**	1 unit
	Connection cable, length 2 m, 10- to 14-pole For connecting the operator panel to the communication module		**3RA27 11-0EE11**	1 unit
	Enabling modules (replacement)		**3RA69 36-0A**	1 unit
	Interface covers (replacement)		**3RA69 36-0B**	5 units

[1] Suitable only for communication through IO-Link.

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

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Auxiliary switch blocks

Selection and ordering data



3RH29 11-1HA..



3RH29 11-2HA..

For contactors	Contactor with AS block Ident. No.	Auxiliary contacts Version			DT	Screw terminals	PS*	DT	Spring-type terminals	PS*
						Order No.			Order No.	
Type		NO	NC							
Auxiliary switch blocks for snapping onto the front according to EN 50012 (also compliant with EN 50005)										
***Size S00*[1)2)]										
For assembling contactors with 2, 3, 4 and 5 auxiliary contacts										
3RT20 1. 3RT23 1. 3RT25 1.	**11**	--	1	.1 .2	▶	**3RH29 11-1HA01**	1 unit	▶	**3RH29 11-2HA01**	1 unit
	12	--	2	.1 .1 .2 .2	▶	**3RH29 11-1HA02**	1 unit	▶	**3RH29 11-2HA02**	1 unit
	13	--	3	.1 .1 .1 .2 .2 .2		**3RH29 11-1HA03**	1 unit		**3RH29 11-2HA03**	1 unit
	21	1	1	.1 .3 .2 .4	▶	**3RH29 11-1HA11**	1 unit	▶	**3RH29 11-2HA11**	1 unit
	22	1	2	.1 .1 .3 .2 .2 .4	▶	**3RH29 11-1HA12**	1 unit	▶	**3RH29 11-2HA12**	1 unit
	23	1	3	.1 .1 .1 .3 .2 .2 .2 .4	▶	**3RH29 11-1HA13**	1 unit	▶	**3RH29 11-2HA13**	1 unit
	31	2	1	.1 .3 .3 .2 .4 .4		**3RH29 11-1HA21**	1 unit		**3RH29 11-2HA21**	1 unit
	32	2	2	.1 .1 .3 .3 .2 .2 .4 .4	▶	**3RH29 11-1HA22**	1 unit	▶	**3RH29 11-2HA22**	1 unit
	41	3	1	.1 .3 .3 .3 .2 .4 .4 .4	▶	**3RH29 11-1HA31**	1 unit	▶	**3RH29 11-2HA31**	1 unit
***Size S0*[2)]										
For assembling contactors with 3, 4 or 5 auxiliary contacts										
3RT20 2. 3RT23 2. 3RT25 2.	**12**	--	1	.1 .2	▶	**3RH29 11-1HA01**	1 unit	▶	**3RH29 11-2HA01**	1 unit
	13	--	2	.1 .1 .2 .2	▶	**3RH29 11-1HA02**	1 unit	▶	**3RH29 11-2HA02**	1 unit

1) With size S00, mounting according to EN 50012 is permitted only on basic units which have no NC contact integrated.

2) The 3RH29 auxiliary switches are also available with ring terminal lug connection. In the 8th position of the Order No. the **"1"** must be replaced with **"4"**, e.g. 3RH29 11-1HA22 -> 3RH29 11-**4**HA22.

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

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3RH29 11-1HA..,
3RH29 11-1GA..



3RH29 11-2HA..,
3RH29 11-2GA..

For contactors / contactor relays	Contactor with AS block Ident. No.	Auxiliary contacts Version			DT	Screw terminals	PS*	DT	Spring-type terminals	PS*
Type		NO	NC			Order No.			Order No.	
Auxiliary switch blocks for snapping onto the front according to EN 50012 (also compliant with EN 50005)										
Size S0 [1]										
For assembling contactors with 3, 4 and 5 auxiliary contacts										
3RT20 2. 3RT23 2. 3RT25 2.	**21**	1	--	.3 .4		**3RH29 11-1HA10**	1 unit		**3RH29 11-2HA10**	1 unit
	22	1	1	.1 .3 .2 .4	►	**3RH29 11-1HA11**	1 unit	►	**3RH29 11-2HA11**	1 unit
	23	1	2	.1 .1 .3 .2 .2 .4	►	**3RH29 11-1HA12**	1 unit	►	**3RH29 11-2HA12**	1 unit
	31	2	--	.3 .3 .4 .4	►	**3RH29 11-1HA20**	1 unit	►	**3RH29 11-2HA20**	1 unit
	32	2	1	.1 .3 .3 .2 .4 .4		**3RH29 11-1HA21**	1 unit		**3RH29 11-2HA21**	1 unit
	41	3	--	.3 .3 .3 .4 .4 .4		**3RH29 11-1HA30**	1 unit		**3RH29 11-2HA30**	1 unit
Auxiliary switch blocks for snapping onto the front according to EN 50011										
Size S00 [2]										
For assembling contactor relays with 8 contacts										
3RH21 40, 3RH24 40, Ident. No. 40E	**80E**	4	--	53 63 73 83 54 64 74 84	►	**3RH29 11-1GA40**	1 unit	►	**3RH29 11-2GA40**	1 unit
	71E	3	1	53 61 73 83 54 62 74 84	►	**3RH29 11-1GA31**	1 unit	►	**3RH29 11-2GA31**	1 unit
	62E	2	2	53 61 71 83 54 62 72 84	►	**3RH29 11-1GA22**	1 unit	►	**3RH29 11-2GA22**	1 unit
	53E	1	3	53 61 71 81 54 62 72 82	►	**3RH29 11-1GA13**	1 unit	►	**3RH29 11-2GA13**	1 unit
	44E	--	4 [2]	51 61 71 81 52 62 72 82	►	**3RH29 11-1GA04**	1 unit	►	**3RH29 11-2GA04**	1 unit

[1] The 3RH29 11-.HA.. auxiliary switches are also available with ring terminal lug connection. In the 8th position of the Order No. the **"1"** must be replaced with **"4"**, e.g. 3RH29 11-1HA22 -> 3RH29 11-**4**HA22.

[2] The 3RH29 11-.GA.. auxiliary switches are also available with ring terminal lug connection. In the 8th position of the Order No. the **"1"** must be replaced with **"4"**, e.g. 3RH29 11-1GA22 -> 3RH29 11-**4**GA22.

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

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Accessories and Spare Parts

For 3RT2, 3RH2 Contactors and Contactor Relays

Auxiliary switch blocks


3RH29 11-1FA..


3RH29 11-2FA..


3RH29 11-1LA..


3RH29 11-1MA..


3RH29 11-1AA..


3RH29 11-1BA..

For contactors / contactor relays	Auxiliary switches	Connections	Auxiliary contacts				DT	Screw terminals	PS*	DT	Spring-type terminals	PS*
	Ident. No.	Position	Version									
			NO	NC	NO	NC		Order No.			Order No.	
Type												
Auxiliary switch blocks for snapping onto the front according to EN 50005												
Sizes S00 and S0												
2 or 4-pole auxiliary switch blocks for assembling contactors with 3 and 5 or 4 and 6 auxiliary contacts												
3RT2. 1., 3RT2. 2., 3RH21 .., 3RH24 ..	**40**		4	--	--	--	▶	**3RH29 11-1FA40**	1 unit	▶	**3RH29 11-2FA40**	1 unit
	22		2	2	--	--		**3RH29 11-1FA22**	1 unit		**3RH29 11-2FA22**	1 unit
	04[1]		--	4	--	--		**3RH29 11-1FA04**	1 unit		**3RH29 11-2FA04**	1 unit
	11		--	--	1	1	▶	**3RH29 11-1FB11**	1 unit	▶	**3RH29 11-2FB11**	1 unit
	22		1	1	1	1	▶	**3RH29 11-1FB22**	1 unit	▶	**3RH29 11-2FB22**	1 unit
	22		--	--	2	2	▶	**3RH29 11-1FC22**	1 unit	▶	**3RH29 11-2FC22**	1 unit
1- and 2-pole auxiliary switch blocks, cable entry from above or below												
3RT2. 1., 3RT2. 2., 3RH21 .., 3RH24 ..	**10**	Top	1	--	--	--	▶	**3RH29 11-1AA10**	1 unit		--	
		Bottom	1	--	--	--	▶	**3RH29 11-1BA10**	1 unit		--	
	01	Top	--	1	--	--	▶	**3RH29 11-1AA01**	1 unit		--	
		Bottom	--	1	--	--	▶	**3RH29 11-1BA01**	1 unit		--	
	11	Top	1	1	--	--	▶	**3RH29 11-1LA11**	1 unit		--	
		Bottom	1	1	--	--	▶	**3RH29 11-1MA11**	1 unit		--	
	20	Top	2	--	--	--	▶	**3RH29 11-1LA20**	1 unit		--	
		Bottom	2	--	--	--	▶	**3RH29 11-1MA20**	1 unit		--	

[1] The mounting of blocks with Ident. No. 04 is permitted only on basic units which have no NC contact integrated.

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3RH29 11-1DA..


3RH29 11-2DA..


3RH29 21-1DA..


3RH29 21-2DA..

For contactors / contactor relays	Contactor with AS block	Auxiliary contacts		DT	Screw terminals	PS*	DT	Spring-type terminals	PS*
	Ident. No.	Version							
		NO	NC		Order No.			Order No.	
Type									
Laterally mountable auxiliary switch blocks according to EN 50012 • Mounting on the right									
Size S00[1)2)]				Left Right					
3RT20 1. Ident. No. 10	**12**	--	2	-- 21 31 / 22 32	**3RH29 11-1DA02**	1 unit		**3RH29 11-2DA02**	1 unit
	21	1	1	-- 21 33 / 22 34	**3RH29 11-1DA11**	1 unit		**3RH29 11-2DA11**	1 unit
Size S0				Left Right					
3RT20 2. Ident. No. 11 3RT23 2.[3)] 3RT25 2.[3)]	**13**	--	2	-- 31 41 / 32 42	**3RH29 21-1DA02**	1 unit		**3RH29 21-2DA02**	1 unit
	22	1	1	-- 31 43 / 32 44	**3RH29 21-1DA11**	1 unit		**3RH29 21-2DA11**	1 unit
	31	2	--	-- 33 43 / 34 44	**3RH29 21-1DA20**	1 unit		**3RH29 21-2DA20**	1 unit
Laterally mountable auxiliary switch blocks according to EN 50005 • Mounting on the right and/or on the left									
Size S00[1)2)]				Left Right					
3RT20 1., Ident. No. 10 3RT23 1. 3RT25 1.	**02**	--	2	41 51 / 42 52 — 21 31 / 22 32	**3RH29 11-1DA02**	1 unit		**3RH29 11-2DA02**	1 unit
	11	1	1	41 53 / 42 54 — 21 33 / 22 34	**3RH29 11-1DA11**	1 unit		**3RH29 11-2DA11**	1 unit
	20	2	--	43 53 / 44 54 — 23 33 / 24 34	**3RH29 11-1DA20**	1 unit		**3RH29 11-2DA20**	1 unit
Size S0				Left Right					
3RT20 2. 3RT23 2.[3)] 3RT25 2.[3)]	**02**	--	2	51 61 / 52 62 — 31 41 / 32 42	**3RH29 21-1DA02**	1 unit		**3RH29 21-2DA02**	1 unit
	11	1	1	51 63 / 52 64 — 31 43 / 32 44	**3RH29 21-1DA11**	1 unit		**3RH29 21-2DA11**	1 unit
	20	2	--	53 63 / 54 64 — 33 43 / 34 44	**3RH29 21-1DA20**	1 unit		**3RH29 21-2DA20**	1 unit

1) With size S00, mounting according to EN 50012 is permitted only on basic units which have no NC contact integrated.

2) Ident. No. 41, 32 and 23 according to EN 50012 is also possible. Please note the corresponding circuit diagrams for mounting 3RH29 11-1DA.. on the left.

3) With 3RT23 2., 3RT25. 2. mountable only on the right.

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Accessories and Spare Parts
For 3RT2, 3RH2 Contactors and Contactor Relays

Auxiliary switch blocks



3RH29 11-2DE11



3RH29 11-1NF. .



3RH29 11-2NF. .

For contactors / contactor relays	Contactor with AS block	Contacts			DT	Screw terminals	PS*	DT	Spring-type terminals	PS*
	Ident. No.	Version								
		NO	NC			Order No.			Order No.	
Type										
Solid-state compatible auxiliary switch blocks										
• For operation in dusty atmospheres • For solid-state circuits with rated operational currents I_e/AC-14 and DC-13 of 1 ... 300 mA at 3 ... 60 V • Hard gold-plated contacts • Mirror contacts acc. to EN 60947-4-1, Appendix F, for auxiliary switches for lateral mounting										
Auxiliary switch blocks for snapping onto the front according to EN 50005 [1]										
Sizes S00 and S0										
3RT2. 1., 3RT2. 2., 3RH21 .., 3RH24 ..	**02**	--	2			**3RH29 11-1NF02**	1 unit		**3RH29 11-2NF02**	1 unit
	11	1	1		►	**3RH29 11-1NF11**	1 unit ►		**3RH29 11-2NF11**	1 unit
	20	2	--		►	**3RH29 11-1NF20**	1 unit ►		**3RH29 11-2NF20**	1 unit
Laterally mountable auxiliary switch blocks according to EN 50012 • Mounting on the right										
Size S00 [2]				Left / Right						
3RT2. 1.	**21**	1	1	-- / 		--			**3RH29 11-2DE11**	1 unit
Size S0				Left / Right						
3RT2. 2.	**22**	1	1	-- / 		--			**3RH29 21-2DE11**	1 unit
Laterally mountable auxiliary switch blocks according to EN 50005 • Mounting on the right and/or on the left										
Size S00				Left / Right						
3RT2. 1.	**11**	1	1	 / 		--			**3RH29 11-2DE11**	1 unit
Size S0				Left / Right						
3RT2. 2.	**11**	1	1	 / 		--			**3RH29 21-2DE11**	1 unit

[1] The 3RH29 11-.NF. . auxiliary switches are also available with ring terminal lug connection. In the 8th position of the Order No. the **"1"** must be replaced with **"4"**, e.g.: 3RH29 11-**1**NF11 -> 3RH2911-**4**NF11

[2] With size S00, mounting according to EN 50012 is permitted only on basic units which have no NC contact integrated.

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Selection and ordering data



3RA28 14-1



3RA28 14-2

For contactors	Rated control supply voltage U_s [1]	Time setting range t	Output / auxiliary contacts	DT	Screw terminals	PS*	DT	Spring-type terminals	PS*
Type	V	s			Order No.			Order No.	
Solid-state time-delay auxiliary switches for snapping onto the front, terminal designations according to DIN 46199-5									
Sizes S00 and S0									
	The electrical connection between the solid-state time-delay auxiliary switch and the contactor underneath is established automatically when it is snapped on and locked.								
	With ON-delay Varistor integrated								
3RT2., 3RH21[2] 3RH24	24 ... 240 AC/DC	0.05 ...100, (1, 10, 100, selectable)	1 CO		**3RA28 13-1AW10**	1 unit		**3RA28 13-2AW10**	1 unit
			1 NO + 1 NC		**3RA28 13-1FW10**	1 unit		**3RA28 13-2FW10**	1 unit
	OFF-delay with auxiliary voltage Varistor integrated								
3RT2., 3RH21[2] 3RH24	24 ... 240 AC/DC	0.05 ...100, (1, 10, 100, selectable)	1 CO		**3RA28 14-1AW10**	1 unit		**3RA28 14-2AW10**	1 unit
			1 NO + 1 NC		**3RA28 14-1FW10**	1 unit		**3RA28 14-2FW10**	1 unit
	OFF-delay without auxiliary voltage[3] Varistor integrated								
3RT2., 3RH21[2] 3RH24	24 ... 240 AC/DC	0.05 ...100, (1, 10, 100, selectable)	1 CO		**3RA28 15-1AW10**	1 unit		**3RA28 15-2AW10**	1 unit
			1 NO + 1 NC		**3RA28 15-1FW10**	1 unit		**3RA28 15-2FW10**	1 unit

1) AC voltage values apply for 50 Hz and 60 Hz.

2) Cannot be fitted onto coupling relays.

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.

Note:
When using the solid-state time-delay auxiliary switches, no other auxiliary switches are allowed to be connected to the basic units.

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Delay and latching blocks

Selection and ordering data

	For contactors	Rated control supply voltage U_s	Time setting range t	DT	Screw terminals	PS*
	Type	V	s		Order No.	
OFF-delay devices						
	Sizes S00 and S0					
	For contactors with DC operation					
	Non-adjustable delay time					
 3RT29 16-2B.01	3RT2. 1, 3RT2. 2, 3RH2. ..-1BF40	110 AC/DC	S00: > 0.1 S0:> 0.08		**3RT29 16-2BK01**	1 unit
	3RT2. 1, 3RT2. 2, 3RH2. ..-1BM40	220/230 AC/DC	S00: > 0.5 S0: > 0.3		**3RT29 16-2BL01**	1 unit
	3RT2. 1, 3RT2. 2, 3RH2. ..-1BB40	24 DC	S00: > 0.2 S0: > 0.1	►	**3RT29 16-2BE01**	1 unit
Pneumatic delay blocks, terminal designation according to EN 50005						
	Size S0					
 3RT29 26-2P...	**For snapping onto the front of contactors**[1)2)]					
	Auxiliary contacts 1 NO and 1 NC					
	• With ON-delay					
	3RT2. 2	--	0.1 ... 30 1 ... 60		**3RT29 26-2PA01** **3RT29 26-2PA11**	1 unit 1 unit
	• OFF-delay					
	3RT2. 2	--	0.1 ... 30 1 ... 60		**3RT29 26-2PR01** **3RT29 26-2PR11**	1 unit 1 unit
Mechanical latching blocks						
	Size S0					
 3RT29 26-3A.31	**For snapping onto the front of contactors**					
	The contactor remains in the energized state after a voltage failure					
	3RT2. 2	24 AC/DC 110 AC/DC 230 AC/DC	-- -- --		**3RT29 26-3AB31** **3RT29 26-3AF31** **3RT29 26-3AP31**	1 unit 1 unit 1 unit

1) In addition to these, no other auxiliary contacts are permitted.

2) Versions according to DIN VDE 0116 on request.

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Selection and ordering data

Surge suppressors without LED (also for spring-type terminals)


3RT29 16-1B.00

Size S00

For plugging onto the front side of the contactors (without and with an auxiliary switch block)

For contactors Type	Version	Rated control supply voltage U_s [1] AC operation V AC	DC operation V DC	DT	Order No. [2]	PS*
3RT2.1, 3RH2.	**Varistor**	24 ... 48	24 ... 70	▶	**3RT29 16-1BB00**	1 unit
		48 ... 127	70 ... 150	▶	**3RT29 16-1BC00**	1 unit
		127 ... 240	150 ... 250	▶	**3RT29 16-1BD00**	1 unit
		240 ... 400	--	▶	**3RT29 16-1BE00**	1 unit
		400 ... 600	--		**3RT29 16-1BF00**	1 unit
3RT2.1, 3RH2.	**RC elements**	24 ... 48	24 ... 70	▶	**3RT29 16-1CB00**	1 unit
		48 ... 127	70 ... 150	▶	**3RT29 16-1CC00**	1 unit
		127 ... 240	150 ... 250	▶	**3RT29 16-1CD00**	1 unit
		240 ... 400	--	▶	**3RT29 16-1CE00**	1 unit
		400 ... 600	--		**3RT29 16-1CF00**	1 unit
3RT2.1, 3RH2.	**Noise suppression diodes**	--	12 ... 250	▶	**3RT29 16-1DG00**	1 unit
3RT2.1, 3RH2.	**Diode assemblies** (diode and Zener diode) for DC operation	--	12 ... 250	▶	**3RT29 16-1EH00**	1 unit

Size S0


3RT29 26-1E.00

For plugging onto the front side of the contactors (prior to mounting of the auxiliary switch block)

For contactors	Version	Rated control supply voltage U_s [1] AC operation V AC	DC operation V DC	DT	Order No. [2]	PS*
3RT2. 2	**Varistor**	24 ... 48	24 ... 70	▶	**3RT29 26-1BB00**	1 unit
		48 ... 127	70 ... 150	▶	**3RT29 26-1BC00**	1 unit
		127 ... 240	150 ... 250	▶	**3RT29 26-1BD00**	1 unit
		240 ... 400	--	▶	**3RT29 26-1BE00**	1 unit
		400 ... 600	--	▶	**3RT29 26-1BF00**	1 unit
3RT2. 2	**RC elements**	24 ... 48	24 ... 70	▶	**3RT29 26-1CB00**	1 unit
		48 ... 127	70 ... 150	▶	**3RT29 26-1CC00**	1 unit
		127 ... 240	150 ... 250	▶	**3RT29 26-1CD00**	1 unit
		240 ... 400	--	▶	**3RT29 26-1CE00**	1 unit
		400 ... 600	--	▶	**3RT29 26-1CF00**	1 unit
3RT2. 2	**Diode assembly** for DC operation	--	24	▶	**3RT29 26-1ER00**	1 unit
		--	30 ... 250	▶	**3RT29 26-1ES00**	1 unit

[1] Can be used for AC operation for 50/60 Hz. Please inquire about further voltages.

[2] For packs of 10 or 5 units **"-Z"** and order code **"X90"** must be added to the Order No.

Surge suppressors with LED (also for spring-type terminals)


3RT29 16-1J.00

Size S00

For plugging onto the front side of the contactors (without and with an auxiliary switch block)

For contactors Type	Version	Rated control supply voltage U_s [1] AC operation V AC	DC operation V DC	Power consumption P of the LED at U_s mW	DT	Order No. [2]	PS*
3RT2.1, 3RH2.	**Varistor**	24 ... 48	12 ... 24	10 ... 120	▶	**3RT29 16-1JJ00**	1 unit
		48 ... 127	24 ... 70	20 ... 470	▶	**3RT29 16-1JK00**	1 unit
		127 ... 240	70 ... 150	50 ... 700	▶	**3RT29 16-1JL00**	1 unit
		--	150 ... 250	160 ... 950	▶	**3RT29 16-1JP00**	1 unit
3RT2.1, 3RH2.	**Noise suppression diodes**	--	24 ... 70	20 ... 470	▶	**3RT29 16-1LM00**	1 unit
		--	50 ... 150	50 ... 700	▶	**3RT29 16-1LN00**	1 unit
		--	150 ... 250	160 ... 950	▶	**3RT29 16-1LP00**	1 unit

Size S0


3RT29 26-1MR00

For plugging onto the front side of the contactors (prior to mounting of the auxiliary switch block)

For contactors	Version	Rated control supply voltage U_s [1] AC operation V AC	DC operation V DC	Power consumption P of the LED at U_s mW	DT	Order No. [2]	PS*
3RT2. 2	**Varistor**	24 ... 48	12 ... 24	10 ... 120	▶	**3RT29 26-1JJ00**	1 unit
		48 ... 127	24 ... 70	20 ... 470	▶	**3RT29 26-1JK00**	1 unit
		127 ... 240	70 ... 150	50 ... 700	▶	**3RT29 26-1JL00**	1 unit
3RT2. 2	**Diode assembly**	--	24	20 ... 470	▶	**3RT29 26-1MR00**	1 unit

[1] Can be used for AC operation for 50/60 Hz. Please inquire about further voltages.

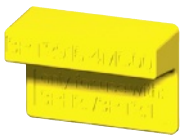
[2] For packs of 10 or 5 units **"-Z"** and order code **"X90"** must be added to the Order No.

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Other function blocks

Selection and ordering data

	For contactors Type	Version	DT	Order No.	PS*
EMC suppression modules; 3-phase ≤ 5.5 kW					
		Size S00 (for contactors with AC or DC operation)[1]			
				Screw terminals	
 3RT29 16-1PA.	3RT20 1	**RC elements** (3 x 220 Ω/0.22 µF)			
		Up to 400 V Up to 575 V Up to 690 V	►	**3RT29 16-1PA1** **3RT29 16-1PA2** **3RT29 16-1PA3**	1 unit 1 unit 1 unit
	3RT20 1	**Varistor**			
		Up to 400 V Up to 575 V Up to 690 V	►	**3RT29 16-1PB1** **3RT29 16-1PB2** **3RT29 16-1PB3**	1 unit 1 unit 1 unit
Additional load modules					
		Size S00			
 3RT29 16-1GA00	3RT2. 1, 3RH2.	**For plugging onto the front side of the contactors with or without auxiliary switch blocks**[2] 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. It acts simultaneously as a surge suppressor. Rated voltage: AC 50/60 Hz, 180 to 255 V. Operating range: 0.8 to 1.1 x U_s	►	**3RT29 16-1GA00**	1 unit
LED module for indicating contactor operation					
		Size S0			
 3RT29 26-1QT00 (mounted to contactor)	3RT2. 2	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. Yellow LED. Rated voltage: 24 ... 240 V AC/DC with reverse polarity protection.		**3RT29 26-1QT00**	5 units
Coupling links for control by PLC					
		Size S0			
 3RH29 24-1GP11	3RT2. 2	**For mounting onto the coil terminals of the contactors** With LED for indicating switching state. With integrated varistor for damping opening surges. Operating range 17 ... 30 V DC Power consumption: 0.5 W at 24 V DC Permissible residual current of the electronics (with 0 signal): 2.5 mA Rated operational current I_e: • AC-15/AC-14 at 230 V: 3 A • DC-13 at 230 V: 0.1 A	►	**3RH29 24-1GP11**	1 unit
Control kit					
		Size S00			
 3RT29 16-4MC00	3RT2. 1, 3RH2.	For manual operation of the contactor contacts for start-up and service		**3RT29 16-4MC00**	5 units

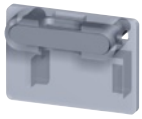
[1] Detailed description in IC 10 · 2011 and in the Industry Mall.

[2] For packs of 10 units, the Order No. must be supplemented with "**-Z**" and the order code "**X90**".

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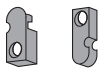
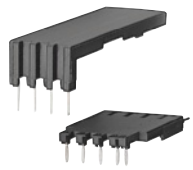
Selection and ordering data

For contactors Type	Version	DT	Order No.	PS*
Sealable covers				
Sizes S00 and S0				
 3RT29 16-4MA10				
3RT2. 1, 3RT2. 2, 3RH2. [1]	Sealable covers for preventing manual operation		**3RT29 16-4MA10**	5 units
Connection modules for contactors with screw terminals				
Sizes S00 and S0				
 3RT19 26-4RD01	**Adapters for contactors** Ambient temperature $T_{u\,max.}$ = 60 °C		**Screw terminals**	
3RT2. 1, 3RH2.	Size S00, rated operational current I_e at AC-3/400 V: 20 A		**3RT19 16-4RD01**	1 unit
3RT2. 2	Size S0, rated operational current I_e at AC-3/400 V: 25 A		**3RT19 26-4RD01**	1 unit
 3RT19 00-4RE01				
3RT2. 1, 3RT2. 2, 3RH2.	**Plugs for contactors** Size S00, S0		**3RT19 00-4RE01**	1 unit
Coil connection modules				
Size S0				
 3RT29 26-4RA11				
3RT2. 2	Connection from top	▶	**3RT29 26-4RA11**	1 unit
	Connection from below	▶	**3RT29 26-4RB11**	1 unit
	Connection diagonally	▶	**3RT29 26-4RC11**	1 unit
			Spring-type terminals	
3RT2. 2	Connection from top	▶	**3RT29 26-4RA12**	1 unit
	Connection from below	▶	**3RT29 26-4RB12**	1 unit
Covers for contactors with ring terminal lug connection				
Size S00				
 3RT29 16-4EA13			**Ring terminal lug connections**	
3RT2. 1, 3RH2	**Covers for ring terminal lug connections** Single covers		**3RT29 16-4EA13**	10 units
Size S0				
 3RT29 26-4EB13				
3RT2. 2	**Covers for ring terminal lug connections** Set for one device, comprising 4 single covers		**3RT29 26-4EB13**	1 unit

[1] Exception: contactors and contactor relays with auxiliary switch block mounted onto the front.

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Terminals, covers, adapters, connectors

	For contactors Type	Version	DT	Order No.	PS*
Screw adapters for fixing the contactors					
	Size S0				
 NSB0_01470 3RT19 26-4P	3RT2. 2	Screw adapters for easier screw fixing, 2 units required per contactor (1 pack contains 10 sets for 10 contactors)		**3RT19 26-4P**	10 units
Solder pin adapters for contactors up to 5.5 kW / 12 A					
	Size S00, up to 5.5 kW (12 A, AC-1/AC-3)				
				Screw terminals	
	3RT2. 1, 3RH21	Assembly kit for soldering contactors onto a printed circuit board. For 1 contactor, 1 set is required.		**3RT19 16-4KA1**	4 units
 3RT19 16-4KA1					
Solder pin adapters for contactors up to 5.5 kW / 12 A with mounted 4-pole auxiliary switch block					
	Size S00, up to 5.5 kW (12 A, AC-1/AC-3)				
	3RT2. 1, 3RH21	Assembly kit for soldering contactors with an auxiliary switch block onto a printed circuit board. For 1 contactor, 1 set is required.		**3RT19 16-4KA2**	4 units
 3RT19 16-4KA2					
Safety main current connectors for 2 contactors					
	Sizes S00 and S0				
 3RA29 16-1A		**For series connection of 2 contactors**			
	3RT2. 1			**3RA29 16-1A**	1 unit
	3RT2. 2			**3RA29 26-1A**	1 unit

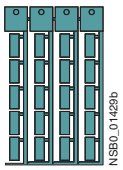
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	For contactors Type	Max. conductor cross-sections mm²	DT	Order No.	PS*
Links for paralleling					
	Sizes S00 and S0				
 3RT19 16-4BB31	**3-pole, with connecting terminal**[1)2)]			**Screw terminals**	
	3RT20 1	25, stranded	▶	**3RT19 16-4BB31**	1 unit
	3RT20 2	50, stranded	▶	**3RT29 26-4BB31**	1 unit
 3RT29 26-4BB31					
 3RT19 16-4BB41	**4-pole, with connecting terminal**[1)2)]				
	3RT231, 3RT251	25, stranded		**3RT19 16-4BB41**	1 unit

[1)] The links for paralleling can be reduced by one pole.

[2)] With sizes S00 and S0 the links for paralleling are insulated.

	Version	DT	Order No.	PS*
Insulation stop for securely holding back the conductor insulation on conductors up to 1 mm²				
			Spring-type terminals	
 3RT19 16-4JA02	**Insulation stop strip**, can be inserted in the cable entry of the spring-type terminal (2 strips per contactor required)			
	• For basic devices S00 (3RT20 1. or 3RH2.), removable individually		**3RT29 16-4JA02**	20 units
	• For auxiliary and control current on basic devices size S0 (3RT20 2.) and for mountable 3RH29 auxiliary switches, removable in pairs		**3RT19 16-4JA02**	20 units
Tools for opening spring-type terminals				
 3RA29 08-1A	**Screwdrivers** for all SIRIUS devices with spring-type terminals Length: approx. 200 mm, 3.0 mm x 0.5 mm, titanium gray/black, partially insulated		**3RA29 08-1A**	1 unit
Blank labels				
 3RT19 00-1SB20	**Unit labeling plates**[1)] for SIRIUS devices			
	• 20 mm × 7 mm, pastel turquoise		**3RT19 00-1SB20**	340 units

[1)] PC labeling system for individual inscription of unit labeling plates available from: murrplastik Systemtechnik GmbH
(see Chapter 13, "Appendix" --> "External Partners").

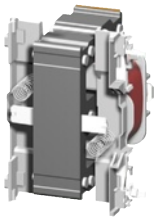
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Spare parts for 3RT2 contactors

Selection and ordering data

For screw, spring-type and ring terminal lug connection



3RT29 24-5A.01

For contactors		Rated control supply voltage U_s			DT	Order No.	PS*
Size	Type	50 Hz	50/60 Hz	60 Hz			
		V	V	V			
Solenoid coils · AC operation							
S0	3RT20 23, 3RT20 24, 3RT20 25	24	--	--		**3RT29 24-5AB01**	1 unit
		42	--	--		**3RT29 24-5AD01**	1 unit
		48	--	--		**3RT29 24-5AH01**	1 unit
		110	--	--		**3RT29 24-5AF01**	1 unit
		230	--	--		**3RT29 24-5AP01**	1 unit
		400	--	--		**3RT29 24-5AV01**	1 unit
		--	24	--		**3RT29 24-5AC21**	1 unit
		--	42	--		**3RT29 24-5AD21**	1 unit
		--	48	--		**3RT29 24-5AH21**	1 unit
		--	110	--		**3RT29 24-5AG21**	1 unit
		--	220	--		**3RT29 24-5AN21**	1 unit
		--	230	--		**3RT29 24-5AL21**	1 unit
		110	--	120		**3RT29 24-5AK61**	1 unit
		220	--	240		**3RT29 24-5AP61**	1 unit
		--	100	110		**3RT29 24-5AG61**	1 unit
		--	200	220		**3RT29 24-5AN61**	1 unit
		--	400	440		**3RT29 24-5AR61**	1 unit
S0	3RT20 26, 3RT20 27, 3RT20 28 3RT23 25, 3RT23 26, 3RT23 27 3RT25 26	24	--	--		**3RT29 26-5AB01**	1 unit
		42	--	--		**3RT29 26-5AD01**	1 unit
		48	--	--		**3RT29 26-5AH01**	1 unit
		110	--	--		**3RT29 26-5AF01**	1 unit
		230	--	--		**3RT29 26-5AP01**	1 unit
		400	--	--		**3RT29 26-5AV01**	1 unit
		--	24	--		**3RT29 26-5AC21**	1 unit
		--	42	--		**3RT29 26-5AD21**	1 unit
		--	48	--		**3RT29 26-5AH21**	1 unit
		--	110	--		**3RT29 26-5AG21**	1 unit
		--	220	--		**3RT29 26-5AN21**	1 unit
		--	230	--		**3RT29 26-5AL21**	1 unit
		110	--	120		**3RT29 26-5AK61**	1 unit
		220	--	240		**3RT29 26-5AP61**	1 unit
		--	100	110		**3RT29 26-5AG61**	1 unit
		--	200	220		**3RT29 26-5AN61**	1 unit
		--	400	440		**3RT29 26-5AR61**	1 unit

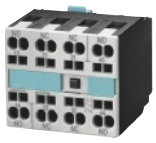
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Selection and ordering data



3RH19 21-1HA..,
3RH19 21-1FA..



3RH19 21-2HA..,
3RH19 21-2FA..

For contactors	Auxiliary contacts						DT	Screw terminals	PS*	DT	Spring-type terminals	PS*
	Ident. No.	Version						Order No.			Order No.	
Type		NO	NC	NO	NC							
Auxiliary switch blocks for snapping onto the front according to EN 50012												
***Sizes S2 and S3*[1)]**												
	4-pole auxiliary switch blocks											
3RT1. 3, 3RT1. 4	**31**	3	1	--	--	13 21 33 43 / 14 22 34 44	▶	**3RH19 21-1HA31**	1 unit	▶	**3RH19 21-2HA31**	1 unit
	22	2	2	--	--	13 21 31 43 / 14 22 32 44	▶	**3RH19 21-1HA22**	1 unit	▶	**3RH19 21-2HA22**	1 unit
	13	1	3	--	--	13 21 31 41 / 14 22 32 42	▶	**3RH19 21-1HA13**	1 unit	▶	**3RH19 21-2HA13**	1 unit
***Sizes S2 to S12*[2)]**												
	4-pole auxiliary switch blocks											
3RT1. 3 ... 3RT1. 7	**22**	2	2	--	--	53 61 71 83 / 54 62 72 84		**3RH19 21-1XA22-0MA0**	1 unit		**3RH19 21-2XA22-0MA0**	1 unit
Auxiliary switch blocks for snapping onto the front according to EN 50005												
***Sizes S2 and S3*[1)]**												
	4-pole auxiliary switch blocks											
3RT1. 3, 3RT1. 4	**40**	4	--	--	--	13 23 33 43 / 14 24 34 44	▶	**3RH19 21-1FA40**	1 unit	▶	**3RH19 21-2FA40**	1 unit
	31	3	1	--	--	13 23 33 41 / 14 24 34 42	▶	**3RH19 21-1FA31**	1 unit	▶	**3RH19 21-2FA31**	1 unit
	22	2	2	--	--	13 23 31 41 / 14 24 32 42	▶	**3RH19 21-1FA22**	1 unit	▶	**3RH19 21-2FA22**	1 unit
	04	--	4	--	--	11 21 31 41 / 12 22 32 42	▶	**3RH19 21-1FA04**	1 unit		**3RH19 21-2FA04**	1 unit
	22 U	--	--	2	2	17 27 35 45 / 18 28 36 46	▶	**3RH19 21-1FC22**	1 unit		**3RH19 21-2FC22**	1 unit

For multi-unit packing and reusable packaging, see "Appendix --> Ordering notes".

1) Exception: 3RT16.

2) Exception: 3RT12, 3RT16.

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Accessories and Spare Parts

For 3RT1, 3RH1 Contactors and Contactor Relays

Auxiliary switches


3RH19 21-1LA..


3RH19 21-1MA..


3RH19 21-1C..


3RH19 21-2C..

For contactors	Auxiliary contacts					DT	Screw terminals	PS*	DT	Spring-type terminals	PS*
	Ident. No.	Version					Order No.			Order No.	
Type		NO	NC	NO	NC						
Auxiliary switch blocks for snapping onto the front according to EN 50005											
Sizes S2 and S3 [1]											
	2-pole auxiliary switch blocks with cable entry from one side • **Cable entry from above**										
3RT1. 3, 3RT1. 4	**11**	1	1	--	--	▶	**3RH19 21-1LA11**	1 unit		**--**	
	20	2	--	--	--	▶	**3RH19 21-1LA20**	1 unit		**--**	
	02	--	2	--	--	▶	**3RH19 21-1LA02**	1 unit		**--**	
	• **Cable entry from below**										
3RT1. 3, 3RT1. 4	**11**	1	1	--	--	▶	**3RH19 21-1MA11**	1 unit		**--**	
	20	2	--	--	--	▶	**3RH19 21-1MA20**	1 unit		**--**	
	02	--	2	--	--	▶	**3RH19 21-1MA02**	1 unit		**--**	
Sizes S2 to S12 [2]											
	1-pole auxiliary switch blocks to EN 50005 and EN 50012										
3RT1. 3 ... 3RT1. 7	**10**	1	--	--	--	▶	**3RH19 21-1CA10**	1 unit	▶	**3RH19 21-2CA10**	1 unit
	01	--	1	--	--	▶	**3RH19 21-1CA01**	1 unit	▶	**3RH19 21-2CA01**	1 unit
	10	--	--	1	--	▶	**3RH19 21-1CD10**	1 unit		**--**	
	01	--	--	--	1	▶	**3RH19 21-1CD01**	1 unit		**--**	

[1] Exception: 3RT16.
[2] Exception: 3RT12, 3RT16

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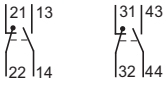
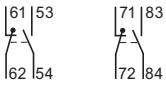
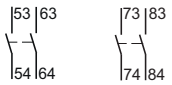
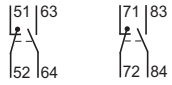
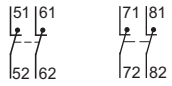
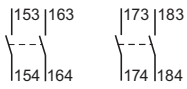
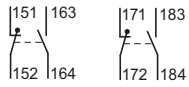
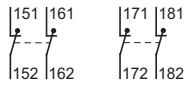
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3RH19 21-1DA11
3RH19 21-1JA11


3RH19 21-1EA..
3RH19 21-1KA..


3RH19 21-2DA11
3RH19 21-2JA11


3RH19 21-2EA..
3RH19 21-2KA..

For contactors	Auxiliary contacts			DT	Screw terminals	PS*	DT	Spring-type terminals	PS*
	Version				Order No.			Order No.	
Type	NO	NC							
Laterally mountable auxiliary switch blocks according to EN 50012									
Sizes S2 and S3			Left Right						
	First laterally mountable auxiliary switch block (right or left), 2-pole								
3RT1. 3, 3RT1. 4	1	1		►	**3RH19 21-1DA11**	1 unit	►	**3RH19 21-2DA11**	1 unit
Sizes S3 to S12			Left Right						
	Second laterally mountable auxiliary switch block (right or left), 2-pole								
3RT1. 4 ... 3RT1. 7	1	1		►	**3RH19 21-1JA11**	1 unit	►	**3RH19 21-2JA11**	1 unit
Laterally mountable auxiliary switch blocks according to EN 50005									
Sizes S2 to S12			Left Right						
	First laterally mountable auxiliary switch block (right or left), 2-pole								
3RT1. 3 ... 3RT1. 7	2	--		►	**3RH19 21-1EA20**	1 unit	►	**3RH19 21-2EA20**	1 unit
	1	1		►	**3RH19 21-1EA11**	1 unit		**--**	
	--	2		►	**3RH19 21-1EA02**	1 unit	►	**3RH19 21-2EA02**	1 unit
Sizes S3 to S12			Left Right						
	Second laterally mountable auxiliary switch block (right or left), 2-pole								
3RT1. 4 ... 3RT1. 7	2	--		►	**3RH19 21-1KA20**	1 unit		**3RH19 21-2KA20**	1 unit
	1	1		►	**3RH19 21-1KA11**	1 unit		**--**	
	--	2		►	**3RH19 21-1KA02**	1 unit		**3RH19 21-2KA02**	1 unit

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Accessories and Spare Parts

For 3RT1, 3RH1 Contactors and Contactor Relays

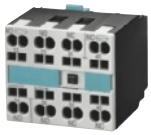
Auxiliary switches



3RH19 21-2DE11,
3RH19 21-2JE11



3RH19 21-1FE22



3RH19 21-2JE22

For contactors	Contacts					DT	Screw terminals	PS*	DT	Spring-type terminals	PS*
	Version						Order No.			Order No.	
Type	NO	NO	NC	NC							
Solid-state compatible auxiliary switch blocks											
• For operation in dusty atmospheres • For solid-state circuits with rated operational currents I_e/ AC-14 and DC-13 of 1 ... 300 mA at 3 ...60 V • Hard gold-plated contacts • Mirror contacts acc. to EN 60947-4-1, Appendix F											
Auxiliary switch blocks for snapping onto the front according to EN 50005											
Sizes S2 and S3											
3RT1. 3 ... 3RT1. 7	1	1	1	1	13 23 31 41 14 24 32 42	►	**3RH19 21-1FE22**	1 unit		**3RH19 21-2FE22**	1 unit
Laterally mountable auxiliary switch blocks according to EN 50012											
Sizes S2 to S12					Left Right						
First laterally mountable auxiliary switch block (right or left), 2-pole											
3RT1. 3 ... 3RT1. 7	1	--	--	1	21 13 31 43 22 14 32 44		--		►	**3RH19 21-2DE11**	1 unit
Sizes S3 to S12					Left Right						
Second laterally mountable auxiliary switch block (right or left), 2-pole											
3RT1. 4 ... 3RT1. 7	1	--	--	1	61 53 71 83 62 54 72 84		--		►	**3RH19 21-2JE11**	1 unit

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Selection and ordering data

For contactors Type	Auxiliary contacts	Rated control supply voltage U_s [1] V	Time setting range t s	DT	Screw terminals Order No.	PS*
Solid-state time-delay auxiliary switch blocks for snapping onto the front, terminal designations according to DIN 46199-5						
Sizes S2 ... S12						
	With ON-delay [2]					
3RT10, 3RT13, 3RT14, 3RT15	1 NO + 1 NC	24 AC/DC	0.05 ... 1		**3RT19 26-2EJ11**	1 unit
			0.5 ... 10	▶	**3RT19 26-2EJ21**	1 unit
			5 ... 100		**3RT19 26-2EJ31**	1 unit
		100 ... 127 AC	0.05 ... 1		**3RT19 26-2EC11**	1 unit
			0.5 ... 10	▶	**3RT19 26-2EC21**	1 unit
			5 ... 100		**3RT19 26-2EC31**	1 unit
		200 ... 240 AC	0.05 ... 1		**3RT19 26-2ED11**	1 unit
			0.5 ... 10	▶	**3RT19 26-2ED21**	1 unit
			5 ... 100		**3RT19 26-2ED31**	1 unit
	OFF-delay without auxiliary voltage [2][3]					
3RT10, 3RT13, 3RT14, 3RT15	1 NO + 1 NC	24 AC/DC	0.05 ... 1	▶	**3RT19 26-2FJ11**	1 unit
			0.5 ... 10	▶	**3RT19 26-2FJ21**	1 unit
			5 ... 100	▶	**3RT19 26-2FJ31**	1 unit
		100 ... 127 AC/DC	0.05 ... 1		**3RT19 26-2FK11**	1 unit
			0.5 ... 10	▶	**3RT19 26-2FK21**	1 unit
			5 ... 100		**3RT19 26-2FK31**	1 unit
		200 ... 240 AC/DC	0.05 ... 1		**3RT19 26-2FL11**	1 unit
			0.5 ... 10		**3RT19 26-2FL21**	1 unit
			5 ... 100		**3RT19 26-2FL31**	1 unit
	Wye-delta function (varistor integrated) [2]					
3RT10, 3RT13, 3RT14, 3RT15	1 NO delayed + 1 NO instantaneous, dead time 50 ms	24 AC/DC	1.5 ... 30	▶	**3RT19 26-2GJ51**	1 unit
		100 ... 127 AC	1.5 ... 30	▶	**3RT19 26-2GC51**	1 unit
		200 ... 240 AC	1.5 ... 30	▶	**3RT19 26-2GD51**	1 unit
Solid-state time-delay blocks with semiconductor output						
Sizes S2 and S3						
	For mounting onto coil terminals on top of the contactors, only for devices with screw terminals **• ON-delay (varistor integrated)**					
3RT10 3, 3RT10 4, 3RT13[4] 3RT15	--	24 ... 66 AC/DC	0.05 ... 1		**3RT19 26-2CG11**	1 unit
			0.5 ... 10		**3RT19 26-2CG21**	1 unit
			5 ... 100		**3RT19 26-2CG31**	1 unit
	--	90 ... 240 AC/DC	0.05 ... 1	▶	**3RT19 26-2CH11**	1 unit
			0.5 ... 10	▶	**3RT19 26-2CH21**	1 unit
			5 ... 100	▶	**3RT19 26-2CH31**	1 unit
	• OFF-delay with auxiliary voltage (varistor integrated)					
3RT10 3, 3RT10 4, 3RT13[4] 3RT15	--	24 ... 66 AC/DC	0.05 ... 1		**3RT19 26-2DG11**	1 unit
			0.5 ... 10		**3RT19 26-2DG21**	1 unit
			5 ... 100		**3RT19 26-2DG31**	1 unit
	--	90 ... 240 AC/DC	0.05 ... 1		**3RT19 26-2DH11**	1 unit
			0.5 ... 10		**3RT19 26-2DH21**	1 unit
			5 ... 100		**3RT19 26-2DH31**	1 unit


3RT19 26-2....


3RT19 26-2C...


3RT19 26-2D...

1) The AC voltages are valid for 50 and 60 Hz.

2) 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 connecting 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.

4) In addition to these, no other auxiliary contacts are permitted.

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Surge suppressors

Selection and ordering data

For contactors Type	Version	Rated control supply voltage U_s [1] AC operation V AC	DC operation V DC	DT	Order No. [2]	PS*
Surge suppressors without LED (also for spring-type terminals)						
Sizes S2 and S3	**For fitting onto the coil terminals at top or bottom**					
3RT1. 3, 3RT1. 4	**Varistor** 	24 ... 48	24 ... 70	▶	**3RT19 26-1BB00**	1 unit
		48 ... 127	70 ... 150	▶	**3RT19 26-1BC00**	1 unit
		127 ... 240	150 ... 250	▶	**3RT19 26-1BD00**	1 unit
		240 ... 400	--	▶	**3RT19 26-1BE00**	1 unit
		400 ... 600			**3RT19 26-1BF00**	1 unit
3RT1. 3 [3], 3RT1. 4	**RC elements** 	24 ... 48	24 ... 70	▶	**3RT19 36-1CB00**	1 unit
		48 ... 127	70 ... 150	▶	**3RT19 36-1CC00**	1 unit
		127 ... 240	150 ... 250	▶	**3RT19 36-1CD00**	1 unit
		240 ... 400	--	▶	**3RT19 36-1CE00**	1 unit
		400 ... 600	--		**3RT19 36-1CF00**	1 unit
3RT1. 3, 3RT1. 4	**Diode assembly** for DC operation 					
	• Connectable at the top (e.g. for contactor with overload relay)		24	▶	**3RT19 36-1ER00**	1 unit
			30 ... 250	▶	**3RT19 36-1ES00**	1 unit
	• Connectable at the bottom (e.g. for fuseless load feeders)		24	▶	**3RT19 36-1TR00**	1 unit
			30 ... 250		**3RT19 36-1TS00**	1 unit
Sizes S6 ... S12	**For connecting to withdrawable coil with screw terminals for contactors with** **• conventional operating mechanism 3RT1. ..-.A...** **• solid-state operating mechanism 3RT1. ..-.N...**					
3RT1. 5, 3RT1. 6, 3RT1. 7	**RC elements** 	24 ... 48	24 ... 70	▶	**3RT19 56-1CB00**	1 unit
		48 ... 127	70 ... 150	▶	**3RT19 56-1CC00**	1 unit
		127 ... 240	150 ... 250	▶	**3RT19 56-1CD00**	1 unit
		240 ... 400	--	▶	**3RT19 56-1CE00**	1 unit
		400 ... 600			**3RT19 56-1CF00**	1 unit


3RT19 26-1B.00


3RT19 36-1C.00


3RT19 56-1C.00

[1] Can be used for AC operation for 50/60 Hz. Please inquire about further voltages.

[2] For packs of 10 or 5 units "**-Z**" and order code "**X90**" must be added to the Order No.

[3] For 3RT1. 3 with AC operation mountable only at the top.

For contactors Type	Version	DT	Order No.	PS*
Main current path surge suppression modules for 3RT12 vacuum contactors				
Size S10 and S12				
3RT12	For damping overvoltages and for protecting motor windings against multiple re-ignition when switching off induction motors.			
	For connection on the contactor feeder side (2-T1/4-T2/6-T3). For separate installation.			
	Rated operational voltage U_e = 690 V AC		**3RT19 66-1PV3**	1 unit
	Rated operational voltage U_e = 1000 V AC		**3RT19 66-1PV4**	1 unit

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Illustrations are approximate

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Selection and ordering data

For contactors Type	Rated control supply voltage U_s V	DT	Screw terminals Order No.	PS*
Mechanical latching blocks				
	Size S2			
	For mounting on 1 contactor[1], contactor remains in the energized state even after a voltage failure			
3RT1. 3	24 AC/DC		**3RT19 26-3AB31**	1 unit
	110 AC/DC		**3RT19 26-3AF31**	1 unit
	230 AC/DC		**3RT19 26-3AP31**	1 unit


3RT19 26-3A.31

1) Two front-mounted auxiliary switch blocks can be mounted in addition.

For contactors Type	Version	DT	Screw terminals Order No.	PS*
Coupling links for control by PLC				
	Sizes S2 and S3			
	For mounting onto the coil terminals of the contactors With LED for indicating switching state			
3RT1. 3, 3RT1. 4	Operating range 17 ... 30 V DC Power consumption: 0.5 W at 24 V DC Permissible residual current of the electronics (with 0 signal): 2.5 mA Rated operational current I_e: • AC-15/AC-14 at 230 V: 3 A • DC-13 at 230 V: 0.1 A With integrated varistor for damping opening surges.	►	**3RH19 24-1GP11**	1 unit


3RH19 24-1GP11

For contactors Type	Version	DT	Order No.	PS*
LED modules for indicating the contactor function (also for spring-type terminals)				
	Sizes S2 ... S12 [1]			
3RT1. 3, 3RT1. 4	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. Yellow LED. Rated voltage: 24 ... 240 V AC/DC with reverse polarity protection. (1 pack = 5 units)		**3RT19 26-1QT00**	5 units


3RT19 26-1QT00
mounted to contactor

Auxiliary terminals, 3-pole				
	Size S3			
3RT10 4.	For connection of auxiliary and control cables (0.5 to 2.5 mm^2) to the main conductor connections (for one side)		**3RT19 46-4F**	1 unit


3RT19 46-4F

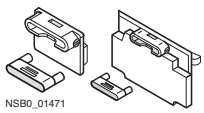
1) For sizes S6 ... S12 the connection leads have to be extended.

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

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Accessories and Spare Parts
For 3RT1, 3RH1 Contactors and Contactor Relays

Miscellaneous accessories

For contactors		Version	DT	Order No.	PS*
Size	Type				
Box terminal blocks					
 3RT19 5.-4G					
S6		**For round and ribbon cables**[1]			
	3RT1. 5 (3RB20 5)	Up to 70 mm² [2]	▶	**3RT19 55-4G**	1 unit
		Up to 120 mm²	▶	**3RT19 56-4G**	1 unit
		Auxiliary conductor connection for box terminals		**3TX7 500-0A**	1 unit
S10, S12	3RT1. 6, 3RT1. 7 (3RB20 6, 3RB21 6)	Up to 240 mm²	▶	**3RT19 66-4G**	1 unit
		With auxiliary conductor connection			
Covers					
 3RT19 36-4EA2		**Terminal covers for box terminals** (additional touch protection)			
		To be fitted at the box terminals (2 units required per contactor)			
S2	3RT10 3	--	▶	**3RT19 36-4EA2**	1 unit
	3RT13 3, 3RT15 3	For 4-pole contactors		**3RT19 36-4EA4**	1 unit
S3	3RT10 4, 3RT14 4	--	▶	**3RT19 46-4EA2**	1 unit
	3RT13 4	For 4-pole contactors		**3RT19 46-4EA4**	1 unit
S6[3]	3RT1. 5	Length: 25 mm	▶	**3RT19 56-4EA2**	1 unit
S10, S12[3]	3RT1. 6, 3RT1. 7	Length: 30 mm	▶	**3RT19 66-4EA2**	1 unit
 3RT19 46-4EA1		**Terminal covers for cable lug and busbar connection**[3]			
		For complying with the phase clearances and as touch protection if box terminal is removed (2 units required per contactor)			
S3	3RT10 4, 3RT14 4	--	▶	**3RT19 46-4EA1**	1 unit
S6	3RT1. 5	Length: 100 mm	▶	**3RT19 56-4EA1**	1 unit
S10/S12	3RT1. 6, 3RT1. 7	Length: 120 mm	▶	**3RT19 66-4EA1**	1 unit
 3TX6 526-3B		Can be screwed on free screw end; covers one busbar connection (1 set = 6 units)			
S6	3RT1. 5	M8		**3TX6 526-3B**	1 unit
S10, S12	3RT1. 6, 3RT1. 7	M10		**3TX6 546-3B**	1 unit
		For busbar cover between contactor and 3RB2 overload relay or wiring module for contactor assemblies			
S6	3RT1. 5	Length: 27 mm	▶	**3RT19 56-4EA3**	1 unit
S10/S12[4]	3RT1. 6, 3RT1. 7	Length: 42 mm	▶	**3RT19 66-4EA3**	1 unit
		For busbar cover of the flat line connectors for reversing and wye-delta assemblies			
S6	3RT1. 5	Length: 38 mm	▶	**3RT19 56-4EA4**	1 unit
Sealable covers					
 NSB0_01471 3RT19 .6-4MA10					
S2 ... S12	3RT1. 3 ... 3RT1. 7 [5]	1 unit required per contactor		**3RT19 26-4MA10**	5 units

1) Connectable cross-sections of the contactors can be found in the "Technical specifications" (see note on Technical Information on page 3/1).

2) As standard for 3RT10 54-1 contactor (55 kW).

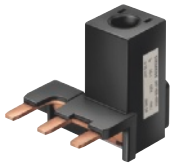
3) Also fits on mounted box terminals.

4) The 3RT19 66-4EA3 cover is required in addition for use in contactor assemblies (reversing/wye-delta).

5) Exception: contactors and contactor relays auxiliary switch block mounted onto the front.

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

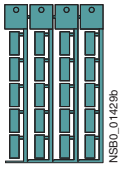
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	For contactors		Max. conductor cross-sections	DT	Screw terminals	PS*
	Size	Type	mm²		Order No.	
Links for paralleling						
		3-pole, with connecting terminal[1)2)]				
 3RT19 36-4BB31	**S2**	3RT10 3	95	►	**3RT19 36-4BB31**	1 unit
		3-pole, with through hole (star jumpers)[1)2)]				
 3RT19 56-4BA31	**S3**	3RT10 4, 3RT14 4	185	►	**3RT19 46-4BB31**	1 unit
	S6	3RT1. 5	--	►	**3RT19 56-4BA31**	1 unit
	S10/S12	3RT1. 6, 3RT1. 7	--	►	**3RT19 66-4BA31**	1 unit

1) The links for paralleling can be reduced by one pole.

2) Size S2: The links for paralleling are insulated.
Size S3: A cover plate is included for touch protection (can only be used when the box terminal is removed).
Sizes S6 to S12: The 3RT19 56-4EA1 (for S6) or 3RT19 66-4EA1 (for S10 and S12) cover can be used for touch protection.

	Version	DT	Spring-type terminals	PS*
			Order No.	
Insulation stop for securely holding back the conductor insulation on conductors up to 1 mm²				
 3RT19 16-4JA02	Insulation stop strip can be inserted in cable entry of spring-type terminals (2 strips per contactor required, can be removed in pairs) For all SIRIUS devices with spring-type terminals, up to 2.5 mm² conductor cross-section.		**3RT19 16-4JA02**	20 units
Tool for opening spring-type terminals				
 3RA29 08-1A	For all SIRIUS devices with spring-type terminals, up to 2.5 mm² conductor cross-section. Not suitable for devices with removable terminal Length: approx. 200 mm, 3.0 mm x 0.5 mm, titanium gray/black, partially insulated		**3RA29 08-1A**	1 unit

	Version	DT	Order No.	PS*
Blank labels				
 3RT19 00-1SB10	Unit labeling plates for "SIRIUS"			
	• 10 mm × 7 mm, pastel turquoise		**3RT19 00-1SB10**	816 units
	• 20 mm × 7 mm, pastel turquoise		**3RT19 00-1SB20**	340 units
	Labels for sticking for "SIRIUS"			
	• 19 mm × 6 mm, pastel turquoise		**3RT19 00-1SB60**	3060 units
	• 19 mm × 6 mm, zinc/yellow		**3RT19 00-1SD60**	3060 units
	Computer labeling system For individual inscription of unit labeling plates available from: Murrplastik Systemtechnik GmbH (see Chapter 13, "Appendix" --> "External Partners")			

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

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Accessories for 3TF6 contactors

Selection and ordering data

	For contactors		Version	Rated control supply voltage U_s	DT	Order No.	PS*
	Size	Type		V DC			
Surge suppressors[1] · Varistors							
 3TX7 572-3.	**14**	3TF68, 3TF69	**Varistors**[2] For DC economy circuit; for snapping onto the side of auxiliary switches	24 ... 48 48 ... 127 127 ... 240		**3TX7 572-3G** **3TX7 572-3H** **3TX7 572-3J**	1 unit 1 unit 1 unit
Solid-state compatible auxiliary switch blocks with screw terminals							
			For operation in dusty atmospheres and in solid-state circuits with rated operational currents I_e AC-14 and DC-13 of 1 ... 300 mA at 3 ... 60 V			**Screw terminals**	
 5TY7 561-1.	**14**	3TF68, 3TF69	For mounting onto the side of contactors With 1 changeover contact. 2nd auxiliary switch block, left or right (replacement for 3TY6 561-1U, 3TY6 561-1V) Mounting on the left: 51 / 52 54 Mounting on the right: 61 / 62 64		▶	**3TY7 561-1UA00**	1 unit
Coupling links for control by PLC							
	14	3TF68, 3TF69	For snapping onto the side of auxiliary switch, with surge suppression. Operating range: 17 V to 30 V DC. Power consumption: 0.5 W at 24 V DC. Fitted with varistor.[3]		▶	**3TX7 090-0D**	1 unit
Terminal covers for unassigned busbar connections							
 3TX7 6.6-0A	**14**	3TF68 3TF69	Can be screwed onto free screw end on middle connecting bar. 2 units required per contactor. (1 set = 2 units)			**3TX7 686-0A** **3TX7 696-0A**	1 unit 1 unit

[1] The surge suppressor is included in the scope of supply of the following contactors: 3TF68 and 3TF69 (AC operation): varistor circuit.

[2] Includes the peak value of the alternating voltage on the DC side.

[3] More information can be found in the "Technical specifications" (see note on Technical Information on page 3/1).

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

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Controls – Soft Starters and Solid-State Switching Devices



SIRIUS 3RW Soft Starters

4/2 General data

3RW30, 3RW40 for Standard Applications

4/4 3RW30

4/5 3RW40

3RW44 for High-Feature Applications

4/7 3RW44

Solid-State Switching Devices for Resistive Loads

Solid-State Relays

4/11 SIRIUS 3RF21 solid-state relays, single-phase, 22.5 mm

4/12 SIRIUS 3RF20 solid-state relays, single-phase, 45 mm

4/13 SIRIUS 3RF22 solid-state relays, three-phase, 45 mm

Solid-State Contactors

4/14 SIRIUS 3RF23 solid-state contactors, single-phase

4/16 SIRIUS 3RF24 solid-state contactors, three-phase

Function Modules

4/17 SIRIUS converters for 3RF2

4/17 SIRIUS load monitoring for 3RF2

4/17 SIRIUS heating current monitoring for 3RF2

4/17 SIRIUS power controllers for 3RF2

4/17 SIRIUS power regulators for 3RF2

Solid-State Switching Devices for Switching Motors new

Solid-State Contactors

4/18 3RF34 solid-state contactors, three-phase

4/19 3RF34 solid-state reversing contactors, three-phase

More technical information

can be found at
www.siemens.com/industrial-controls/support

under Product List:
- Technical specifications

under Entry List:
- Updates
- Downloads
- FAQ
- Manuals
- Characteristic curves
- Certificates

and at
www.siemens.com/industrial-controls/configurators

- Configurators

Note:

The 3RF24 solid-state contactors for switching motors can be found

- *in Catalog Add-On LV 1 AO · 2011 on the CD-ROM or in the Information and Download Center*
- *in the interactive catalog CA 01*
- *in the Industry Mall*

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General data

Overview

The advantages of SIRIUS soft starters at a glance:

- Soft starting and smooth ramp-down (3RW30 supports only soft starting)
- Stepless starting
- Reduction of current peaks
- Avoidance of mains voltage fluctuations during starting
- Reduced load on the power supply network
- Reduction of the mechanical load in the operating mechanism
- Considerable space savings and reduced wiring compared with conventional starters
- Maintenance-free switching
- Very easy handling
- Fits perfectly in the SIRIUS modular system









		SIRIUS 3RW30 Standard applications	SIRIUS 3RW40 Standard applications	SIRIUS 3RW44 High-feature applications
Rated current at 40 °C	***A***	***3 ... 106***	***12.5 ... 432***	***29 ... 1 214***
Rated operational voltage	V	200 ... 480	200 ... 600	200 ... 690
Motor rating at 400 V				
• Inline circuit	kW	1.5 ... 55	5.5 ... 250	15 ... 710
• Inside-delta circuit	kW	--	--	22 ... 1 200
Ambient temperature	°C	-25 ... +60	-25 ... +60	0 ... +60
Soft starting/ramp-down		✔[1]	✔	✔
Voltage ramp		✔	✔	✔
Starting/stopping voltage	%	40 ... 100	40 ... 100	20 ... 100
Starting and ramp-down time	s	0 ... 20	0 ... 20	1 ... 360
Torque control		--	--	✔
Starting/stopping torque	%	--	--	20 ... 100
Torque limit	%	--	--	20 ... 200
Ramp time	s	--	--	1 ... 360
Integral bypass contact system		✔	✔	✔
Intrinsic device protection		--	✔	✔
Motor overload protection		--	✔[7]	✔
Thermistor motor protection		--	✔[2]	✔
Integrated remote RESET		--	✔[3]	✔
Adjustable current limiting		--	✔	✔
Inside-delta circuit		--	--	✔
Breakaway pulse		--	--	✔
Creep speed in both directions of rotation		--	--	✔
Pump ramp-down		--	--	✔[4]
DC braking		--	--	✔[4] [5]
Combined braking		--	--	✔[4] [5]
Motor heating		--	--	✔
Communication		--	--	With PROFIBUS DP (optional)
External display and operator module		--	--	(optional)
Operating measured value display		--	--	✔
Error logbook		--	--	✔
Event list		--	--	✔
Slave pointer function		--	--	✔
Trace function		--	--	✔[6]
Programmable control inputs and outputs		--	--	✔
Number of parameter sets		1	1	3
Parameterization software (Soft Starter ES)		--	--	✔
Power semiconductors (thyristors)		2 controlled phases	2 controlled phases	3 controlled phases
Screw terminals		✔	✔	✔
Spring-type terminals		✔	✔	✔
UL/CSA		✔	✔	✔
CE marking		✔	✔	✔
Soft starting under heavy starting conditions		--	--	✔[4]
Configuring support		Win-Soft Starter, electronic selection slider ruler, Technical Assistance +49 911 895 5900		

✔ Function is available; -- Function is not available

1) Only soft starting available for 3RW30.
2) Optional up to size S3 (device variant).
3) Available for 3RW40 2. to 3RW40 4.; optional for 3RW40 5. and 3RW40 7..
4) Calculate soft starter and motor with size allowance where required.
5) Not possible in inside-delta circuit.
6) Trace function with Soft Starter ES software.
7) When using the motor overload protection according to ATEX, an upstream contactor is required.

You can find further information on the Internet at:
www.siemens.com/softstarter

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Selection aid for soft starters






Application	SIRIUS 3RW30 Standard applications	SIRIUS 3RW40 Standard applications	SIRIUS 3RW44 High-feature applications
Normal starting (CLASS 10)			
Pump	●	●	●
Pumps with special pump ramp-down (to prevent water hammer)			●
Heat pumps	●	●	●
Hydraulic pumps	❍	●	●
Presses	❍	●	●
Conveyor belts	❍	●	●
Roller conveyors	❍	●	●
Screw conveyors	❍	●	●
Escalators		●	●
Piston compressors		●	●
Screw compressors		●	●
Small fans[1]		●	●
Centrifugal blowers		●	●
Bow thrusters		●	●
Heavy starting (CLASS 20)			
Stirrer		❍	●
Extruders		❍	●
Lathes		❍	●
Milling machines		❍	●
Very heavy starting (CLASS 30)			
Large fans[2]			●
Circular saws/bandsaws			●
Centrifuges			●
Mills			●
Breakers			●

● Recommended soft starter

❍ 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 ≥10 times the mass inertia of the motor.

Boundary conditions

Type	Maximum starting time s	Current limiting %	Starts per hour 1/h
Normal starting (CLASS 10)			
• **3RW30**	3	300	20
• **3RW40/44**	10	300	5
Heavy starting (CLASS 20)			
• **3RW40 2., 3RW40 3., 3RW40 4.**	20	300	5
• **3RW40 5., 3RW40 7., 3RW44**	40	350	1
Very heavy starting (CLASS 30)			
• **3RW44**	60	350	1

The motor ratings listed in the Selection and Ordering Data are rough guide values. The soft starter should always be designed on the basis of the required rated operational current of the motor. The 3RW soft starters are designed for easy starting conditions. In the event of more exacting requirements, it may be necessary to choose a larger device. However, in some cases the designed-in safety reserves also permit the listed units to be used in boundary conditions which are slightly more demanding.

Detailed technical information for a configuration which is tailored exactly to the application can be found in the manuals. Siemens recommends the use of the selection and simulation program Win-Soft Starter.

Motor rating data are based on DIN 42973 (kW) and NEC 96/UL508 (hp).

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3RW30

Selection and ordering data


3RW30 1.


3RW30 2.


3RW30 3.


3RW30 4.


3RW30 03-2CB54

3RW ambient temperature 40 °C[1]				3RW ambient temperature 50 °C[1]					Size	DT	Order No.	PS*
Rated values of induction motors				Rated values of induction motors								
Operational current I_e	Rating at operational voltage U_e 230 V	400 V	500 V	Operational current I_e	200 V	230 V	460 V	575 V				
A	kW	kW	kW	A	hp	hp	hp	hp				
Rated operational voltage U_e 200 ... 480 V[2]												
• With screw or spring-type terminals												
3.6	0.75	**1.5**	--	3	0.5	0.5	**1.5**	--	**S00**	▶	**3RW30 13-□BB□4**	1 unit
6.5	1.5	**3**	--	4.8	1	1	**3**	--	**S00**	▶	**3RW30 14-□BB□4**	1 unit
9	2.2	**4**	--	7.8	2	2	**5**	--	**S00**	▶	**3RW30 16-□BB□4**	1 unit
12.5	3	**5.5**	--	11	3	3	**7.5**	--	**S00**	▶	**3RW30 17-□BB□4**	1 unit
17.6	4	**7.5**	--	17	3	3	**10**	--	**S00**	▶	**3RW30 18-□BB□4**	1 unit
• With screw or spring-type terminals												
25	5.5	**11**	--	23	5	5	**15**	--	**S0**	▶	**3RW30 26-□BB□4**	1 unit
32	7.5	**15**	--	29	7.5	7.5	**20**	--	**S0**	▶	**3RW30 27-□BB□4**	1 unit
38	11	**18.5**	--	34	10	10	**25**	--	**S0**	▶	**3RW30 28-□BB□4**	1 unit
• With screw or spring-type terminals												
45	11	**22**	--	42	10	15	**30**	--	**S2**	▶	**3RW30 36-□BB□4**	1 unit
63	18.5	**30**	--	58	15	20	**40**	--	**S2**	▶	**3RW30 37-□BB□4**	1 unit
72	22	**37**	--	62	20	20	**40**	--	**S2**	▶	**3RW30 38-□BB□4**	1 unit
• With screw or spring-type terminals												
80	22	**45**	--	73	20	25	**50**	--	**S3**	▶	**3RW30 46-□BB□4**	1 unit
106	30	**55**	--	98	30	30	**75**	--	**S3**	▶	**3RW30 47-□BB□4**	1 unit
Order No. supplement for connection types												
• With screw terminals											**1**	
• With spring-type terminals[3]											**2**	
Order No. supplement for rated control supply voltage U_s												
• 24 V AC/DC												**0**
• 110 ... 230 V AC/DC												**1**
Soft starters for easy starting conditions and high switching frequency, rated operational voltage U_e 200 ... 400 V, rated operational voltage U_s 24 ... 230 V AC/DC												
3	0.55	**1.1**	--	2.6	0.5	**0.5**	--	--	22.5 mm			
• With screw terminals										▶	**3RW30 03-1CB54**	1 unit
• With spring-type terminals											**3RW30 03-2CB54**	1 unit

[1] Stand-alone installation.
[2] Soft starter with screw terminals: delivery time class ▶ (preferred type).
[3] Main circuit connection: screw terminals.

Note:

The listed motor ratings are rough guide values. The soft starter should always be designed on the basis of the required rated operational current of the motor.

The SIRIUS 3RW30 solid-state soft starters are designed for easy starting conditions. The selection and ordering data were determined for the following boundary conditions (see also the notes on Page 4/3):

- *Maximum starting time in s: 3*
- *Maximum starting current in % of motor current I_e: 300*
- *Maximum number of starts per hour in 1/h: 20*

For more accessories see Catalog IC 10 · 2011 on the attached CD-ROM.

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

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Selection and ordering data


3RW40 2.


3RW40 3.


3RW40 4.

3RW ambient temperature 40 °C[1] Rated values of induction motors: Operational current I_e	Rating at operational voltage U_e 230 V	400 V	500 V	3RW ambient temperature 50 °C[1] Rated values of induction motors: Operational current I_e	Rating at operational voltage U_e 200 V	230 V	460 V	575 V	Size	DT	Normal starting (CLASS 10) Order No.	PS*
A	kW	kW	kW	A	hp	hp	hp	hp				
Rated operational voltage U_e 200 ... 480 V[2]												
• With screw or spring-type terminals												
12.5	3	**5.5**	--	11	3	3	**7.5**	--	**S0**	▶	**3RW40 24-□BB□4**	1 unit
25	5.5	**11**	--	23	5	5	**15**	--	**S0**	▶	**3RW40 26-□BB□4**	1 unit
32	7.5	**15**	--	29	7.5	7.5	**20**	--	**S0**	▶	**3RW40 27-□BB□4**	1 unit
38	11	**18.5**	--	34	10	10	**25**	--	**S0**	▶	**3RW40 28-□BB□4**	1 unit
• With screw or spring-type terminals												
45	11	**22**	--	42	10	15	**30**	--	**S2**	▶	**3RW40 36-□BB□4**	1 unit
63	18.5	**30**	--	58	15	20	**40**	--	**S2**	▶	**3RW40 37-□BB□4**	1 unit
72	22	**37**	--	62	20	20	**40**	--	**S2**	▶	**3RW40 38-□BB□4**	1 unit
• With screw or spring-type terminals												
80	22	**45**	--	73	20	25	**50**	--	**S3**	▶	**3RW40 46-□BB□4**	1 unit
106	30	**55**	--	98	30	30	**75**	--	**S3**	▶	**3RW40 47-□BB□4**	1 unit
Rated operational voltage U_e 400 ... 600 V												
• With screw or spring-type terminals												
12.5	--	5.5	**7.5**	11	--	--	7.5	**10**	**S0**		**3RW40 24-□BB□5**	1 unit
25	--	11	**15**	23	--	--	15	**20**	**S0**		**3RW40 26-□BB□5**	1 unit
32	--	15	**18.5**	29	--	--	20	**25**	**S0**		**3RW40 27-□BB□5**	1 unit
38	--	18.5	**22**	34	--	--	25	**30**	**S0**		**3RW40 28-□BB□5**	1 unit
• With screw or spring-type terminals												
45	--	22	**30**	42	--	--	30	**40**	**S2**		**3RW40 36-□BB□5**	1 unit
63	--	30	**37**	58	--	--	40	**50**	**S2**		**3RW40 37-□BB□5**	1 unit
72	--	37	**45**	62	--	--	40	**60**	**S2**		**3RW40 38-□BB□5**	1 unit
• With screw or spring-type terminals												
80	--	45	**55**	73	--	--	50	**60**	**S3**		**3RW40 46-□BB□5**	1 unit
106	--	55	**75**	98	--	--	75	**75**	**S3**		**3RW40 47-□BB□5**	1 unit
Order No. supplement for connection types												
• With screw terminals											**1**	
• With spring-type terminals[3]											**2**	
Order No. supplement for rated control supply voltage U_s												
• 24 V AC/DC												**0**
• 110 ... 230 V AC/DC												**1**

[1] Stand-alone installation without auxiliary fan.

[2] Soft starter with screw terminals: delivery time class ▶ (preferred type).

[3] Main circuit connection: screw terminals.

Note:

The listed motor ratings are rough guide values. The soft starter should always be designed on the basis of the required rated operational current of the motor. The 3RW40 soft starters are designed for easy starting conditions. The selection and ordering data were determined for the following boundary conditions (see also the notes on Page 4/3):

- *Maximum starting time in s: 10*
- *Maximum starting current in % of motor current I_e: 300*
- *Maximum number of starts per hour in 1/h: 5*

(switching frequency can be increased by means of auxiliary fans)

For more accessories see Catalog IC 10 · 2011.

For soft starters Type	Size	DT	Order No.	PS*
Fans (to increase switching frequency and for device mounting in positions different from the normal position)				
3RW40 2.	**S0**	▶	**3RW49 28-8VB00**	1 unit
3RW40 3., 3RW40 4.	**S2, S3**	▶	**3RW49 47-8VB00**	1 unit



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

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3RW40



3RW40 5.



3RW40 7.

3RW ambient temperature 40 °C[1]				3RW ambient temperature 50 °C[1]					Size	DT	Normal starting (CLASS 10)	PS*
Rated values of induction motors				Rated values of induction motors								
Operational current I_e	Rating at operational voltage U_e 230 V	400 V	500 V	Operational current I_e	Rating at operational voltage U_e 200 V	230 V	460 V	575 V			Order No.	
A	kW	kW	kW	A	hp	hp	hp	hp				
Rated operational voltage U_e 200 ... 460 V[2]												
• With screw or spring-type terminals												
134	37	**75**	--	117	30	40	**75**	--	**S6**	▶	**3RW40 55-□BB□4**	1 unit
162	45	**90**	--	145	40	50	**100**	--		▶	**3RW40 56-□BB□4**	1 unit
• With screw or spring-type terminals												
230	75	**132**	--	205	60	75	**150**	--	**S12**	▶	**3RW40 73-□BB□4**	1 unit
280	90	**160**	--	248	75	100	**200**	--		▶	**3RW40 74-□BB□4**	1 unit
356	110	**200**	--	315	100	125	**250**	--		▶	**3RW40 75-□BB□4**	1 unit
432	132	**250**	--	385	125	150	**300**	--		▶	**3RW40 76-□BB□4**	1 unit
Rated operational voltage U_e 400 ... 600 V												
• With screw or spring-type terminals												
134	--	75	**90**	117	--	--	75	**100**	**S6**		**3RW40 55-□BB□5**	1 unit
162	--	90	**110**	145	--	--	100	**150**			**3RW40 56-□BB□5**	1 unit
• With screw or spring-type terminals												
230	--	132	**160**	205	--	--	150	**200**	**S12**		**3RW40 73-□BB□5**	1 unit
280	--	160	**200**	248	--	--	200	**250**			**3RW40 74-□BB□5**	1 unit
356	--	200	**250**	315	--	--	250	**300**			**3RW40 75-□BB□5**	1 unit
432	--	250	**315**	385	--	--	300	**400**			**3RW40 76-□BB□5**	1 unit

Order No. supplement for connection types[3]

- With spring-type terminals **2**
- With screw terminals **6**

Order No. supplement for the rated control supply voltage U_s[4]

- 115 V AC **3**
- 230 V AC **4**

1) Stand-alone installation.
2) Soft starter with screw terminals: delivery time class ▶ (preferred type).
3) Main circuit connection: busbar connection.
4) Control by way of the internal 24 V DC supply and direct control by means of PLC possible.

Note:

The listed motor ratings are rough guide values. The soft starter should always be designed on the basis of the required rated operational current of the motor.

The 3RW40 solid-state soft starters are designed for easy starting conditions. The selection and ordering data were determined for the following boundary conditions (see also the notes on Page 4/3):

- *Maximum starting time in s: 10*
- *Maximum starting current in % of motor current I_e: 300*
- *Maximum number of starts per hour in 1/h: 5*

In the event of more exacting requirements, it may be necessary to choose a larger device. However, in some cases the designed-in safety reserves also permit the listed units to be used in boundary conditions which are slightly more demanding. Detailed technical information for a configuration which is tailored exactly to the application can be found in the manuals. Siemens recommends the use of the selection and simulation program Win-Soft Starter.

For more accessories see Catalog IC 10 · 2011 on the attached CD-ROM.

*** You can order this quantity or a multiple thereof.**
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Selection and ordering data

SIRIUS 3RW44 for normal starting (CLASS 10) in inline circuit


3RW44 2.


3RW44 3.


3RW44 4.


3RW44 5.


3RW44 6.

3RW ambient temperature 40 °C[1]						3RW ambient temperature 50 °C[1]					DT	Normal starting (CLASS 10) in inline circuit	PS*
Rated values of induction motors						Rated values of induction motors							
Operational current I_e	Rating at operational voltage U_e					Operational current I_e	Rating at operational voltage U_e						
	230 V	400 V	500 V	690 V	1000 V		200 V	230 V	460 V	575 V		Order No.	
A	kW	kW	kW	kW	kW	A	hp	hp	hp	hp			
Inline circuit, rated operational voltage 200 ... 460 V[1]													
29	5.5	**15**	--	--	--	26	7.5	7.5	**15**	--	▶	**3RW44 22-□BC□4**	1 unit
36	7.5	**18.5**	--	--	--	32	10	10	**20**	--	▶	**3RW44 23-□BC□4**	1 unit
47	11	**22**	--	--	--	42	10	15	**25**	--	▶	**3RW44 24-□BC□4**	1 unit
57	15	**30**	--	--	--	51	15	15	**30**	--	▶	**3RW44 25-□BC□4**	1 unit
77	18.5	**37**	--	--	--	68	20	20	**50**	--	▶	**3RW44 26-□BC□4**	1 unit
93	22	**45**	--	--	--	82	25	25	**60**	--	▶	**3RW44 27-□BC□4**	1 unit
Order No. supplement for connection types													
• With screw terminals												**1**	
• With spring-type terminals												**3**	
113	30	**55**	--	--	--	100	30	30	**75**	--	▶	**3RW44 34-□BC□4**	1 unit
134	37	**75**	--	--	--	117	30	40	**75**	--	▶	**3RW44 35-□BC□4**	1 unit
162	45	**90**	--	--	--	145	40	50	**100**	--	▶	**3RW44 36-□BC□4**	1 unit
203	55	**110**	--	--	--	180	50	60	**125**	--	▶	**3RW44 43-□BC□4**	1 unit
250	75	**132**	--	--	--	215	60	75	**150**	--	▶	**3RW44 44-□BC□4**	1 unit
313	90	**160**	--	--	--	280	75	100	**200**	--	▶	**3RW44 45-□BC□4**	1 unit
356	110	**200**	--	--	--	315	100	125	**250**	--	▶	**3RW44 46-□BC□4**	1 unit
432	132	**250**	--	--	--	385	125	150	**300**	--	▶	**3RW44 47-□BC□4**	1 unit
551	160	**315**	--	--	--	494	150	200	**400**	--	▶	**3RW44 53-□BC□4**	1 unit
615	200	**355**	--	--	--	551	150	200	**450**	--	▶	**3RW44 54-□BC□4**	1 unit
693	200	**400**	--	--	--	615	200	250	**500**	--	▶	**3RW44 55-□BC□4**	1 unit
780	250	**450**	--	--	--	693	200	250	**600**	--	▶	**3RW44 56-□BC□4**	1 unit
880	250	**500**	--	--	--	780	250	300	**700**	--	▶	**3RW44 57-□BC□4**	1 unit
970	315	**560**	--	--	--	850	300	350	**750**	--	▶	**3RW44 58-□BC□4**	1 unit
1 076	355	**630**	--	--	--	970	350	400	**850**	--	▶	**3RW44 65-□BC□4**	1 unit
1 214	400	**710**	--	--	--	1 076	350	450	**950**	--	▶	**3RW44 66-□BC□4**	1 unit
Order No. supplement for connection types													
• With spring-type terminals												**2**	
• With screw terminals												**6**	
Order No. supplement for the rated control supply voltage U_s[2]													
• 115 V AC												**3**	
• 230 V AC												**4**	

[1] Soft starter with screw terminals: delivery time class ▶ (preferred type).

[2] Control by way of the internal 24 V DC supply and direct control by means of PLC possible.

Note:

The listed motor ratings are rough guide values. The soft starter should always be designed on the basis of the required rated operational current of the motor.

The SIRIUS 3RW44 solid-state soft starters are designed for easy starting conditions. The selection and ordering data were determined for the following boundary conditions (see also the notes on Page 4/3):

- *Maximum starting time in s: 10*
- *Maximum starting current in % of motor current I_e: 300*
- *Maximum number of starts per hour in 1/h: 5*

In the event of more exacting requirements, it may be necessary to choose a larger device. However, in some cases the designed-in safety reserves also permit the listed units to be used in boundary conditions which are slightly more demanding. Detailed technical information for a configuration which is tailored exactly to the application can be found in the manuals. Siemens recommends the use of the selection and simulation program Win-Soft Starter.

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3RW44

SIRIUS 3RW44 for normal starting (CLASS 10) in inside-delta circuit


3RW44 2.


3RW44 3.


3RW44 4.


3RW44 5.


3RW44 6.

3RW ambient temperature 40 °C[1]						3RW ambient temperature 50 °C[1]					DT	Normal starting (CLASS 10) in inside-delta circuit	PS*
Rated values of induction motors						Rated values of induction motors							
Operational current I_e	Rating at operational voltage U_e					Operational current I_e	Rating at operational voltage U_e						
	230 V	400 V	500 V	690 V	1000 V		200 V	230 V	460 V	575 V		Order No.	
A	kW	kW	kW	kW	kW	A	hp	hp	hp	hp			
Inside-delta circuit, rated operational voltage 200 ... 460 V[2]													
50	15	**22**	--	--	--	45	10	15	**30**	--	▶	**3RW44 22-□BC□4**	1 unit
62	18.5	**30**	--	--	--	55	15	20	**40**	--	▶	**3RW44 23-□BC□4**	1 unit
81	22	**45**	--	--	--	73	20	25	**50**	--	▶	**3RW44 24-□BC□4**	1 unit
99	30	**55**	--	--	--	88	25	30	**60**	--	▶	**3RW44 25-□BC□4**	1 unit
133	37	**75**	--	--	--	118	30	40	**75**	--	▶	**3RW44 26-□BC□4**	1 unit
161	45	**90**	--	--	--	142	40	50	**100**	--	▶	**3RW44 27-□BC□4**	1 unit
Order No. supplement for connection types													
• With screw terminals												**1**	
• With spring-type terminals												**3**	
196	55	**110**	--	--	--	173	50	60	**125**	--	▶	**3RW44 34-□BC□4**	1 unit
232	75	**132**	--	--	--	203	60	75	**150**	--	▶	**3RW44 35-□BC□4**	1 unit
281	90	**160**	--	--	--	251	75	100	**200**	--	▶	**3RW44 36-□BC□4**	1 unit
352	110	**200**	--	--	--	312	100	125	**250**	--	▶	**3RW44 43-□BC□4**	1 unit
433	132	**250**	--	--	--	372	125	150	**300**	--	▶	**3RW44 44-□BC□4**	1 unit
542	160	**315**	--	--	--	485	150	200	**400**	--	▶	**3RW44 45-□BC□4**	1 unit
617	200	**355**	--	--	--	546	150	200	**450**	--	▶	**3RW44 46-□BC□4**	1 unit
748	250	**400**	--	--	--	667	200	250	**600**	--	▶	**3RW44 47-□BC□4**	1 unit
954	315	**560**	--	--	--	856	300	350	**750**	--	▶	**3RW44 53-□BC□4**	1 unit
1 065	355	**630**	--	--	--	954	350	400	**850**	--	▶	**3RW44 54-□BC□4**	1 unit
1 200	400	**710**	--	--	--	1 065	350	450	**950**	--	▶	**3RW44 55-□BC□4**	1 unit
1 351	450	**800**	--	--	--	1 200	450	500	**1 050**	--	▶	**3RW44 56-□BC□4**	1 unit
1 524	500	**900**	--	--	--	1 351	450	600	**1 200**	--	▶	**3RW44 57-□BC□4**	1 unit
1 680	560	**1 000**	--	--	--	1 472	550	650	**1 300**	--	▶	**3RW44 58-□BC□4**	1 unit
1 864	630	**1 100**	--	--	--	1 680	650	750	**1 500**	--	▶	**3RW44 65-□BC□4**	1 unit
2 103	710	**1 200**	--	--	--	1 864	700	850	**1 700**	--	▶	**3RW44 66-□BC□4**	1 unit
Order No. supplement for connection types													
• With spring-type terminals												**2**	
• With screw terminals												**6**	
Order No. supplement for the rated control supply voltage U_s[3]													
• 115 V AC												**3**	
• 230 V AC												**4**	

[1] In the selection table, the unit rated current I_e refers to the induction motor's rated operational current in the inside-delta circuit. The actual current of the device is approx. 58 % of this value.

[2] Soft starter with screw terminals: delivery time class ▶ (preferred type).

[3] Control by way of the internal 24 V DC supply and direct control by means of PLC possible.

Note:

The listed motor ratings are rough guide values. The soft starter should always be designed on the basis of the required rated operational current of the motor.

The SIRIUS 3RW44 solid-state soft starters are designed for easy starting conditions. The selection and ordering data were determined for the following boundary conditions (see also the notes on Page 4/3):

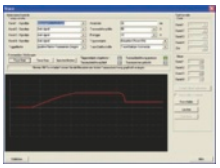
- *Maximum starting time in s: 10*
- *Maximum starting current in % of motor current I_e: 300*
- *Maximum number of starts per hour in 1/h: 5*

In the event of more exacting requirements, it may be necessary to choose a larger device. However, in some cases the designed-in safety reserves also permit the listed units to be used in boundary conditions which are slightly more demanding. Detailed technical information for a configuration which is tailored exactly to the application can be found in the manuals. Siemens recommends the use of the selection and simulation program Win-Soft Starter.

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Accessories

	Version	DT	Order No.	PS*
Soft Starter ES 2007 PC communication programs[1]				
	**Soft Starter ES 2007 Basic** Floating license for one user; E-SW, software and documentation on CD, 3 languages (German/English/French), communication through the system interface			
	• License key on USB stick, Class A, including CD		**3ZS1 313-4CC10-0YA5**	1 unit
	Soft Starter ES 2007 Standard Floating license for one user; E-SW, software and documentation on CD, 3 languages (German/English/French), communication through the system interface			
	• License key on USB stick, Class A, including CD		**3ZS1 313-5CC10-0YA5**	1 unit
	Soft Starter ES 2007 Premium Floating license for one user; E-SW, software and documentation on CD, 3 languages (German/English/French), communication through the system interface or PROFIBUS			
	• License key on USB stick, Class A, including CD		**3ZS1 313-6CC10-0YA5**	1 unit
SIRIUS 3RW44 Soft Starter Block Library for SIMATIC PCS 7[1]				
 3ZS1 633-1XX00-0YA0	Scope of supply: AS modules and faceplates for integrating SIRIUS 3RW44 into the PCS 7 process control system, for PCS 7 version V 6.1/V 7.0			
	Engineering software For one engineering station (single license) including runtime software for execution of the AS module in an automation system (single license), German/English, Type of delivery: on CD including electronic documentation in German/English/Portuguese	▶	**3ZS1 633-1XX00-0YA0**	1 unit
	Runtime software for execution of the AS module in an automation system (single license), Type of delivery: license without software and documentation	▶	**3ZS1 633-2XX00-0YB0**	1 unit
PC cables				
 3UF7 940-0AA00-0	**For PC/PG communication with SIRIUS 3RW44 soft starters** through the system interface, for connecting to the serial interface of the PC/PG	▶	**3UF7 940-0AA00-0**	1 unit
USB/serial adapters				
	For connecting the PC cable to the USB interface of a PC We recommend, in conjunction with 3RW44 soft starter, using SIMOCODE pro 3UF7, 3RK3 modular safety system, ET 200S/ECOFAST/ET 200pro motor starters, AS-i safety monitor, AS-i analyzer		**3UF7 946-0AA00-0**	1 unit
PROFIBUS communication modules				
 3RW49 00-0KC00	Modules can be plugged into the soft starters for integrating the starters in the PROFIBUS network with DPV1 slave functionality. On Y-link the soft starter has only DPV0 slave functionality.		**3RW49 00-0KC00**	1 unit
External display and operator modules				
 3RW49 00-0AC00	For indicating and operating the functions provided by the soft starter using an externally mounted display and operator module in degree of protection IP54 (e. g. in the control cabinet door)	▶	**3RW49 00-0AC00**	1 unit
	Connection cables From the device interface (serial) of the 3RW44 soft starter to the external display and operator module			
	• Length 0.5 m, flat	▶	**3UF7 932-0AA00-0**	1 unit
	• Length 0.5 m, round	▶	**3UF7 932-0BA00-0**	1 unit
	• Length 1.0 m, round	▶	**3UF7 937-0BA00-0**	1 unit
	• Length 2.5 m, round	▶	**3UF7 933-0BA00-0**	1 unit

[1] For detailed information about the Soft Starter ES software program and about the SIRIUS 3RW44 Soft Starter Block Library for SIMATIC PCS 7 see Catalog IC 10, Chapter 12 "Planning, Configuration and Visualizing".

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	For soft starters Type	Version	DT	Order No.	PS*
Manual 3RW44[1]					
	3RW44			**3ZX1012-0RW44-1AB1**	

1) The manual is available as a PDF download in the Service&Support Portal at www.siemens.com/industrial-controls/support --> Controls --> Soft Starters and Solid-State Switching Devices --> SIRIUS 3RW Soft Starters.

Spare parts

	For soft starters Type	Version	DT	Order No.	PS*
Fans					
 3RW49	**Fans**				
	3RW44 2. and 3RW44 3.	115 V AC	▶	**3RW49 36-8VX30**	1 unit
		230 V AC	▶	**3RW49 36-8VX40**	1 unit
	3RW44 4.	115 V AC	▶	**3RW49 47-8VX30**	1 unit
		230 V AC	▶	**3RW49 47-8VX40**	1 unit
	3RW44 5. and 3RW44 6.[1]	115 V AC	▶	**3RW49 57-8VX30**	1 unit
		230 V AC	▶	**3RW49 57-8VX40**	1 unit
	3RW44 6.[2]	115 V AC	▶	**3RW49 66-8VX30**	1 unit
		230 V AC	▶	**3RW49 66-8VX40**	1 unit

1) 3RW44 6. mounting on output side.
2) For mounting on front side.

For more accessories see Catalog IC 10 · 2011 on the attached CD-ROM.

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SIRIUS 3RF21 solid-state relays, single-phase, 22.5 mm

Overview

Single-phase solid-state relays with a width of 22.5 mm

With its compact design and a width of just 22.5 mm, which stays the same even at currents of up to 88 A, the 3RF21 solid-state relay 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.

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 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 3RF21 and 3RF22 solid-state relays can be expanded with various function modules to adapt them to individual applications.

- Screw terminals
- Spring-type terminals
- Ring terminal lug connections

The terminals are indicated in the selection and ordering data by the symbols shown on orange backgrounds.

Selection and ordering data



3RF21 20-1AA02



3RF21 20-2AA02



3RF21 20-3AA02

Type current[1]	DT	Screw terminals[2]	PS*	Weight per PU approx.	DT	Spring-type terminals[3]	PS*	Weight per PU approx.	DT	Ring terminal lug connections	PS*	Weight per PU approx.
A		Order No.		kg		Order No.		kg		Order No.		kg
Zero-point switching, rated operational voltage U_e = 24 ... 230 V												
20		**3RF21 20-1AA□2**	1 unit	0.075		**3RF21 20-2AA□2**	1 unit	0.075		**3RF21 20-3AA□2**	1 unit	0.075
30		**3RF21 30-1AA□2**	1 unit	0.075		--				--		
50		**3RF21 50-1AA□2**	1 unit	0.075		**3RF21 50-2AA□2**	1 unit	0.075		**3RF21 50-3AA□2**	1 unit	0.075
70		**3RF21 70-1AA□2**	1 unit	0.075		--				--		
90		**3RF21 90-1AA□2**	1 unit	0.075		**3RF21 90-2AA□2**	1 unit	0.075		**3RF21 90-3AA□2**	1 unit	0.075
Zero-point switching, rated operational voltage U_e = 48 ... 460 V												
20		**3RF21 20-1AA□4**	1 unit	0.075		**3RF21 20-2AA□4**	1 unit	0.075		**3RF21 20-3AA□4**	1 unit	0.075
30		**3RF21 30-1AA□4**	1 unit	0.075		--				--		
50		**3RF21 50-1AA□4**	1 unit	0.075		**3RF21 50-2AA□4**	1 unit	0.075		**3RF21 50-3AA□4**	1 unit	0.075
70		**3RF21 70-1AA□4**	1 unit	0.075		--				--		
90		**3RF21 90-1AA□4**	1 unit	0.075		**3RF21 90-2AA□4**	1 unit	0.075		**3RF21 90-3AA□4**	1 unit	0.075
Zero-point switching, blocking voltage 1600 V, rated operational voltage U_e = 48 ... 600 V												
30		**3RF21 30-1AA□6**	1 unit	0.075		--				--		
50		**3RF21 50-1AA□6**	1 unit	0.075		**3RF21 50-2AA□6**	1 unit	0.075		**3RF21 50-3AA□6**	1 unit	0.075
70		**3RF21 70-1AA□6**	1 unit	0.075		--				--		
90		**3RF21 90-1AA□6**	1 unit	0.075		**3RF21 90-2AA□6**	1 unit	0.075		**3RF21 90-3AA□6**	1 unit	0.075
Order No. supplement for rated control supply voltage U_s												
24 V DC acc. to EN 61131-2		**0**				**0**				**0**		
110 ... 230 V AC		**2**				**2**				**2**		

Other rated control supply voltages on request.

1) 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 this version can only be used for a rated current of up to approx. 50 A and a conductor cross-section of 10 mm^2.

3) Please note that the version with spring-type terminals can only be used for a rated current of up to approx. 20 A and a conductor cross-section of 2.5 mm^2. Higher currents are possible by connecting two conductors per terminal.

	Version	DT	Order No.	PS*	Weight per PU approx.
					kg
Optional accessories					
 3RF29 00-3PA88	**Screwdrivers** for opening spring-type terminals		**8WA2 880**	1 unit	0.034
	Terminal covers for 3RF21 solid-state relays and 3RF23 solid-state contactors with ring terminal lug connection (after simple adaptation, these terminal covers can also be used for devices with screw terminals).		**3RF29 00-3PA88**	10 units	0.004

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SIRIUS 3RF20 solid-state relays, single-phase, 45 mm

Overview

Single-phase solid-state relays with a width of 45 mm

The solid-state relays with a width of 45 mm provide for connection of the power infeed and the load from above. This makes it easy to replace existing solid-state relays in existing arrangements. The connection of the control cable also saves space in much the same way as the 22.5 mm design, as it is simply plugged on.

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 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.

Selection and ordering data

Type current[1]	DT	Screw terminals[2]	PS*	Weight per PU approx.
A		Order No.		kg
Zero-point switching, rated operational voltage U_e = 24 ... 230 V				
20		**3RF20 20-1AA□2**	1 unit	0.085
30		**3RF20 30-1AA□2**	1 unit	0.085
50		**3RF20 50-1AA□2**	1 unit	0.085
70		**3RF20 70-1AA□2**	1 unit	0.085
90		**3RF20 90-1AA□2**	1 unit	0.085
Zero-point switching, rated operational voltage U_e = 48 ... 460 V				
20		**3RF20 20-1AA□4**	1 unit	0.085
30		**3RF20 30-1AA□4**	1 unit	0.085
50		**3RF20 50-1AA□4**	1 unit	0.085
70		**3RF20 70-1AA□4**	1 unit	0.085
90		**3RF20 90-1AA□4**	1 unit	0.085
Zero-point switching, blocking voltage 1600 V, rated operational voltage U_e = 48 ... 600 V				
30		**3RF20 30-1AA□6**	1 unit	0.085
50		**3RF20 50-1AA□6**	1 unit	0.085
70		**3RF20 70-1AA□6**	1 unit	0.085
90		**3RF20 90-1AA□6**	1 unit	0.085



3RF20 20-1AA02

Order No. supplement for rated control supply voltage U_s

24 V DC according to EN 61131-2	**0**
110 ... 230 V AC	**2**

Type current[1]	DT	Screw terminals[2] / Spring-type terminals (control current side)	PS*	Weight per PU approx.
A		Order No.		kg
Zero-point switching, rated operational voltage U_e = 24 ... 230 V				
50 (U_s = 24 V DC according to EN 61131-2)		**3RF20 50-4AA02**	1 unit	0.085



3RF20 50-1AA02

Other rated control supply voltages on request.

[1] 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 this version can only be used for a rated current of up to approx. 50 A and a conductor cross-section of 10 mm^2.

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

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Overview

With its compact design and a width of just 45 m, which stays the same even at currents of up to 55 A, the 3RF22 solid-state relay 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 three-phase solid-state relays are available with

- two-phase control (suitable in particular for circuits without connection to the neutral conductor) and
- Three-phase control (suitable for wye connections with connection to the neutral conductor or for applications in which the system requires all phases to be switched).

Selection and ordering data

Type current[1]	Rated control supply voltage U_s	DT	**Screw terminals**[2]	PS*	Weight per PU approx.
A	V		Order No.		kg
Zero-point switching Rated operational voltage U_e 48 V ... 600 V					
Two-phase controlled					
30	4 ... 30 DC		**3RF22 30-1AB45**	1 unit	0.150
55			**3RF22 55-1AB45**	1 unit	0.150
Three-phase controlled					
30	4 ... 30 DC		**3RF22 30-1AC45**	1 unit	0.150
55			**3RF22 55-1AC45**	1 unit	0.150


3RF22 30-1AB45

Type current[1]	Rated control supply voltage U_s	DT	**Spring-type terminals**[3]	PS*	Weight per PU approx.
A	V		Order No.		kg
Zero-point switching Rated operational voltage U_e 48 V ... 600 V					
Two-phase controlled					
30	4 ... 30 DC		**3RF22 30-2AB45**	1 unit	0.150
55			**3RF22 55-2AB45**	1 unit	0.150
Three-phase controlled					
30	4 ... 30 DC		**3RF22 30-2AC45**	1 unit	0.150
55			**3RF22 55-2AC45**	1 unit	0.150


3RF22 30-2AB45

Type current[1]	Rated control supply voltage U_s	DT	**Ring terminal lug connections**	PS*	Weight per PU approx.
A	V		Order No.		kg
Zero-point switching Rated operational voltage U_e 48 V ... 600 V					
Two-phase controlled					
30	4 ... 30 DC		**3RF22 30-3AB45**	1 unit	0.150
55			**3RF22 55-3AB45**	1 unit	0.150
Three-phase controlled					
30	4 ... 30 DC		**3RF22 30-3AC45**	1 unit	0.150
55			**3RF22 55-3AC45**	1 unit	0.150


3RF22 30-3AB45

[1] 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 10 mm^2.

[3] Please note that the version with spring-type terminals can only be used for a rated current of up to approx. 20 A and a conductor cross-section of 2.5 mm^2. Higher currents are possible by connecting two conductors per terminal.

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

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SIRIUS 3RF23 solid-state contactors, single-phase

Overview

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. Depending on the version, current intensities of up to 88 A are achieved. Like all of our solid-state switching devices, one of their particular advantages is their compact and space-saving design.

With their insulated mounting foot they can easily be snapped onto a standard mounting rail, or they can be mounted on support plates with fixing screws. This insulation enables them to be used in circuits with protective extra-low voltage (PELV) or safety extra-low voltage (SELV) in building management. For other applications, such as for extended personal safety, the heat sink can be grounded through a screw terminal.

Version for resistive loads, "zero-point switching"

This standard version is often used for switching space 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 EN 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-type 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 boundary conditions must be observed, e.g. 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.

Selection and ordering data


3RF23 10-1AA02


3RF23 30-1AA02


3RF23 40-1AA02


3RF23 50-3AA02


3RF23 70-3AA02


3RF23 90-3AA02

Type current[1] I_{max}	DT	Screw terminals	PS*	Weight per PU approx.	DT	Spring-type terminals	PS*	Weight per PU approx.	DT	Ring terminal lug connections	PS*	Weight per PU approx.
A		Order No.		kg		Order No.		kg		Order No.		kg
Zero-point switching, rated operational voltage U_e = 24 ... 230 V												
10.5		**3RF23 10-1AA□2**	1 unit	0.165		**3RF23 10-2AA□2**	1 unit	0.166		**3RF23 10-3AA□2**	1 unit	0.166
20		**3RF23 20-1AA□2**	1 unit	0.240		**3RF23 20-2AA□2**	1 unit	0.240		**3RF23 20-3AA□2**	1 unit	0.200
30		**3RF23 30-1AA□2**	1 unit	0.400		--				**3RF23 30-3AA□2**	1 unit	0.435
40		**3RF23 40-1AA□2**	1 unit	0.550		--				**3RF23 40-3AA□2**	1 unit	0.550
50		**3RF23 50-1AA□2**	1 unit	0.550		--				**3RF23 50-3AA□2**	1 unit	0.550
70		--				--				**3RF23 70-3AA□2**	1 unit	1.200
88		--				--				**3RF23 90-3AA□2**	1 unit	2.900
Zero-point switching, rated operational voltage U_e = 48 ... 460 V												
10.5		**3RF23 10-1AA□4**	1 unit	0.165		**3RF23 10-2AA□4**	1 unit	0.166		**3RF23 10-3AA□4**	1 unit	0.166
20		**3RF23 20-1AA□4**	1 unit	0.240		**3RF23 20-2AA□4**	1 unit	0.240		**3RF23 20-3AA□4**	1 unit	0.200
30		**3RF23 30-1AA□4**	1 unit	0.400		--				**3RF23 30-3AA□4**	1 unit	0.435
40		**3RF23 40-1AA□4**	1 unit	0.550		--				**3RF23 40-3AA□4**	1 unit	0.550
50		**3RF23 50-1AA□4**	1 unit	0.550		--				**3RF23 50-3AA□4**	1 unit	0.550
70		--				--				**3RF23 70-3AA□4**	1 unit	1.200
88		--				--				**3RF23 90-3AA□4**	1 unit	2.900
Zero-point switching, rated operational voltage U_e = 48 ... 600 V												
10.5		**3RF23 10-1AA□6**	1 unit	0.165		**3RF23 10-2AA□6**	1 unit	0.166		**3RF23 10-3AA□6**	1 unit	0.166
20		**3RF23 20-1AA□6**	1 unit	0.240		**3RF23 20-2AA□6**	1 unit	0.240		**3RF23 20-3AA□6**	1 unit	0.200
30		**3RF23 30-1AA□6**	1 unit	0.400		--				**3RF23 30-3AA□6**	1 unit	0.435
40		**3RF23 40-1AA□6**	1 unit	0.550		--				**3RF23 40-3AA□6**	1 unit	0.550
50		**3RF23 50-1AA□6**	1 unit	0.550		--				**3RF23 50-3AA□6**	1 unit	0.550
70		--				--				**3RF23 70-3AA□6**	1 unit	1.200
88		--				--				**3RF23 90-3AA□6**	1 unit	2.900
Order No. supplement for rated control supply voltage U_s												
24 V DC acc. to EN 61131-2		**0**				**0**				**0**		
110 ... 230 V AC		**2**				**2**				**2**		

Other rated control supply voltages on request.

[1] The type current provides information about the performance of the solid-state contactor. The actual permitted rated operational current I_e can be smaller depending on the connection method and start-up conditions.

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

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SIRIUS 3RF23 solid-state contactors, single-phase

Type current[1)] I_{max}	DT	Screw terminals	PS*	Weight per PU approx.	DT	Spring-type terminals	PS*	Weight per PU approx.	DT	Ring terminal lug connection	PS*	Weight per PU approx.
A		Order No.		kg		Order No.		kg		Order No.		kg
Instantaneous switching, rated operational voltage U_e = 24 ... 230 V												
10.5		**3RF23 10-1BA□2**	1 unit	0.165		--				--		
20		**3RF23 20-1BA□2**	1 unit	0.240		--				--		
30		**3RF23 30-1BA□2**	1 unit	0.400		--				--		
40		**3RF23 40-1BA□2**	1 unit	0.550		--				--		
50		**3RF23 50-1BA□2**	1 unit	0.550		--				--		
70		**3RF23 70-1BA□2**	1 unit	1.200		--				**3RF23 70-3BA□2**	1 unit	1.200
88		**3RF23 90-1BA□2**	1 unit	2.900		--				**3RF23 90-3BA□2**	1 unit	2.900
Instantaneous switching, rated operational voltage U_e = 48 ... 460 V												
10.5		**3RF23 10-1BA□4**	1 unit	0.165		--				--		
20		**3RF23 20-1BA□4**	1 unit	0.240		--				--		
30		**3RF23 30-1BA□4**	1 unit	0.400		--				--		
40		**3RF23 40-1BA□4**	1 unit	0.550		--				--		
50		**3RF23 50-1BA□4**	1 unit	0.550		--				--		
70		**3RF23 70-1BA□4**	1 unit	1.200		--				**3RF23 70-3BA□4**	1 unit	1.200
88		**3RF23 90-1BA□4**	1 unit	2.900		--				**3RF23 90-3BA□4**	1 unit	2.900
Instantaneous switching, blocking voltage 1600 V, rated operational voltage U_e = 48 ... 600 V												
10.5		**3RF23 10-1BA□6**	1 unit	0.165		--				--		
20		**3RF23 20-1BA□6**	1 unit	0.240		--				--		
30		**3RF23 30-1BA□6**	1 unit	0.400		--				--		
40		**3RF23 40-1BA□6**	1 unit	0.550		--				--		
50		**3RF23 50-1BA□6**	1 unit	0.550		--				--		
70		**3RF23 70-1BA□6**	1 unit	1.200		--				**3RF23 70-3BA□6**	1 unit	1.200
88		**3RF23 90-1BA□6**	1 unit	2.900		--				**3RF23 90-3BA□6**	1 unit	2.900
Low noise, zero-point switching, rated operational voltage U_e = 24 ... 230 V												
20		**3RF23 20-1CA□2**	1 unit	0.240		**3RF23 20-2CA□2**	1 unit	0.240		--		
Low noise, zero-point switching, rated operational voltage U_e = 48 ... 460 V												
20		**3RF23 20-1CA□4**	1 unit	0.240		**3RF23 20-2CA□4**	1 unit	0.240		--		
Short-circuit proof with B-type MCB, zero-point switching, rated operational voltage U_e = 24 ... 230 V												
20		**3RF23 20-1DA□2**	1 unit	0.240	B	**3RF23 20-2DA22**	1 unit	0.240		**3RF23 20-3DA□2**	1 unit	0.200
Short-circuit proof with B-type MCB, zero-point switching, rated operational voltage U_e = 48 ... 460 V												
20		**3RF23 20-1DA□4**	1 unit	0.240	B	**3RF23 20-2DA24**	1 unit	0.240		**3RF23 20-3DA□4**	1 unit	0.200

Order No. supplement for rated control supply voltage U_s			
24 V DC acc. to EN 61131-2	**0**	**0**	**0**
110 ... 230 V AC	**2**	**2**	**2**

Other rated control supply voltages on request.

1) The type current provides information about the performance of the solid-state contactor. The actual permitted rated operational current I_e can be smaller depending on the connection method and start-up conditions.



3RF29 00-3PA88

	Version	DT	Order No.	PS*	Weight per PU approx.
					kg
	Optional accessories				
	Screwdrivers for spring-type connection method		**8WA2 880**	1 unit	0.034
	Terminal covers for 3RF21 solid-state relays and 3RF23 solid-state contactors with ring terminal lug connection (after simple adaptation, these terminal covers can also be used for devices with screw terminals).		**3RF29 00-3PA88**	10 units	0.004

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

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SIRIUS 3RF24 solid-state contactors, three-phase

Overview

The three-phase solid-state contactors for resistive loads up to 50 A are available with

- two-phase control (suitable in particular for circuits without connection to the neutral conductor) and
- Three-phase control (suitable for wye connections 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 AC loads by means of analog signals.

- Check the correct contactor size with the aid of the rated current diagram, taking account of the design conditions

Selection and ordering data

4

Type current[1] I_{max}	Rated control supply voltage U_s	DT	Screw terminals	PS*	Weight per PU approx.	DT	Screw terminals	PS*	Weight per PU approx.
A	V		Order No.		kg		Order No.		kg
Zero-point switching Rated operational voltage U_e 48 V ... 600 V									
			Two-phase controlled				***Three-phase controlled***		
10.5	4 ... 30 DC		**3RF24 10-1AB45**	1 unit	0.320		**3RF24 10-1AC45**	1 unit	0.320
20			**3RF24 20-1AB45**	1 unit	0.400		**3RF24 20-1AC45**	1 unit	0.540
30			**3RF24 30-1AB45**	1 unit	0.540		**3RF24 30-1AC45**	1 unit	0.800
40			**3RF24 40-1AB45**	1 unit	0.800		**3RF24 40-1AC45**	1 unit	1.100
50			**3RF24 50-1AB45**	1 unit	1.100		**3RF24 50-1AC45**	1 unit	1.850
10.5	230 AC		**3RF24 10-1AB55**	1 unit	0.320		**3RF24 10-1AC55**	1 unit	0.320
20			**3RF24 20-1AB55**	1 unit	0.400		**3RF24 20-1AC55**	1 unit	0.540
30			**3RF24 30-1AB55**	1 unit	0.540		**3RF24 30-1AC55**	1 unit	0.800
40			**3RF24 40-1AB55**	1 unit	0.800		**3RF24 40-1AC55**	1 unit	1.100
50			**3RF24 50-1AB55**	1 unit	1.100		**3RF24 50-1AC55**	1 unit	1.850



3RF24 20-1AB45

Type current[1] I_{max}	Rated control supply voltage U_s	DT	Spring-type terminals	PS*	Weight per PU approx.	DT	Spring-type terminals	PS*	Weight per PU approx.
A	V		Order No.		kg		Order No.		kg
Zero-point switching Rated operational voltage U_e 48 V ... 600 V									
			Two-phase controlled				***Three-phase controlled***		
10	4 ... 30 DC		**3RF24 10-2AB45**	1 unit	0.320		**3RF24 10-2AC45**	1 unit	0.320
20			**3RF24 20-2AB45**	1 unit	0.400		**3RF24 20-2AC45**	1 unit	0.540
10	230 AC		**3RF24 10-2AB55**	1 unit	0.320		**3RF24 10-2AC55**	1 unit	0.320
20			**3RF24 20-2AB55**	1 unit	0.400		**3RF24 20-2AC55**	1 unit	0.540



3RF24 10-2AB45

Type current[1] I_{max}	Rated control supply voltage U_s	DT	Ring terminal lug connections	PS*	Weight per PU approx.	DT	Ring terminal lug connection	PS*	Weight per PU approx.
A	V		Order No.		kg		Order No.		kg
Zero-point switching Rated operational voltage U_e 48 V ... 600 V									
			Two-phase controlled				***Three-phase controlled***		
50	4 ... 30 DC		**3RF24 50-3AB45**	1 unit	1.100		**3RF24 50-3AC45**	1 unit	1.850
50	230 AC		**3RF24 50-3AB55**	1 unit	1.100		**3RF24 50-3AC55**	1 unit	1.850

[1] The type current provides information about the performance of the solid-state contactor. The actual permitted rated operational current I_e can be smaller depending on the connection method and start-up conditions.

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

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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.

With the exception of the converter, the function modules can be used only with single-phase solid-state switching devices. The external connections have screw terminals.

The following function modules are available:

- Converters
- Load monitoring
- Heating current monitoring
- Power controllers
- Power regulators

Note:
Details about the mode of operation can be found at www.siemens.com/solid-state-switching-devices or in the data sheets or Catalog IC 10 · 2011 on the attached CD-ROM.

Selection and ordering data

Rated operational current I_e	Rated operational voltage U_e	DT	**Rated control supply voltage U_s 24 V DC**	PS*	DT	**Rated control supply voltage U_s 24 V AC/DC**	PS*
A	V		Order No.			Order No.	
Converters							
--	--		**--**			**3RF29 00-0EA18**	1 unit
Basic load monitoring							
20	--		**3RF29 20-0FA08**	1 unit		**--**	

Rated operational current I_e	Rated operational voltage U_e	DT	**Rated control supply voltage U_s 110 V AC**	PS*	DT	**Rated control supply voltage U_s 24 V AC/DC**	PS*
A	V		Order No.			Order No.	
Extended load monitoring							
20	110 ... 230		**3RF29 20-0GA33**	1 unit		**3RF29 20-0GA13**	1 unit
20	400 ... 600		**3RF29 20-0GA36**	1 unit		**3RF29 20-0GA16**	1 unit
50	110 ... 230		**3RF29 50-0GA33**	1 unit		**3RF29 50-0GA13**	1 unit
50	400 ... 600		**3RF29 50-0GA36**	1 unit		**3RF29 50-0GA16**	1 unit
90	110 ... 230		**3RF29 90-0GA33**	1 unit		**3RF29 90-0GA13**	1 unit
90	400 ... 600		**3RF29 90-0GA36**	1 unit		**3RF29 90-0GA16**	1 unit
Heating current monitoring[1]							
16	110 ... 230		**--**			**3RF29 16-0JA13**	1 unit
16	110 ... 230		**--**			**3RF29 16-0JA13-1KK0**	1 unit
16	400 ... 600		**--**			**3RF29 16-0JA16-1KK0**	1 unit
32	110 ... 230		**--**			**3RF29 32-0JA13-1KK0**	1 unit
32	400 ... 600		**--**			**3RF29 32-0JA16**	1 unit
32	400 ... 600		**--**			**3RF29 32-0JA16-1KK0**	1 unit
Power controllers							
4 [2]	110 ... 230		**--**			**3RF29 04-0KA13-0KC0**	1 unit
4 [3]	110 ... 230		**--**			**3RF29 04-0KA13-0KT0**	1 unit
20	110 ... 230		**--**			**3RF29 20-0KA13**	1 unit
20	400 ... 600		**--**			**3RF29 20-0KA16**	1 unit
50	110 ... 230		**--**			**3RF29 50-0KA13**	1 unit
50	400 ... 600		**--**			**3RF29 50-0KA16**	1 unit
90	110 ... 230		**--**			**3RF29 90-0KA13**	1 unit
90	400 ... 600		**--**			**3RF29 90-0KA16**	1 unit
Power regulators							
20	110 ... 230		**3RF29 20-0HA33**	1 unit		**3RF29 20-0HA13**	1 unit
20	400 ... 600		**3RF29 20-0HA36**	1 unit		**3RF29 20-0HA16**	1 unit
50	110 ... 230		**3RF29 50-0HA33**	1 unit		**3RF29 50-0HA13**	1 unit
50	400 ... 600		**3RF29 50-0HA36**	1 unit		**3RF29 50-0HA16**	1 unit
90	110 ... 230		**3RF29 90-0HA33**	1 unit		**3RF29 90-0HA13**	1 unit
90	400 ... 600		**3RF29 90-0HA36**	1 unit		**3RF29 90-0HA16**	1 unit



3RF29 .0-0GA..



3RF29 ..-0KA1.

Version	DT	Order No.	PS*
Optional accessories			
Screwdrivers for spring-type connections		**8WA2 880**	1 unit
Sealable covers for function modules (not for converters)		**3RF29 00-0RA88**	10 units

1) Supplied without control connector. The control connector can be purchased from Phoenix Contact by quoting Order No. 1982 790 (2,5 HC/6-ST-5,08).

2) During the teaching process the connected solid-state relay or contactor is not activated; i.e. no current flow takes place. No current reference value is stored. No part-load monitoring!

3) No part-load monitoring.

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

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3RF34 solid-state contactors, three-phase

Overview

The two-phase controlled, instantaneous switching solid-state contactors in the insulting enclosure are offered in 45 mm width up to 5.2 A – and in 90 mm width up to 16 A. This means that it is possible to operate motors up to 7.5 kW.

The devices can use a link module to directly connect to a circuit breaker. Also possible is the mounting of a 3RB30/3RB31 solid-state overload relay (see Chapter 5) or a 3RR2 current monitoring relay (see Chapter 8) using a link adapter. Rapid-switching fuseless and fuse motor feeders can thereby be implemented in a time-saving manner.

Selection and ordering data

Motor contactors · Instantaneous switching · Two-phase controlled


3RF34 05-1BB

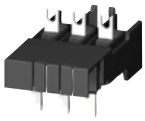

3RF34 05-2BB


3RF34 10-1BB


3RF34 10-2BB

Rated operational current I_e	Rated power at I_e and U_e	Rated control supply voltage U_s	DT	Screw terminals	*PS	DT	Spring-type terminals	*PS
A	400 V kW	V		Order No.			Order No.	
Rated operational voltage U_e 48 ... 480 V AC								
5.2	**2.2**	24 DC acc. to EN 61131-2		**3RF34 05-1BB04**	1 unit		**3RF34 05-2BB04**	1 unit
9.2	**4.0**			**3RF34 10-1BB04**	1 unit		**3RF34 10-2BB04**	1 unit
12.5	**5.5**			**3RF34 12-1BB04**	1 unit		**3RF34 12-2BB04**	1 unit
16	**7.5**			**3RF34 16-1BB04**	1 unit		**3RF34 16-2BB04**	1 unit
5.2	**2.2**	110 ... 230 AC		**3RF34 05-1BB24**	1 unit		**3RF34 05-2BB24**	1 unit
9.2	**4.0**			**3RF34 10-1BB24**	1 unit		**3RF34 10-2BB24**	1 unit
12.5	**5.5**			**3RF34 12-1BB24**	1 unit		**3RF34 12-2BB24**	1 unit
16	**7.5**			**3RF34 16-1BB24**	1 unit		**3RF34 16-2BB24**	1 unit
Rated operational voltage U_e 48 ... 600 V AC Blocking voltage 1600 V								
5.2	**2.2**	24 DC acc. to EN 61131-2		**3RF34 05-1BB06**	1 unit		**3RF34 05-2BB06**	1 unit
9.2	**4.0**			**3RF34 10-1BB06**	1 unit		**3RF34 10-2BB06**	1 unit
12.5	**5.5**			**3RF34 12-1BB06**	1 unit		**3RF34 12-2BB06**	1 unit
16	**7.5**			**3RF34 16-1BB06**	1 unit		**3RF34 16-2BB06**	1 unit
5.2	**2.2**	110 ... 230 AC		**3RF34 05-1BB26**	1 unit		**3RF34 05-2BB26**	1 unit
9.2	**4.0**			**3RF34 10-1BB26**	1 unit		**3RF34 10-2BB26**	1 unit
12.5	**5.5**			**3RF34 12-1BB26**	1 unit		**3RF34 12-2BB26**	1 unit
16	**7.5**			**3RF34 16-1BB26**	1 unit		**3RF34 16-2BB26**	1 unit

Accessories

	Version	DT	Screw terminals	*PS	DT	Spring-type terminals	*PS
For mounting a motor starter protector and relay							
 3RA29 21-1BA00	**Link module** between solid-state contactor and motor starter protector with screw terminals		**3RA29 21-1BA00**	1 unit		--	
 3RF39 00-0QA88	**Link adapters** for direct mounting of 3RB3 overload relays or 3RR2 current monitoring relays to the solid-state contactor with screw terminals		**3RF39 00-0QA88**	1 unit		--	
Tools for opening spring-type terminals							
 3RA29 08-1A	**Screwdrivers** for all SIRIUS devices with spring-type terminals Length approx. 200 mm, size 3.0 mm x 0.5 mm, titanium gray/black, partially insulated		--			**3RA29 08-1A**	1 unit

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

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Overview

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 % width with the three-phase reversing contactors. Devices with 45 mm width cover motors up to 2.2 kW – and those with 90 mm width up to 3 kW.

The devices can use a link module to directly connect to a circuit breaker. Also possible is the mounting of a 3RB30/3RB31 solid-state overload relay (see Chapter 5) or a 3RR2 current monitoring relay (see Chapter 8) using a link adapter. Rapid-switching fuseless and fuse motor feeders can thereby be implemented in a time-saving manner.

Selection and ordering data

Reversing contactors · Instantaneous switching · Two-phase controlled



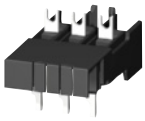
3RF34 03-1BD



3RF34 10-1BD

Rated operational current I_e	Rated power at I_e and U_e	Rated control supply voltage U_s	DT	Screw terminals	*PS	DT	Spring-type terminals	*PS
A	400 V kW	V		Order No.			Order No.	
Rated operational voltage U_e 48 ... 480 V AC								
3.8	**1.5**	24 DC acc. to EN 61131-2		**3RF34 03-1BD04**	1 unit		--	
5.4	**2.2**			**3RF34 05-1BD04**	1 unit		--	
7.4	**3.0**			**3RF34 10-1BD04**	1 unit		--	
3.8	**1.5**	110 ... 230 AC		**3RF34 03-1BD24**	1 unit		--	
5.4	**2.2**			**3RF34 05-1BD24**	1 unit		--	
7.4	**3.0**			**3RF34 10-1BD24**	1 unit		--	

Accessories

	Version	DT	Screw terminals	*PS	DT	Spring-type terminals	*PS
For mounting a motor starter protector and relay							
 3RA29 21-1BA00	**Link module** between solid-state contactor and motor starter protector with screw terminals		**3RA29 21-1BA00**	1 unit		--	
 3RF39 00-0QA88	**Link adapters** for direct mounting of 3RB3 overload relays or 3RR2 current monitoring relays to the solid-state contactor with screw terminals		**3RF39 00-0QA88**	1 unit		--	

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

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Notes

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Protection Equipment

5



5/2 **Introduction**

Motor Starter Protectors

SIRIUS 3RV2 Motor Starter Protectors up to 40 A new

5/7 General data
5/9 For motor protection
5/10 For motor protection with overload relay function
5/11 For starter combinations

Accessories

5/12 Mountable accessories
5/13 Busbar accessories
5/13 Rotary operating mechanisms
5/14 Mounting accessories

SIRIUS 3RV1 Motor Starter Protectors up to 100 A

5/15 General data
5/17 For motor protection
5/18 For motor protection with overload relay function
5/19 For starter combinations

Accessories

5/20 Mountable accessories
5/21 Busbar accessories
5/21 Rotary operating mechanisms
5/22 Mounting accessories

Overload Relays

SIRIUS 3RU2 Thermal Overload Relays new

5/23 3RU2 up to 40 A for standard applications
5/25 Accessories

SIRIUS 3RU1 Thermal Overload Relays

5/26 3RU11 up to 100 A for standard applications
5/28 Accessories

SIRIUS 3RB3 Solid-state Overload Relays new

5/29 3RB30, 3RB31 up to 40 A for standard applications
5/32 Accessories

SIRIUS 3RB2 Solid-State Overload Relays

5/33 3RB20, 3RB21 up to 630 A for standard applications
5/38 Accessories for 3RB20, 3RB21

More technical information

can be found at
www.siemens.com/industrial-controls/support

under Product List:
- Technical specifications

under Entry List:
- Updates
- Downloads
- FAQ
- Manuals
- Characteristic curves
- Certificates

and at
www.siemens.com/industrial-controls/configurators

- Configurators

Note:

The 3RV1, 3RU1 and 3RB2 overload relays (sizes S00/S0 to S10/S12) can be found

- *in Catalog Add-On LV 1 AO on the attached CD-ROM or in the Information and Download Center*
- *in the interactive catalog CA 01*
- *in the Industry Mall*

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Introduction

Overview



Type		3RV20	3RV21	3RV23	3RV24	3RV27	3RV28
SIRIUS 3RV2 Motor Starter Protectors up to 40 A							
Applications							
System protection		✓[1]	✓[1]	--	--	✓	✓
Motor protection		✓	--	--	--	--	--
Motor protection with overload relay function		--	✓	--	--	--	--
Starter combinations		--	--	✓	--	--	--
Transformer protection		--	--	--	✓	✓	✓
Size		S00, S0	S00, S0	S00, S0	S00, S0	S00	S00
Rated current I_n • Size S00 • Size S0	 A A	 up to 16 up to 40	 up to 16 up to 32	 up to 16 up to 40	 up to 16 up to 25	 up to 15 --	 up to 15 --
Rated operational voltage U_e according to IEC	V	690 AC[2]	690 AC[2]	690 AC[2]	690 AC[2]	690 AC	690 AC
Rated frequency	Hz	50/60	50/60	50/60	50/60	50/60	50/60
Trip class		CLASS 10	CLASS 10	--	CLASS 10	--	--
Thermal overload release	A A	0.11 ... 0.16 up to 34 ... 40	0.11 ... 0.16 up to 27 ... 32	None[3]	0.11 ... 0.16 up to 20 ... 25	0.16 ... 15 non-adjustable	0.16 ... 15 non-adjustable
Electronic release A multiple of the rated current		13 times	13 times	13 times	20 times	13 times	20 times
Short-circuit breaking capacity I_{cu} at 400 V AC	kA	20/55/100	55/100	20/55/100	55/100	[4]	[4]
Pages		5/9	5/10	5/11	[5]	[5]	[5]

Accessories[5]													
For sizes	S00	S0	S00	S0	S00	S0	S00	S0	S00	S00
Auxiliary switches	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Signaling switches	✓	✓	✓	✓	✓	✓	✓	✓	--	--
Undervoltage releases	✓	✓	--	--	✓	✓	✓	✓	✓	✓
Shunt releases	✓	✓	--	--	✓	✓	✓	✓	✓	✓
Isolator modules	✓	✓	✓	✓	✓	✓	✓	✓	--	--
Insulated three-phase busbar system	✓	✓	--	--	✓	✓	✓	✓	--	--
Busbar adapters	✓	✓	✓	✓	✓	✓	✓	✓	--	--
Door-coupling rotary operating mechanisms	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Link modules	✓	✓	✓	✓	✓	✓	✓	✓	--	--
Enclosures for surface mounting	✓	✓	✓	✓	✓	✓	✓	✓	--	--
Enclosures for flush mounting	✓	✓	✓	✓	✓	✓	✓	✓	--	--
Front plates	✓	✓	✓	✓	✓	✓	✓	✓	--	--
Infeed system	✓	✓	--	--	✓	✓	✓	✓	--	--
Terminal covers for ring terminal lug connections	✓[6]	✓[6]	--	--	--	--	--	--	--	--
Sealable scale covers for setting knobs	✓	✓	✓	✓	--	--	✓	✓	--	--
Pages	5/12 ... 5/14									

✓ 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) With molded-plastic enclosure 500 V AC.

3) For overload protection of the motors, appropriate overload relays must be used.

4) According to UL 489 at 480 Y/277 V AC: 65 kA.

5) See Catalog IC 10 · 2011 (on the attached CD-ROM) or the Industry Mall.

6) For 3RV20 motor starter protectors with ring cable lug connection there are terminal covers available for ensuring finger-safe touch protection, see Catalog IC 10 · 2011 (on the attached CD-ROM) or the Industry Mall.

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Type		3RV10	3RV11	3RV13	3RV14	3RV16	3RV16	3RV17
SIRIUS 3RV1 motor starter protectors up to 100 A								
Applications								
System protection		✓[1]	✓[1]	--	--	--	--	✓
Motor protection		✓	--	--	--	--	--	--
Motor protection with overload relay function		--	✓	--	--	--	--	--
Starter combinations		--	--	✓	--	--	--	--
Transformer protection		--	--	--	✓	--	--	✓
Fuse monitoring		--	--	--	--	✓	--	--
Voltage transformer circuit breaker for distance protection		--	--	--	--	--	✓	--
Size		S2, S3	S2, S3	S2, S3	S2	S00	S00	S3
Rated current I_n								
• Size S00	A	--	--	--	--	0.2	up to 3	--
• Size S2	A	up to 50	up to 50	up to 50	up to 40	--	--	--
• Size S3	A	up to 100	up to 100	up to 100	--	--	--	up to 70
Rated operational voltage U_e according to IEC	V	690 AC[2]	690 AC[2]	690 AC[2]	690 AC[2]	690 AC[2]	400 AC	690 AC
Rated frequency	Hz	50/60	50/60	50/60	50/60	50/60	$16^2/_3$ ... 60	50/60
Trip class		CLASS 10, 20	CLASS 10	--	CLASS 10	--	--	--
Thermal overload release	A	11 ... 16 up to	11 ... 16 up to	None[3]	11 ... 16 up to	0.2	1.4 ... 3	10 ... 70
	A	80 ... 100	80 ... 100		28 ... 40			non-adjustable
Electronic release A multiple of the rated current		13 times	13 times	13 times	20 times	6 times	4 ... 7 times	13 times
Short-circuit breaking capacity I_{cu} at 400 V AC	kA	50/100	50/100	50/100	50/100	100	50	[4]
Pages		5/17	5/18	5/19	[5]	[5]	[5]	[5]
Accessories[5]								
For sizes		S2 S3	S2 S3	S2 S3	S2	S00	S00	S3
Auxiliary switches		✓ ✓	✓ ✓	✓ ✓	✓	✓	✓	✓[6]
Signaling switches		✓ ✓	✓ ✓	✓ ✓	✓	--	--	--
Undervoltage releases		✓ ✓	-- --	✓ ✓	✓	--	--	✓
Shunt releases		✓ ✓	-- --	✓ ✓	✓	--	--	✓
Isolator modules		✓ --	✓ --	✓ --	✓	--	--	--
Insulated three-phase busbar system		✓ --	✓ --	✓ --	✓	--	--	--
Busbar adapters		✓ ✓	✓ ✓	✓ ✓	✓	--	--	--
Door-coupling rotary operating mechanisms		✓ ✓	✓ ✓	✓ ✓	✓	--	--	✓
Remote motorized operating mechanisms		✓ ✓	✓ ✓	✓ ✓	✓	--	--	--
Link modules		✓ ✓	✓ ✓	✓ ✓	✓	--	--	--
Enclosures for surface mounting		✓ --	✓ --	✓ --	✓	--	--	--
Front plates		✓ ✓	✓ ✓	✓ ✓	✓	--	--	--
Pages		5/20 ... 5/22						

✓ 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) With molded-plastic enclosure 500 V AC.

3) For overload protection of the motors, appropriate overload relays must be used.

4) According to UL 489
- at 480 Y/277 V AC: 65 kA;
- at 480 V AC: 65 kA (10 A to 30 A).

5) See Catalog IC 10 · 2011 (on the attached CD-ROM) or the Industry Mall.

6) Only lateral auxiliary switches can be fitted.

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Introduction





Type		3RV10			3RV13					
SIRIUS 3RV1 molded case motor starter protectors up to 800 A										
Applications										
Motor protection		✓			--					
Starter combinations		--			✓					
Switching capacity		Standard switching capacity			Standard switching capacity				Increased switching capacity	
Size		3RV10 63	3RV10 73	3RV10 83	3RV13 53	3RV13 63	3RV13 73	3RV13 83	3RV13 64	3RV13 74
Rated current I_n	A	100 ... 200	400	630	1 ... 32	100 ... 250	400, 630	630, 800	100 ... 250	400
Rated operational voltage U_e according to IEC	V	690 AC			690 AC					
Rated frequency	Hz	50/60			50/60					
Trip class		CLASS 10A, 10, 20, 30			--[1]					
Thermal overload release	A A	40 ... 100 up to 252 ... 630			None[1]					
Electronic release A multiple of the rated current		Adjustable, 6 ... 13 times			Non-adjustable 1 ... 12.5 A: 13 times; adjustable 20 A, 32 A: 6 ... 12 times	1 ... 10 times				
Short-circuit breaking capacity I_{cu} at 400 V AC	kA	120	120	100	85	120	120	100	200	200
Trip unit		TU 4			TU 1: 1 ... 12.5 A; TU 2: 20 A, 32 A	TU 3				

Accessories										
For molded case motor starter protectors		3RV10 63	3RV10 73	3RV10 83	3RV13 53	3RV13 63	3RV13 73	3RV13 83	3RV13 64	3RV13 74
Auxiliary switches		✓	✓	✓	✓	✓	✓	✓	✓	✓
Undervoltage releases		✓	✓	✓	✓	✓	✓	✓	✓	✓
Shunt releases		✓	✓	✓	✓	✓	✓	✓	✓	✓
Rotary operating mechanisms		✓	✓	✓	✓	✓	✓	✓	✓	✓
Connection methods										
• Front-extended terminals		✓	✓	--	✓	✓	✓	--	✓	✓
• Front-accessible cable terminals		✓	✓	✓	✓	✓	✓	✓	✓	✓
• Rear terminals		✓	✓	✓	✓	✓	✓	✓	✓	✓

✓ Has this function or can use this accessory

-- Does not have this function or cannot use this accessory

[1] For overload protection of the motors, appropriate overload relays must be used.

Note:

For 3RV1 molded case motor starter protectors up to 800 A see Catalog IC 10 · 2011 (on the attached CD-ROM) or the Industry Mall.

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Type		3RU21 thermal overload relays	3RB30 solid-state overload relays	3RB31 solid-state overload relays
SIRIUS overload relays up to 40 A				
Applications				
System protection		✓[1]	✓[1]	✓[1]
Motor protection		✓	✓	✓
Alternating current, three-phase		✓	✓	✓
Alternating current, single-phase		✓	--	--
Direct current		✓	--	--
Size of contactor		S00, S0	S00, S0	S00, S0
Rated operational current I_e				
• Size S00	A	up to 16	up to 16	up to 16
• Size S0	A	up to 40	up to 40	up to 40
Rated operational voltage U_e	V	690 AC	690 AC	690 AC
Rated frequency	Hz	50/60	50/60	50/60
Trip class		CLASS 10	CLASS 10, 20	CLASS 5, 10, 20, 30 Adjustable
Thermal overload release	A	0.11 ... 0.16	--	--
	A	up to 34 ... 40		
Electronic overload release	A	--	0.1 ... 0.4	0.1 ... 0.4
	A		up to 10 ... 40	up to 10 ... 40
Rating for induction motor at 400 V AC	kW	0.04 ... 18.5	0.04 ... 18.5	0.04 ... 18.5
Pages		5/24	5/30	5/31

Accessories						
For sizes	S00	S0	S00	S0	S00	S0
Terminal brackets for stand-alone installation	✓	✓	✓	✓	✓	✓
Mechanical RESET	✓	✓	✓	✓	✓	✓
Cable releases for RESET	✓	✓	✓	✓	✓	✓
Electrical remote RESET	✓	✓	--	--	Integrated in the unit	
Terminal covers for ring terminal lug connections	✓[2]	✓[2]	--	--	--	--
Sealable covers for setting knobs	✓	✓	✓	✓	✓	✓
Pages	5/25		5/32		5/32	

✓ 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] For 3RU21 overload relays for mounting onto contactors there are terminal covers available for ensuring finger-safe touch protection, see Catalog IC 10 · 2011 (on the attached CD-ROM) or the Industry Mall.

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Introduction






Type		3RU11 thermal overload relays	3RB20 solid-state overload relays	3RB21 solid-state overload relays	3RB22 to 3RB24 solid-state overload relays
SIRIUS overload relays up to 630 A					
Applications					
System protection		✓[1]	✓[1]	✓[1]	✓[1]
Motor protection		✓	✓	✓	✓
Alternating current, three-phase		✓	✓	✓	✓
Alternating current, single-phase		✓	--	--	✓
Direct current		✓	--	--	--
Size of contactor		S2, S3	S2 ... S12	S2 ... S12	S00 ... S12
Rated operational current I_e					
• Size S2	A	up to 50	up to 50	up to 50	Up to 100[2]
• Size S3	A	up to 100	up to 100	up to 100	Up to 100[2]
• Size S6	A	--	up to 200	up to 200	up to 200
• Size S10/S12, Size 14 (3TF68/3TF69)	A	--	up to 630	up to 630	up to 630
Rated operational voltage U_e	V	690/1000 AC[3]	690/1000 AC[4]	690/1000 AC[4]	690/1000 AC[5]
Rated frequency	Hz	50/60	50/60	50/60	50/60
Trip class		CLASS 10	CLASS 10, 20	CLASS 5, 10, 20, 30 Adjustable	CLASS 5, 10, 20, 30 Adjustable
Thermal overload release	A	5.5 ... 8	--	--	--
	A	up to 80 ... 100			
Electronic overload release	A	--	6 ... 25	6 ... 25	0.3 ... 3
	A		up to 160 ... 630	up to 160 ... 630	up to 63 ... 630
Rating for induction motor at 400 V AC	kW	3	3 ... 11	3 ... 11	0.09 ... 1.1
	kW	to 45	up to 90 ... 450	up to 90 ... 450	up to 37 ... 450
Pages		5/26	5/36	5/37	[6]

Accessories																	
For sizes	S2	S3	S2	S3	S6	S10/S12	S2	S3	S6	S10/S12	S00	S0	S2	S3	S6	S10/S12
Terminal brackets for stand-alone installation	✓	✓	[7]	[7]	[7]	[7]	[7]	[7]	[7]	[7]	[7]	[7]	[7]	[7]	[7]	[7]
Mechanical RESET	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	--	--	--	--	--	--
Cable releases for RESET	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	--	--	--	--	--	--
Electrical remote RESET	✓	✓	--	--	--	--	Integrated in the unit				Integrated in the unit					
Terminal covers	✓	✓	--	✓	✓	✓	--	✓	✓	✓	--	--	--	✓	✓	✓
Sealable covers for setting knobs	Integrated in the unit		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Pages	5/28		5/38				5/38				[6]					

✓ 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) Selection of current measuring modules according to the respective operational current.

3) Size S3 up to 1000 V AC.

4) Size S2 (only with straight-through transformer), S3, S6, S10, S12 up to 1000 V AC.

5) With reference to the 3RB29 .6 current measuring modules.

6) See Catalog IC 10 · 2011 (on the attached CD-ROM) or the Industry Mall.

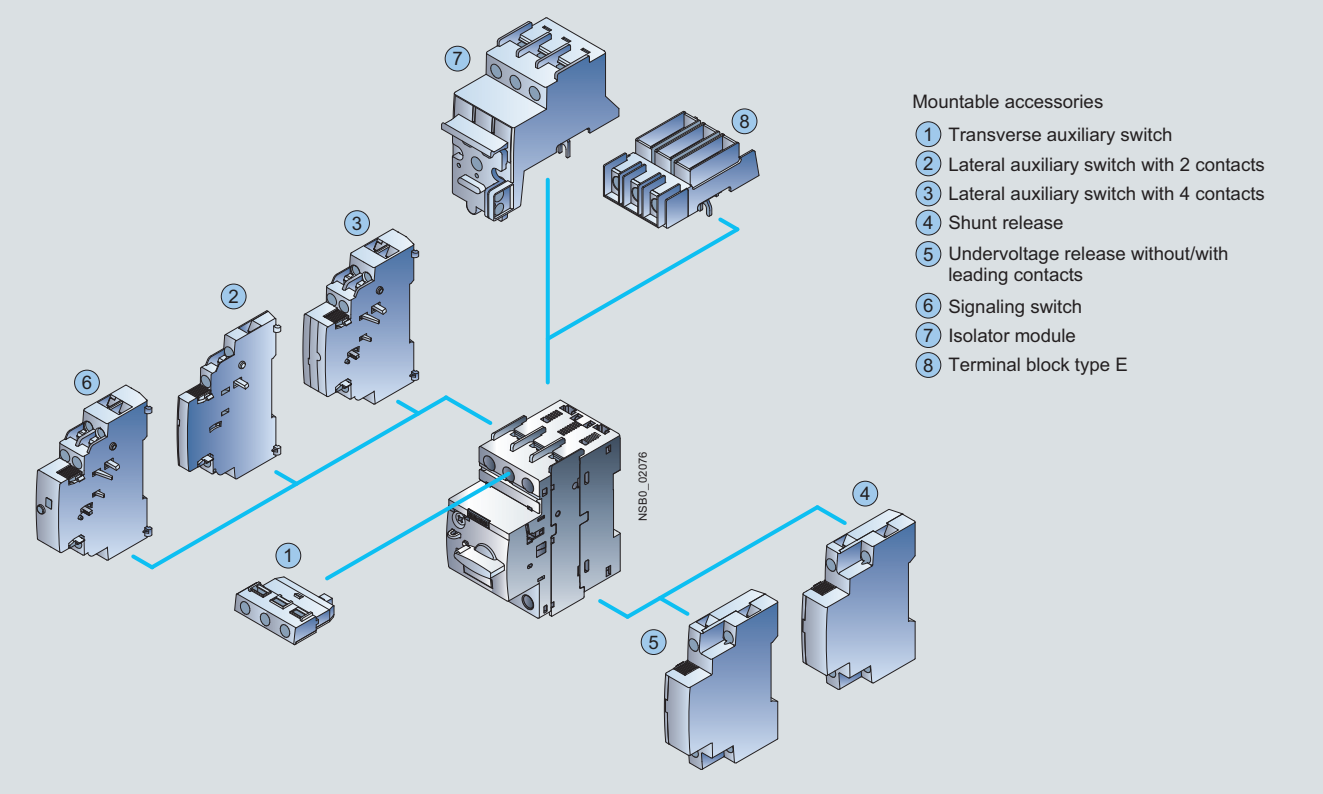
7) Stand-alone installation without accessories is possible.

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Overview

The following illustration shows our 3RV2 motor starter protector with the accessories which can be mounted for the sizes S00 and S0, see "Introduction"--> "Overview" on page 5/2.

For accessories see page 5/12 onwards.



Mountable accessories for SIRIUS 3RV2 motor starter protectors



Motor starter protector with spring-type terminals, size S0 (left) and motor starter protector with screw terminals, size S00 (right)

The new 3RV2 motor starter protectors are compact, current limiting motor starter protectors which are optimized for load feeders. The motor starter protectors are used for switching and protecting three-phase induction motors of up to 18.5 kW at 400 V AC and for other loads with rated currents of up to 40 A.

For 3RV1 motor starter protectors in sizes S2 and S3 up to 100 A see page 5/17 onwards.

Type of construction

The 3RV2 motor starter protectors are available in two sizes:

- Size S00 - width 45 mm,
  max. rated current 16 A,
  at 400 V AC suitable for induction motors up to 7.5 kW
- Size S0 - width 45 mm,
  max. rated current 40 A,
  at 400 V AC suitable for induction motors up to 18.5 kW

For sizes S2 and S3 of the 3RV1 motor starter protectors up to 100 A see page 5/17 onwards.

Connection methods

The 3RV2 motor starter protectors can be supplied with screw terminals, spring-type terminals and ring cable lug connections.

	Screw terminals
	Spring-type terminals
	Ring terminal lug connections
	The terminals are indicated in the corresponding tables by the symbols shown on orange backgrounds.

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General data

"Increased safety" type of protection EEx e according to ATEX directive 94/9/EC

3RV20 motor starter protectors are suitable for overload protection of explosion-protected motors with "increased safety" type of protection EEx e;
see www.siemens.com/industrial-controls/atex.

EC prototype test certificate for Category (2) G/D has been submitted. More details on request.

Application

Operating conditions

3RV2 motor starter protectors are climate-proof. 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 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, see note on technical information on page 5/1.

3RV2 motor starter protectors 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.

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 start-up data of the motor to be protected is always paramount to the choice of the most suitable motor starter protector. This also applies to motor starter protectors for transformer protection.

Possible uses

The 3RV2 motor starter protectors can be used:

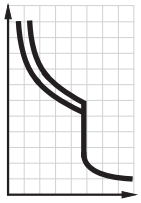
- For short-circuit protection
- For motor protection (also with overload relay function)
- For system protection
- For short-circuit protection for starter combinations
- For transformer protection
- As main control and EMERGENCY-STOP switches
- For operation in IT systems (IT networks)
- For switching of DC currents
- In areas subject to explosion hazard (ATEX)

For more information see the note on technical information on page 5/1.

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Selection and ordering data

CLASS 10, without or with transverse auxiliary switch (1 NO + 1 NC)[1)]





3RV20 11-0AA10



3RV20 11-0EA20



3RV20 21-4AA10



3RV20 21-4AA20

Rated current	Suitable for three-phase induction motors[2)] with *P*	Setting range for thermal overload release	Instantaneous overcurrent releases	Short-circuit breaking capacity at 400 V AC	DT	**Screw terminals**	PS*	DT	**Spring-type terminals**	PS*
I_n			$I >$	I_{cu}		Order No.			Order No.	
A	kW	A	A	kA						
Size S00										
0.16	0.04	0.11 ... 0.16	2.1	100	▶	**3RV20 11-0AA1☐**	1 unit	▶	**3RV20 11-0AA2☐**	1 unit
0.2	0.06	0.14 ... 0.2	2.6	100	▶	**3RV20 11-0BA1☐**	1 unit	▶	**3RV20 11-0BA2☐**	1 unit
0.25	0.06	0.18 ... 0.25	3.3	100	▶	**3RV20 11-0CA1☐**	1 unit	▶	**3RV20 11-0CA2☐**	1 unit
0.32	0.09	0.22 ... 0.32	4.2	100	▶	**3RV20 11-0DA1☐**	1 unit	▶	**3RV20 11-0DA2☐**	1 unit
0.4	0.09	0.28 ... 0.4	5.2	100	▶	**3RV20 11-0EA1☐**	1 unit	▶	**3RV20 11-0EA2☐**	1 unit
0.5	0.12	0.35 ... 0.5	6.5	100	▶	**3RV20 11-0FA1☐**	1 unit	▶	**3RV20 11-0FA2☐**	1 unit
0.63	0.18	0.45 ... 0.63	8.2	100	▶	**3RV20 11-0GA1☐**	1 unit	▶	**3RV20 11-0GA2☐**	1 unit
0.8	0.18	0.55 ... 0.8	10	100	▶	**3RV20 11-0HA1☐**	1 unit	▶	**3RV20 11-0HA2☐**	1 unit
1	0.25	0.7 ... 1	13	100	▶	**3RV20 11-0JA1☐**	1 unit	▶	**3RV20 11-0JA2☐**	1 unit
1.25	0.37	0.9 ... 1.25	16	100	▶	**3RV20 11-0KA1☐**	1 unit	▶	**3RV20 11-0KA2☐**	1 unit
1.6	0.55	1.1 ... 1.6	21	100	▶	**3RV20 11-1AA1☐**	1 unit	▶	**3RV20 11-1AA2☐**	1 unit
2	0.75	1.4 ... 2	26	100	▶	**3RV20 11-1BA1☐**	1 unit	▶	**3RV20 11-1BA2☐**	1 unit
2.5	0.75	1.8 ... 2.5	33	100	▶	**3RV20 11-1CA1☐**	1 unit	▶	**3RV20 11-1CA2☐**	1 unit
3.2	1.1	2.2 ... 3.2	42	100	▶	**3RV20 11-1DA1☐**	1 unit	▶	**3RV20 11-1DA2☐**	1 unit
4	1.5	2.8 ... 4	52	100	▶	**3RV20 11-1EA1☐**	1 unit	▶	**3RV20 11-1EA2☐**	1 unit
5	1.5	3.5 ... 5	65	100	▶	**3RV20 11-1FA1☐**	1 unit	▶	**3RV20 11-1FA2☐**	1 unit
6.3	2.2	4.5 ... 6.3	82	100	▶	**3RV20 11-1GA1☐**	1 unit	▶	**3RV20 11-1GA2☐**	1 unit
8	3	5.5 ... 8	104	100	▶	**3RV20 11-1HA1☐**	1 unit	▶	**3RV20 11-1HA2☐**	1 unit
10	4	7 ... 10	130	100	▶	**3RV20 11-1JA1☐**	1 unit	▶	**3RV20 11-1JA2☐**	1 unit
12.5	5.5	9 ... 12.5	163	100	▶	**3RV20 11-1KA1☐**	1 unit	▶	**3RV20 11-1KA2☐**	1 unit
16	7.5	11 ... 16	208	55	▶	**3RV20 11-4AA1☐**	1 unit	▶	**3RV20 11-4AA2☐**	1 unit
Size S0										
16	7.5	11 ... 16	208	55	▶	**3RV20 21-4AA1☐**	1 unit	▶	**3RV20 21-4AA2☐**	1 unit
20	7.5	14 ... 20	260	55	▶	**3RV20 21-4BA1☐**	1 unit	▶	**3RV20 21-4BA2☐**	1 unit
22	11	17 ... 22	286	55	▶	**3RV20 21-4CA1☐**	1 unit	▶	**3RV20 21-4CA2☐**	1 unit
25	11	20 ... 25	325	55	▶	**3RV20 21-4DA1☐**	1 unit	▶	**3RV20 21-4DA2☐**	1 unit
28	15	23 ... 28	364	55	▶	**3RV20 21-4NA1☐**	1 unit	▶	**3RV20 21-4NA2☐**	1 unit
32	15	27 ... 32	400	55	▶	**3RV20 21-4EA1☐**	1 unit	▶	**3RV20 21-4EA2☐**	1 unit
36	18.5	30 ... 36	432	20	▶	**3RV20 21-4PA1☐**	1 unit		--	
40	18.5	34 ... 40	480	20	▶	**3RV20 21-4FA1☐**	1 unit		--	

Order No. supplement

• Without transverse auxiliary switch	**0**	**0**
• With transverse auxiliary switch (1 NO + 1 NC)	**5**	**5**

[1)] The 3RV20 .1-..A.0 motor starter protectors up to 32 A are also available with ring terminal lug connection. The Order No. must be changed in the 11th position to **"4"**: e.g. 3RV20 11-0AA**4**0.

[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.

Auxiliary switches can be ordered separately (see "Accessories" --> "Mountable accessories").

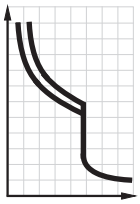
*** You can order this quantity or a multiple thereof.**
Illustrations are approximate

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For motor protection with overload relay function

Selection and ordering data

CLASS 10, with overload relay function (automatic RESET), without auxiliary switches





3RV21 11-0FA10



3RV21 21-4BA10

Rated current	Suitable for induction motors[1] with *P*	Setting range for thermal overload release	Instantaneous overcurrent releases	Short-circuit breaking capacity at 400 V AC	DT	**Screw terminals**	PS*
I_n			$I >$	I_{cu}		Order No.	
A	kW	A	A	kA			
Size S00[2]							
0.16	0.04	0.11 ... 0.16	2.1	100		**3RV21 11-0AA10**	1 unit
0.2	0.06	0.14 ... 0.2	2.6	100		**3RV21 11-0BA10**	1 unit
0.25	0.06	0.18 ... 0.25	3.3	100		**3RV21 11-0CA10**	1 unit
0.32	0.09	0.22 ... 0.32	4.2	100		**3RV21 11-0DA10**	1 unit
0.4	0.09	0.28 ... 0.4	5.2	100		**3RV21 11-0EA10**	1 unit
0.5	0.12	0.35 ... 0.5	6.5	100		**3RV21 11-0FA10**	1 unit
0.63	0.18	0.45 ... 0.63	8.2	100		**3RV21 11-0GA10**	1 unit
0.8	0.18	0.55 ... 0.8	10	100		**3RV21 11-0HA10**	1 unit
1	0.25	0.7 ... 1	13	100		**3RV21 11-0JA10**	1 unit
1.25	0.37	0.9 ... 1.25	16	100		**3RV21 11-0KA10**	1 unit
1.6	0.55	1.1 ... 1.6	21	100		**3RV21 11-1AA10**	1 unit
2	0.75	1.4 ... 2	26	100		**3RV21 11-1BA10**	1 unit
2.5	0.75	1.8 ... 2.5	33	100		**3RV21 11-1CA10**	1 unit
3.2	1.1	2.2 ... 3.2	42	100		**3RV21 11-1DA10**	1 unit
4	1.5	2.8 ... 4	52	100		**3RV21 11-1EA10**	1 unit
5	1.5	3.5 ... 5	65	100		**3RV21 11-1FA10**	1 unit
6.3	2.2	4.5 ... 6.3	82	100		**3RV21 11-1GA10**	1 unit
8	3	5.5 ... 8	104	100		**3RV21 11-1HA10**	1 unit
10	4	7 ... 10	130	100		**3RV21 11-1JA10**	1 unit
12.5	5.5	9 ... 12.5	163	100		**3RV21 11-1KA10**	1 unit
16	7.5	11 ... 16	208	55		**3RV21 11-4AA10**	1 unit
Size S0[2]							
16	7.5	11 ... 16	208	55		**3RV21 21-4AA10**	1 unit
20	7.5	14 ... 20	260	55		**3RV21 21-4BA10**	1 unit
22	11	17 ... 22	286	55		**3RV21 21-4CA10**	1 unit
25	11	20 ... 25	325	55		**3RV21 21-4DA10**	1 unit
28	15	23 ... 28	364	55		**3RV21 21-4NA10**	1 unit
32	15	27 ... 32	400	55		**3RV21 21-4EA10**	1 unit

[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] Accessories for mounting on the right and 3RV29 15 three-phase busbars cannot be used.

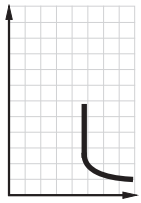
Auxiliary switches can be ordered separately (see "Accessories" --> "Mountable accessories").

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Selection and ordering data

Without auxiliary switches





3RV23 11-4AC10



3RV23 11-0JC20



3RV23 21-4AC10



3RV23 21-4AC20

Rated current	Suitable for induction motors[1] with *P*	Thermal overload releases[2]	Instantaneous overcurrent releases	Short-circuit breaking capacity at 400 V AC	DT	**Screw terminals**	PS*	DT	**Spring-type terminals**	PS*
I_n			$I >$	I_{cu}		Order No.			Order No.	
A	kW	A	A	kA						
Size S00										
0.16	0.04	Without	2.1	100		**3RV23 11-0AC10**	1 unit		**3RV23 11-0AC20**	1 unit
0.2	0.06	Without	2.6	100		**3RV23 11-0BC10**	1 unit		**3RV23 11-0BC20**	1 unit
0.25	0.06	Without	3.3	100		**3RV23 11-0CC10**	1 unit		**3RV23 11-0CC20**	1 unit
0.32	0.09	Without	4.2	100		**3RV23 11-0DC10**	1 unit		**3RV23 11-0DC20**	1 unit
0.4	0.09	Without	5.2	100		**3RV23 11-0EC10**	1 unit		**3RV23 11-0EC20**	1 unit
0.5	0.12	Without	6.5	100		**3RV23 11-0FC10**	1 unit		**3RV23 11-0FC20**	1 unit
0.63	0.18	Without	8.2	100		**3RV23 11-0GC10**	1 unit		**3RV23 11-0GC20**	1 unit
0.8	0.18	Without	10	100		**3RV23 11-0HC10**	1 unit		**3RV23 11-0HC20**	1 unit
1	0.25	Without	13	100		**3RV23 11-0JC10**	1 unit		**3RV23 11-0JC20**	1 unit
1.25	0.37	Without	16	100		**3RV23 11-0KC10**	1 unit		**3RV23 11-0KC20**	1 unit
1.6	0.55	Without	21	100		**3RV23 11-1AC10**	1 unit		**3RV23 11-1AC20**	1 unit
2	0.75	Without	26	100		**3RV23 11-1BC10**	1 unit		**3RV23 11-1BC20**	1 unit
2.5	0.75	Without	33	100		**3RV23 11-1CC10**	1 unit		**3RV23 11-1CC20**	1 unit
3.2	1.1	Without	42	100		**3RV23 11-1DC10**	1 unit		**3RV23 11-1DC20**	1 unit
4	1.5	Without	52	100		**3RV23 11-1EC10**	1 unit		**3RV23 11-1EC20**	1 unit
5	1.5	Without	65	100		**3RV23 11-1FC10**	1 unit		**3RV23 11-1FC20**	1 unit
6.3	2.2	Without	82	100		**3RV23 11-1GC10**	1 unit		**3RV23 11-1GC20**	1 unit
8	3	Without	104	100		**3RV23 11-1HC10**	1 unit		**3RV23 11-1HC20**	1 unit
10	4	Without	130	100		**3RV23 11-1JC10**	1 unit		**3RV23 11-1JC20**	1 unit
12.5	5.5	Without	163	100		**3RV23 11-1KC10**	1 unit		**3RV23 11-1KC20**	1 unit
16	7.5	Without	208	55		**3RV23 11-4AC10**	1 unit		**3RV23 11-4AC20**	1 unit
Size S0										
16	7.5	Without	208	55		**3RV23 21-4AC10**	1 unit		**3RV23 21-4AC20**	1 unit
20	7.5	Without	260	55		**3RV23 21-4BC10**	1 unit		**3RV23 21-4BC20**	1 unit
22	11	Without	286	55		**3RV23 21-4CC10**	1 unit		**3RV23 21-4CC20**	1 unit
25	11	Without	325	55		**3RV23 21-4DC10**	1 unit		**3RV23 21-4DC20**	1 unit
28	15	Without	364	55		**3RV23 21-4NC10**	1 unit		**3RV23 21-4NC20**	1 unit
32	15	Without	400	55		**3RV23 21-4EC10**	1 unit		**3RV23 21-4EC20**	1 unit
36	18.5	Without	432	20		**3RV23 21-4PC10**	1 unit		--	
40	18.5	Without	480	20		**3RV23 21-4FC10**	1 unit		--	

[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.

Auxiliary switches can be ordered separately (see "Accessories" --> "Mountable accessories").

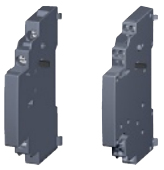
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Accessories

Selection and ordering data

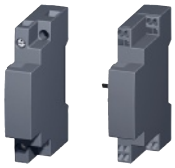
Mountable accessories

Version	For motor starter protectors Size	DT	Screw terminals Order No.	PS*	DT	Spring-type terminals Order No.	PS*
Auxiliary switches[1]							
 3RV29 01-1E							
Transverse auxiliary switches For front mounting							
1 CO	S00, S0	▶	**3RV29 01-1D**	1 unit		**--**	
1 NO + 1 NC[2]		▶	**3RV29 01-1E**	1 unit	▶	**3RV29 01-2E**	1 unit
2 NO		▶	**3RV29 01-1F**	1 unit	▶	**3RV29 01-2F**	1 unit
 3RV29 01-2E							
Solid-state compatible transverse auxiliary switches Mountable on the front, for operation in dusty atmosphere and in solid-state circuits with low operating currents							
1 CO	S00, S0		**3RV29 01-1G**	1 unit		**--**	
 3RV29 01-1A 3RV29 01-2A							
Covers for transverse auxiliary switches	S00, S0	▶	**3RV29 01-0H**	10 units		**--**	
Lateral auxiliary switches Mountable on the left							
1 NO + 1 NC[2]	S00, S0	▶	**3RV29 01-1A**	1 unit	▶	**3RV29 01-2A**	1 unit
2 NO		▶	**3RV29 01-1B**	1 unit	▶	**3RV29 01-2B**	1 unit
2 NC		▶	**3RV29 01-1C**	1 unit	▶	**3RV29 01-2C**	1 unit
2 NO + 2 NC			**3RV29 01-1J**	1 unit		**--**	
Signaling switches[3] and isolator modules[3]							
 3RV29 21-1M 3RV29 21-2M							
Signaling switches[2] One signaling switch can be mounted on the left per motor starter protector. Separate tripped and short-circuit alarms, 1 NO + 1 NC each	S00, S0	▶	**3RV29 21-1M**	1 unit	▶	**3RV29 21-2M**	1 unit
Isolator module Visible isolating distance for isolating individual motor starter protectors from the network, lockable in disconnected position	S00, S0	▶	**3RV29 28-1A**	1 unit		**--**	

1) 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.

2) The 3RV29 auxiliary and signaling switches with 1 NO + 1 NC are also available with ring terminal lug connection. The Order No. must be changed in the 8th position to **"4"**: e.g. 3RV29 01-**4**E**.**

3) This accessory cannot be used for the 3RV27 and 3RV28 circuit breakers.

Rated control supply voltage U_s AC 50 Hz V	AC 60 Hz V	AC 50/60 Hz 100 % ON period[1] V	AC/DC 50/60 Hz, DC 5 s ON period[2] V	DC V	For motor starter protectors Size	DT	Screw terminals Order No.	PS*	DT	Spring-type terminals Order No.	PS*
Auxiliary releases[3]											
 3RV29 02-1AV0 3RV29 02-2AV0											
Undervoltage releases											
--	--	--	--	24	S00, S0		**3RV29 02-1AB4**	1 unit		**--**	
110	120	--	--	--	S00, S0		**3RV29 02-1AF0**	1 unit		**--**	
230	240	--	--	--	S00, S0	4) ▶	**3RV29 02-1AP0**	1 unit	▶	**3RV29 02-2AP0**	1 unit
400	440	--	--	--	S00, S0	4) ▶	**3RV29 02-1AV0**	1 unit	▶	**3RV29 02-2AV0**	1 unit
Undervoltage releases with leading auxiliary contacts 2 NO											
230	240	--	--	--	S00, S0		**3RV29 22-1CP0**	1 unit		**3RV29 22-2CP0**	1 unit
400	440	--	--	--	S00, S0		**3RV29 22-1CV0**	1 unit		**3RV29 22-2CV0**	1 unit
Shunt releases											
--	--	20 ... 24	20 ... 70	--	S00, S0	▶	**3RV29 02-1DB0**	1 unit	▶	**3RV29 02-2DB0**	1 unit
--	--	90 ... 110	70 ... 190	--	S00, S0	4)	**3RV29 02-1DF0**	1 unit		**3RV29 02-2DF0**	1 unit
--	--	210 ... 240	190 ... 330	--	S00, S0	4) ▶	**3RV29 02-1DP0**	1 unit	▶	**3RV29 02-2DP0**	1 unit
--	--	350 ... 415	330 ... 500	--	S00, S0		**3RV29 02-1DV0**	1 unit		**--**	

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 AC 50/60Hz 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).

4) The 3RV29 auxiliary releases are also available with ring terminal lug connection. The Order No. must be changed in the 8th position to **"4"**: e.g. 3RV29 02-**4**AP0.

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Illustrations are approximate

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Busbar accessories

Three-phase busbars[1)2)]


3RV19 15-1AB


3RV19 15-1BB


3RV19 15-1CB

For feeding several motor starter protectors with screw terminals, mounted side by side on standard mounting rails, insulated, with touch protection

Modular spacing	Number of motor starter protectors that can be connected: Without lateral accessories	With lateral auxiliary switch	Including auxiliary release	Rated current I_n at 690 V	For motor starter protectors	DT	Order No.	PS*
mm				A	Size			
45	2	--	--	63	S00, S0[1)]	▶	**3RV19 15-1AB**	1 unit
	3				S00, S0[1)]	▶	**3RV19 15-1BB**	1 unit
	4				S00, S0[1)]	▶	**3RV19 15-1CB**	1 unit
	5				S00, S0[1)]	▶	**3RV19 15-1DB**	1 unit
55	--	2	--	63	S00, S0[1)]	▶	**3RV19 15-2AB**	1 unit
		3			S00, S0[1)]	▶	**3RV19 15-2BB**	1 unit
		4			S00, S0[1)]	▶	**3RV19 15-2CB**	1 unit
		5			S00, S0[1)]	▶	**3RV19 15-2DB**	1 unit
63	--	--	2	63	S00, S0[1)]	▶	**3RV19 15-3AB**	1 unit
			4		S00, S0[1)]	▶	**3RV19 15-3CB**	1 unit

[1)] Not suitable for 3RV21 motor starter protectors for motor protection with overload relay function and for 3RV27 and 3RV28 circuit breakers according to UL 489 / CSA C22.2 No.5-02.

[2)] Approved for motor starter protectors with $I_n \leq 32$ A.

Three-phase feeder terminals


3RV29 25-5AB

Conductor cross-section: Solid or stranded	Finely stranded with end sleeve	AWG cables, solid or stranded	Tightening torque	For motor starter protectors	DT	Order No.	PS*
mm²	mm²	AWG	Nm	Size			
Connection from top							
2.5 ... 16	2.5 ... 16	10 ... 4	3 ... 4	S00, S0	▶	**3RV29 25-5AB**	1 unit
Connection from below							
This terminal is connected in place of a switch, please take the space requirement into account.							
2.5 ... 16	2.5 ... 16	10 ... 4	Input: 4, Output: 2 ... 2.5	S00, S0	▶	**3RV29 15-5B**	1 unit

Three-phase feeder terminals for constructing "Type E Starters"


3RV29 25-5EB

Conductor cross-section: Solid or stranded	Finely stranded with end sleeve	AWG cables, solid or stranded	Tightening torque	For motor starter protectors	DT	Order No.	PS*
mm²	mm²	AWG	Nm	Size			
Connection from top							
2.5 ... 16	2.5 ... 16	10 ... 4	3 ... 4	S00, S0		**3RV29 25-5EB**	1 unit

Covers for connection tags


3RV19 15-6AB

Version	For motor starter protectors	DT	Order No.	PS*
	Size			
Touch protection for empty positions	S00, S0	▶	**3RV19 15-6AB**	10 units

Rotary operating mechanisms

Door-coupling rotary operating mechanisms


3RV29 26-0B

The door-coupling rotary operating mechanisms consist of a knob, a coupling driver and a 130/330 mm long extension shaft (6 mm x 6 mm).

The door-coupling rotary operating mechanisms are designed to degree of protection IP65. The door locking device 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 3 padlocks.

Version	Color of handle	Version of extension shaft	For motor starter protectors	DT	Order No.	PS*
		mm	Size			
Door-coupling rotary operating mechanisms	Black	130	S00, S0	▶	**3RV29 26-0B**	1 unit
		330	S00, S0	▶	**3RV29 26-0K**	1 unit
EMERGENCY-STOP door-coupling rotary operating mechanisms	Red/Yellow	130	S00, S0	▶	**3RV29 26-0C**	1 unit
		330	S00, S0	▶	**3RV29 26-0L**	1 unit

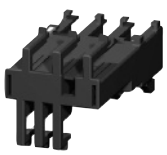
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Accessories

Mounting accessories

	Version	For motor starter protectors Size	DT	Order No.	PS*
Covers					
 3RV29 08-0P	**Scale covers** Sealable, for covering the set current scale	3RV20, 3RV21, 3RV24: S00, S0	▶	**3RV29 08-0P**	10 units
Mounting material					
 3RV29 28-0B	**Push-in lugs** For screwing the motor starter protector onto mounting plates; 2 units are required for each motor starter protector	S00, S0		**3RV29 28-0B**	10 units
Tools for opening spring-type terminals					
 3RA29 08-1A	**Screwdrivers** For all SIRIUS devices with spring-type terminals Length approx. 200 mm, 3.0 mm x 0.5 mm, titanium gray/black, partially insulated	S00, S0		**Spring-type terminals** **3RA29 08-1A**	1 unit
Terminal blocks and phase barriers for "Self-Protected Combination Motor Controllers (Type E)" according to UL 508					
 3RV29 28-1H	*Note:* *UL 508 demands 1-inch clearance and 2-inch creepage distance at line side for "Combination Motor Controller Type E". The following terminal blocks or phase barriers must be used in 3RV20 motor starter protectors.* The terminal blocks or phase barriers cannot be used in combination with the 3RV19 .5 three-phase busbars. For construction with three-phase busbars, see "Busbar accessories".				
 3RV29 28-1K	**Terminal block type E** For extended clearance and creepage distances (1 and 2 inch)	S00, S0	▶	**3RV29 28-1H**	1 unit
	Phase barriers For extended clearance and creepage distances (1 and 2 inch)	S00, S0	▶	**3RV29 28-1K**	1 unit

	Actuating voltage of contactor	Size 3RT2 contactors	Size 3RV2 motor starter protectors	DT	Order No.	PS*
Link modules for motor starter protector to contactor[1]						
 3RA29 21-1AA00	For mechanical and electrical connection between motor starter protector and contactor with screw terminals				**Screw terminals**	
	Single-unit packaging					
	AC/DC	S00	S00/S0	▶	**3RA19 21-1DA00**	1 unit
	AC	S0	S00/S0		**3RA29 21-1AA00**	1 unit
	DC	S0	S00/S0		**3RA29 21-1BA00**	1 unit
	Multi-unit packaging					
	AC/DC	S00	S00/S0	▶	**3RA19 21-1D**	10 units
	AC	S0	S00/S0		**3RA29 21-1A**	10 units
	DC	S0	S00/S0		**3RA29 21-1B**	10 units
 3RA29 11-2AA00	For mechanical and electrical connection between motor starter protector and contactor with spring-type terminals				**Spring-type terminals**	
	Single-unit packaging					
	AC/DC	S00	S00	▶	**3RA29 11-2AA00**	1 unit
	AC[2]	S0	S0	▶	**3RA29 21-2AA00**	1 unit
	DC	S0	S0	▶	**3RA29 21-2AA00**	1 unit
	Multi-unit packaging					
	AC/DC	S00	S00	▶	**3RA29 11-2A**	10 units
	AC[2]	S0	S0	▶	**3RA29 21-2A**	10 units
	DC	S0	S0	▶	**3RA29 21-2A**	10 units
	Spacers[2] For compensating the height on AC contactors					
	Single-unit packaging	S0	S0		**3RA29 11-1CA00**	1 unit
	Multi-unit packaging	S0	S0		**3RA29 11-1C**	5 units

[1] The link modules for motor starter protector to contactor cannot be used for the 3RV2 motor starter protectors. 21-4PA1., 3RV2. 21-4FA1., 3RV27 and 3RV28 circuit breakers/motor starter protectors.

[2] A spacer for height compensation on AC contactors size S0 is optionally available.

Note:

Link modules up to max. 32 A can be used.

For more link modules and enclosures see Catalog IC 10 · 2011 (on the attached CD-ROM) or the Industry Mall.

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Overview

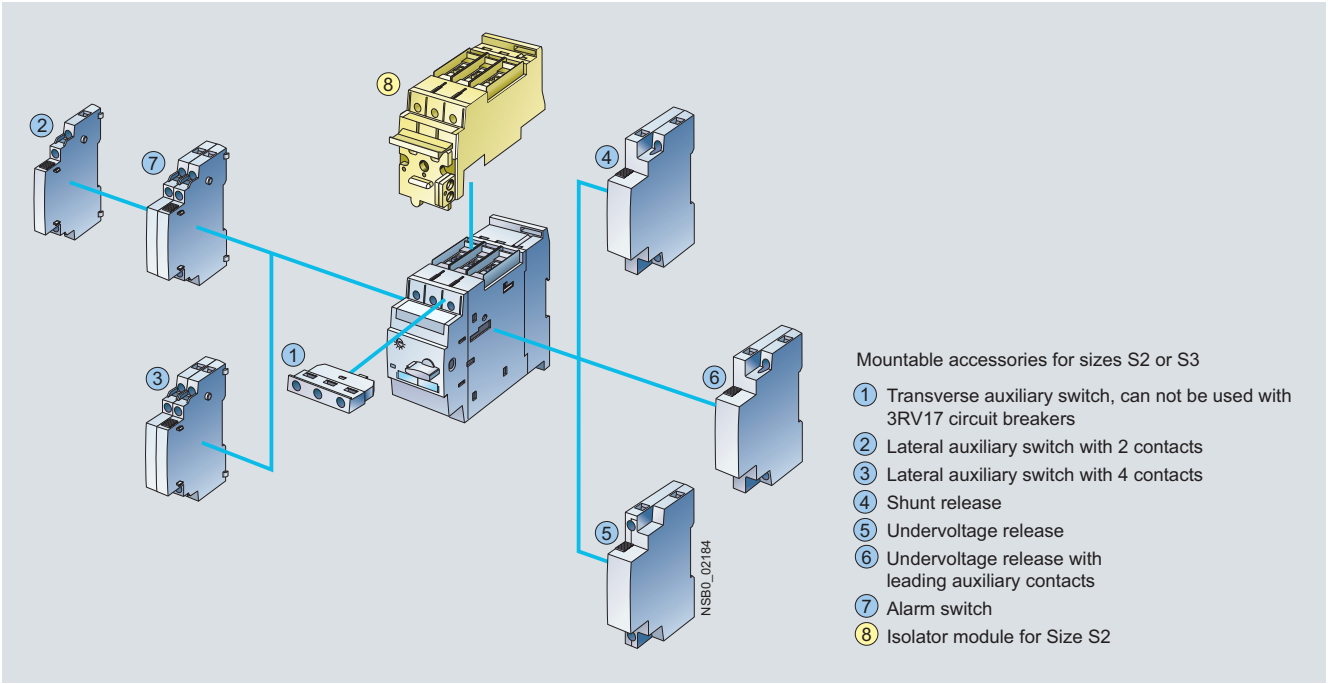
The following illustration shows our 3RV1 motor starter protector with the accessories which can be mounted for the sizes S2 and S3, see "Introduction"--> "Overview" on page 5/3.

For "Accessories" see page 5/20 onwards.

Note:

The 3RV1 devices (sizes S00/S0 to S3) can be found

- *in Catalog Add-On LV 1 AO on the attached CD-ROM or in the Information and Download Center*
- *in the interactive catalog CA 01*
- *in the Industry Mall*



SIRIUS 3RV1 motor starter protector sizes S2 and S3 with mountable accessories



SIRIUS motor starter protector size S2

3RV1 motor starter protectors are compact, current limiting motor starter protectors which are optimized for load feeders. The motor starter protectors are used for switching and protecting three-phase induction motors of up to 45 kW at 400 V AC and for other loads with rated currents of up to 100 A.

For 3RV2 motor starter protector sizes S00 and S0 up to 40 A see page 5/9 onwards.

Type of construction

The 3RV1 motor starter protectors are available in four sizes:

- Size S00 - width 45 mm,
  max. rated current 12 A,
  at 400 V AC suitable for induction motors up to 5.5 kW
- Size S0 - width 45 mm,
  max. rated current 25 A,
  at 400 V AC suitable for induction motors up to 11 kW
- Size S2 - width 55 mm,
  max. rated current 50 A,
  at 400 V AC suitable for induction motors up to 22 kW.
- Size S3 - width 70 mm,
  max. rated current 100 A,
  at 400 V AC suitable for induction motors up to 45 kW.

For sizes S00 and S0 of the 3RV2 motor starter protectors up to 40 A see page 5/9 onwards.

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General data

Connection methods

SIRIUS 3RV1 motor starter protectors are delivered with screw terminals. The accessories are available with screw and spring-type terminals on the auxiliary current side.

	Screw terminals
	Spring-type terminals
	The terminals are indicated in the corresponding tables by the symbols shown on orange backgrounds.

"Increased safety" type of protection EEx e according to ATEX directive 94/9/EC

3RV10 motor starter protectors are suitable for overload protection of explosion-protected motors with "increased safety" type of protection EEx e;
see www.siemens.com/industrial-controls/atex.

Application

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Operating conditions

3RV1 motor starter protectors are climate-proof. 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.

3RV1 motor starter protectors 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, see note on technical information on page 5/1.

3RV1 motor starter protectors 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.

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 start-up data of the motor to be protected is always paramount to the choice of the most suitable motor starter protector. This also applies to motor starter protectors for transformer protection.

Possible uses

The 3RV1 motor starter protectors can be used:

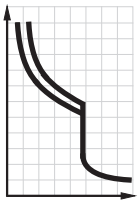
- For short-circuit protection
- For motor protection (also with overload relay function)
- For system protection
- For short-circuit protection of starter combinations
- For transformer protection
- As main control and EMERGENCY-STOP switches
- For fuse monitoring
- For operation in IT systems (IT networks)
- For switching of DC currents
- As voltage transformer circuit breakers
- In areas subject to explosion hazard (ATEX)

For more information see the note on technical information on page 5/1.

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Selection and ordering data

CLASS 10, without auxiliary switches



Rated current	Suitable for induction motors[1] with *P*	Setting range for thermal overload release	Instantaneous overcurrent releases	Short-circuit breaking capacity at 400 V AC	DT	Screw terminals	PS*
I_n			$I >$	I_{cu}		Order No.	
A	kW	A	A	kA			
Size S2							
16	7.5	11 ... 16	208	50	▶	**3RV10 31-4AA10**	1 unit
20	7.5	14 ... 20	260	50	▶	**3RV10 31-4BA10**	1 unit
25	11	18 ... 25	325	50	▶	**3RV10 31-4DA10**	1 unit
32	15	22 ... 32	416	50	▶	**3RV10 31-4EA10**	1 unit
40	18.5	28 ... 40	520	50	▶	**3RV10 31-4FA10**	1 unit
45	22	36 ... 45	585	50	▶	**3RV10 31-4GA10**	1 unit
50	22	40 ... 50	650	50	▶	**3RV10 31-4HA10**	1 unit



3RV10 31-4HA10

Size S3							
40	18.5	28 ... 40	520	50	▶	**3RV10 41-4FA10**	1 unit
50	22	36 ... 50	650	50	▶	**3RV10 41-4HA10**	1 unit
63	30	45 ... 63	819	50	▶	**3RV10 41-4JA10**	1 unit
75	37	57 ... 75	975	50	▶	**3RV10 41-4KA10**	1 unit
90	45	70 ... 90	1170	50	▶	**3RV10 41-4LA10**	1 unit
100	45	80 ... 100	1235	50	▶	**3RV10 41-4MA10**	1 unit



3RV10 41-4LA10

Size S3, with increased switching capacity							
16	7.5	11 ... 16	208	100	▶	**3RV10 42-4AA10**	1 unit
20	7.5	14 ... 20	260	100	▶	**3RV10 42-4BA10**	1 unit
25	11	18 ... 25	325	100	▶	**3RV10 42-4DA10**	1 unit
32	15	22 ... 32	416	100	▶	**3RV10 42-4EA10**	1 unit
40	18.5	28 ... 40	520	100	▶	**3RV10 42-4FA10**	1 unit
50	22	36 ... 50	650	100	▶	**3RV10 42-4HA10**	1 unit
63	30	45 ... 63	819	100	▶	**3RV10 42-4JA10**	1 unit
75	37	57 ... 75	975	100	▶	**3RV10 42-4KA10**	1 unit
90	45	70 ... 90	1170	100	▶	**3RV10 42-4LA10**	1 unit
100	45	80 ... 100	1235	100	▶	**3RV10 42-4MA10**	1 unit



3RV10 42-4JA10

CLASS 20, without auxiliary switches

Size S2							
16	7.5	11 ... 16	208	50		**3RV10 31-4AB10**	1 unit
20	7.5	14 ... 20	260	50		**3RV10 31-4BB10**	1 unit
25	11	18 ... 25	325	50		**3RV10 31-4DB10**	1 unit
32	15	22 ... 32	416	50		**3RV10 31-4EB10**	1 unit
40	18.5	28 ... 40	520	50		**3RV10 31-4FB10**	1 unit
45	22	36 ... 45	585	50		**3RV10 31-4GB10**	1 unit
50	22	40 ... 50	650	50		**3RV10 31-4HB10**	1 unit



3RV10 31-4AB10

Size S3, with increased switching capacity							
40	18.5	28 ... 40	520	100		**3RV10 42-4FB10**	1 unit
50	22	36 ... 50	650	100		**3RV10 42-4HB10**	1 unit
63	30	45 ... 63	819	100		**3RV10 42-4JB10**	1 unit
75	37	57 ... 75	975	100		**3RV10 42-4KB10**	1 unit
90	45	70 ... 90	1170	100		**3RV10 42-4LB10**	1 unit
100	45	80 ... 100	1235	100		**3RV10 42-4MB10**	1 unit



3RV10 42-4KB10

[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 can be ordered separately (see "Accessories" --> "Mountable accessories").

For multi-unit packing and reusable packaging see Chapter 13 "Appendix" --> "Ordering notes".

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Illustrations are approximate

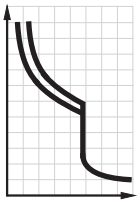
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For motor protection with overload relay function

Selection and ordering data

CLASS 10, with overload relay function (automatic RESET), without auxiliary switches



Rated current	Suitable for induction motors[1] with *P*	Setting range for thermal overload release	Instantaneous overcurrent releases	Short-circuit breaking capacity at 400 V AC	DT	**Screw terminals**	PS*
I_n			$I >$	I_{cu}		Order No.	
A	kW	A	A	kA			
Size S2[2]							
16	7.5	11 ... 16	208	50		**3RV11 31-4AA10**	1 unit
20	7.5	14 ... 20	260	50		**3RV11 31-4BA10**	1 unit
25	11	18 ... 25	325	50		**3RV11 31-4DA10**	1 unit
32	15	22 ... 32	416	50		**3RV11 31-4EA10**	1 unit
40	18.5	28 ... 40	520	50		**3RV11 31-4FA10**	1 unit
45	22	36 ... 45	585	50		**3RV11 31-4GA10**	1 unit
50	22	40 ... 50	650	50		**3RV11 31-4HA10**	1 unit
Size S3, with increased switching capacity[2]							
16	7.5	11 ... 16	208	100		**3RV11 42-4AA10**	1 unit
20	7.5	14 ... 20	260	100		**3RV11 42-4BA10**	1 unit
25	11	18 ... 25	325	100		**3RV11 42-4DA10**	1 unit
32	15	22 ... 32	416	100		**3RV11 42-4EA10**	1 unit
40	18.5	28 ... 40	520	100		**3RV11 42-4FA10**	1 unit
50	22	36 ... 50	650	100		**3RV11 42-4HA10**	1 unit
63	30	45 ... 63	819	100		**3RV11 42-4JA10**	1 unit
75	37	57 ... 75	975	100		**3RV11 42-4KA10**	1 unit
90	45	70 ... 90	1170	100		**3RV11 42-4LA10**	1 unit
100	45	80 ... 100	1235	100		**3RV11 42-4MA10**	1 unit


3RV11 31-4EA10


3RV11 42-4AA10

[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] Accessories (auxiliary releases) for mounting on the right cannot be used.

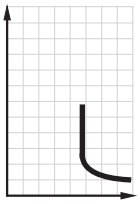
Auxiliary switches can be ordered separately
(see "Accessories" --> "Mountable accessories").

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Illustrations are approximate

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Selection and ordering data

Without auxiliary switches



Rated current	Suitable for induction motors[1] with *P*	Thermal overload release[2]	Instantaneous overcurrent releases	Short-circuit breaking capacity at 400 V AC	DT	**Screw terminals**	PS*
I_n			$I >$	I_{cu}		Order No.	
A	kW	A	A	kA			
Size S2							
16	7.5	Without	208	50		**3RV13 31-4AC10**	1 unit
20	7.5	Without	260	50		**3RV13 31-4BC10**	1 unit
25	11	Without	325	50		**3RV13 31-4DC10**	1 unit
32	15	Without	416	50		**3RV13 31-4EC10**	1 unit
40	18.5	Without	520	50		**3RV13 31-4FC10**	1 unit
45	22	Without	585	50		**3RV13 31-4GC10**	1 unit
50	22	Without	650	50		**3RV13 31-4HC10**	1 unit



3RV13 31-4AC10

Size S3							
40	18.5	Without	520	50		**3RV13 41-4FC10**	1 unit
50	22	Without	650	50		**3RV13 41-4HC10**	1 unit
63	30	Without	819	50		**3RV13 41-4JC10**	1 unit
75	37	Without	975	50		**3RV13 41-4KC10**	1 unit
90	45	Without	1 170	50		**3RV13 41-4LC10**	1 unit
100	45	Without	1 235	50		**3RV13 41-4MC10**	1 unit



3RV13 41-4JC10

Size S3, with increased switching capacity							
16	7.5	Without	208	100		**3RV13 42-4AC10**	1 unit
20	7.5	Without	260	100		**3RV13 42-4BC10**	1 unit
25	11	Without	325	100		**3RV13 42-4DC10**	1 unit
32	15	Without	416	100		**3RV13 42-4EC10**	1 unit
40	18.5	Without	520	100		**3RV13 42-4FC10**	1 unit
50	22	Without	650	100		**3RV13 42-4HC10**	1 unit
63	30	Without	819	100		**3RV13 42-4JC10**	1 unit
75	37	Without	975	100		**3RV13 42-4KC10**	1 unit
90	45	Without	1 170	100		**3RV13 42-4LC10**	1 unit
100	45	Without	1 235	100		**3RV13 42-4MC10**	1 unit



3RV13 42-4JC10

[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.

Auxiliary switches can be ordered separately (see "Accessories" --> "Mountable accessories").

For multi-unit packing and reusable packaging see Chapter 13 "Appendix" --> "Ordering notes".

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Accessories

Selection and ordering data

Mountable accessories

	Version	Contacts	For motor starter protectors Size	DT	Order No.	PS*
Auxiliary switches[1]						
					Screw terminals	
3RV19 01-1E	**Transverse auxiliary switches** With screw terminals, mountable on front	1 CO	S00, S2, S3	▶	**3RV19 01-1D**	1 unit
		1 NO + 1 NC		▶	**3RV19 01-1E**	1 unit
		2 NO		▶	**3RV19 01-1F**	1 unit
3RV19 01-1G	**Solid-state compatible transverse auxiliary switches** With screw terminals, front mountable, for operation in dusty atmosphere and in solid-state circuits with low operating currents	1 CO	S00, S2, S3		**3RV19 01-1G**	1 unit
	Covers for transverse auxiliary switches	--	S00, S2, S3	▶	**3RV19 01-0H**	10 units
3RV19 01-1A 3RV19 01-1J	**Lateral auxiliary switches** With screw terminals, mountable on the left	1 NO + 1 NC	S00, S2, S3	▶	**3RV19 01-1A**	1 unit
		2 NO		▶	**3RV19 01-1B**	1 unit
		2 NC		▶	**3RV19 01-1C**	1 unit
		2 NO + 2 NC			**3RV19 01-1J**	1 unit
					Spring-type terminals	
3RV19 01-2E 3RV19 01-2A	**Transverse auxiliary switches** With spring-type terminals, mountable on front	1 NO + 1 NC	S00, S0, S2, S3	▶	**3RV19 01-2E**	1 unit
		2 NO		▶	**3RV19 01-2F**	1 unit
	Lateral auxiliary switches With spring-type terminals, mountable on the left	1 NO + 1 NC	S00, S0, S2, S3	▶	**3RV19 01-2A**	1 unit
		2 NO		▶	**3RV19 01-2B**	1 unit
		2 NC		▶	**3RV19 01-2C**	1 unit
Signaling switches[2] **and isolator modules**[2]						
					Screw terminals	
3RV19 21-1M	**Signaling switches** One signaling switch can be mounted on the left per motor starter protector.	Separate tripped and short-circuit alarms, 1 NO + 1 NC each	S2, S3	▶	**3RV19 21-1M**	1 unit
	Isolator module Visible isolating distance for isolating individual motor starter protectors from the network, lockable in disconnected position		S2	▶	**3RV19 38-1A**	1 unit

[1] 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. Transverse auxiliary switches must not be used for the 3RV17 circuit breakers.

[2] These accessories cannot be used for the 3RV17 circuit breakers.

Rated control supply voltage U_s 50 Hz AC	60 Hz AC	50/60 Hz AC 100 % ON period[1]	AC/DC 50/60 Hz, DC 5 s ON period[2]	DC	For motor starter protectors	DT	**Screw terminals** Order No.	PS*
V	V	V	V	V	Size			
Auxiliary releases[3]								
		Undervoltage releases						
--	--	--	--	24	S2, S3		**3RV19 02-1AB4**	1 unit
110	120	--	--	--	S2, S3		**3RV19 02-1AF0**	1 unit
230	240	--	--	--	S2, S3	▶	**3RV19 02-1AP0**	1 unit
400	440	--	--	--	S2, S3	▶	**3RV19 02-1AV0**	1 unit
		Undervoltage releases with leading auxiliary contacts 2 NO						
230	240	--	--	--	S2, S3		**3RV19 22-1CP0**	1 unit
400	440	--	--	--	S2, S3		**3RV19 22-1CV0**	1 unit
		Shunt releases						
--	--	20 ... 24	20 ... 70	--	S2, S3	▶	**3RV19 02-1DB0**	1 unit
--	--	90 ... 110	70 ... 190	--	S2, S3		**3RV19 02-1DF0**	1 unit
--	--	210 ... 240	190 ... 330	--	S2, S3	▶	**3RV19 02-1DP0**	1 unit
--	--	350 ... 415	330 ... 500	--	S2, S3		**3RV19 02-1DV0**	1 unit

3RV19 02-1DP0

[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 AC 50 Hz/60Hz 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 3RV11 motor starter protectors with overload relay function).

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Illustrations are approximate

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Busbar accessories

Modular spacing	Number of motor starter protectors that can be connected: Without lateral accessories	With lateral auxiliary switch	Including auxiliary release	Rated current I_n at 690 V	For motor starter protectors	DT	Order No.	PS*
mm				A	Size			
Three-phase busbar systems								
For feeding several motor starter protectors with screw terminals, mounted side by side on standard mounting rails, insulated, with touch protection								
55	2	--	--	108	S2[1]	▶	**3RV19 35-1A**	1 unit
	3				S2[1]	▶	**3RV19 35-1B**	1 unit
	4				S2[1]	▶	**3RV19 35-1C**	1 unit
75	--	2	2	108	S2[2]	▶	**3RV19 35-3A**	1 unit
		3	3		S2[2]	▶	**3RV19 35-3B**	1 unit
		4	4		S2[2]	▶	**3RV19 35-3C**	1 unit

[1] Not suitable for 3RV11 motor starter protectors for motor protection with overload relay function.

[2] Auxiliary releases and lateral auxiliary switches cannot be used in combination.

Conductor cross-section: Solid or stranded	Finely stranded with end sleeve	AWG cables, solid or stranded	Tightening torque	For motor starter protectors	DT	Order No.	PS*
mm^2	mm^2	AWG	Nm	Size			
Three-phase feeder terminals							
Connection from top							
2.5 ... 50	1.5 ... 35	14 ... 0	4	S2	▶	**3RV19 35-5A**	1 unit
Three-phase feeder terminals for constructing "Type E Starters"							
Connection from top							
10 ... 50	--	8 ... 0	4.5 ... 6	S2	▶	**3RV19 35-5E**	1 unit

Version	For motor starter protectors	DT	Order No.	PS*
	Size			
Covers for connection tags				
Touch protection for empty positions	S2	▶	**3RV19 35-6A**	5 units

Rotary operating mechanisms

Version	Color of handle	Version of extension shaft	For motor starter protectors	DT	Order No.	PS*
		mm	Size			
Door-coupling rotary operating mechanisms						
The door-coupling rotary operating mechanisms consist of a knob, a coupling driver and a 130/330 mm long extension shaft (6 mm x 6 mm). The door-coupling rotary operating mechanisms are designed to degree of protection IP65. The door locking device 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 3 padlocks.						
Door-coupling rotary operating mechanisms	Black	130	S2, S3	▶	**3RV29 26-0B**	1 unit
		330	S2, S3	▶	**3RV29 26-0K**	1 unit
EMERGENCY-STOP door-coupling rotary operating mechanisms	Red/Yellow	130	S2, S3	▶	**3RV29 26-0C**	1 unit
		330	S2, S3	▶	**3RV29 26-0L**	1 unit



3RV29 26-0B

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

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Accessories

Mounting accessories

	Version	For motor starter protectors Size	DT	Order No.	PS*
Covers					
 3RV1 (size S3) with 3RT19 46-4EA1 (left) 3RV19 08-0P (right)	**Terminal covers for box terminals** Additional touch protection to be fitted at the box terminals (2 units mountable per device)	S2 S3	▶ ▶	**3RT19 36-4EA2** **3RT19 46-4EA2**	1 unit 1 unit
	Terminal covers For cable lug and busbar connection for maintaining the required voltage clearance and as touch protection if box terminal is removed (2 units can be mounted per motor starter protector)	S3	▶	**3RT19 46-4EA1**	1 unit
	Scale covers Sealable, for covering the set current scale	S2, S3	▶	**3RV19 08-0P**	10 units
Terminal blocks for "Self-Protected Combination Motor Controllers (Type E)" according to UL 508					
 3RT19 46-4GA07	*Note:* *UL 508 demands 1-inch clearance and 2-inch creepage distance at line side for "Combination Motor Controller Type E". The following terminal block must be used therefore in 3RV10 motor starter protector size S3.* The 3RV10 motor starter protector in size S2 conforms with the required clearance and creepage distances without a terminal block. The terminal block is not required for use according to CSA. With size S3, this terminal blocks cannot be used in combination with a transverse auxiliary switch. For construction with three-phase busbars, see "Busbar accessories".				
	Terminal block type E for extended clearance and creepage distances (1 and 2 inch)	S3		**3RT19 46-4GA07**	1 unit
Auxiliary terminals, 3-pole					
 3RT19 46-4F	For connection of auxiliary and control cables to the main conductor connections (for one side)	S3		**3RT19 46-4F**	1 unit

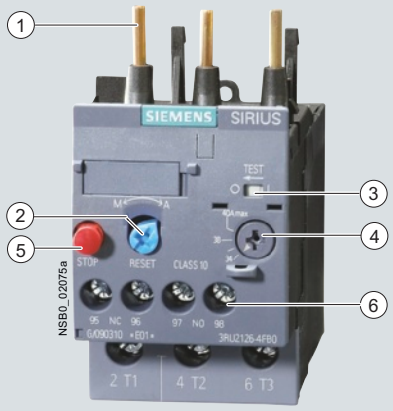
Actuating voltage of contactor	Size Contactor	Motor starter protectors	DT	**Screw terminals** Order No.	PS*
Link modules for motor starter protector to contactor					
For mechanical and electrical connection between motor starter protector and contactor with screw terminals					
Single-unit packaging					
 3RA19 31-1AA00					
AC	S2	S2	▶	**3RA19 31-1AA00**	1 unit
	S3	S3	▶	**3RA19 41-1AA00**	1 unit
DC	S2	S2	▶	**3RA19 31-1BA00**	1 unit
	S3	S3	▶	**3RA19 41-1BA00**	1 unit
Multi-unit packaging					
 3RA19 41-1AA00					
AC	S2	S2	▶	**3RA19 31-1A**	5 units
	S3	S3	▶	**3RA19 41-1A**	5 units
DC	S2	S2	▶	**3RA19 31-1B**	5 units
	S3	S3	▶	**3RA19 41-1B**	5 units

For enclosures see Catalog IC 10 · 2011 (on the attached CD-ROM) or the Industry Mall.

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Illustrations are approximate

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Overview



1 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 bracket for stand-alone installation).

2 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.

3 Switch position indicator and TEST function of the wiring:
Indicates a trip and enables the wiring test.

4 Motor current setting:
Setting the device to the rated motor current is easy with the large rotary knob.

5 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.

6 Connecting terminals:
Depending on the device version, the connecting terminals for screw, spring-type or ring terminal lug connection are configured for the main and auxiliary circuit.

A sealable transparent cover can be optionally mounted (accessory). It secures the motor current setting against adjustment.

SIRIUS 3RU21 26-4FB00 thermal overload relays

The 3RU21 thermal overload relays up to 40 A have been designed for inverse-time delayed protection of loads with normal starting against excessive 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 current setting I_e and is stored in the form of a long-term stable tripping characteristic.

The "tripped" status is signaled by means of a switch position indicator. Resetting takes place either manually or automatically after the recovery time has elapsed.

The devices are manufactured in accordance with environmental guidelines and contain environmentally friendly and reusable materials.

They comply with all important worldwide standards and approvals.

For 3RU11 overload relay sizes S2 and S3 see page 5/27 onwards.

Connection methods

Depending on the device version of the 3RU2 overload relays, the connecting terminals for screw, spring-type or ring terminal lug connection are configured for both the main and auxiliary circuit.

Screw terminals

Spring-type terminals

Ring terminal lug connections

The terminals are indicated in the corresponding tables by the symbols shown on orange backgrounds.

"Increased safety" type of protection EEx e according to ATEX directive 94/9/EC

The 3RU21 thermal overload relays are suitable for the overload protection of explosion-proof motors with "increased safety" type of protection EEx e. The relays meet the requirements of EN 60079-7 (Electrical apparatus for areas subject to explosion hazards - Increased safety "e");
see www.siemens.com/industrial-controls/atex .

EC prototype test certificate for Category (2) G/D has been submitted. More details on request.

Application

Industries

The 3RU21 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).

Application

The 3RU21 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 3RU21 thermal overload relays, all three bimetal strips must be heated. For this purpose, all main current paths of the relay must be connected in series.

Ambient conditions

The 3RU21 thermal overload relays have temperature compensation in accordance with IEC 60947-4-1 for the temperature range of –40 to +60 °C. For temperatures from +60 to +80 °C the upper set value of the setting range must be reduced by the factor listed in the table below.

Ambient temperature	Derating factor for the upper set value	
	Current ranges	
°C	0.11 ... 20 A	17 ... 40 A
+60	1.0	1.0
+65	0.94	0.97
+70	0.87	0.94
+75	0.81	0.90
+80	0.73	0.86

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Selection and ordering data

3RU21 thermal overload relays for mounting onto contactors[1] and stand-alone installation[2], CLASS 10

Features and technical specifications:
- Mounting onto contactors: Screw terminals, spring-type terminals or ring terminal lug connections[3], stand-alone installation: Screw or spring-type 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)
- Terminal covers for devices with mounting onto contactor with ring terminal lug connection (optional accessory, see Catalog IC 10 · 2011 on the attached CD-ROM or the Industry Mall)


3RU21 16-4AB0


3RU21 16-4AC0


3RU21 26-4FB1


3RU21 26-4AF1

Size of contactor[4]	Rating for induction motor, rated value[5]	Current setting value of the inverse-time delayed overload release	Short-circuit protection with fuse, type of coordination "2", operational class gG[6]	DT[7]	Screw terminals Order No.	PS*	DT	Spring-type terminals Order No.	PS*
	kW	A	A						
Size S00									
S00	0.04	0.11 ... 0.16	0.5	▶[7]	**3RU21 16-0AB□**	1 unit		**3RU21 16-0AC□**	1 unit
	0.06	0.14 ... 0.2	1	▶[7]	**3RU21 16-0BB□**	1 unit		**3RU21 16-0BC□**	1 unit
	0.06	0.18 ... 0.25	1	▶[7]	**3RU21 16-0CB□**	1 unit		**3RU21 16-0CC□**	1 unit
	0.09	0.22 ... 0.32	1.6	▶[7]	**3RU21 16-0DB□**	1 unit		**3RU21 16-0DC□**	1 unit
	0.09	0.28 ... 0.4	2	▶[7]	**3RU21 16-0EB□**	1 unit		**3RU21 16-0EC□**	1 unit
	0.12	0.35 ... 0.5	2	▶[7]	**3RU21 16-0FB□**	1 unit		**3RU21 16-0FC□**	1 unit
	0.18	0.45 ... 0.63	2	▶[7]	**3RU21 16-0GB□**	1 unit		**3RU21 16-0GC□**	1 unit
	0.18	0.55 ... 0.8	4	▶[7]	**3RU21 16-0HB□**	1 unit		**3RU21 16-0HC□**	1 unit
	0.25	0.7 ... 1	4	▶[7]	**3RU21 16-0JB□**	1 unit		**3RU21 16-0JC□**	1 unit
	0.37	0.9 ... 1.25	4	▶[7]	**3RU21 16-0KB□**	1 unit		**3RU21 16-0KC□**	1 unit
	0.55	1.1 ... 1.6	6	▶[7]	**3RU21 16-1AB□**	1 unit		**3RU21 16-1AC□**	1 unit
	0.75	1.4 ... 2	6	▶[7]	**3RU21 16-1BB□**	1 unit		**3RU21 16-1BC□**	1 unit
	0.75	1.8 ... 2.5	10	▶[7]	**3RU21 16-1CB□**	1 unit		**3RU21 16-1CC□**	1 unit
	1.1	2.2 ... 3.2	10	▶[7]	**3RU21 16-1DB□**	1 unit		**3RU21 16-1DC□**	1 unit
	1.5	2.8 ... 4	16	▶[7]	**3RU21 16-1EB□**	1 unit		**3RU21 16-1EC□**	1 unit
	1.5	3.5 ... 5	20	▶[7]	**3RU21 16-1FB□**	1 unit		**3RU21 16-1FC□**	1 unit
	2.2	4.5 ... 6.3	20	▶[7]	**3RU21 16-1GB□**	1 unit		**3RU21 16-1GC□**	1 unit
	3	5.5 ... 8	25	▶[7]	**3RU21 16-1HB□**	1 unit		**3RU21 16-1HC□**	1 unit
	4	7 ... 10	35	▶[7]	**3RU21 16-1JB□**	1 unit		**3RU21 16-1JC□**	1 unit
	5.5	9 ... 12.5	35	▶[7]	**3RU21 16-1KB□**	1 unit		**3RU21 16-1KC□**	1 unit
	7.5	11 ... 16	40	▶[7]	**3RU21 16-4AB□**	1 unit		**3RU21 16-4AC□**	1 unit
Size S0									
S0	0.75	1.8 ... 2.5	10	▶	**3RU21 26-1CB0**	1 unit		**3RU21 26-1CC0**	1 unit
	1.1	2.2 ... 3.2	10	▶	**3RU21 26-1DB0**	1 unit		**3RU21 26-1DC0**	1 unit
	1.5	2.8 ... 4	16	▶	**3RU21 26-1EB0**	1 unit		**3RU21 26-1EC0**	1 unit
	1.5	3.5 ... 5	20	▶	**3RU21 26-1FB0**	1 unit		**3RU21 26-1FC0**	1 unit
	2.2	4.5 ... 6.3	20	▶	**3RU21 26-1GB0**	1 unit		**3RU21 26-1GC0**	1 unit
	3	5.5 ... 8	25	▶	**3RU21 26-1HB0**	1 unit		**3RU21 26-1HC0**	1 unit
	4	7 ... 10	35	▶	**3RU21 26-1JB0**	1 unit		**3RU21 26-1JC0**	1 unit
	5.5	9 ... 12.5	35	▶	**3RU21 26-1KB0**	1 unit		**3RU21 26-1KC0**	1 unit
	7.5	11 ... 16	40	▶	**3RU21 26-4AB0**	1 unit	▶	**3RU21 26-4AC0**	1 unit
	7.5	14 ... 20	50	▶[7]	**3RU21 26-4BB□**	1 unit	▶[7]	**3RU21 26-4BC□**	1 unit
	11	17 ... 22	63	▶[7]	**3RU21 26-4CB□**	1 unit	▶[7]	**3RU21 26-4CC□**	1 unit
	11	20 ... 25	63	▶[7]	**3RU21 26-4DB□**	1 unit	▶[7]	**3RU21 26-4DC□**	1 unit
	15	23 ... 28	63	▶[7]	**3RU21 26-4NB□**	1 unit	▶[7]	**3RU21 26-4NC□**	1 unit
	15	27 ... 32	80	▶[7]	**3RU21 26-4EB□**	1 unit	▶[7]	**3RU21 26-4EC□**	1 unit
	18.5	30 ... 36	80	▶[7]	**3RU21 26-4PB□**	1 unit	▶[7]	**3RU21 26-4PC□**	1 unit
	18.5	34 ... 40	80	▶[7]	**3RU21 26-4FB□**	1 unit	▶[7]	**3RU21 26-4FC□**	1 unit

Order No. supplement
- For mounting onto contactor **0**
- For stand-alone installation **1**

[1] With the suitable terminal brackets (see "Accessories", page 5/25), the 3RU11 overload relays for mounting onto contactor can also be installed as stand-alone units.

[2] Screw and snap-on mounting onto TH 35 standard mounting rail.

[3] The 3RU21 overload relays for mounting onto contactors are also available with ring terminal lug connection. The Order No. must be changed in the 10th position to **"J"**: e.g. 3RU21 16-0A**J**0.

[4] Observe maximum rated operational current of the devices.

[5] 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.

[6] Maximum protection by fuse for overload relays, type of coordination "2". For fuse values in connection with contactors see "Technical specifications" --> "Short-circuit protection with fuses/motor starter protectors for motor feeders", see note on technical information on page 5/1.

[7] The preferred type ▶ applies only to 3RU21 .6-...**0** overload relays.

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Illustrations are approximate

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Selection and ordering data

Version	Size	DT	Order No.	PS*
Terminal brackets for stand-alone installation				
 3RU29 16-3AA01  3RU29 26-3AA01	**Terminal brackets for overload relays with screw terminals**		**Screw terminals**	
	For separate mounting of the overload relays; screw and snap-on mounting onto TH 35 standard mounting rail	S00 ▶	**3RU29 16-3AA01**	1 unit
		S0 ▶	**3RU29 26-3AA01**	1 unit
 3RU29 16-3AC01  3RU29 26-3AC01	**Terminal brackets for overload relays with spring-type terminal**		**Spring-type terminals**	
	For separate mounting of the overload relays; screw and snap-on mounting onto TH 35 standard mounting rail	S00	**3RU29 16-3AC01**	1 unit
		S0	**3RU29 26-3AC01**	1 unit
Mechanical RESET				
 3RU29 00-1A with pushbutton and extension plunger	**Resetting plungers, holders and formers**	S00, S0 ▶	**3RU29 00-1A**	1 unit
	Pushbuttons with extended stroke (12 mm), IP65, ⌀ 22 mm	S00, S0	**3SB30 00-0EA11**	1 unit
	Extension plungers For compensation of the distance between the pushbutton and the unlatching button of the relay	S00, S0	**3SX1 335**	1 unit
Cable releases with holder for RESET				
 3RU29 00-1.	For ⌀ 6.5 mm holes in the control panel; max. control panel thickness 8 mm			
	• Length 400 mm	S00, S0 ▶	**3RU29 00-1B**	1 unit
	• Length 600 mm	S00, S0 ▶	**3RU29 00-1C**	1 unit
Modules for remote RESET, electrical				
 3RU19 00-2A.71	Operating range 0.85 ... 1.1 × U_S, power consumption 80 VA AC, 70 W DC, ON period 0.2 ... 4 s, switching frequency 60/h			
	• 24 ... 30 V AC/DC	S00, S0 ▶	**3RU19 00-2AB71**	1 unit
	• 110 ... 127 V AC/DC	S00, S0 ▶	**3RU19 00-2AF71**	1 unit
	• 220 ... 250 V AC/DC	S00, S0 ▶	**3RU19 00-2AM71**	1 unit
Sealable covers				
 3RV29 08-0P	For covering the setting knobs	S00, S0 ▶	**3RV29 08-0P**	10 units

Version	Size	Color	For overload relays	DT	**Spring-type terminals** Order No.	PS*
Tools for opening spring-type terminals						
 3RA29 08-1A	**Screwdrivers** for all SIRIUS devices with spring-type terminals	Length approx. 200 mm, 3.0 mm x 0.5 mm	Titanium gray/ black, partially insulated	Main and auxiliary circuit connection: 3RU2	**3RA29 08-1A**	1 unit

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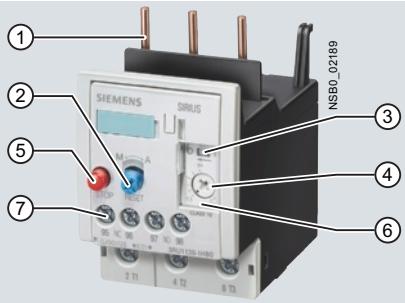
3RU11 up to 100 A for standard applications

Overview

Note:

The 3RU11 devices (sizes S00/S0 to S3) can be found

- *in Catalog Add-On LV 1 AO on the attached CD-ROM or in the Information and Download Center*
- *in the interactive catalog CA 01*
- *in the Industry Mall*



(1) Connection for mounting onto contactors:
Optimally adapted in electrical, mechanical and design terms to the contactors. These connecting pins can be used for direct mounting of the overload relay to the contactor. Stand-alone installation is possible as an alternative (partly in conjunction with a terminal bracket for stand-alone installation).

(2) 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.

(3) Switch position indicator and TEST function of the wiring:
Indicates a trip and enables the wiring test.

(4) Motor current setting:
Setting the device to the rated motor current is easy with the large rotary knob.

(5) 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.

(6) Transparent, sealable cover:
Secures the motor current setting and the TEST function against adjustment.

(7) Connecting terminals:
The generously sized terminals permit connection of two conductors with different cross-sections for main and auxiliary circuits. The auxiliary circuit can be connected with screw terminals and alternatively with spring-type terminals.

SIRIUS 3RU11 36-1HB0 thermal overload relay

Optimally adapted in electrical, mechanical and design terms to the contactors. The overload relay can be mounted onto a contactor using these pins. Stand-alone installation is possible as an alternative (in some cases in conjunction with a stand-alone installation module).

The 3RU11 thermal overload relays up to 100 A have been designed for inverse-time delayed protection of loads with normal starting against excessive 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 current setting I_e and is stored in the form of a long-term stable tripping characteristic.

The "tripped" status is signaled by means of a switch position indicator. Resetting takes place either manually or automatically after the recovery time has elapsed.

The devices are manufactured in accordance with environmental guidelines and contain environmentally friendly and reusable materials.

They comply with all important worldwide standards and approvals.

For 3RU21 overload relay sizes S00 and S0 see page 5/24 onwards.

Connection methods

The 3RU11 overload relays can be delivered with screw terminals or spring-type terminals.

	Screw terminals
	Spring-type terminals
	The terminals are indicated in the corresponding tables by the symbols shown on orange backgrounds.

"Increased safety" type of protection EEx e according to ATEX directive 94/9/EC

3RU11 thermal overload relays are suitable for the overload protection of explosion-proof motors with "increased safety" type of protection EEx e. The relays meet the requirements of EN 60079-7 (Electrical apparatus for areas subject to explosion hazards - Increased safety "e");
see www.siemens.com/industrial-controls/atex .

The EC prototype test certificate for Category (2) G/D has been issued. It has the number DMT 98 ATEX G 001.

Application

Industries

The 3RU11 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).

Application

3RU11 thermal overload relays have been designed for the protection of induction motors and single-phase AC motors and DC motors.

If single-phase AC or DC loads are to be protected by the 3RU11 thermal overload relays, all three bimetal strips must be heated. For this purpose, all main current paths of the relay must be connected in series.

Ambient conditions

3RU11 thermal overload relays have temperature compensation in accordance with IEC 60947-4-1 for the temperature range of –20 to +60 °C. For temperatures from +60 to +80 °C the upper set value of the setting range must be reduced by the factor listed in the table below.

Ambient temperature in °C	Derating factor for the upper set value
+60	1.0
+65	0.94
+70	0.87
+75	0.81
+80	0.73

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Selection and ordering data

3RU11 thermal overload relays, CLASS 10 for mounting onto contactors or stand-alone installation

Features and technical specifications:
- Overload and phase failure protection
- Auxiliary contacts 1 NO + 1 NC
- Manual and automatic RESET
- Switch position indicator
- TEST function
- STOP button
- Integrated, sealable cover


3RU11 36-..B0


3RU11 46-..B0


3RU11 36-4EB1


3RU11 46-4JB1


3RU11 36-..D0


3RU11 46-..D0

Size of contactor[1]	Rating for induction motor, 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]	DT	**Screw terminals** (on auxiliary current side)	PS*	DT	**Spring-type terminals**[4] (on auxiliary current side)	PS*
					Order No.			Order No.	
	kW	A	A						
Size S2									
S2	***For mounting onto contactor***[5]								
	3	5.5 ... 8	25	▶	**3RU11 36-1HB0**	1 unit		**3RU11 36-1HD0**	1 unit
	4	7 ... 10	35	▶	**3RU11 36-1JB0**	1 unit		**3RU11 36-1JD0**	1 unit
	5.5	9 ... 12.5	35	▶	**3RU11 36-1KB0**	1 unit		**3RU11 36-1KD0**	1 unit
	7.5	11 ... 16	40	▶	**3RU11 36-4AB0**	1 unit		**3RU11 36-4AD0**	1 unit
	7.5	14 ... 20	50	▶	**3RU11 36-4BB0**	1 unit		**3RU11 36-4BD0**	1 unit
	11	18 ... 25	63	▶	**3RU11 36-4DB0**	1 unit		**3RU11 36-4DD0**	1 unit
	15	22 ... 32	80	▶	**3RU11 36-4EB0**	1 unit	▶	**3RU11 36-4ED0**	1 unit
	18.5	28 ... 40	80	▶	**3RU11 36-4FB0**	1 unit	▶	**3RU11 36-4FD0**	1 unit
	22	36 ... 45	100	▶	**3RU11 36-4GB0**	1 unit	▶	**3RU11 36-4GD0**	1 unit
	22	40 ... 50	100	▶	**3RU11 36-4HB0**	1 unit	▶	**3RU11 36-4HD0**	1 unit
	For stand-alone installation[6]								
	15	22 ... 32	80	▶	**3RU11 36-4EB1**	1 unit		--	
	18.5	28 ... 40	80	▶	**3RU11 36-4FB1**	1 unit		--	
	22	36 ... 45	100	▶	**3RU11 36-4GB1**	1 unit		--	
	22	40 ... 50	100	▶	**3RU11 36-4HB1**	1 unit		--	
Size S3									
S3	***For mounting onto contactor***[5]								
	11	18 ... 25	63	▶	**3RU11 46-4DB0**	1 unit		**3RU11 46-4DD0**	1 unit
	15	22 ... 32	80	▶	**3RU11 46-4EB0**	1 unit		**3RU11 46-4ED0**	1 unit
	18.5	28 ... 40	80	▶	**3RU11 46-4FB0**	1 unit		**3RU11 46-4FD0**	1 unit
	22	36 ... 50	125	▶	**3RU11 46-4HB0**	1 unit		**3RU11 46-4HD0**	1 unit
	30	45 ... 63	125	▶	**3RU11 46-4JB0**	1 unit	▶	**3RU11 46-4JD0**	1 unit
	37	57 ... 75	160	▶	**3RU11 46-4KB0**	1 unit	▶	**3RU11 46-4KD0**	1 unit
	45	70 ... 90	160	▶	**3RU11 46-4LB0**	1 unit	▶	**3RU11 46-4LD0**	1 unit
	45	80 ... 100	200	▶	**3RU11 46-4MB0**	1 unit	▶	**3RU11 46-4MD0**	1 unit
	For stand-alone installation[6]								
	30	45 ... 63	125	▶	**3RU11 46-4JB1**	1 unit		--	
	37	57 ... 75	160	▶	**3RU11 46-4KB1**	1 unit		--	
	45	70 ... 90	160	▶	**3RU11 46-4LB1**	1 unit		--	
	45	80 ... 100[7]	200	▶	**3RU11 46-4MB1**	1 unit		--	

1) Observe maximum rated operational current of the devices.

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 for overload relays, type of coordination "2". For fuse values in connection with contactors see "Technical specifications" --> "Short-circuit protection with fuses/motor starter protectors for motor feeders", see note on technical information on page 5/1.

4) Auxiliary conductor connections with spring-type terminals and main conductor connections with screw terminals.

5) With the suitable terminal brackets (see "Accessories", page 5/28), the 3RU11 overload relays for mounting onto contactor can also be installed as stand-alone units.

6) Sizes S2 and S3 for screw and snap-on mounting onto TH 35 standard mounting rails, size S3 also for TH 75 standard mounting rails.

7) For overload relays > 100 A see 3RB2 solid-state overload relays starting on page 5/36.

*** You can order this quantity or a multiple thereof.**
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Accessories

Selection and ordering data

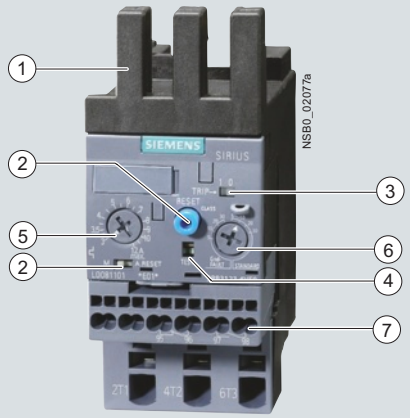
Version	Size	DT	Order No.	PS*
Terminal brackets for stand-alone installation				
 3RU19 .6-3AA01 — For separate mounting of overload relays; screw and snap-on mounting onto TH 35 standard mounting rail; size S3 also for TH 75 standard mounting rail	S2	▶	**3RU19 36-3AA01**	1 unit
	S3	▶	**3RU19 46-3AA01**	1 unit
Mechanical RESET				
 3RU19 00-1A with pushbutton and extension plunger — **Resetting plungers, holders and formers**	S2, S3	▶	**3RU19 00-1A**	1 unit
Pushbuttons with extended stroke (12 mm), IP65, ⌀ 22 mm	S2, S3		**3SB30 00-0EA11**	1 unit
Extension plungers For compensation of the distance between the pushbutton and the unlatching button of the relay	S2, S3		**3SX1 335**	1 unit
Cable releases with holder for RESET[1)]				
 3RU19 00-1. — For ⌀ 6.5 mm holes in the control panel; max. control panel thickness 8 mm	S2, S3			
• Length 400 mm		▶	**3RU19 00-1B**	1 unit
• Length 600 mm		▶	**3RU19 00-1C**	1 unit
Modules for remote RESET, electrical				
 3RU19 00-2A.71 — Operating range 0.85 ... 1.1 × U_s, power consumption 80 VA AC, 70 W DC, ON period 0.2 ... 4 s, switching frequency 60/h				
• 24 ... 30 V AC/DC	S2, S3	▶	**3RU19 00-2AB71**	1 unit
• 110 ... 127 V AC/DC	S2, S3	▶	**3RU19 00-2AF71**	1 unit
• 220 ... 250 V AC/DC	S2, S3	▶	**3RU19 00-2AM71**	1 unit
Terminal covers				
Covers for cable lugs and busbar connections				
• Length 55 mm	S3	▶	**3RT19 46-4EA1**	1 unit
Covers for box terminals				
• Length 20.6 mm	S2	▶	**3RT19 36-4EA2**	1 unit
• Length 20.8 mm	S3	▶	**3RT19 46-4EA2**	1 unit

Version	Size	Color	For overload relays	DT	Spring-type terminals Order No.	PS*
Tools for opening spring-type terminals						
 8WA2 803 — **Screwdrivers** For all SIRIUS devices with spring-type terminals	Length approx. 200 mm, 3.0 mm x 0.5 mm	Titanium gray/ black, partially insulated	Main and auxiliary circuit connection: 3RU1		**3RA29 08-1A**	1 unit

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

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Overview



1. Connection for mounting onto contactors:
   Optimally adapted in electrical, mechanical and design terms to the contactors and soft starters. The overload relay can be connected directly using these connection pins. Stand-alone installation is possible as an alternative (in conjunction with a terminal bracket for stand-alone installation).
2. Selector switch for manual/automatic RESET and RESET button:
   With the slide switch you can choose between manual and automatic RESET. A device set to manual RESET can be reset locally by pressing the RESET button. On 3RB31 an electrical remote RESET is integrated.
3. Switch position indicator and TEST function of the wiring:
   Indicates a trip and enables the wiring test.
4. Solid-state test (device test):
   Enables a test of all important device components and functions.
5. Motor current setting:
   Setting the device to the rated motor current is easy with the large rotary knob.
6. Trip class setting/internal ground-fault detection (only 3RB31):
   Using the rotary switch you can set the required trip class and activate the internal ground-fault detection dependent on the start-up conditions.
7. Connecting terminals (removable joint block for auxiliary circuits):
   Depending on the device version, the terminals for screw and spring-type connection are configured for the main and auxiliary circuit.

A sealable transparent cover can be optionally mounted (accessory). It secures the motor current setting against adjustment.

SIRIUS 3RB31 23-4VE00 solid-state overload relay

The 3RB30/3RB31 overload relays up to 40 A with internal power supply have been designed for inverse-time delayed protection of loads with normal and heavy starting against excessive temperature rises due to overload, phase unbalance or phase failure. An overload, phase unbalance 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 current setting I_e and is stored in the form of a long-term stable tripping characteristic.

In addition to inverse-time delayed protection of loads against excessive temperature rises due to overload, phase unbalance and phase failure, the 3RB31 solid-state overload relays also allow internal ground-fault detection (not possible in conjunction with contactor assemblies for wye-delta starting). This provides protection of loads against high-resistance short-circuits due to damage to the insulation material, moisture, condensed water etc.

The "tripped" status is signaled by means of a switch position indicator. Resetting takes place either manually or automatically after the recovery time has elapsed.

The devices are manufactured in accordance with environmental guidelines and contain environmentally friendly and reusable materials. They comply with all important worldwide standards and approvals.

For 3RB21 overload relays in sizes S2 to S12 see page 5/36 onwards.

Connection methods

Depending on the device version of the 3RB3 solid-state overload relays, the connecting terminals for screw, spring-type or ring terminal lug connection are configured for both the main and auxiliary circuit.

	Screw terminals
	Spring-type terminals
	Ring terminal lug connections
	The terminals are indicated in the corresponding tables by the symbols shown on orange backgrounds.

"Increased safety" type of protection EEx e according to ATEX directive 94/9/EC

The 3RB30/3RB31 solid-state overload relays are suitable for the overload protection of explosion-proof motors with "increased safety" type of protection EEx e. The relays meet the requirements of EN 60079-7 (Electrical apparatus for areas subject to explosion hazards - Increased safety "e");
see www.siemens.com/industrial-controls/atex .

EC type test certificate for Group II, Category (2) G/D exists. It has the number PTB 09 ATEX 3001.

Application

Industries

The 3RB30/3RB31 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 5 to CLASS 30), minimize project completion times, inventories and power consumption, and optimize plant availability and maintenance management.

Application

The 3RB30/3RB31 solid-state overload relays have been designed for the protection of induction motors in sinusoidal 50/60 Hz voltage networks. The relays are not suitable for the protection of single-phase AC or DC loads.

The 3RU21 thermal overload relay or the 3RB22/3RB23 solid-state overload relay can be used for single-phase AC loads. For DC loads we recommend the 3RU21 thermal overload relay.

Ambient conditions

The devices are insensitive to external influences such as shocks, corrosive ambient conditions, ageing and temperature fluctuations.

For the temperature range from –25 °C to +60 °C, the 3RB30/3RB31 solid-state overload relays compensate the temperature in accordance with IEC 60947-4-1.

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Selection and ordering data

3RB30 solid-state overload relays for mounting onto contactors[1], CLASS 10 and 20

Features and technical specifications:
- Screw terminals and spring-type terminals
- Overload protection, phase failure protection and unbalance 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)


3RB30 .6-1TB0


3RB30 .6-1TE0


3RB30 .6-1VB0


3RB30 .6-1VE0

Size of contactor[2]	Rating for induction motor, rated value[3]	Current setting value of the inverse-time delayed overload release	Short-circuit protection with fuse, type of coordination "2", operational class gG[4]	DT	Screw terminals	PS*	DT	Spring-type terminals	PS*
					Order No.			Order No.	
	kW	A	A						
Size S00[1]									
S00	***CLASS 10***								
	0.04 … 0.09	0.1 … 0.4	4		**3RB30 16-1RB0**	1 unit		**3RB30 16-1RE0**	1 unit
	0.12 … 0.37	0.32 … 1.25	6		**3RB30 16-1NB0**	1 unit		**3RB30 16-1NE0**	1 unit
	0.55 … 1.5	1 … 4	20		**3RB30 16-1PB0**	1 unit		**3RB30 16-1PE0**	1 unit
	1.1 … 5.5	3 … 12	25		**3RB30 16-1SB0**	1 unit		**3RB30 16-1SE0**	1 unit
	2.2 … 7.5	4 ... 16	25		**3RB30 16-1TB0**	1 unit		**3RB30 16-1TE0**	1 unit
	CLASS 20								
	0.04 … 0.09	0.1 … 0.4	4		**3RB30 16-2RB0**	1 unit		**3RB30 16-2RE0**	1 unit
	0.12 … 0.37	0.32 … 1.25	6		**3RB30 16-2NB0**	1 unit		**3RB30 16-2NE0**	1 unit
	0.55 … 1.5	1 … 4	20		**3RB30 16-2PB0**	1 unit		**3RB30 16-2PE0**	1 unit
	1.1 … 5.5	3 … 12	25		**3RB30 16-2SB0**	1 unit		**3RB30 16-2SE0**	1 unit
	2.2 … 7.5	4 ... 16	25		**3RB30 16-2TB0**	1 unit		**3RB30 16-2TE0**	1 unit
Size S0[1]									
S0	***CLASS 10***								
	0.04 … 0.09	0.1 … 0.4	4		**3RB30 26-1RB0**	1 unit		**3RB30 26-1RE0**	1 unit
	0.12 … 0.37	0.32 … 1.25	6		**3RB30 26-1NB0**	1 unit		**3RB30 26-1NE0**	1 unit
	0.55 … 1.5	1 … 4	20		**3RB30 26-1PB0**	1 unit		**3RB30 26-1PE0**	1 unit
	1.1 … 5.5	3 … 12	25		**3RB30 26-1SB0**	1 unit		**3RB30 26-1SE0**	1 unit
	3 … 11	6 … 25	50		**3RB30 26-1QB0**	1 unit		**3RB30 26-1QE0**	1 unit
	5.5 … 18.5	10 ... 40	50		**3RB30 26-1VB0**	1 unit		**3RB30 26-1VE0**	1 unit
	CLASS 20								
	0.04 … 0.09	0.1 … 0.4	4		**3RB30 26-2RB0**	1 unit		**3RB30 26-2RE0**	1 unit
	0.12 … 0.37	0.32 … 1.25	6		**3RB30 26-2NB0**	1 unit		**3RB30 26-2NE0**	1 unit
	0.55 … 1.5	1 … 4	20		**3RB30 26-2PB0**	1 unit		**3RB30 26-2PE0**	1 unit
	1.1 … 5.5	3 … 12	25		**3RB30 26-2SB0**	1 unit		**3RB30 26-2SE0**	1 unit
	3 … 11	6 … 25	50		**3RB30 26-2QB0**	1 unit		**3RB30 26-2QE0**	1 unit
	5.5 … 18.5	10 ... 40	50		**3RB30 26-2VB0**	1 unit		**3RB30 26-2VE0**	1 unit

1) With the suitable terminal brackets (see "Accessories", page 5/32), these overload relays can also be installed as stand-alone units.

2) Observe maximum rated operational current of the devices.

3) 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.

4) Maximum protection by fuse only for overload relays, type of coordination "2".
For fuse values in connection with contactors see "Technical specifications" --> "Short-circuit protection with fuses for motor feeders", see note on technical information on page 5/1.

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

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3RB31 solid-state overload relays for mounting onto contactor[1], CLASS 5, 10, 20 and 30 adjustable

Features and technical specifications:

- Screw terminals and spring-type terminals
- Overload protection, phase failure protection and unbalance 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
- Sealable covers (optional accessory)


3RB31 13-4TB0


3RB31 13-4TE0


3RB31 23-4VB0


3RB31 23-4VE0

Size of contactor[2]	Rating for induction motor, rated value[3]	Current setting value of the inverse-time delayed overload release	Short-circuit protection with fuse, type of coordination "2", operational class gG[4]	DT	Screw terminals	PS*	DT	Spring-type terminals	PS*
					Order No.			Order No.	
	kW	A	A						
Size S00[1]									
S00	***CLASS 5, 10, 20 and 30 adjustable***								
	0.04 … 0.09	0.1 … 0.4	4		**3RB31 13-4RB0**	1 unit		**3RB31 13-4RE0**	1 unit
	0.12 … 0.37	0.32 … 1.25	6		**3RB31 13-4NB0**	1 unit		**3RB31 13-4NE0**	1 unit
	0.55 … 1.5	1 … 4	20		**3RB31 13-4PB0**	1 unit		**3RB31 13-4PE0**	1 unit
	1.1 … 5.5	3 … 12	25		**3RB31 13-4SB0**	1 unit		**3RB31 13-4SE0**	1 unit
	2.2 … 7.5	4 ... 16	25		**3RB31 13-4TB0**	1 unit		**3RB31 13-4TE0**	1 unit
Size S0[1]									
S0	***CLASS 5, 10, 20 and 30 adjustable***								
	0.04 … 0.09	0.1 … 0.4	4		**3RB31 23-4RB0**	1 unit		**3RB31 23-4RE0**	1 unit
	0.12 … 0.37	0.32 … 1.25	6		**3RB31 23-4NB0**	1 unit		**3RB31 23-4NE0**	1 unit
	0.55 … 1.5	1 … 4	20		**3RB31 23-4PB0**	1 unit		**3RB31 23-4PE0**	1 unit
	1.1 … 5.5	3 … 12	25		**3RB31 23-4SB0**	1 unit		**3RB31 23-4SE0**	1 unit
	3 … 11	6 … 25	50		**3RB31 23-4QB0**	1 unit		**3RB31 23-4QE0**	1 unit
	5.5 … 18.5	10 ... 40	50		**3RB31 23-4VB0**	1 unit		**3RB31 23-4VE0**	1 unit

1) With the suitable terminal brackets (see "Accessories", page 5/32), these overload relays can also be installed as stand-alone units.

2) Observe maximum rated operational current of the devices.

3) 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.

4) Maximum protection by fuse only for overload relays, type of coordination "2".
For fuse values in connection with contactors see "Technical specifications" --> "Short-circuit protection with fuses for motor feeders", see note on technical information on page 5/1.

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

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Accessories

Selection and ordering data

Version	Size	DT	Order No.	PS*
Terminal brackets for stand-alone installation				
 3RU29 16-3AA01  3RU29 26-3AA01	**Terminal brackets for overload relays with screw terminals** For separate mounting of the overload relays; screw and snap-on mounting onto TH 35 standard mounting rail	S00 ▶ S0 ▶	**Screw terminals** **3RU29 16-3AA01** **3RU29 26-3AA01**	 1 unit 1 unit
 3RU29 16-3AC01  3RU29 26-3AC01	**Terminal brackets for overload relays with spring-type terminal** For separate mounting of the overload relays; screw and snap-on mounting onto TH 35 standard mounting rail	S00 S0	**Spring-type terminals** **3RU29 16-3AC01** **3RU29 26-3AC01**	 1 unit 1 unit
Mechanical RESET				
 3RB39 80-0A with pushbutton and extension plunger	**Resetting plungers, holders and formers**	S00, S0	**3RB39 80-0A**	1 unit
	Pushbuttons with extended stroke (12 mm), IP65, ⌀ 22 mm	S00, S0	**3SB30 00-0EA11**	1 unit
	Extension plungers For compensation of the distance between a pushbutton and the unlatching button of the relay	S00, S0	**3SX1 335**	1 unit
Cable releases with holder for RESET				
 3RB39 80-0.	For ⌀ 6.5 mm holes in the control panel; max. control panel thickness 8 mm			
	• Length 400 mm	S00, S0	**3RB39 80-0B**	1 unit
	• Length 600 mm	S00, S0	**3RB39 80-0C**	1 unit
Sealable covers				
 3RB39 84-0	For covering the setting knobs	S00, S0	**3RB39 84-0**	1 unit

Version	Size	Color	For overload relays	DT	Spring-type terminals Order No.	PS*
Tools for opening spring-type terminals						
 3RA29 08-1A	**Screwdrivers** For all SIRIUS devices with spring-type terminals	Length approx. 200 mm, 3.0 mm x 0.5 mm	Titanium gray/ black, partially insulated	Main and auxiliary circuit connection: 3RB3	**3RA29 08-1A**	1 unit

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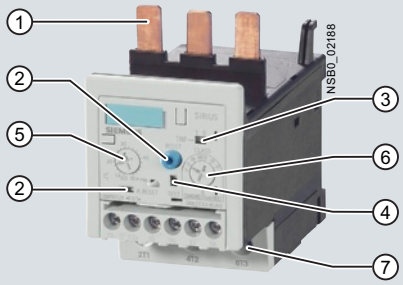
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Overview

Note:

The 3RB20 and 3RB21 solid-state overload relays (sizes S00/S0 to S10/S12) can be found

- *in Catalog Add-On LV 1 AO on the attached CD-ROM or in the Information and Download Center*
- *in the interactive catalog CA 01*
- *in the Industry Mall*



(1) Connection for mounting onto contactors:
Optimally adapted in electrical, mechanical and design terms to the contactors and soft starters. These connecting pins can be used for direct mounting of the overload relay to the contactor. Stand-alone installation is possible as an alternative (partly in conjunction with a terminal bracket for stand-alone installation).

(2) Selector switch for manual/automatic RESET and RESET button:
With the slide switch you can choose between manual and automatic RESET. A device set to manual RESET can be reset locally by pressing the RESET button. On the 3RB21 a solid-state remote RESET is integrated.

(3) Switch position indicator and TEST function of the wiring:
Indicates a trip and enables the wiring test.

(4) Solid-state test (device test):
Enables a test of all important device components and functions.

(5) Motor current setting:
Setting the device to the rated motor current is easy with the large rotary knob.

(6) Trip class setting/internal ground-fault detection (only 3RB21):
Using the rotary switch you can set the required trip class and activate the internal ground-fault detection dependent on the start-up conditions.

(7) Connecting terminals (removable terminal block for auxiliary circuits):
The generously sized terminals permit connection of two conductors with different cross-sections for the main and auxiliary circuits. The auxiliary circuit can be connected with screw terminals and alternatively with spring-type terminals.

SIRIUS 3RB21 33-4UB0 solid-state overload relay

The 3RB20 and 3RB21 solid-state 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 against excessive temperature rises due to overload, phase unbalance or phase failure.

An overload, phase unbalance 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 current setting I_e and is stored in the form of a long-term stable tripping characteristic.

In addition to inverse-time delayed protection of loads against excessive temperature rises due to overload, phase unbalance and phase failure, the 3RB21 solid-state overload relays also allow internal ground-fault detection (not possible in conjunction with contactor assemblies for wye-delta starting). This provides protection of loads against high-resistance short-circuits due to damage to the insulation material, moisture, condensed water etc.

The "tripped" status is signaled by means of a switch position indicator. Resetting takes place either manually or automatically after the recovery time has elapsed.

The devices are manufactured in accordance with environmental guidelines and contain environmentally friendly and reusable materials. They comply with all important worldwide standards and approvals.

For 3RB30 and 3RB31 overload relay sizes S00 and S0 see page 5/30 onwards.

Connection methods

The 3RB20/3RB21 solid-state overload relays are available with screw terminals (box terminals) or spring-loaded terminals on auxiliary current side.

	Screw terminals
	Spring-type terminals
	The terminals are indicated in the corresponding tables by the symbols shown on orange backgrounds.

"Increased safety" type of protection EEx e according to ATEX directive 94/9/EC

The 3RB20/3RB21 solid-state overload relays are suitable for the overload protection of explosion-proof motors with "increased safety" type of protection EExe. The relays meet the requirements of EN 60079-7 (Electrical apparatus for areas subject to explosion hazards - Increased safety "e");
see www.siemens.com/industrial-controls/atex .

EC type test certificate for Group II, Category (2) G/D exists. It has the number PTB 06 ATEX 3001.

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Application

Industries

The 3RB20 and 3RB21 solid-state 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 5 to CLASS 30), minimize project completion times, inventories and power consumption, and optimize plant availability and maintenance management.

Application

The 3RB20 and 3RB21 solid-state overload relays have been designed for the protection of induction motors in sinusoidal 50/60 Hz voltage networks. The relays are not suitable for the protection of single-phase AC or DC loads.

The 3RU11 thermal overload relays or the 3RB22 to 3RB24 solid-state overload relays can be used for single-phase AC loads. For DC loads we recommend the 3RU11 thermal overload relay.

Ambient conditions

The devices are insensitive to external influences such as shocks, corrosive ambient conditions, ageing and temperature fluctuations.

For the temperature range from –25 C to +60 °C, the 3RB20 and 3RB21 solid-state overload relays compensate the temperature in accordance with IEC 60947-4-1.

For the 3RB20 and 3RB21 solid-state overload relays with the sizes S6, S10 and S12, the upper set value of the setting range must be reduced for ambient temperatures > 50 °C by a certain factor.

Type	Setting range	Derating factor for the upper set value for **stand-alone installation** at ambient temperature	
		+50 °C	+60 °C
3RB20 56, 3RB21 56	50 ... 200 A	100 %	100 %
3RB20 66, 3RB21 66	55 ... 250 A	100 %	100 %
3RB20 66, 3RB21 66	160 ... 630 A	100 %	90 %

Type	Setting range	Derating factor for the upper set value for **mounting onto contactor** at ambient temperature	
		+50 °C	+60 °C
3RB20 56, 3RB21 56	50 ... 200 A	100 %	70 %
3RB20 66, 3RB21 66	55 ... 250 A	100 %	70 %
3RB20 66, 3RB21 66	160 ... 630 A	100 %	70 %

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Selection and ordering data

3RB20 solid-state overload relays for mounting onto contactors[1)2)] and stand-alone installation[2)3)], CLASS 10

Features and technical specifications:
- Overload protection, phase failure protection and unbalance protection
- Internal power supply
- Auxiliary contacts 1 NO + 1 NC
- Manual and automatic RESET
- Switch position indicator
- TEST function and self-monitoring


3RB20 36-1UB0


3RB20 46-1ED0


3RB20 56-1FW2


3RB20 66-1MF2

Size of contactor[4)]	Rating for induction motor, rated value[5)]	Current setting value of the inverse-time delayed overload release	Short-circuit protection with fuse, type of coordination "2", operational class gG[6)]	DT	**Screw terminals** (on auxiliary current side) Order No.	PS*	DT	**Spring-type terminals** (on auxiliary current side) Order No.	PS*
	kW	A	A						
Size S2[1)3)7)]									
S2	3 … 11	6 … 25	63	▶	**3RB20 36-1QB0**	1 unit		**3RB20 36-1QD0**	1 unit
	3 … 11	6 … 25	63	▶	**3RB20 36-1QW1**	1 unit		**3RB20 36-1QX1**	1 unit
	7.5 … 22	12.5 … 50	80	▶	**3RB20 36-1UB0**	1 unit		**3RB20 36-1UD0**	1 unit
	7.5 … 22	12.5 … 50	80	▶	**3RB20 36-1UW1**	1 unit		**3RB20 36-1UX1**	1 unit
Size S3[1)3)7)]									
S3	7.5 … 22	12.5 … 50	160	▶	**3RB20 46-1UB0**	1 unit		**3RB20 46-1UD0**	1 unit
	11 … 45	25 … 100	315	▶	**3RB20 46-1EB0**	1 unit		**3RB20 46-1ED0**	1 unit
	11 … 45	25 … 100	315	▶	**3RB20 46-1EW1**	1 unit		**3RB20 46-1EX1**	1 unit
Size S6[2)7)]									
S6 with busbar connections	22 … 90	50 … 200	315	▶	**3RB20 56-1FC2**	1 unit		**3RB20 56-1FF2**	1 unit
S6 with box terminals	22 … 90	50 … 200	315	▶	**3RB20 56-1FW2**	1 unit		**3RB20 56-1FX2**	1 unit
Size S10/S12[2)]									
S10/S12 and size14 (3TF68/ 3TF69)	22 … 110	55 … 250	400	▶	**3RB20 66-1GC2**	1 unit		**3RB20 66-1GF2**	1 unit
	90 … 450	160 … 630	800	▶	**3RB20 66-1MC2**	1 unit		**3RB20 66-1MF2**	1 unit

1) The relays with an Order No. ending with **"0"** are designed for mounting onto contactor.

2) The relays with an Order No. ending with **"2"** are designed for mounting onto contactor and stand-alone installation. For 3TF68/3TF69 contactors, direct mounting is not possible.

3) The relays with an Order No. ending with **"1"** are designed for stand-alone installation.

4) Observe maximum rated operational current of the devices.

5) 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.

6) Maximum protection by fuse only for overload relays, type of coordination "2".
For fuse values in connection with contactors see "Technical specifications" --> "Short-circuit protection with fuses for motor feeders", see note on technical information on page 5/1.

7) The relays with an Order No. with **"W"** or **"X"** in penultimate position are equipped with a straight-through transformer.

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

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SIRIUS 3RB2 Solid-State Overload Relays

3RB20, 3RB21 up to 630 A for standard applications

3RB20 solid-state overload relays for mounting onto contactor[1)2)] and stand-alone installation[2)3)], CLASS 20

Features and technical specifications:
- Overload protection, phase failure protection and unbalance protection
- Internal power supply
- Auxiliary contacts 1 NO + 1 NC
- Manual and automatic RESET
- Switch position indicator
- TEST function and self-monitoring



3RB20 36-2UB0



3RB20 46-2ED0



3RB20 56-2FW2



3RB20 66-2MF2

Size of contactor[4)]	Rating for induction motor, rated value[5)]	Current setting value of the inverse-time delayed overload release	Short-circuit protection with fuse, type of coordination "2", operational class gG[6)]	DT	**Screw terminals** (on auxiliary current side) Order No.	PS*	DT	**Spring-type terminals** (on auxiliary current side) Order No.	PS*
	kW	A	A						
Size S2[1)3)7)]									
S2	3 … 11	6 … 25	63	▶	**3RB20 36-2QB0**	1 unit		**3RB20 36-2QD0**	1 unit
	3 … 11	6 … 25	63	▶	**3RB20 36-2QW1**	1 unit		**3RB20 36-2QX1**	1 unit
	7.5 … 22	12.5 … 50	80	▶	**3RB20 36-2UB0**	1 unit		**3RB20 36-2UD0**	1 unit
	7.5 … 22	12.5 … 50	80	▶	**3RB20 36-2UW1**	1 unit		**3RB20 36-2UX1**	1 unit
Size S3[1)3)7)]									
S3	7.5 … 22	12.5 … 50	160	▶	**3RB20 46-2UB0**	1 unit		**3RB20 46-2UD0**	1 unit
	11 … 45	25 … 100	315	▶	**3RB20 46-2EB0**	1 unit		**3RB20 46-2ED0**	1 unit
	11 … 45	25 … 100	315	▶	**3RB20 46-2EW1**	1 unit		**3RB20 46-2EX1**	1 unit
Size S6[2)7)]									
S6 with busbar connections	22 … 90	50 … 200	315	▶	**3RB20 56-2FC2**	1 unit		**3RB20 56-2FF2**	1 unit
S6 with box terminals	22 … 90	50 … 200	315	▶	**3RB20 56-2FW2**	1 unit		**3RB20 56-2FX2**	1 unit
Size S10/S12[2)]									
S10/S12 and size14 (3TF68/ 3TF69)	22 … 110	55 … 250	400	▶	**3RB20 66-2GC2**	1 unit		**3RB20 66-2GF2**	1 unit
	90 … 450	160 … 630	800	▶	**3RB20 66-2MC2**	1 unit		**3RB20 66-2MF2**	1 unit

1) The relays with an Order No. ending with **"0"** are designed for mounting onto contactor.

2) The relays with an Order No. ending with **"2"** are designed for mounting onto contactor and stand-alone installation. For 3TF68/3TF69 contactors, direct mounting is not possible.

3) The relays with an Order No. ending with **"1"** are designed for stand-alone installation.

4) Observe maximum rated operational current of the devices.

5) 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.

6) Maximum protection by fuse only for overload relays, type of coordination "2".
For fuse values in connection with contactors see "Technical specifications" --> "Short-circuit protection with fuses for motor feeders", see note on technical information on page 5/1.

7) The relays with an Order No. with **"W"** or **"X"** in penultimate position are equipped with a straight-through transformer.

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

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3RB21 solid-state overload relays for mounting onto contactor[1)2)] and stand-alone installation[2)3)], CLASS 5, 10, 20 and 30 adjustable

Features and technical specifications:

- Overload protection, phase failure protection and unbalance 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


3RB21 33-4UB0


3RB21 43-4ED0


3RB21 53-4FX2


3RB21 63-4MC2

Size of contactor[4)]	Rating for induction motor, rated value[5)]	Current setting value of the inverse-time delayed overload release	Short-circuit protection with fuse, type of coordination "2", operational class gG[6)]	DT	**Screw terminals** (on auxiliary current side) Order No.	PS*	DT	**Spring-type terminals** (on auxiliary current side) Order No.	PS*
	kW	A	A						
Size S2[1)3)7)]									
S2	3 … 11	6 … 25	63	►	**3RB21 33-4QB0**	1 unit		**3RB21 33-4QD0**	1 unit
	3 … 11	6 … 25	63	►	**3RB21 33-4QW1**	1 unit		**3RB21 33-4QX1**	1 unit
	7.5 … 22	12.5 … 50	80	►	**3RB21 33-4UB0**	1 unit		**3RB21 33-4UD0**	1 unit
	7.5 … 22	12.5 … 50	80	►	**3RB21 33-4UW1**	1 unit		**3RB21 33-4UX1**	1 unit
Size S3[1)3)7)]									
S3	7.5 … 22	12.5 … 50	160	►	**3RB21 43-4UB0**	1 unit		**3RB21 43-4UD0**	1 unit
	11 … 45	25 … 100	315	►	**3RB21 43-4EB0**	1 unit		**3RB21 43-4ED0**	1 unit
	11 … 45	25 … 100	315	►	**3RB21 43-4EW1**	1 unit		**3RB21 43-4EX1**	1 unit
Size S6[2)7)]									
S6 with busbar connection	22 … 90	50 … 200	315	►	**3RB21 53-4FC2**	1 unit		**3RB21 53-4FF2**	1 unit
S6 with box terminals	22 … 90	50 … 200	315	►	**3RB21 53-4FW2**	1 unit		**3RB21 53-4FX2**	1 unit
Size S10/S12[2)]									
S10/S12 and size 14 (3TF68/ 3TF69)	22 … 110	55 … 250	400	►	**3RB21 63-4GC2**	1 unit		**3RB21 63-4GF2**	1 unit
	90 … 450	160 … 630	800	►	**3RB21 63-4MC2**	1 unit		**3RB21 63-4MF2**	1 unit

1) The relays with an Order No. ending with **"0"** are designed for mounting onto contactor.

2) The relays with an Order No. ending with **"2"** are designed for mounting onto contactor and stand-alone installation. For 3TF68/3TF69 contactors, direct mounting is not possible.

3) The relays with an Order No. ending with **"1"** are designed for stand-alone installation.

4) Observe maximum rated operational current of the devices.

5) 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.

6) Maximum protection by fuse for overload relay, type of coordination "2". For fuse values in connection with contactors see "Technical specifications" --> "Short-circuit protection with fuses for motor feeders", see note on technical information on page 5/1.

7) The relays with an Order No. with **"W"** or **"X"** in penultimate position are equipped with a straight-through transformer.

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

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Accessories for 3RB20, 3RB21

Selection and ordering data

Version	Size	DT	Order No.	PS*
Mechanical RESET				
 3RU19 00-1A with pushbutton and extension plunger				
Resetting plungers, holders and formers	S2 ... S10/S12	▶	**3RU19 00-1A**	1 unit
Pushbuttons with extended stroke (12 mm), IP65, ⌀ 22 mm	S2 ... S10/S12		**3SB30 00-0EA11**	1 unit
Extension plungers For compensation of the distance between a pushbutton and the unlatching button of the relay	S2 ... S10/S12		**3SX1 335**	1 unit
Cable releases with holder for RESET				
 3RU19 00-1.				
For ⌀ 6.5 mm holes in the control panel; max. control panel thickness 8 mm	S2 ... S10/S12			
• Length 400 mm		▶	**3RU19 00-1B**	1 unit
• Length 600 mm		▶	**3RU19 00-1C**	1 unit
Sealable covers				
 3RB29 86-0				
For covering the setting knobs	S2 ... S10/S12	▶	**3RB29 84-0**	10 units
Terminal covers				
 3RT19 46-4EA1				
Covers for cable lugs and busbar connections				
• Length 55 mm	S3	▶	**3RT19 46-4EA1**	1 unit
• Length 100 mm	S6	▶	**3RT19 56-4EA1**	1 unit
• Length 120 mm	S10/S12	▶	**3RT19 66-4EA1**	1 unit
Covers for box terminals				
 3RT19 36-4EA2 The figures show mounting on the contactor.				
• Length 20.6 mm	S2	▶	**3RT19 36-4EA2**	1 unit
• Length 20.8 mm	S3	▶	**3RT19 46-4EA2**	1 unit
• Length 25 mm	S6	▶	**3RT19 56-4EA2**	1 unit
• Length 30 mm	S10/S12	▶	**3RT19 66-4EA2**	1 unit
Covers for screw terminals Between contactor and overload relay, without box terminals (1 unit required per assembly)	S6	▶	**3RT19 56-4EA3**	1 unit
	S10/S12	▶	**3RT19 66-4EA3**	1 unit
Box terminal blocks				
 3RT19 5.-4G				
For round and ribbon cables				
• Up to 70 mm^2	S6[1)]	▶	**3RT19 55-4G**	1 unit
• Up to 120 mm^2	S6	▶	**3RT19 56-4G**	1 unit
• Up to 240 mm^2	S10/S12	▶	**3RT19 66-4G**	1 unit
For technical specifications for conductor cross-sections see note on technical information on page 5/1.				

[1)] In the scope of supply for 3RT10 54-1 contactors (55 kW).

Version	Size	Color	For overload relays	DT	Spring-type terminals Order No.	PS*
Tools for opening spring-type terminals						
 3RA29 08-1A						
Screwdrivers For all SIRIUS devices with spring-type terminals	Length approx. 200 mm, 3.0 mm x 0.5 mm	Titanium gray/ black, partially insulated	Main and auxiliary circuit connection: 3RB2		**3RA29 08-1A**	1 unit

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

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Load Feeders and Motor Starters for Use in the Control Cabinet

6



6/2 **Introduction**

SIRIUS 3RA2 Load Feeders new

6/4 General data

3RA21 direct-on-line starters

6/6 With screw terminals

6/7 With spring-type terminals

3RA22 Reversing Starters

6/8 With screw terminals

6/9 With spring-type terminals

SIRIUS 3RA1 Load Feeders

3RA11 direct-on-line starters

6/10 For snapping onto standard mounting rails or for screw fixing

SIRIUS 3RA6 Compact Starters

3RA61, 3RA62 compact starters

6/11 3RA61 direct-on-line starters

6/11 3RA62 reversing starters

3RA64, 3RA65 compact starters for IO-link

6/11 3RA64 direct-on-line starters

6/11 3RA65 reversing starters

6/12 Accessories

6/13 Add-on modules for AS-Interface new

6/14 Infeed systems for 3RA6

ET 200S Motor Starters and Safety Motor Starters

6/15 General data

6/16 Standard motor starters

6/16 Standard terminal modules

6/17 High-Feature motor starters

6/17 High-Feature terminal modules

6/17 Power modules

6/17 Power module, terminal modules

6/18 ET 200S failsafe motor starters

6/18 Failsafe terminal modules

6/18 Safety modules local and PROFIsafe

6/19 Safety modules local and PROFIsafe terminal modules

More technical information

can be found at
www.siemens.com/industrial-controls/support

under Product List:
- Technical specifications

under Entry List:
- Updates
- Downloads
- FAQ
- Manuals
- Characteristic curves
- Certificates

and at
www.siemens.com/industrial-controls/configurators

- Configurators

Note:

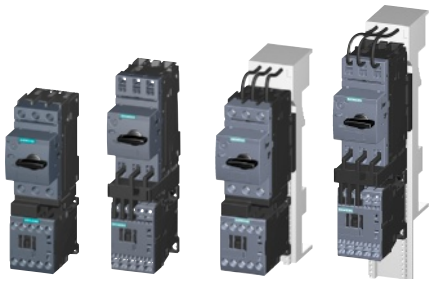
The 3RA1 load feeders (sizes S00/S0 to S3) can be found

- *in Catalog Add-On LV 1 AO · 2011 on the attached CD-ROM or in the Information and Download Center*
- *in the interactive catalog CA 01*
- *in the Industry Mall*

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Introduction

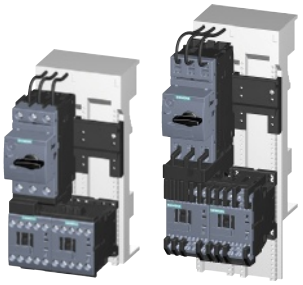
Overview



3RA21 10



3RA22 10





3RA11 30

		Order No.	Page
SIRIUS 3RA2 load feeders			**6/4**
	• 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 pre-assembled assembly kits (link modules, wiring kits and standard mounting rail or busbar adapters). • 2 sizes (S00, S0) • Can be supplied for direct-on-line start or reversing duty as - complete unit or - single devices for self-assembly • Can be supplied with screw or spring-type terminals		
3RA21 direct-on-line starters for snapping onto standard mounting rails or for screw mounting	• Rated control supply voltage 50/60 Hz 230 V AC and 24 V DC	**3RA21**	IC 10 · 2011, 6/16[1)]
3RA21 direct-on-line starters for 60 mm busbars	• Rated control supply voltage 50/60 Hz 230 V AC and 24 V DC	**3RA21**	IC 10 · 2011, 6/20[1)]
3RA22 reversing starters for snapping onto standard mounting rails or for screw mounting	• Rated control supply voltage 50/60 Hz 230 V AC and 24 V DC	**3RA22**	IC 10 · 2011, 6/24[1)]
3RA22 reversing starters for 60 mm busbars	• Rated control supply voltage 50/60 Hz 230 V AC and 24 V DC	**3RA22**	IC 10 · 2011, 6/28[1)]
SIRIUS 3RA1 load feeders			**6/10**
	• The 3RA1 fuseless load feeders consist of the 3RV1 motor starter protector and the 3RT1 contactor. The motor starter protector and contactor are prewired and mechanically and electrically connected in pre-assembled assembly kits (link modules, wiring kits and standard mounting rail or busbar adapters). • 2 sizes (S2, S3) • Can be supplied for direct-on-line start or reversing duty as - complete unit or - single devices for self-assembly • Can be supplied with screw terminals		
3RA11 direct-on-line starters for snapping onto standard mounting rails or for screw mounting	• Rated control supply voltage 230 V AC, 50 Hz and 24 V DC for 35 mm standard mounting rail or for screw mounting	**3RA11 30**	IC 10 · 2011, 6/46[1)]
3RA11 direct-on-line starters for busbar systems	• Rated control supply voltage 230 V AC, 50 Hz and 24 V DC for 40 and 60 mm busbar systems	Only for self-assembly	IC 10 · 2011, 6/47[1)]
3RA12 reversing starters for snapping onto standard mounting rails or for screw fixing	• Rated control supply voltage 230 V AC, 50 Hz and 24 V DC for 35 mm standard mounting rail or for screw mounting	Only for self-assembly	IC 10 · 2011, 6/48[1)]
3RA12 reversing starters for busbar systems	• Rated control supply voltage 230 V AC, 50 Hz and 24 V DC for 40 and 60 mm busbar systems	Only for self-assembly	IC 10 · 2011, 6/49[1)]

[1)] For more information see Catalog IC 10 · 2011 (on the attached CD-ROM) or the Industry Mall.

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3RA61


3RA62


3RA64


3RA65


3RA68


3RK1 301

		Order No.	Page
SIRIUS 3RA6 compact starters			**6/11**
	• Integrated functionality of a circuit breaker, contactor and solid-state overload relay and various functions of optional mountable accessories • Usable for direct starting of standard induction motors up to 32 A		
3RA61 direct-on-line starters	• Up to 15 kW/400 V, weld-free, wide setting range, removable terminals	**3RA61**	IC 10 · 2011, 6/63[1)]
3RA62 reversing starters	• Up to 15 kW/400 V, weld-free, wide setting range, removable terminals	**3RA62**	IC 10 · 2011, 6/64[1)]
3RA64 direct-on-line starters for IO-Link	• Up to 15 kW/400 V, weld-free, wide setting range, removable terminals	**3RA64**	IC 10 · 2011, 6/65[1)]
3RA65 reversing starters for IO-Link	• Up to 15 kW/400 V, weld-free, wide setting range, removable terminals	**3RA65**	IC 10 · 2011, 6/66[1)]
Accessories for 3RA6 direct-on-line and reversing starters		**3RA69**	IC 10 · 2011, 6/67[1)]
Add-on modules for AS-Interface		**3RA69**	IC 10 · 2011, 6/73[1)]
Infeed systems for 3RA6	• Modular expandability, up to 100 A, terminals up to 70 mm^2	**3RA68**	IC 10 · 2011, 6/75[1)]
ET 200S motor starters and safety motor starters			**6/15**
ET 200S motor starters	• Completely factory-wired motor starters for switching and protecting any AC loads, optionally as direct-on-line, reversing or soft starters		IC 10 · 2011, 6/81[1)]
• Standard motor starters		**3RK1 301**	IC 10 · 2011, 6/85[1)]
• High-Feature motor starters		**3RK1 301**	IC 10 · 2011, 6/88[1)]
Power modules for ET 200S motor starters	• For supplying and monitoring the auxiliary voltages for motor starters	**3RK1 903-0BA00**	IC 10 · 2011, 6/90[1)]
ET 200S Failsafe motor starters	• High-Feature direct-on-line and reversing starters	**3RK1 301**	IC 10 · 2011, 6/92[1)]
Terminal modules for ET 200S motor starters	• Mechanical modules in which the motor starter and expansion modules are inserted	**3RK1 903**	
• Standard terminal modules			IC 10 · 2011, 6/86[1)]
• High-Feature terminal modules			IC 10 · 2011, 6/89[1)]
• Failsafe terminal modules			IC 10 · 2011, 6/94[1)]
• Power Module Terminal Modules			IC 10 · 2011, 6/91[1)]
• Safety modules local and PROFIsafe terminal modules			IC 10 · 2011, 6/103[1)]
Safety modules local	• For safety category 4 acc. to EN 954-1	**3RK1 903**	IC 10 · 2011, 6/95[1)]
Safety modules PROFIsafe	• Sensor and actuator assignment are freely configurable (distributed safety concept)	**3RK1 903**	IC 10 · 2011, 6/95[1)]
ET 200S – interface modules	• Interface modules - With CPU - With failsafe CPU - Without CPU	**6ES7 6AG1**	IC 10 · 2011, 6/109[1)]
ET 200S – I/O modules	• Power modules, reserve modules, potential distributor modules, digital/analog solid-state modules • Technology modules: SSI modules, 2 PULSE pulse generators, 1 STEP step modules, positioning modules, counter modules, 1 SI interface modules, SIWAREX CS, SIMAREX CF, terminal modules for power and solid-state modules • 4 IQ-Sense and 8 IQ-Sense sensor modules	**6ES7 6AG1 7MH4**	IC 10 · 2011, 6/116[1)]
ET 200S – failsafe I/O modules	• F power and F solid-state modules, F terminal modules	**6ES7 6AG1**	IC 10 · 2011, 6/126[1)]
ET 200S – IO-Link master modules	• IO-Link 4SI and SIRIUS 4SI solid-state modules	**6ES7 3RK1**	IC 10 · 2011, 6/129[1)]

[1)] For more information see Catalog IC 10 · 2011 on the attached CD-ROM or the Industry Mall.

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 Chapter 4 "Soft Starters and Solid-State Switching Devices" --> "SIRIUS 3RW Soft Starters").

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General data

Overview

3RA2 load feeders

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 pre-assembled assembly kits (link modules, wiring kits and standard mounting rail or busbar adapters).

Around 500 preassembled 3RA2 combinations of these innovative 3RT2 controls and 3RV2 protection equipment can be ordered for direct-on-line and reversing starting of standard induction motors up to 32 A (approx.15 kW/400 V).

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 153 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 32 A in sizes S00 and S0:

Size	Width Direct-on-line starters/ reversing starters	Max. rated current $I_{n\ max}$	For induction motors up to
	mm	A	kW
S00	45/90	16	7.5
S0	45/90	32	15

The size of the 3RA2 load feeders is based on the size of the contactor:

Size 3RA2	S00	S0
Size of 3RV2 motor starter protector	S00	S00[1], S0
Size of 3RT2 contactor	S00	S0

[1] The combination of an S00 motor starter protector with an S0 contactor is possible only for screw connection versions.

Operating conditions

3RA2 load feeders are climate-proof. They are intended for use in enclosed rooms in which no severe 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 (types "1" and "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.

ToC 1 Type of coordination "1"
The fuseless load feeder may be non-operational after a short-circuit has been cleared. Damage to the contactor or to the overload release is permissible. For 3RA2 load feeders, the motor starter protector itself always achieves type of coordination "2".

ToC 2 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 3RA2 fuseless 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 deformation.

The types of coordination are indicated in the corresponding tables by the symbols shown on orange backgrounds.

Connection methods

For all 3RA2 feeders up to 32 A, spring-type connection is available as well as screw connection. To connect two devices with spring-type connection there are plug-in connection 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 connection to a contactor with spring-type connection there are special hybrid connection modules for S00 and S0.

Screw terminals

Spring-type terminals

The terminals are indicated in the corresponding tables by the symbols shown on orange backgrounds.

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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. They include the top-connected, transverse auxiliary switch on the motor starter protector, which is available with 1CO contact or 1NO contact + 1NC contact. Special auxiliary switch blocks 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. (For accessories see Catalog IC 10 · 2011 on the attached CD-ROM)

Incoming energy supply

On the whole four different infeed possibilities are available (see "3RV29 infeed system for load feeders" in Catalog IC 10 · 2011).

Customer assembly of fuseless load feeders

While the preassembled 3RA2 load feeds can be ordered up to 32 A, combinations up to 40 A (approx. 18.5 kW/400 V) are possible 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.

The 3RA1 fuseless load feeders can be used for fuseless load feeders between 32 and 100 A.

The SENTRON 3VL circuit breakers and the SIRIUS 3RT contactors are available for rated currents >100 A.

For more information and assignment tables for combinations of the 3RA2 generation for customer assembly see Configuration Manual (can be ordered, see IC 10 · 2011, 6/23).

Communications integration using 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 communication-capable contactor onto which a 3RA27 11 function module is plugged (various versions for direct-on-line, reversing and wye-delta starts). The design of the SIRIUS load feeders permits a group of up to 4 SIRIUS controls to be conveniently connected through the standardized, open IO-Link system to a control system, thus reducing wiring work 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 wye-delta starters) and the timing relay function (wye-delta reversing time).

Communication information and control 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:

- For IO-Link see Chapter 2 "Industrial Communication"
- For 3RA27 function modules see Chapter 3 "Controls – Contactors and Contactor Assemblies" --> "Function Modules".

Communications integration 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. This solution also requires a communication-capable contactor and a corresponding 3RA27 12 function module (various versions for direct-on-line, reversing and wye-delta starts). 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 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 wye-delta starters) and the timing relay function (wye-delta reversing time).

Communication information and control supply voltages are passed on through ribbon cables so that the complete control current wiring on the starter is no longer needed.

More information:

- For AS-Interface see Chapter 2 "Industrial Communication"
- For 3RA27 function modules see Chapter 3 "Controls – Contactors and Contactor Assemblies" --> "Function Modules".

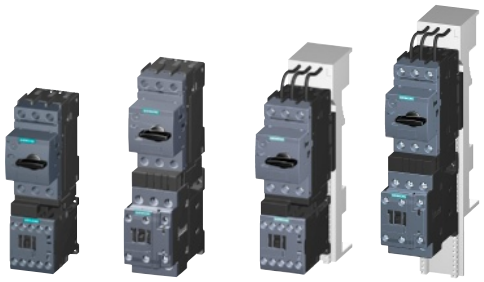
Contactors with communication interface

Contactors with a communication interface are required for constructing load feeders with a communications interface (AS-i/IO-Link). These contactors are not included as standard in the preassembled 3RA2 load feeders. A load feeder with communications interface must be assembled therefore from single devices.

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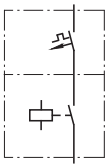
3RA21 direct-on-line starters with screw terminals

Selection and ordering data



3RA21 10 3RA21 20 3RA21 10 3RA21 20

Direct-on-line start



For standard mounting rail or screw fixing or 60 mm busbar
Control voltage 50/60 Hz 230 V AC or 24 V DC

- The motor starter protector and contactor are mechanically and electrically connected by means of the link module
- Auxiliary switches on the motor starter protector and the contactor can be easily fitted thanks to the modular system
- Integrated auxiliary switches: Contactor size S00: 1 NO, contactor size S0: 1 NO + 1 NC

Size	Standard induction motor 4-pole at 400 V AC[1]		Setting range for thermal overload release	Consisting of the following single devices				DT	Fuseless load feeders	PS*
	Standard output P	Motor current I[2]		Motor starter protector	+ Contactor 230 V AC	+ Contactor 24 V DC	+ Link module + Busbar adapter[3]		Screw terminals	
									Order No.	
	kW	A	A							
Type of coordination "2" at I_q = 153 kA at 400 V (compatible with type of coordination "1")				**3RV20**	**3RT20**		**3RA**		ToC 2	
S00	0.06	0.2	0.14 ... 0.2	11-0BA10	15-1AP01	15-1BB41	19 21-1DA00		**3RA21 10-0B□15-1□□□**	1 unit
	0.06	0.2	0.18 ... 0.25	11-0CA10			+		**3RA21 10-0C□15-1□□□**	1 unit
	0.09	0.3	0.22 ... 0.32	11-0DA10			8US12 51- 5DS10[3]		**3RA21 10-0D□15-1□□□**	1 unit
	0.09	0.3	0.28 ... 0.4	11-0EA10					**3RA21 10-0E□15-1□□□**	1 unit
	0.12	0.4	0.35 ... 0.5	11-0FA10					**3RA21 10-0F□15-1□□□**	1 unit
	0.18	0.6	0.45 ... 0.63	11-0GA10					**3RA21 10-0G□15-1□□□**	1 unit
	0.18	0.6	0.55 ... 0.8	11-0HA10					**3RA21 10-0H□15-1□□□**	1 unit
	0.25	0.85	0.7 ... 1	11-0JA10					**3RA21 10-0J□15-1□□□**	1 unit
	0.37	1.1	0.9 ... 1.25	11-0KA10					**3RA21 10-0K□15-1□□□**	1 unit
	0.55	1.5	1.1 ... 1.6	11-1AA10					**3RA21 10-1A□15-1□□□**	1 unit
	0.75	1.9	1.4 ... 2	11-1BA10					**3RA21 10-1B□15-1□□□**	1 unit
	0.75	1.9	1.8 ... 2.5	11-1CA10					**3RA21 10-1C□15-1□□□**	1 unit
	1.1	2.7	2.2 ... 3.2	11-1DA10					**3RA21 10-1D□15-1□□□**	1 unit
	1.5	3.6	2.8 ... 4	11-1EA10					**3RA21 10-1E□15-1□□□**	1 unit
S0	1.5	3.6	3.5 ... 5	11-1FA10	24-1AP00	24-1BB40	29 21-1AA00 (AC)		**3RA21 20-1F□24-0□□□**	1 unit
	2.2	4.9	4.5 ... 6.3	11-1GA10			/29 21-BA00 (DC)		**3RA21 20-1G□24-0□□□**	1 unit
	3	6.5	5.5 ... 8	11-1HA10			+		**3RA21 20-1H□24-0□□□**	1 unit
	4	8.5	7 ... 10	11-1JA10			8US12 51- 5NT10[3]		**3RA21 20-1J□24-0□□□**	1 unit
	5.5	11.5	9 ... 12.5	11-1KA10					**3RA21 20-1K□24-0□□□**	1 unit
	7.5	15.5	11 ... 16	21-4AA10	26-1AP00	26-1BB40			**3RA21 20-4A□26-0□□□**	1 unit
	7.5	15.5	14 ... 20	21-4BA10					**3RA21 20-4B□26-0□□□**	1 unit
	11	22	17 ... 22	21-4CA10	27-1AP00	27-1BB40			**3RA21 20-4C□27-0□□□**	1 unit
	11	22	20 ... 25	21-4DA10					**3RA21 20-4D□27-0□□□**	1 unit
	15	29	27 ... 32	21-4EA10					**3RA21 20-4E□27-0□□□**	1 unit
Type of coordination "1" at I_q = 153 kA at 400 V (the motor starter protector is compatible with type of coordination "2")										
S00	For load feeders for lower outputs, see this table at type of coordination "2".								ToC 1	
	1.5	3.6	3.5 ... 5	11-1FA10	15-1AP01	15-1BB41	19 21-1DA00		**3RA21 10-1F□15-1□□□**	1 unit
	2.2	4.9	4.5 ... 6.3	11-1GA10			+		**3RA21 10-1G□15-1□□□**	1 unit
	3	6.5	5.5 ... 8	11-1HA10			8US12 51- 5DS10[3]		**3RA21 10-1H□15-1□□□**	1 unit
	4	8.5	7 ... 10	11-1JA10	16-1AP01	16-1BB41			**3RA21 10-1J□16-1□□□**	1 unit
	5.5	11.5	9 ... 12	11-1KA10	17-1AP01	17-1BB41			**3RA21 10-1K□17-1□□□**	1 unit
	7.5	15.5	11 ... 16	11-4AA10	18-1AP01	18-1BB41			**3RA21 10-4A□18-1□□□**	1 unit

Order No. supplement for mounting onto standard mounting rail or screw fixing
Screw fixing with 2 push-in lugs each per load feeder is possible

Order No. supplement for mounting onto 60 mm busbar with busbar adapter
- For size S00
- For size S0

Order No. supplement for rated control supply voltage
- AC 50/60 Hz 230 V
- 24 V DC

		A	
1	**D**		
2	**D**		
			AP0
			BB4

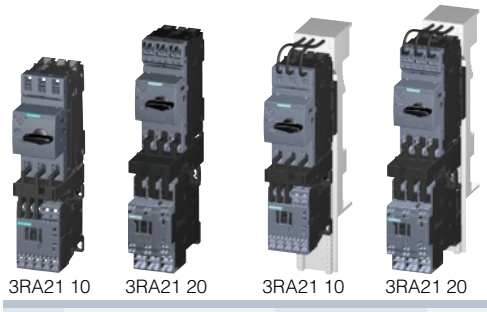
[1] Selection depends on the concrete startup and rated data of the protected motor.

[2] Guide value.

[3] Only for corresponding ordering option.

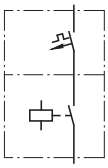
*** You can order this quantity or a multiple thereof.**
Illustrations are approximate

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3RA21 10 3RA21 20 3RA21 10 3RA21 20

Direct-on-line start



For standard mounting rail or screw fixing or 60 mm busbar
Control voltage 50/60 Hz 230 V AC or 24 V DC

- The motor starter protector and contactor are mechanically and electrically connected by means of the link module
- Auxiliary switches on the motor starter protector and the contactor can be easily fitted thanks to the modular system
- Integrated auxiliary switches: Contactor size S00: 1 NO, contactor size S0: 1 NO + 1 NC

Size	Standard induction motor 4-pole at 400 V AC[1]		Setting range for thermal overload release	Consisting of the following single devices				DT	Fuseless load feeders	PS*
	Standard output P	Motor current I[2]		Motor starter protector	+ Contactor 230 V AC	+ Contactor 24 V DC	+ Link module + Busbar adapter[3]		Spring-type terminals	
									Order No.	
	kW	A	A							
Type of coordination "2" at I_q = 153 kA at 400 V (compatible with type of coordination "1")										
				3RV20	**3RT20**		**3RA**		ToC 2	
S00	0.06	0.2	0.14 ... 0.2	11-0BA20	15-2AP01	15-2BB41	29 11-2AA00		**3RA21 10-0B□15-1□□□**	1 unit
	0.06	0.2	0.18 ... 0.25	11-0CA20			+		**3RA21 10-0C□15-1□□□**	1 unit
	0.09	0.3	0.22 ... 0.32	11-0DA20			8US12 51- 5DT11[3]		**3RA21 10-0D□15-1□□□**	1 unit
	0.09	0.3	0.28 ... 0.4	11-0EA20					**3RA21 10-0E□15-1□□□**	1 unit
	0.12	0.4	0.35 ... 0.5	11-0FA20					**3RA21 10-0F□15-1□□□**	1 unit
	0.18	0.6	0.45 ... 0.63	11-0GA20					**3RA21 10-0G□15-1□□□**	1 unit
	0.18	0.6	0.55 ... 0.8	11-0HA20					**3RA21 10-0H□15-1□□□**	1 unit
	0.25	0.85	0.7 ... 1	11-0JA20					**3RA21 10-0J□15-1□□□**	1 unit
	0.37	1.1	0.9 ... 1.25	11-0KA20					**3RA21 10-0K□15-1□□□**	1 unit
	0.55	1.5	1.1 ... 1.6	11-1AA20					**3RA21 10-1A□15-1□□□**	1 unit
	0.75	1.9	1.4 ... 2	11-1BA20					**3RA21 10-1B□15-1□□□**	1 unit
	0.75	1.9	1.8 ... 2.5	11-1CA20					**3RA21 10-1C□15-1□□□**	1 unit
	1.1	2.7	2.2 ... 3.2	11-1DA20					**3RA21 10-1D□15-1□□□**	1 unit
	1.5	3.6	2.8 ... 4	11-1EA20					**3RA21 10-1E□15-1□□□**	1 unit
S0	1.5 ... 5.5	3.6 ...11.5	3.5 ... 12.5						4)	
	7.5	15.5	11 ... 16	21-4AA20	26-2AP00	26-2BB40	29 21-2AA00		**3RA21 20-4A□26-0□□□**	1 unit
	7.5	15.5	14 ... 20	21-4BA20			+		**3RA21 20-4B□26-0□□□**	1 unit
	11	22	17 ... 22	21-4CA20	27-2AP00	27-2BB40	8US12 51- 5NT11[3] [5]		**3RA21 20-4C□27-0□□□**	1 unit
	11	22	20 ... 25	21-4DA20					**3RA21 20-4D□27-0□□□**	1 unit
	15	29	27 ... 32	21-4EA20					**3RA21 20-4E□27-0□□□**	1 unit
Type of coordination "1" at I_q = 153 kA at 400 V (the motor starter protector is compatible with type of coordination "2")										
S00	For load feeders for lower outputs, see this table at type of coordination "2".								ToC 1	
	1.5	3.6	3.5 ... 5	11-1FA20	15-2AP01	15-2BB41	29 11-2AA00		**3RA21 10-1F□15-1□□□**	1 unit
	2.2	4.9	4.5 ... 6.3	11-1GA20			+		**3RA21 10-1G□15-1□□□**	1 unit
	3	6.5	5.5 ... 8	11-1HA20			8US12 51- 5DT11[3]		**3RA21 10-1H□15-1□□□**	1 unit
	4	8.5	7 ... 10	11-1JA20	16-2AP01	16-2BB41			**3RA21 10-1J□16-1□□□**	1 unit
	5.5	11.5	9 ... 12	11-1KA20	17-2AP01	17-2BB41			**3RA21 10-1K□17-1□□□**	1 unit
	7.5	15.5	11 ... 16	11-4AA20	18-2AP01	18-2BB40			**3RA21 10-4A□18-1□□□**	1 unit

Order No. supplement for mounting onto standard mounting rail or screw fixing
Screw fixing with 2 push-in lugs each per load feeder is possible

Order No. supplement for mounting onto 60 mm busbar with busbar adapter
- For size S00
- For size S0

Order No. supplement for rated control supply voltage
- AC 50/60 Hz 230 V
- 24 V DC

		E
1	**H**	
2	**H**	
		AP0
		BB4

1) Selection depends on the concrete startup and rated data of the protected motor.

2) Guide value.

3) Only for corresponding ordering option.

4) These combinations are not available as ready-to-use 3RA2 feeders but can be discretely assembled or screwed to standard mounting rail and busbar adapters (if necessary using supplementary parts).

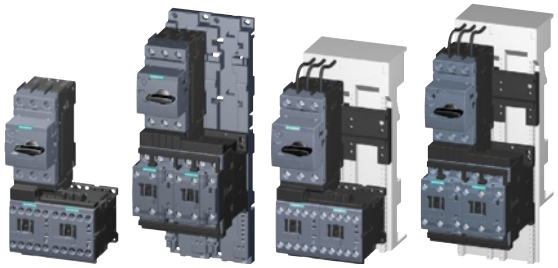
5) A 3RA29 11-1CA00 spacer for height compensation on AC contactors size S0 with spring-type terminals is included in the scope of supply.

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

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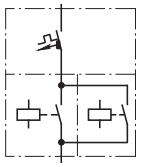
3RA22 reversing starters with screw terminals

Selection and ordering data



3RA22 10 3RA22 20 3RA22 10 3RA22 20

Reversing duty



For standard mounting rail or screw fixing or 60 mm busbar
Control voltage 50/60 Hz 230 V AC or 24 V DC

- The motor starter protector and contactor are mechanically and electrically connected by means of the link module
- Auxiliary switches on the motor starter protector and the contactor can be easily fitted thanks to the modular system
- With the contactor S0, an integrated NO contact is still available for free use.

Size	Standard induction motor 4-pole at 400 V AC[1]		Setting range for thermal overload release	Consisting of the following single devices				DT	Fuseless load feeders	PS*
	Standard output *P*	Motor current *I*[2]		Motor starter protector	+ 2 contactors 230 V AC	+ 2 contactors 24 V DC	+ Link module + Assembly kit RH/RS[3]		Screw terminals	
	kW	A	A						Order No.	
Type of coordination "2" at I_q = 153 kA at 400 V (compatible with type of coordination "1")				**3RV20**	**3RT20**		**3RA**		ToC 2	
S00	0.06	0.2	0.14 ... 0.2	11-0BA10	15-1AP02	15-1BB42	19 21-1DA00 + 29 13-2AA1[4] /29 13-1DB1 (RS)		**3RA22 10-0B□15-2□□□**	1 unit
	0.06	0.2	0.18 ... 0.25	11-0CA10					**3RA22 10-0C□15-2□□□**	1 unit
	0.09	0.3	0.22 ... 0.32	11-0DA10					**3RA22 10-0D□15-2□□□**	1 unit
	0.09	0.3	0.28 ... 0.4	11-0EA10					**3RA22 10-0E□15-2□□□**	1 unit
	0.12	0.4	0.35 ... 0.5	11-0FA10					**3RA22 10-0F□15-2□□□**	1 unit
	0.18	0.6	0.45 ... 0.63	11-0GA10					**3RA22 10-0G□15-2□□□**	1 unit
	0.18	0.6	0.55 ... 0.8	11-0HA10					**3RA22 10-0H□15-2□□□**	1 unit
	0.25	0.85	0.7 ... 1	11-0JA10					**3RA22 10-0J□15-2□□□**	1 unit
	0.37	1.1	0.9 ... 1.25	11-0KA10					**3RA22 10-0K□15-2□□□**	1 unit
	0.55	1.5	1.1 ... 1.6	11-1AA10					**3RA22 10-1A□15-2□□□**	1 unit
	0.75	1.9	1.4 ... 2	11-1BA10					**3RA22 10-1B□15-2□□□**	1 unit
	0.75	1.9	1.8 ... 2.5	11-1CA10	15-1AP02				**3RA22 10-1C□15-2□□□**	1 unit
	1.1	2.7	2.2 ... 3.2	11-1DA10					**3RA22 10-1D□15-2□□□**	1 unit
	1.5	3.6	2.8 ... 4	11-1EA10					**3RA22 10-1E□15-2□□□**	1 unit
S0	1.5	3.6	3.5 ... 5	11-1FA10	24-1AP00	24-1BB40	29 21-1AA00 (AC) /29 21-1BA00 (DC) + 29 23-1BB1 (RH) /29 23-1DB1 (RS)		**3RA22 20-1F□24-0□□□**	1 unit
	2.2	4.9	4.5 ... 6.3	11-1GA10					**3RA22 20-1G□24-0□□□**	1 unit
	3	6.5	5.5 ... 8	11-1HA10					**3RA22 20-1H□24-0□□□**	1 unit
	4	8.5	7 ... 10	11-1JA10					**3RA22 20-1J□24-0□□□**	1 unit
	5.5	11.5	9 ... 12.5	11-1KA10					**3RA22 20-1K□24-0□□□**	1 unit
	7.5	15.5	11 ... 16	21-4AA10	26-1AP00	26-1BB40			**3RA22 20-4A□26-0□□□**	1 unit
	7.5	15.5	14 ... 20	21-4BA10					**3RA22 20-4B□26-0□□□**	1 unit
	11	22	17 ... 22	21-4CA10	27-1AP00	27-1BB40			**3RA22 20-4C□27-0□□□**	1 unit
	11	22	20 ... 25	21-4DA10					**3RA22 20-4D□27-0□□□**	1 unit
	15	29	27 ... 32	21-4EA10					**3RA22 20-4E□27-0□□□**	1 unit
Type of coordination "1" at I_q = 153 kA at 400 V (the motor starter protector is compatible with type of coordination "2")										
S00	For load feeders for lower outputs, see this table at type of coordination "2".								ToC 1	
S00	1.5	3.6	3.5 ... 5	11-1FA10	15-1AP02	15-1BB42	19 21-1DA00 + 29 13-2AA1[4] /29 13-1DB1 (RS)		**3RA22 10-1F□15-2□□□**	1 unit
	2.2	4.9	4.5 ... 6.3	11-1GA10					**3RA22 10-1G□15-2□□□**	1 unit
	3	6.5	5.5 ... 8	11-1HA10					**3RA22 10-1H□15-2□□□**	1 unit
	4	8.5	7 ... 10	11-1JA10	16-1AP02	16-1BB42			**3RA22 10-1J□16-2□□□**	1 unit
	5.5	11.5	9 ... 12	11-1KA10	17-1AP02	17-1BB42			**3RA22 10-1K□17-2□□□**	1 unit
	7.5	15.5	11 ... 16	11-4AA10	18-1AP02	18-1BB42			**3RA22 10-4A□18-2□□□**	1 unit

Order No. supplement for mounting onto standard mounting rail or screw fixing
- Without standard mounting rail adapter for size S00 — **1 A**
- With 2 standard mounting rail adapters for size S0 for mechanical reinforcement (included in the scope of supply) — **2 B**

Screw fixing with 2 push-in lugs each per load feeder is possible

Order No. supplement for mounting onto 60 mm busbar with busbar adapter
- For size S00 — **1 D**
- For size S0 — **2 D**

Order No. supplement for rated control supply voltage
- AC 50/60 Hz 230 V — **AP0**
- 24 V DC — **BB4**

1) Selection depends on the concrete startup and rated data of the protected motor.

2) Guide value.

3) According to ordering option: RH = assembly kit for reversing duty and standard rail mounting in size S0.
RS = assembly kit for reversing duty and busbar mounting.

4) With standard rail mounting or screw fixing, only the 3RA29 13-2AA1 wiring kit is needed for S00.

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

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3RA22 reversing starters with spring-type terminals

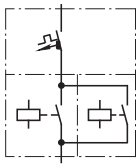

3RA22 10


3RA22 20


3RA22 10


3RA22 20

Reversing duty



For standard mounting rail or screw fixing or 60 mm busbar
Control voltage 50/60 Hz 230 V AC or 24 V DC

- The motor starter protector and contactor are mechanically and electrically connected by means of the link module
- Auxiliary switches on the motor starter protector and the contactor can be easily fitted thanks to the modular system
- With the contactor S0, an integrated NO contact is still available for free use.

Size	Standard induction motor 4-pole at 400 V AC[1]		Setting range for thermal overload release	Consisting of the following single devices				DT	Fuseless load feeders	PS*
	Standard output P	Motor current I[2]		Motor starter protector	+ 2 contactors 230 V AC	+ 2 contactors 24 V DC	+ Link module + Assembly kit RH/RS[3]		Spring-type terminals	
									Order No.	
	kW	A	A							
Type of coordination "2" at I_q = 153 kA at 400 V (compatible with type of coordination "1")										
				3RV20	**3RT20**		**3RA**		ToC 2	
S00	0.06	0.2	0.14 ... 0.2	11-0BA20	15-2AP02	15-2BB42	29 11-2AA00		**3RA22 10-0B□15-2□□□**	1 unit
	0.06	0.2	0.18 ... 0.25	11-0CA20			+		**3RA22 10-0C□15-2□□□**	1 unit
	0.09	0.3	0.22 ... 0.32	11-0DA20			29 13-2AA2[4]		**3RA22 10-0D□15-2□□□**	1 unit
	0.09	0.3	0.28 ... 0.4	11-0EA20			/29 13-1DB2 (RS)		**3RA22 10-0E□15-2□□□**	1 unit
	0.12	0.4	0.35 ... 0.5	11-0FA20					**3RA22 10-0F□15-2□□□**	1 unit
	0.18	0.6	0.45 ... 0.63	11-0GA20					**3RA22 10-0G□15-2□□□**	1 unit
	0.18	0.6	0.55 ... 0.8	11-0HA20					**3RA22 10-0H□15-2□□□**	1 unit
	0.25	0.85	0.7 ... 1	11-0JA20					**3RA22 10-0J□15-2□□□**	1 unit
	0.37	1.1	0.9 ... 1.25	11-0KA20					**3RA22 10-0K□15-2□□□**	1 unit
	0.55	1.5	1.1 ... 1.6	11-1AA20					**3RA22 10-1A□15-2□□□**	1 unit
	0.75	1.9	1.4 ... 2	11-1BA20					**3RA22 10-1B□15-2□□□**	1 unit
	0.75	1.9	1.8 ... 2.5	11-1CA20					**3RA22 10-1C□15-2□□□**	1 unit
	1.1	2.7	2.2 ... 3.2	11-1DA20					**3RA22 10-1D□15-2□□□**	1 unit
	1.5	3.6	2.8 ... 4	11-1EA20					**3RA22 10-1E□15-2□□□**	1 unit
S0	1.5 ... 5.5	3.6 ...11.5	3.5 ... 12.5						5)	
	7.5	15.5	11 ... 16	21-4AA20	26-2AP00	26-2BB40	29 21-2AA00		**3RA22 20-4A□26-0□□□**	1 unit
	7.5	15.5	14 ... 20	21-4BA20			+		**3RA22 20-4B□26-0□□□**	1 unit
	11	22	17 ... 22	21-4CA20		27-2BB40	29 23-1BB2 (RH)[6]		**3RA22 20-4C□27-0□□□**	1 unit
	11	22	20 ... 25	21-4DA20	27-2AP00		/29 23-1DB2 (RS)		**3RA22 20-4D□27-0□□□**	1 unit
	15	29	27 ... 32	21-4EA20					**3RA22 20-4E□27-0□□□**	1 unit
Type of coordination "1" at I_q = 153 kA at 400 V (the motor starter protector is compatible with type of coordination "2")										
S00	For load feeders for lower outputs, see this table at type of coordination "2".								ToC 1	
S00	1.5	3.6	3.5 ... 5	11-1FA10	15-2AP02	15-2BB42	29 11-2AA00		**3RA22 10-1F□15-2□□□**	1 unit
	2.2	4.9	4.5 ... 6.3	11-1GA10			+		**3RA22 10-1G□15-2□□□**	1 unit
	3	6.5	5.5 ... 8	11-1HA10			29 13-2AA2[4]		**3RA22 10-1H□15-2□□□**	1 unit
	4	8.5	7 ... 10	11-1JA10	16-2AP02	16-2BB42	/29 13-1DB2 (RS)		**3RA22 10-1J□16-2□□□**	1 unit
	5.5	11.5	9 ... 12	11-1KA10	17-2AP02	17-2BB42			**3RA22 10-1K□17-2□□□**	1 unit
	7.5	15.5	11 ... 16	11-4AA10	18-2AP02	18-2BB42			**3RA22 10-4A□18-2□□□**	1 unit

Order No. supplement for mounting onto standard mounting rail or screw fixing
- Without standard mounting rail adapter for size S00 — **1 E**
- With 2 standard mounting rail adapters for size S0 for mechanical reinforcement (included in the scope of supply) — **2 F**

Screw fixing with 2 push-in lugs each per load feeder is possible

Order No. supplement for mounting onto 60 mm busbar with busbar adapter
- For size S00 — **1 H**
- For size S0 — **2 H**

Order No. supplement for rated control supply voltage
- AC 50/60 Hz 230 V — **AP0**
- 24 V DC — **BB4**

1) Selection depends on the concrete startup and rated data of the protected motor.

2) Guide value.

3) According to ordering option: RH = assembly kit for reversing duty and standard rail mounting in size S0.
RS = assembly kit for reversing duty and busbar mounting.

4) With standard rail mounting or screw fixing, only the 3RA29 13-2AA2 wiring kit is needed for S00.

5) These combinations are not available as ready-to-use 3RA2 feeders but can be discretely assembled or screwed to standard mounting rail and busbar adapters (if necessary using supplementary parts).

6) The RH assembly kit also includes the 3RA29 11-1CA00 spacer for height compensation on AC contactors size S0 with spring-type terminals.

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

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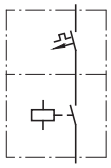
3RA11 direct-on-line starters for snapping onto standard mounting rails or for screw fixing

Selection and ordering data



3RA11 30

Direct-on-line start



Rated control supply voltage 50 Hz 230 V AC or 24 V DC for 35 mm standard mounting rail or for screw mounting

- Motor starter protector and contactor are linked electrically and mechanically by means of a link module
- As from size S2 with standard mounting rail adapter[1] for mechanical reinforcement
- Auxiliary switches[2] on the motor starter protector and the contactor can be easily fitted due to the modular system

Size	Standard induction motor 4-pole at 400 V AC[3]		Setting range for thermal overload release	Consisting of the following single devices			DT	Fuseless load feeders	PS*
	Standard output P	Motor current I (guide value)		Motor starter protectors	+ Contactor	+ Link module + Standard mounting rail adapter		Screw terminals Order No.	
	kW	A	A						
Type of coordination "2" at I_q = 50 kA/100 kA at 400 V (compatible with type of coordination "1")[4]				**3RV10**	**3RT10**	**3RA19**		ToC 2	
Rated control supply voltage 50 Hz 230 V AC									
S2	11	22	18 ... 25	31-4DA10	34-1AP00	31-1AA00		**3RA11 30-4DB34-0AP0**	1 unit
	15	29	22 ... 32	31-4EA10		+		**3RA11 30-4EB34-0AP0**	1 unit
	18.5	35	28 ... 40	31-4FA10	35-1AP00	32-1AA00		**3RA11 30-4FB35-0AP0**	1 unit
	22	41	36 ... 45	31-4GA10	36-1AP00			**3RA11 30-4GB36-0AP0**	1 unit
	22	41	40 ... 50	31-4HA10				**3RA11 30-4HB36-0AP0**	1 unit
S3	30	55	45 ... 63	41-4JA10	44-1AP00	41-1AA00		Size S3 is only available for self-assembly.	
	37	66	57 ... 75	41-4KA10	45-1AP00	+			
	45	80	70 ... 90	41-4LA10	46-1AP00	42-1AA00			
	45	80	80 ... 100	41-4MA10					
Rated control supply voltage 24V DC									
S2	11	22	18 ... 25	31-4DA10	34-1BB40	31-1BA00		**3RA11 30-4DB34-0BB4**	1 unit
	15	29	22 ... 32	31-4EA10		+		**3RA11 30-4EB34-0BB4**	1 unit
	18.5	35	28 ... 40	31-4FA10	35-1BB40	32-1AA00		**3RA11 30-4FB35-0BB4**	1 unit
	22	41	36 ... 45	31-4GA10	36-1BB40			**3RA11 30-4GB36-0BB4**	1 unit
	22	41	40 ... 50	31-4HA10				**3RA11 30-4HB36-0BB4**	1 unit
S3	30	55	45 ... 63	41-4JA10	44-1BB40	41-1BA00		Size S3 is only available for self-assembly.	
	37	66	57 ... 75	41-4KA10	45-1BB40	+			
	45	80	70 ... 90	41-4LA10	46-1BB40	42-1AA00			
	45	80	80 ... 100	41-4MA10					

1) Standard mounting rail adapter is also suitable for screw fixing.

2) For auxiliary switches see Accessories for Direct-on-line and Reversing Starters in Catalog IC 10 · 2011.

3) Selection depends on the concrete startup and rated data of the protected motor.

4) For load feeders with $I_q \geq 100$ kA see notes on technical information on page 6/1.

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Illustrations are approximate

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Selection and ordering data



3RA61 20-1CB32



3RA62 50-1CP32



3RA64 with 3RA69 11-1A auxiliary switch block



3RA65 with 3RA69 11-1A auxiliary switch block

Standard induction motor 4-pole at 400 V AC[1)] Standard output *P*	Setting range for solid-state overload release	DT	Order No.	PS*
kW	A			
3RA61 direct-on-line starters (width 45 mm)				
0.09	0.1 ... 0.4		**3RA61 20-☐A☐3☐**	1 unit
0.37	0.32 ... 1.25		**3RA61 20-☐B☐3☐**	1 unit
1.5	1 ... 4		**3RA61 20-☐C☐3☐**	1 unit
5.5	3 ... 12		**3RA61 20-☐D☐3☐**	1 unit
15	8 ... 32		**3RA61 20-☐E☐3☐**	1 unit
3RA62 reversing starters (width 90 mm)				
0.09	0.1 ... 0.4		**3RA62 50-☐A☐3☐**	1 unit
0.37	0.32 ... 1.25		**3RA62 50-☐B☐3☐**	1 unit
1.5	1 ... 4		**3RA62 50-☐C☐3☐**	1 unit
5.5	3 ... 12		**3RA62 50-☐D☐3☐**	1 unit
15	8 ... 32		**3RA62 50-☐E☐3☐**	1 unit
Order No. supplement for connection type				
• Without terminals for use with the infeed system for 3RA6 and the AS-i add-on module			**0**	**0**
• With screw terminals			**1**	
• With spring-type terminals			**2**	
Order No. supplement for rated control supply voltage				
• 24 V AC/DC (for combining with AS-i add-on module)			**B**	**4**
• 42 ... 70 V AC/DC			**E**	
• 110 ... 240 V AC/DC			**P**	
Order No. supplement for complement variant				
• For standard mounting rail or screw mounting Basic version including 1 pair of main circuit terminals and 1 pair of control circuit terminals				**2**
• For use with the infeed system for 3RA6 without main circuit terminals (with control circuit terminals)				**3**
• For standard mounting rail or screw fixing when using the AS-i add-on module without control circuit terminals (with main circuit terminals)				**4**
3RA64 direct-on-line starters for IO-Link (width 45 mm) Rated control supply voltage 24 V DC				
0.09	0.1 ... 0.4		**3RA64 00-☐AB4☐**	1 unit
0.37	0.32 ... 1.25		**3RA64 00-☐BB4☐**	1 unit
1.5	1 ... 4		**3RA64 00-☐CB4☐**	1 unit
5.5	3 ... 12		**3RA64 00-☐DB4☐**	1 unit
15	8 ... 32		**3RA64 00-☐EB4☐**	1 unit
3RA65 reversing starters for IO-Link (width 90 mm) Rated control supply voltage 24 V DC				
0.09	0.1 ... 0.4		**3RA65 00-☐AB4☐**	1 unit
0.37	0.32 ... 1.25		**3RA65 00-☐BB4☐**	1 unit
1.5	1 ... 4		**3RA65 00-☐CB4☐**	1 unit
5.5	3 ... 12		**3RA65 00-☐DB4☐**	1 unit
15	8 ... 32		**3RA65 00-☐EB4☐**	1 unit
Order No. supplement for connection type				
• With screw terminals			**1**	
• With spring-type terminals			**2**	
Order No. supplement for complement variant				
• For standard mounting rail or screw mounting: Basic version including 1 pair of main circuit terminals and 1 pair of control circuit terminals				**2**
• For use with the infeed system for 3RA6 without main circuit terminals (with control circuit terminals)				**3**

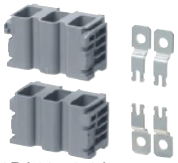
[1)] Selection depends on the concrete startup and rated data of the protected motor.

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Accessories

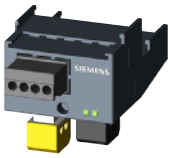
Selection and ordering data

	Version	DT	Order No.	PS*
	Accessories specially for 3RA6 compact starters			
 3RA69 50-0A	**Control kit** For mechanical actuation of the compact feeder		**3RA69 50-0A**	1 unit
 3RA69 40-0A	**Adapters for screw fixing the compact feeder** (Set including push-in lugs) Direct-on-line starters require 1 set, reversing starters 2 sets.		**3RA69 40-0A**	1 unit
			Screw terminals	
 3RA69 11-1A	**Auxiliary switch blocks for compact starters**			
	• 2 NO		**3RA69 11-1A**	1 unit
	• 2 NC		**3RA69 12-1A**	1 unit
	• 1 NO +1 NC (these auxiliary contacts are positively driven)		**3RA69 13-1A**	1 unit
 3RA69 20-1A	**Main circuit terminals** (incoming and outgoing side)		**3RA69 20-1A**	1 unit
	Control circuit terminals			
 3RA69 20-1B	• For 3RA61		**3RA69 20-1B**	1 unit
	• For 3RA62		**3RA69 20-1C**	1 unit
			Spring-type terminals	
 3RA69 11-2A	**Auxiliary switch blocks for compact starters**			
	• 2 NO		**3RA69 11-2A**	1 unit
	• 2 NC		**3RA69 12-2A**	1 unit
	• 1 NO +1 NC (these auxiliary contacts are positively driven)		**3RA69 13-2A**	1 unit
 3RA69 20-2A	**Main circuit terminals** (incoming and outgoing side)		**3RA69 20-2A**	1 unit
	Control circuit terminals			
 3RA69 20-2B	• For 3RA61		**3RA69 20-2B**	1 unit
	• For 3RA62		**3RA69 20-2C**	1 unit
 3RA69 20-3A	**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-type connection		**3RA69 20-3A**	1 unit

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Selection and ordering data

	Version	DT	Order No.	PS*
AS-i add-on modules				
 3RA69 70-3A	**Standard version** For communication of the compact feeder with the control system using AS-Interface		**3RA69 70-3A**	1 unit
	With two local inputs For safe disconnection through local safety relays, e.g. cable-operated switches		**3RA69 70-3B**	1 unit
	With two free external inputs Replaces the digital standard inputs "Motor On" and "Group warning"		**3RA69 70-3C**	1 unit
 3RA69 70-3B to -3F	**With one free external input and one free external output** Replaces the digital standard input "Group warning"		**3RA69 70-3D**	1 unit
	With two free external outputs Only for direct-on-line starters, replaces the digital standard output "Motor left"		**3RA69 70-3E**	1 unit
	For local control Control of the compact feeder optionally using AS-Interface or local switches		**3RA69 70-3F**	1 unit
Accessories for AS-i add-on modules				
 3RK19 04-2AB01	**Addressing units** • For active AS-Interface modules, intelligent sensors and actuators • Acc. to AS-Interface Version 2.1 • Including expanded addressing mode • Scope of supply - 1 addressing unit - 1 operating manual (German, English, French, Spanish, Italian) - 1 addressing cable (1.5 m long, with jack plug)	►	**3RK19 04-2AB01**	1 unit

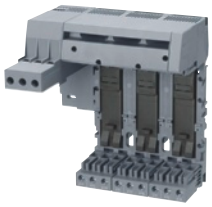
For matching AS-Interface masters, routers and power supply units see Chapter 2 "Industrial Communication" --> "AS-Interface".

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Infeed systems for 3RA6

Selection and ordering data

	Version	DT	Order No.	PS*
Three-phase infeeds and expansion modules				
 3RA68 12-8AB	**Infeed with screw connection 25/35 mm² on left** with permanently fitted **3-socket expansion module with screw or spring-type 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		**3RA68 12-8A☐**	1 unit
	Infeed with screw connection 50/70 mm² on left with permanently fitted **3-socket expansion module with screw or spring-type 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		**3RA68 13-8A☐**	1 unit
	Order No. supplement for complement variant • With screw terminals on the outgoing side • With spring-type terminals on the outgoing side		**B** **C**	
 3RA68 30-5AC	**Infeed with spring-type connection 25/35 mm² on left or on right** up to 63 A		**3RA68 30-5AC**	1 unit
Expansion modules				
 3RA68 22-0AB	**2-socket expansion module with screw or spring-type connection on the outgoing side 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.		**3RA68 22-0A☐**	1 unit
 3RA68 23-0AB	**3-socket expansion module with screw or spring-type connection on the outgoing side 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.		**3RA68 23-0A☐**	1 unit
	Order No. supplement for complement variant • With screw terminals on the outgoing side • With spring-type terminals on the outgoing side		**B** **C**	
Accessories for infeed systems for 3RA6				
 3RA68 60-6AB	**PE infeeds 25/35 mm²**		**3RA68 60-☐A☐**	1 unit
	Order No. supplement for complement variant • With screw terminals • With spring-type terminals		**6 B** **5 C**	
 3RA68 70-4AB	**PE pick-offs 6/10 mm²**		**3RA68 70-☐A☐**	1 unit
	Order No. supplement for complement variant • With screw terminals • With spring-type terminals		**4 B** **3 C**	
 3RA68 90-1AB	**Expansion plugs between 2 expansion modules** Is included in the scope of supply of the expansion modules.		**3RA68 90-1AB**	1 unit
	Expansion plug for SIRIUS 3RV19 infeed systems Connects infeed system for 3RA6 to 3RV19 infeed system.		**3RA68 90-1AA**	1 unit

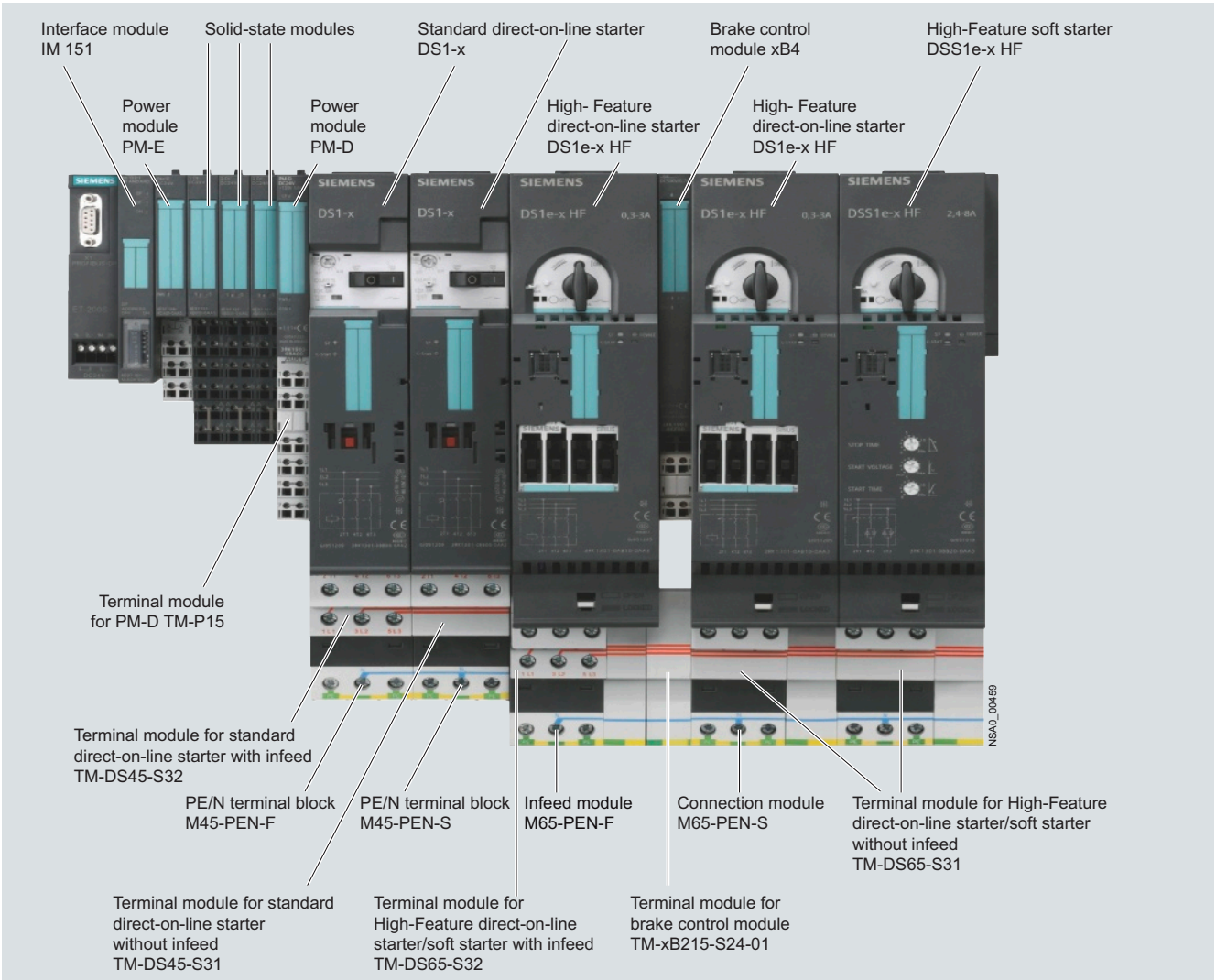
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Overview

ET 200S motor starters

- Completely factory-wired motor starters for switching and protecting any AC loads
- Can be used as a direct-on-line, reversing or soft starter
- Standard motor starter with motor starter protector and contactor assembly up to 5.5 kW
- High-Feature motor starter with a combination comprising a starter protector, solid-state overload protection and contactor or soft starter up to 7.5 kW
- With self-assembling 40/50 A power bus, i.e. the load voltage is only supplied once for a group of motor starters
- Hot swapping is permissible
- Inputs and outputs for activating and signaling the statistics have been integrated
- Diagnostics capability for active monitoring of the switching and protection functions
- Can be combined with expansion modules: Brake control module for controlling electromechanical brakes in induction motors and with two optional inputs for special functions (for quick stop with the Standard motor starter and for parameterizable special functions with the High-Feature motor starter)
- For combining with safety technology for use in safety-related system components (EN 954-1).



Interplay of ET 200S motor starter components

With the ET 200S motor starters, any AC loads can be protected and switched. The communications interface makes them ideal for operation in distributed control cabinets or control enclosures.

As the motor starters are completely factory-wired, power control cabinets can be assembled far more quickly and compactly. Configuration is made easier by the fine modular structure. When using the ET 200S motor starters, the list of parts per load feeder is reduced to two main items: The passive terminal module and the motor starter. This makes the ET 200S ideal for modular machine concepts as well.

All ET 200S motor starters are set up without fuses. Contactors and soft starters are activated through the integrated outputs. If a brake control module is arranged next to a motor starter, its solid-state brake switch is operated by an output of the motor starter. This module must always be arranged next to the motor starter on the right-hand side. The inputs of the motor starters evaluate the signal states of the protective devices (short-circuit or overload), the switching states of contactor(s) or soft starters, and system faults.

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Standard motor starters, Standard terminal modules

Selection and ordering data

	Induction motor 4-pole at 400 V AC, standard output *P*	Setting range of the electronic release	DT	Order No.	PS*
	kW	A			
Standard motor starters, with diagnostics, electromechanical, fuseless, expandable with brake control module					
	DS1-x direct-on-line starters				
 DS1-x	< 0.06	0.14 ... 0.20		**3RK1 301-0BB00-0AA2**	1 unit
	0.06	0.18 ... 0.25		**3RK1 301-0CB00-0AA2**	1 unit
	0.09	0.22 ... 0.32		**3RK1 301-0DB00-0AA2**	1 unit
	0.10	0.28 ... 0.40		**3RK1 301-0EB00-0AA2**	1 unit
	0.12	0.35 ... 0.50		**3RK1 301-0FB00-0AA2**	1 unit
	0.18	0.45 ... 0.63		**3RK1 301-0GB00-0AA2**	1 unit
	0.21	0.55 ... 0.80		**3RK1 301-0HB00-0AA2**	1 unit
	0.25	0.70 ... 1.00		**3RK1 301-0JB00-0AA2**	1 unit
	0.37	0.90 ... 1.25		**3RK1 301-0KB00-0AA2**	1 unit
	0.55	1.1 ... 1.6		**3RK1 301-1AB00-0AA2**	1 unit
	0.75	1.4 ... 2.0		**3RK1 301-1BB00-0AA2**	1 unit
	0.90	1.8 ... 2.5		**3RK1 301-1CB00-0AA2**	1 unit
	1.1	2.2 ... 3.2		**3RK1 301-1DB00-0AA2**	1 unit
	1.5	2.8 ... 4.0		**3RK1 301-1EB00-0AA2**	1 unit
	1.9	3.5 ... 5.0		**3RK1 301-1FB00-0AA2**	1 unit
	2.2	4.5 ... 6.3		**3RK1 301-1GB00-0AA2**	1 unit
	3.0	5.5 ... 8.0		**3RK1 301-1HB00-0AA2**	1 unit
	4.0	7 ... 10		**3RK1 301-1JB00-0AA2**	1 unit
	5.5	9 ... 12		**3RK1 301-1KB00-0AA2**	1 unit
	RS1-x reversing starters				
 RS1-x	< 0.06	0.14 ... 0.20		**3RK1 301-0BB00-1AA2**	1 unit
	0.06	0.18 ... 0.25		**3RK1 301-0CB00-1AA2**	1 unit
	0.09	0.22 ... 0.32		**3RK1 301-0DB00-1AA2**	1 unit
	0.10	0.28 ... 0.40		**3RK1 301-0EB00-1AA2**	1 unit
	0.12	0.35 ... 0.50		**3RK1 301-0FB00-1AA2**	1 unit
	0.18	0.45 ... 0.63		**3RK1 301-0GB00-1AA2**	1 unit
	0.21	0.55 ... 0.80		**3RK1 301-0HB00-1AA2**	1 unit
	0.25	0.70 ... 1.00		**3RK1 301-0JB00-1AA2**	1 unit
	0.37	0.90 ... 1.25		**3RK1 301-0KB00-1AA2**	1 unit
	0.55	1.1 ... 1.6		**3RK1 301-1AB00-1AA2**	1 unit
	0.75	1.4 ... 2.0		**3RK1 301-1BB00-1AA2**	1 unit
	0.90	1.8 ... 2.5		**3RK1 301-1CB00-1AA2**	1 unit
	1.1	2.2 ... 3.2		**3RK1 301-1DB00-1AA2**	1 unit
	1.5	2.8 ... 4.0		**3RK1 301-1EB00-1AA2**	1 unit
	1.9	3.5 ... 5.0		**3RK1 301-1FB00-1AA2**	1 unit
	2.2	4.5 ... 6.3		**3RK1 301-1GB00-1AA2**	1 unit
	3.0	5.5 ... 8.0		**3RK1 301-1HB00-1AA2**	1 unit
	4.0	7 ... 10		**3RK1 301-1JB00-1AA2**	1 unit
	5.5	9 ... 12		**3RK1 301-1KB00-1AA2**	1 unit

	Version	DT	Order No.	PS*
Terminal modules for Standard motor starters				
 3RK1 903-0AB00	**TM-DS45-S32** **for DS1-x direct-on-line starters** With incoming power bus connection including three caps for terminating the power bus		**3RK1 903-0AB00**	1 unit
	TM-DS45-S31 **for DS1-x direct-on-line starters** Without incoming power bus connection		**3RK1 903-0AB10**	1 unit
 3RK1 903-0AC00	**TM-RS90-S32** **for RS1-x reversing starters** With incoming power bus connection including three caps for terminating the power bus		**3RK1 903-0AC00**	1 unit
	TM-RS90-S31 **for RS1-x reversing starters** Without incoming power bus connection		**3RK1 903-0AC10**	1 unit

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*** You can order this quantity or a multiple thereof.**
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Selection and ordering data

	Setting range of the electronic release A	DT	Order No.	PS*
High-Feature motor starters, with diagnostics, solid-state overload protection, fuseless, expandable with brake control module				
 DS1e-x	***DS1e-x direct-on-line starters with switch interface***			
	0.3 ... 3		**3RK1 301-0AB10-0AA4**	1 unit
	2.4 ... 8		**3RK1 301-0BB10-0AA4**	1 unit
	2.4 ... 16		**3RK1 301-0CB10-0AA4**	1 unit
	RS1e-x reversing starters			
	0.3 ... 3		**3RK1 301-0AB10-1AA4**	1 unit
	2.4 ... 8		**3RK1 301-0BB10-1AA4**	1 unit
	2.4 ... 16		**3RK1 301-0CB10-1AA4**	1 unit
	DSS1e-x soft starters			
	0.3 ... 3		**3RK1 301-0AB20-0AA4**	1 unit
	2.4 ... 8		**3RK1 301-0BB20-0AA4**	1 unit
	2.4 ... 16		**3RK1 301-0CB20-0AA4**	1 unit

	Version	DT	Order No.	PS*
Terminal modules for High-Feature motor starters				
 3RK1 903-0AK00	**TM-DS65-S32** **for DS1e-x and DSS1e-x direct-on-line starters** With incoming power bus connection including three caps for terminating the power bus		**3RK1 903-0AK00**	1 unit
	TM-DS65-S31 **for DS1e-x and DSS1e-x direct-on-line starters** Without incoming power bus connection		**3RK1 903-0AK10**	1 unit
	TM-RS130-S32 **for RS1e-x reversing starters** With incoming power bus connection including three caps for terminating the power bus		**3RK1 903-0AL00**	1 unit
	TM-RS130-S31 **for RS1e-x reversing starters** Without incoming power bus connection		**3RK1 903-0AL10**	1 unit

Selection and ordering data

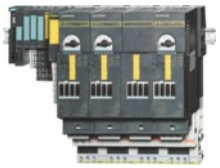
	Version	DT	Order No.	PS*
Power Modules				
 3RK1 903-0BA00	**PM-D power modules** For 24 V DC with diagnostics		**3RK1 903-0BA00**	1 unit
Terminal modules for power module				
 3RK1 903-0AA00	**TM-P15 S27-01 terminal modules** For PM-D power module		**3RK1 903-0AA00**	1 unit

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ET 200S failsafe motor starters, terminal modules Safety modules local and PROFIsafe

Selection and ordering data

Version	DT	Order No.	PS*
ET 200S Failsafe motor starters			
 F-DS1e-x direct-on-line starters			
F-DS1e-x direct-on-line starters Failsafe direct-on-line starters up to 7.5 kW at 400 V AC Mechanically switching Solid-state UE protection			
• 0.3 ... 3 A		**3RK1 301-0AB13-0AA4**	1 unit
• 2.4 ... 8 A		**3RK1 301-0BB13-0AA4**	1 unit
• 2.4 ... 16 A		**3RK1 301-0CB13-0AA4**	1 unit
F-RS1e-x reversing starters Failsafe reversing starters up to 7.5 kW at 400 V AC Mechanically switching Solid-state UE protection, fuseless			
• 0.3 ... 3 A		**3RK1 301-0AB13-1AA4**	1 unit
• 2.4 ... 8 A		**3RK1 301-0BB13-1AA4**	1 unit
• 2.4 ... 16 A		**3RK1 301-0CB13-1AA4**	1 unit
Terminal modules for Failsafe motor starters			
TM-FDS65-S32-01/S31-01 terminal modules For F-DS1e-x direct-on-line starters With coding			
• With incoming power bus connection (TM-FDS65-S32-01)		**3RK1 903-3AC00**	1 unit
• Without incoming power bus connection (TM-FDS65-S31-01)		**3RK1 903-3AC10**	1 unit
TM-FRS130-S32-01/S31-01 terminal modules For F-RS1e-x reversing starter With coding			
• With incoming power bus connection (TM-FRS130-S32-01)		**3RK1 903-3AD00**	1 unit
• Without incoming power bus connection (TM-FRS130-S31-01)		**3RK1 903-3AD10**	1 unit

Selection and ordering data

Version	DT	Order No.	PS*
Safety modules local			
 3RK1 903-3DA00			
PM-D F1 With diagnostics Safety module for EMERGENCY-STOP application Monitored start		**3RK1 903-1BA00**	1 unit
PM-D F2 With diagnostics Safety module for protective door monitoring Automatic start		**3RK1 903-1BB00**	1 unit
PM-D F3 With diagnostics Safety module for expanding PM-D F1/2 for another voltage group Time-delayed 0 to 15 s		**3RK1 903-1BD00**	1 unit
PM-D F4 With diagnostics Safety module for expanding PM-D F1/2 for another voltage group		**3RK1 903-1BC00**	1 unit
PM-D F5 With diagnostics Safety module for expanding PM-D F1...4 with four floating enabling circuits Contact multipliers		**3RK1 903-1BE00**	1 unit
PM-D FX1 With diagnostics Infeed terminal module for supply of 1 to 6 switch-off groups		**3RK1 903-3DA00**	1 unit
FC-M contact multipliers With 4 safe floating contacts		**3RK1 903-3CA00**	1 unit

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Illustrations are approximate

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	Version	DT	Order No.	PS*
Accessories for Safety modules local				
 3RK1 903-1CA00	**PM-X safety modules** With diagnostics Module for connecting a safety group and for connecting an external infeed contactor or for connecting to an external safety circuit		**3RK1 903-1CB00**	1 unit
	F-Kit 1 Failsafe equipment for DS1-x Standard motor starters[1)]		**3RK1 903-1CA00**	1 unit
 3RK1 903-1CA01	**F-Kit 2** Failsafe equipment for RS1-x Standard motor starters[1)]		**3RK1 903-1CA01**	1 unit
Safety modules PROFIsafe				
	PM-D F PROFIsafe safety modules For PROFIBUS and PROFINET For Failsafe motor starters For Failsafe contact multipliers With six switch-off groups (SG1 to SG6)		**3RK1 903-3BA01**	1 unit
	F-CM contact multipliers With 4 safe floating contacts		**3RK1 903-3CA00**	1 unit
Terminal modules for Safety modules local				
	Terminal modules			
 3RK1 903-1AA00	**TM-PF30 S47-B1** For PM-D F1/2 Safety Modules With infeed U1/U2 and sensor connection		**3RK1 903-1AA00**	1 unit
	TM-PF30 S47-B0 For PM-D F1/2 Safety Modules With sensor connection		**3RK1 903-1AA10**	1 unit
	TM-PF30 S47-C1 For PM-D F3/4 Safety Modules With infeed U1/U2 and control input IN+/IN-		**3RK1 903-1AC00**	1 unit
	TM-PF30 S47-C0 For PM-D F3/4 Safety Modules With infeed U2		**3RK1 903-1AC10**	1 unit
	TM-PF30 S47-D0 For PM-D F5 Safety Modules		**3RK1 903-1AD10**	1 unit
	TM-X15 S27-01 For PM-X Safety Module		**3RK1 903-1AB00**	1 unit
	TM-P15-S27-01 terminal modules For PM-D power module		**3RK1 903-0AA00**	1 unit
	TM-PFX30 S47-G0/G1 terminal modules For PM-D FX1 safety modules (infeed terminal modules)			
	• Infeed left (TM-PFX30 S47-G0)		**3RK1 903-3AE10**	1 unit
	• Infeed center (TM-PFX30 S47-G1)		**3RK1 903-3AE00**	1 unit
	TM-FCM30 S47-F01 terminal module For F-CM contact multipliers		**3RK1 903-3AB10**	1 unit
Terminal modules for Safety modules PROFIsafe				
	TM-PF30 S47-F0 terminal module For PM-D F PROFIsafe safety modules		**3RK1 903-3AA00**	1 unit
	TM-FCM30 S47-F01 terminal module For F-CM contact multipliers		**3RK1 903-3AB10**	1 unit

[1)] The function of the Failsafe-Kit is already integrated into High-Feature motor starters.

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Notes

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Motor Starters for Use in the Field, High Degree of Protection



7/2 **Introduction**

ET 200pro Motor Starters

7/3 General data

7/4 Standard motor starters

7/4 High-Feature motor starters

ET 200pro safety motor starters Solutions local

7/5 - Safety modules

7/5 ET 200pro isolator modules

SIRIUS M200D Motor Starters

7/6 General data

M200D Motor Starters for AS-Interface

7/7 M200D basic motor starters

7/8 M200D standard motor starters

7/9 M200D Motor Starters for PROFIBUS / PROFINET

7/10 M200D communication modules for PROFIBUS

7/10 M200D communication modules for PROFINET

7/10 M200D motor starter modules

SIRIUS MCU Motor Starters

7/11 General data

Motor Starters for AS-Interface, 24 V DC

7/12 General data

More technical information

can be found at www.siemens.com/industrial-controls/support

under Product List:
- Technical specifications

under Entry List:
- Updates
- Downloads
- FAQ
- Manuals
- Characteristic curves
- Certificates

and at www.siemens.com/industrial-controls/configurators
- Configurators

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Motor Starters for Use in the Field, High Degree of Protection

Introduction

Overview



3RK1 304



3RK1 315



3RK4 353



3RK4 320

		Order No.	Page
Motor Starters for Use in the Field, High Degree of Protection			
ET 200pro motor starters			**7/3**
ET 200pro motor starters	• Motor Starters, Standard and High-Feature	**3RK1 304**	IC 10 · 2011, 7/3[1)]
Safety modules	• Isolator module and 400 V disconnecting module	**3RK1 304**	IC 10 · 2011, 7/8[1)]
ET 200pro isolator modules	• With switch disconnector function for safe disconnection	**3RK1 304**	IC 10 · 2011, 7/11[1)]
Accessories for ET 200pro motor starters		**3RK1 9**	IC 10 · 2011, 7/12[1)]
ET 200pro – interface modules		**6ES7 1**	IC 10 · 2011, 7/15[1)]
ET 200pro – I/O modules	• Digital/analog expansion modules, failsafe expansion modules, power modules, ET 200pro pneumatic interfaces	**6ES7 1**	IC 10 · 2011, 7/23[1)]
ET200pro FC frequency converters		**6SL32**	IC 10 · 2011, 7/26[1)]
SIRIUS M200D motor starters			**7/6**
	• Distributed motor starters up to 5.5 kW		
M200D AS-i Basic motor starters		**3RK1 315**	IC 10 · 2011, 7/33[1)]
M200D AS-i Standard motor starters		**3RK1 325**	IC 10 · 2011, 7/34[1)]
M200D communication modules for PROFIBUS		**3RK1 305**	IC 10 · 2011, 7/39[1)]
M200D communication modules for PROFINET		**3RK1 335**	IC 10 · 2011, 7/39[1)]
M200D motor starter modules		**3RK1 395**	IC 10 · 2011, 7/39[1)]
Accessories	• Energy supply, motor cables, control cables		IC 10 · 2011, 7/40[1)]
ECOFAST motor starters			
3RK1 3 ECOFAST motor starters	• Distributed motor starters for PROFIBUS and AS-Interface • Reversing starters and soft starters	**3RK1 303/323**	IC 10 · 2011, 7/46[1)]
SIRIUS MCU motor starters			**7/11**
MCU Motor Starters, Locally Controlled	• For autonomously controlled motors such as pumps, fans, etc.	**3RK4 353**	IC 10 · 2011, 7/53[1)]
MCU Motor Starters, I/O-Controlled	• Economical solution for controlling induction motors distributed in the field	**3RK4 340**	IC 10 · 2011, 7/54[1)]
MCU Motor Starters for AS-Interface	• Controlling and scanning through the AS-i bus		
• Plastic enclosures, electromechanical		**3RK4 320**	IC 10 · 2011, 7/55[1)]
• Metal enclosures, electromechanical		**3RK4 320**	IC 10 · 2011, 7/56[1)]
• Metal enclosures, electronic		**3RK4 320**	IC 10 · 2011, 7/58[1)]
Motor starters for AS-Interface, 24 V DC			**7/12**
	• For the low-end performance range up to 70 W		
	• Quick and easy connection of 24 V DC motors and related sensors directly on-site to AS-Interface		
3 versions	• Single direct-on-line starters, double direct-on-line starters, reversing starters	**3RK1 400-1**	IC 10 · 2011, 7/60[1)]
Energy Communication Field Installation System (ECOFAST)			
	• Connects the components of an automation system (such as switching and control devices, I/O stations, motors and geared motors) using a uniform, standardized connection method for data and power		IC 10 · 2011, 7/62[1)]
Hybrid field bus connections	• Passive and active	**3RK1 911**	IC 10 · 2011, 7/67[1)]
Power connection technology	• Power cables, motor connection cables	**3RK1 911**	IC 10 · 2011, 7/69[1)]
Communication connection technology	• ECOFAST bus cables, ECOFAST fiber optic hybrid cables, AS-Interface shaped cables	**6XV1 3RX9**	IC 10 · 2011, 7/72[1)]
Accessories	• ECOFAST selection module	**3RK1 911**	IC 10 · 2011, 7/79[1)]
Software	• ECOFAST ES configuring tool, Motor Starter ES	**3ZS1**	IC 10 · 2011, 7/80[1)]

[1)] For more information see Catalog IC 10 · 2011 (on the attached CD-ROM) or the Industry Mall.

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 distribution and integrated safety technology of our portfolio for a high degree of protection consistently supports current trends in drive technology.

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Overview



ET 200pro motor starter: Isolator module, Standard starter and High-Feature starter mounted on a wide module rack

Motor starters

- Only two variants up to 5.5 kW
- All settings can be parameterized by bus
- Comprehensive diagnostic signals
- Overload can be acknowledged by remote reset
- Current unbalance monitoring
- Stall protection
- Emergency start function in the event of overload
- Current value transmission by bus
- Current limit monitoring
- Direct-on-line or reversing starters
- Power bus can be plugged in using the new HAN Q4/2 plug-in connectors
- Conductor cross-sections up to 6 x 4 mm^2
- 25 A per segment (power looped through using jumper plug)
- In the Standard and High-Feature versions (with 4 DI onBoard)
- Electromechanical switching and electronic switching
- Electronic starter for direct activation or with integrated smooth-starter function
- Supplied with 400 V AC brake contact as an option

Isolator modules

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 local isolator module

With the Safety local modules
- Safety local isolator module and
- 400 V disconnecting module

it is possible to achieve safety category 4/SIL 3 with an appropriate connection.

Safety Solution PROFIsafe

With the Safety PROFIsafe modules
- F-Switch and
- 400 V disconnecting module

it is likewise possible to achieve safety category 4/SIL 3 with an appropriate connection.

Motor Starter ES software

The Motor Starter ES software is used the for parameterization, monitoring, diagnostics and testing of motor starters.
See Chapter 12 "Planning, Configuration and Visualizing for SIRIUS".

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Selection and ordering data

Version	DT	Order No.	PS*
Standard motor starters, mechanical **Motor protection: thermal model**			
 DSe Standard			
DSe direct-on-line starters[1]			
• Without brake output		**3RK1 304-5□S40-4AA0**	1 unit
• With brake output 400 V AC		**3RK1 304-5□S40-4AA3**	1 unit
RSe reversing starters[1]			
• Without brake output		**3RK1 304-5□S40-5AA0**	1 unit
• With brake output 400 V AC		**3RK1 304-5□S40-5AA3**	1 unit
High-Feature motor starters, mechanical **Motor protection: thermal model**			
 RSe High-Feature			
DSe direct-on-line starters[1]			
• Without brake output and with 4 inputs		**3RK1 304-5□S40-2AA0**	1 unit
• With brake output 400 V AC and 4 inputs		**3RK1 304-5□S40-2AA3**	1 unit
RSe reversing starters[1]			
• Without brake output and with 4 inputs		**3RK1 304-5□S40-3AA0**	1 unit
• With brake output 400 V AC and 4 inputs		**3RK1 304-5□S40-3AA3**	1 unit
Setting range Rated operational current			
• 0.15 ... 2.0 A		**K**	
• 1.5 ... 12.0 A		**L**	
High-Feature motor starters[2], **electronic** **Full motor protection, comprising thermal motor protection and thermistor motor protection**			
 sRSSte High-Feature			
sDSSte/sDSte direct-on-line starters[1][2]			
• Without brake output and with 4 inputs		**3RK1 304-5□S70-2AA0**	1 unit
• With brake output 400 V AC and 4 inputs		**3RK1 304-5□S70-2AA3**	1 unit
sRSSte/sRSte reversing starters[1][2]			
• Without brake output and with 4 inputs		**3RK1 304-5□S70-3AA0**	1 unit
• With brake output 400 V AC and 4 inputs		**3RK1 304-5□S70-3AA3**	1 unit
Setting range Rated operational current			
• 0.15 ... 2.0 A		**K**	
• 1.5 ... 12.0 A		**L**	

1) Only functions 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 in Catalog IC 10 · 2011 on the attached CD-ROM).

2) The solid-state motor starters can be used not only as solid-state motors starters with a high level of switching frequency but also as fully fledged soft starters for soft starting and smooth ramp-down. 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 solid-state starter: 0.15 ... 2 A and 1.5 ... 9 A (4 kW)
- Parameterization as soft starter: 0.15 ... 2 A and 1.5 ... 12 A (5.5 kW).

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Selection and ordering data

	Version	DT	Order No.	PS*
ET 200pro safety modules				
 3RK1 304-0HS00-7AA0	**Safety local isolator modules**[1)2)] Rated operational current 16 A		**3RK1 304-0HS00-7AA0**	1 unit
 3RK1 304-0HS00-8AA0	**400 V disconnecting modules**[3)4)] Rated operational current 25 A		**3RK1 304-0HS00-8AA0**	1 unit
 6ES7 148-1FS00-0AB0	**F-Switch PROFIsafe** 24 V DC, including bus module Connection module to be ordered separately		**6ES7 148-4FS00-0AB0**	1 unit
	Connection modules for F-Switch 24 V DC		**6ES7 194-4DA00-0AA0**	1 unit

1) The Safety local isolator module only functions when used together with the 400 V disconnecting module.

2) Only in combination with the special backplane bus module for the Safety local isolator module (see "Accessories for ET 200pro Motor Starters").

3) The 400 V disconnecting module only functions when used together with the Safety local isolator module or with the F-Switch.

4) Only functions 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 in Catalog IC 10 · 2011 on the attached CD-ROM).

Selection and ordering data

	Version	DT	Order No.	PS*
ET 200pro isolator modules, mechanical				
 3RK1 304-0HS00-6AA0	**Isolator modules**[1)] Rated operational current 25 A		**3RK1 304-0HS00-6AA0**	1 unit
	Safety local isolator modules[2)3)] Rated operational current 16 A		**3RK1 304-0HS00-7AA0**	1 unit

1) Only functions 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 Accessories for ET 200pro Motor Starters in Catalog IC 10 · 2011 on the attached CD-ROM).

2) The Safety local isolator module only functions when used together with the 400 V disconnecting module.

3) Only in combination with the special backplane bus module for the Safety local isolator module (see "Accessories for ET 200pro Motor Starters").

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General data

Overview



SIRIUS M200D AS-i Basic motor starters with manual on-site operation

The intelligent, highly flexible SIRIUS M200D motor starters for distributed configurations are designed to start, monitor and protect motors and loads up to 5.5 kW.

They are available in four versions:

M200D AS-i Basic	M200D AS-i Standard	M200D PROFIBUS	M200D PROFINET
Motor control with AS-i Communication		PROFIBUS	PROFINET
Mechanical or electronic switching			
✔	✔	✔	✔
Electronic switching with soft starter functionality			
--	✔	✔	✔

Basic functionality

All M200D motor starter versions have the following functions:

- Available as direct-on-line and reversing starters in a rugged design
- Electromechanical or solid-state switching version
- Little variance – only 2 device versions up to 5.5 kW thanks to wide range setting
- All versions have the same enclosure dimensions
- Degree of protection IP65
- Quick and failsafe 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 3 locks (multi-level service)
- Uniform wiring to the G110D/G120D frequency converters and to the ET200pro distributed peripherals system
- Extensive diagnostics concept using LEDs
- Optional integrated manual on-site controller 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 (order versions)

Benefits

M200D motor starters provide the following advantages for customers:

- High plant availability through plug-in capability of the main circuit, communication and IOs – 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 parameterizable electronic motor overload protection. Reliable messages concerning the overranging or underranging of setpoint values for comprehensive motor protection. All motor protection functions can be defined by simple parameterization
- Low stock levels and low order costs through a wide setting range for the current or a wide setting range for the electronic motor protection of 1:10 (only 2 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 an optional manual on-site controller
- Increase of process speed through integrated functions such as "Quick-Stop" and "Disable Quick-Stop", e.g. at points and crossings
- Optional manual on-site controller with momentary-contact and latching operation for easier start-up and easier service

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 operating mechanism tasks, particularly in conveyor applications, the new SINAMICS G110D frequency converter series with a performance range from 0.75 kW to 7.5 kW and degree of protection IP65 is the ideal partner for the M200D motor starters. The SINAMICS G110D frequency converters permit continuous speed control of three-phase asynchronous motors and meet the requirements of conveyor applications with frequency control (for more information, see Catalog D 11.1).

Application

The M200D AS-i standard is particularly suitable for highly automated applications in conveyor systems, which require that devices and plants be monitored to prevent or limit plant downtime. The option of parametrizing the functions of the motor starter or its interfaces also makes fine-adjustment to the function of the motor starter in the application possible and hence, provides for extreme flexibility.

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Selection and ordering data



M200D AS-i Basic without manual on-site operation



M200D AS-i Basic with manual on-site operation

Version	DT	Order No.	PS*
Electromechanical starters (with integrated protection)			
		3RK1 315-6□S41-□AA□	1 unit
Setting range for rated operational current / A			
• 0.15 ... 2		**K**	
• 1.5 ... 12		**L**	
Direct-on-line starters/reversing starters			
• Direct-on-line starters		**0**	
• Reversing starters		**1**	
• Direct-on-line starters with manual local operation		**2**	
• Reversing starters with manual local operation		**3**	
Brake control			
• Without brake control		**0**	
• Brake control (400 V AC)		**3**	
• Brake control (180 V DC)		**5**	
Electronic starters (with thyristors)			
		3RK1 315-6□S71-□AA□	1 unit
Setting range for rated operational current / A			
• 0.15 ... 2		**K**	
• 1.5 ... 9		**N**	
Direct-on-line starters/reversing starters			
• Direct-on-line starters		**0**	
• Reversing starters		**1**	
• Direct-on-line starters with manual local operation		**2**	
• Reversing starters with manual local operation		**3**	
Brake control			
• Without brake control		**0**	
• Brake control (230/400 V AC)		**3**	
• Brake control (180 V DC)		**5**	

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

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Selection and ordering data



M200D AS-i Standard without manual on-site operation



M200D AS-i Standard with manual on-site operation

Version	DT	Order No.	PS*
Electromechanical starters (with integrated protection)			
		3RK1 325-6□S41-□AA□	1 unit
Setting range for rated operational current / A			
• 0.15 ... 2		**K**	
• 1.5 ... 12		**L**	
Direct-on-line starters/reversing starters			
• Direct-on-line starters		**0**	
• Reversing starters		**1**	
• Direct-on-line starters with manual local operation		**2**	
• Reversing starters with manual local operation		**3**	
Brake control			
• Without brake control		**0**	
• Brake control (400 V AC)		**3**	
• Brake control (180 V DC)		**5**	
Electronic starters (with thyristors)			
		3RK1 325-6□S71-□AA□	1 unit
Setting range for rated operational current / A			
• 0.15 ... 2		**K**	
• 1.5 ... 12		**L**	
Direct-on-line starters/reversing starters			
• Direct-on-line starters		**0**	
• Reversing starters		**1**	
• Direct-on-line starters with manual local operation		**2**	
• Reversing starters with manual local operation		**3**	
Brake control			
• Without brake control		**0**	
• Brake control (230/400 V AC)		**3**	
• Brake control (180 V DC)		**5**	

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

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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 variants are available, in a mechanical version and also an electronic 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 communication module.

The M200D PROFINET motor starters enable TIA-integrated parameterization through PROFINET from STEP7 - in familiar, user-friendly manner with the same look-and-feel as PROFIBUS.

Functionality

- For basic functionality see M200D Motor Starters, General Data
- Electronic version also with soft start function
- Robust and widely used M12 connection method for 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 through the bus, providing maximum flexibility and best 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-conform 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 und only one device needs to be replaced
- Parameterization in Step7 HW Config using Motor Starter ES (ordering option for start-up software)
- Start-up and diagnostics with the help of Motor Starter ES (ordering option for start-up software)
- Trace function through Motor Starter ES for optimized start-up and tracking of process and device values

Only with PROFINET IO:

- Just one bus system from the MES level to the devices - no routers
- 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 modules for PROFIBUS / PROFINET (without communication module)



M200D communication modules for PROFIBUS



M200D communication modules for PROFINET

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Selection and ordering data



M200D motor starter modules
PROFIBUS / PROFINET
(without communication module)



Motor starters
M200D PROFIBUS



Motor starters
M200D PROFINET

Version	DT	Order No.	PS*
M200D communication modules for PROFIBUS			
Communication modules for PROFIBUS M12 termination 7/8 inch		**3RK1 305-0AS01-0AA0**	1 unit
M200D communication modules for PROFINET			
Communication modules for PROFINET M12 termination 7/8 inch		**3RK1 335-0AS01-0AA0**	1 unit
M200D motor starter modules for PROFIBUS / PROFINET			
Electromechanical starters (with integrated protection)		**3RK1 395-6□S41-□AD□**	1 unit
Setting range for rated operational current / A			
• 0.15 ... 2		**K**	
• 1.5 ... 12		**L**	
Direct-on-line starters/reversing starters			
• Direct-on-line starters		**0**	
• Reversing starters		**1**	
• Direct-on-line starters with manual local operation		**2**	
• Reversing starters with manual local operation		**3**	
Brake control			
• Without brake control		**0**	
• Brake control (400 V AC)		**3**	
• Brake control (180 V DC)		**5**	
Electronic starters (with thyristors)		**3RK1 395-6□S71-□AD□**	1 unit
Setting range for rated operational current / A			
• 0.15 ... 2		**K**	
• 1.5 ... 12		**L**	
Direct-on-line starters/reversing starters			
• Direct-on-line starters		**0**	
• Reversing starters		**1**	
• Direct-on-line starters with manual local operation		**2**	
• Reversing starters with manual local operation		**3**	
Brake control			
• Without brake control		**0**	
• Brake control (230/400 V AC)		**3**	
• Brake control (180 V DC)		**5**	

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Overview



3RK43 53-3.R58-0BA0



3RK43 40-3.R51-.BA0



3RK43 20-3.R51-.BA0



3RK43 20-3.Q54-.BA.



3RK43 20-5.Q64-.BA.

Portfolio of the SIRIUS 3RK43 MCU motor starter family

The SIRIUS MCU motor starter family (MCU = Motor Control Unit) rounds off the bottom end of the SIRIUS motor starter range.

This series of motor starters in a high degree of protection is a system solution for the cabinet-free controlling of AC loads in the field.

The MCU product range extends from I/O-controlled motor starters - addressing a central sub-distribution board via I/O stations - in a plastic enclosure for simple applications to motor starters with AS-i communication in a rugged metal enclosure for demanding tasks.

The MCU motor starters are completely pre-wired inside, have a high degree of protection and are designed for switching and protecting any AC loads. They are mostly used on standard induction motors in direct or reversing duty up to 5.5 kW at 400/500 V AC (electromechanical switching) and 400/460 V AC (electronic switching).

The motor and short-circuit protection integrated in the MCUs consists either of an electromechanical controlgear assembly or solid-state overload protection and a motor starter protector unit for short-circuit protection.

MCUs with metal enclosure are designed for the switching of induction motors. Integrated control of the electrically operated motor brake with a braking voltage of 230 V AC or 400 V AC is a standard feature. The braking voltage is routed to the motor over the motor cable.

SIRIUS MCU motor starters have the following main features:

- Direct-on-line or reversing starters
- Up to 5.5 kW
- Plastic or metal enclosure
- Electromechanical or electronic switching
- With brake control 230 V AC or 400 V AC
- Integrated lockable repair switch
- Short-circuit protection with SIRIUS 3RV motor starter protector
- Overload protection with thermal release (bimetal) or solid-state overload relay with wide range setting
- Power and load connection by means of an M screw
- Main power loop possible (daisy chain; max. 2 x 6 mm^2)
- Robust and widely used M12 connection method for the AS-i bus connection and the digital inputs and outputs (on the MCU with metal enclosure)
- The LEDs (for AS-i bus connection) can provide comprehensive diagnostics of the device on the spot.

Locally controlled MCU motor starters in a plastic enclosure

These motor starters are designed for the autonomous operation of any AC loads – preferably induction motors.

Only the infeed needs to be connected (no bus connection or any other connection to a controller).

The motor is protected against short-circuits (50 kA) and overloads (thermal overload release) by the integrated motor starter protector. No further measures are required for this function either (such as back-up fuses).

These motor starters have a key-operated switch "MAN-0-AUTO" for selecting Manual, 0 or Automatic mode and preventing unauthorized changes of operating mode.

In automatic mode the motor can be controlled automatically by connected sensors (level, temperature or pressure switches). The reversing starter is designed in addition with connections for 2 sensors so a reversal of direction is possible in accordance with these sensors. On the reversing starter the controls with interlock are pre-wired.

In manual mode a selector button is used by the operator for switching on, switching off and changing the direction of rotation.

I/O-controlled MCU motor starters in a plastic enclosure

These motor starters offer an economical solution for controlling induction motors distributed in the field.

The internal controls (contactors) are operated by external control with 24 V DC.

On the reversing starter, the controls with interlock are pre-wired.

The status of the circuit breaker can be queried through its floating changeover contact. The status can adopt the following positions: activated - the contact is closed - and deactivated or tripped - the contact is open (I/O control).

MCU motor starters with AS-i bus connection in a plastic enclosure

This motor starter version offers an economical solution for controlling and monitoring conveyor belts, pumps, fans or compressors.

On this MCU the control commands and the status queries are sent over the AS-i bus. The yellow cable (bus) and the black AS-i cable for 24 V DC AUX are connected through a M12 plug.

The transparent enclosure top permits monitoring of the status LEDs. These MCUs come completely pre-wired inside.

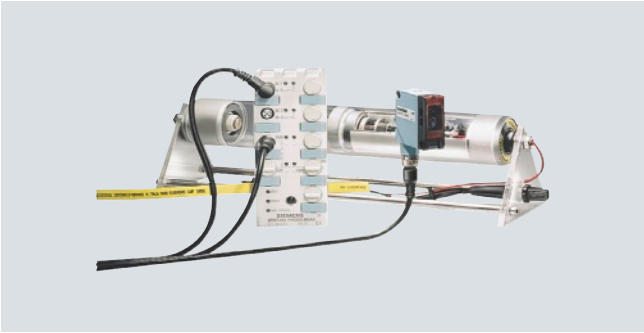
MCU motor starters with AS-i bus connection in a metal enclosure for electromechanical or electronic switching

These MCUs with their rugged metal enclosure in degree of protection IP54 are particularly suitable for controlling and monitoring induction motors in harsh ambient conditions such as are often found in conveyor systems. A special feature of this version is the manual on-site operation.

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General data

Overview



Connection of an actuator roller with integrated DC motor to an AS-Interface 24 V DC motor starter

With the K60 AS-Interface 24 V DC motor starters for the low-end performance range up to 70 W, it is now possible to connect 24 V DC motors and the associated sensors directly to the AS-Interface quickly and easily.

Three different versions are available:
- Single direct-on-line starters (without brake and reversible quick-stop function)
- Double direct-on-line starters (with brake and reversible quick-stop function)
- Reversing starters (with brake and reversible quick-stop function)

DC motors are connected to the module using M12 plug-in connections. The sensors and the module electronics can be supplied from the yellow AS-Interface cable. An auxiliary voltage (24 V DC) is only required for supplying the outputs, which can be provided via the black AS-Interface cable.

Quick-stop function

All AS-Interface 24 V DC motor starters feature a quick-stop function which can be switched on and off as required using a switch integrated into the module. The quick-stop function allows a connected motor to be disconnected immediately using an applied sensor signal (High). The switch for the quick-stop function is located alongside the input sockets and is protected by an M12 sealing cap.

Brake

The double direct-on-line starter and the single reversing starter versions feature an integrated permanently set brake function, i.e. as soon as the output signal is set to "0", the motor is braked.

Start-up using integrated buttons

Buttons integrated into the module (below the output sockets) can be used to set the motor used. The buttons are protected by an M12 sealing cap.

Note:

Concerning double and reversing starters: If an input with the quick-stop function receives a "High" signal, the corresponding output (e.g. quick-stop input 1 –> output 1) is switched off within the device (the motor is braked). The manual key function (Key 1/2) for local operation is only permitted to be used during "CPU Stop" in the higher-level PLC.

Note:

Concerning single direct-on-line starters: If an input with the quick-stop function receives a "High" signal, the corresponding output (e.g. quick-stop input 1 –> output 1) is switched off within the device (the motor runs down without being braked) The manual key function (Key 1) for local operation is only permitted to be used and defined during "CPU Stop" in the higher-level PLC.

Selection and ordering data

	Version	DT	Order No.	PS*
Motor starters (width 60 mm)				
 3RK1 400-1MQ01-0AA4	**Single direct-on-line starters** 4 Inputs, 1 output, quick-stop function Modules supplied without mounting plate.		**3RK1 400-1NQ01-0AA4**	1 unit
	Double direct-on-line starters 4 Inputs, 2 outputs, quick-stop function Modules supplied without mounting plate.		**3RK1 400-1MQ01-0AA4**	1 unit
	Single reversing starters 4 Inputs, 1 output, quick-stop function Modules supplied without mounting plate.		**3RK1 400-1MQ03-0AA4**	1 unit
Accessories				
 3RK1 901-0CA00	**K60 mounting plates** Suitable for all K60 compact modules			
	• Wall mounting	▶	**3RK1 901-0CA00**	1 unit
	• Standard rail mounting	▶	**3RK1 901-0CB01**	1 unit
 3RK1 901-1KA00	**AS-Interface sealing caps M12** For free M12 sockets	▶	**3RK1 901-1KA00**	10 units
 3RK1 901-1KA01	**AS-Interface sealing caps M12, tamper-proof** For free M12 sockets		**3RK1 901-1KA01**	10 units
 3RK1 902-0AR00	**Sealing sets** • For K60 mounting plate and standard distributor • Cannot be used for K45 mounting plate • Set contains one straight and one shaped seal		**3RK1 902-0AR00**	5 units

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

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Monitoring and Control Devices

8



8/2 **Introduction**

SIMOCODE 3UF Motor Management and Control Devices
SIMOCODE pro 3UF7
8/5 General data
8/7 Basic units
8/8 Expansion modules
8/9 Failsafe expansion modules new
8/10 Accessories
IC 10[1)] 3UF18 Current Transformers for Overload Protection

IC 10[1)] **LOGO! Logic Modules**

Timing Relays
8/12 SIRIUS 3RP15 timing relays in industrial enclosure, 22.5 mm
8/14 SIRIUS 3RP20 timing relays, 45 mm
8/15 7PV15 timing relays in enclosure, 17.5 mm
Ch. 3 Function modules for mounting onto SIRIUS 3RT2 contactors
Ch. 3 SIRIUS 3RT19 timing relays for mounting onto contactors
8/16 Accessories

SIRIUS 3RR, 3UG Monitoring Relays for Electrical and Additional Measurements
SIRIUS 3RR2 monitoring relays for mounting onto 3RT2 contactors new
8/17 General data
8/17 Current monitoring
SIRIUS 3UG Monitoring Relays for Stand-Alone Installation
8/19 Line monitoring
8/20 Voltage monitoring
8/21 Current monitoring
8/21 Power factor and active current monitoring
Residual current monitoring
8/22 - Residual-current monitoring relays
8/22 - Summation current transformers
Insulation monitoring
8/23 - For ungrounded AC networks
8/23 - For ungrounded DC networks
Level monitoring
8/24 - Level monitoring relays
8/24 - Level monitoring sensors
8/25 Speed monitoring
8/25 Accessories

SIRIUS 3RS10, 3RS11, 3RS20, 3RS21 Temperature Monitoring Relays
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8/27 Relays, digitally adjustable for 1 sensor
8/28 Relays, digitally adjustable for up to 3 sensors
8/28 Accessories

SIRIUS 3RN1 Thermistor Motor Protection
8/29 For PTC sensors

SIRIUS 3TK28 Safety Relays
8/31 With relay enabling circuits
8/32 With electronic enabling circuits
8/33 With special functions new

SIRIUS 3RK3 Modular Safety System
8/34 General data
8/35 3RK31 central modules
8/35 3RK32, 3RK33 expansion modules
8/35 3RK35 interface modules
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Interface Converters
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More technical information

can be found at www.siemens.com/industrial-controls/support

under Product List:
- Technical specifications

under Entry List:
- Updates
- Downloads
- FAQ
- Manuals
- Characteristic curves
- Certificates

and at www.siemens.com/industrial-controls/configurators
- Configurators

1) See Catalog IC 10 · 2011 (on the attached CD-ROM) or the Industry Mall.

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Introduction

Overview





Type	SIMOCODE pro C	SIMOCODE pro V	Page
SIMOCODE 3UF motor management and control devices			
Basic units	✓	✓	8/7
Current measuring modules	✓	✓	8/7
Current/voltage measuring modules	--	✓	8/7
Decoupling modules	--	✓	8/7
Operator panels	✓	✓	8/7
Operator panels with display	--	✓	8/7
Expansion modules	--	✓	8/8
Failsafe expansion modules	--	✓	8/9
Current transformers	✓	✓	See Catalog IC 10 · 2011
SIMOCODE ES 2007	✓	✓	8/11
SIMOCODE pro block library for SIMATIC PCS 7	✓	✓	8/11







Type	Basic units	Expansion modules	Software	Page
LOGO! logic modules				
LOGO! Modular basic versions	✓	--	--	See Catalog IC 10 · 2011
LOGO! Modular pure versions	✓	--	--	See Catalog IC 10 · 2011
LOGO! Modular expansion modules	--	✓	--	See Catalog IC 10 · 2011
LOGO! Communication modules	--	✓	--	See Catalog IC 10 · 2011
LOGO! Contact	--	✓	--	See Catalog IC 10 · 2011
LOGO! Software	--	--	✓	See Catalog IC 10 · 2011

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Type	3RP15	3RP20	7PV15	3RT19
Page	8/12	8/14	8/15	See Chapter 3
Timing relays				
Enclosure:				
• 17.5 mm industry and household equipment installation	--	--	✓	--
• 22.5 mm industry	✓	--	--	--
• 45 mm industry	--	✓	--	--
• For contactor sizes S0 to S12	--	--	--	✓
Monofunction	✓	✓	✓	✓
Multifunction	✓	✓	✓	--
Monovoltage	--	--	--	✓
Combination voltage	✓	✓	✓	--
Wide voltage range	✓	✓	✓	--
Application:	--	--	--	--
• Control systems and mechanical engineering	✓	✓	✓	✓
• Infrastructure	--	--	✓	--
• Mounting onto contactors	--	--	--	✓













Type	3UG45 1., 3UG46 1.	3UG46 3.	3RR2, 3UG46 21, 3UG46 22	3UG46 41	3UG46 24	3UG30 81, 3UG30 82	3UG45 01	3UG46 51	3RS10, 3RS11, 3RS20, 3RS21	3RN1	3RS17	Page
Monitoring Relays												
Line monitoring	✓	--	--	--	--	--	--	--	--	--	--	8/19
Voltage monitoring	--	✓	--	--	--	--	--	--	--	--	--	8/20
Current monitoring	--	--	✓	--	--	--	--	--	--	--	--	8/17, 8/21
Power factor and active current monitoring	--	--	--	✓		--	--	--	--	--	--	8/21
Residual current monitoring	--	--	--	--	✓	--	--	--	--	--	--	8/22
Insulation monitoring	--	--	--	--	--	✓	--	--	--	--	--	8/23, 8/23
Level monitoring	--	--	--	--	--	--	✓	--	--	--	--	8/24
Speed monitoring	--	--	--	--	--	--	--	✓	--	--	--	8/25
Temperature monitoring relays												
temperature monitoring	--	--	--	--	--	--	--	--	✓	--	--	8/26, 8/27, 8/28
Thermistor motor protection												
Thermistor motor protection	--	--	--	--	--	--	--	--	--	✓	--	8/29
Interface converters												
Interface converters	--	--	--	--	--	--	--	--	--	--	✓	8/37

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Introduction






Type	3TK28 2.	3TK28 4.	3TK28 5.	3TK28 1.	Page
Safety relays					
With relay enabling circuits	✓	--	--	--	8/31
With electronic enabling circuits	--	✓	--	--	8/32
With contactor relay enabling circuits	--	--	✓	--	See Catalog IC 10 · 2011
With special functions	--	--	--	✓	8/33





Type	Basic units	Expansion modules	Software	Page
Modular safety system				
3RK3 Basic 8 inputs, 1 two-channel relay output, 1 two-channel solid-state output	✓	--	--	8/35
4/8 F-DI 8 inputs	--	✓	--	8/35
2/4 F-DI 1/2 F-RO 4 inputs, 2 single-channel relay outputs	--	✓	--	8/35
2/4 F-DI 2F-DO 4 inputs, 2 two-channel solid-state outputs	--	✓	--	8/35
4/8 F-RO 8 single-channel relay outputs	--	✓	--	8/35
4 F-DO 4 two-channel solid-state outputs	--	✓	--	8/35
8 DI 8 inputs	--	✓	--	8/35
8 DO 8 outputs	--	✓	--	8/35
DP interface	--	✓	--	8/35
Diagnostics modules	--	✓	--	8/35
Modular Safety System ES 2008 Basic and Standard	--	--	✓	8/36

8

Options

Connection methods

The monitoring and control devices are available with screw/spring-type terminals.

Screw terminals

Spring-type terminals

The terminals are indicated in the corresponding tables by the symbols shown on orange backgrounds.

"Increased safety" type of protection EEx e/d according to ATEX directive 94/9/EC

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 potentially explosive areas.

ATEX approval for operation in areas subject to explosion hazard

The SIRIUS 3RN1 thermistor motor protection relay for PTC sensors is certified according to ATEX Ex II (2) G and GD for gases and dust.

The SIRIUS SIMOCODE pro 3UF7 motor management system is certified for the protection of motors in areas subject to explosion hazard 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

You can find more information about ATEX at www.siemens.com/industrial-controls/atex .

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Overview



SIMOCODE pro V with current/voltage measuring module, failsafe expansion module and operator panel with display

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 startup, operation and maintenance of a system.

When SIMOCODE pro is installed in the low-voltage switchboard, it is the intelligent interface between the higher-level automation system and the motor feeder and includes the following:

- Multifunctional, solid-state full motor protection which is independent of the automation system
- Integrated control functions instead of hardware for the motor control
- Detailed operating, service and diagnostics data
- Open communication through PROFIBUS DP, the standard for fieldbus systems
- Safety relay function for the failsafe disconnection of motors up to SIL 3 (IEC 61508/62061) or PL e with Category 4 (ISO 13849-1)

SIMOCODE ES is the software package for SIMOCODE pro parameterization, start-up and diagnostics.

Two series

- SIMOCODE pro C, as a compact system for direct-on-line starters and reversing starters or the actuation of a circuit breaker
- SIMOCODE pro V, as a 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

Expansion possibilities	SIMOCODE pro C, Basic Unit 1	SIMOCODE pro V, Basic Unit 2[1)]
Operator panel	✓	✓
Operator panels with display	--	✓
Current measuring modules	✓	✓
Current/voltage measuring modules	--	✓
Decoupling modules	--	✓
Expansion modules:		
• Digital modules (max. 2)	--	✓
• Failsafe digital module (max. 1)[2)]	--	✓
• Analog module (max. 1)	--	✓
• Ground-fault module (max. 1)	--	✓
• Temperature module (max. 1)	--	✓

✓ Available -- Not available

1) When an operator panel with display and/or a decoupling module is used, more restrictions on the number of expansion modules connectable per basic unit must be observed, see Catalog IC 10.

2) The failsafe 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 connection 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 connection cable. More inputs, outputs and functions can be added to basic unit 2 (SIMOCODE pro V) 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 failsafe digital modules it is also possible to integrate the failsafe disconnection of motors in the SIMOCODE pro V motor management system.

All modules are connected by connection cables. The maximum distance between the modules can be up to 2.5 m. The total length of all the connection cables in a single system must not be more than 3 m.

Benefits

Multifunctional, solid-state 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 solid-state overload protection (CLASS 5 to 40)
- Thermistor motor protection
- Phase failure/unbalance 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. over PT100/PT1000
- Monitoring of operating hours, downtime and number of starts etc.

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 relay
- Direct-on-line and reversing starters
- Wye/delta starters (also with direction reversal)
- Two speeds, motors with separate windings (pole-changing switch); also with direction reversal
- Two speeds, motors with separate Dahlander windings (also with direction reversal)
- Positioner actuation
- Valve actuation
- Actuation of a circuit breaker
- Soft starter actuation (also with direction reversal)

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.

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General data

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.

Detailed operational, service and diagnostics data

SIMOCODE pro makes different operational, service and diagnostics data available and helps to detect potential faults in time and to prevent them by means of preventative measures. In the event of a malfunction, a fault can be diagnosed, localized and rectified very quickly – there are no or very short downtimes.

Autonomous operation

An essential feature of SIMOCODE pro is independent execution of all protection and control functions even if communication with the I&C system breaks down. If the bus or automation system fails, the full functionality of the feeder is ensured or a pre-defined response can be initiated, e.g. the feeder can be shut down in a controlled manner or certain configured control mechanisms can be performed (e.g. the direction of rotation can be reversed).

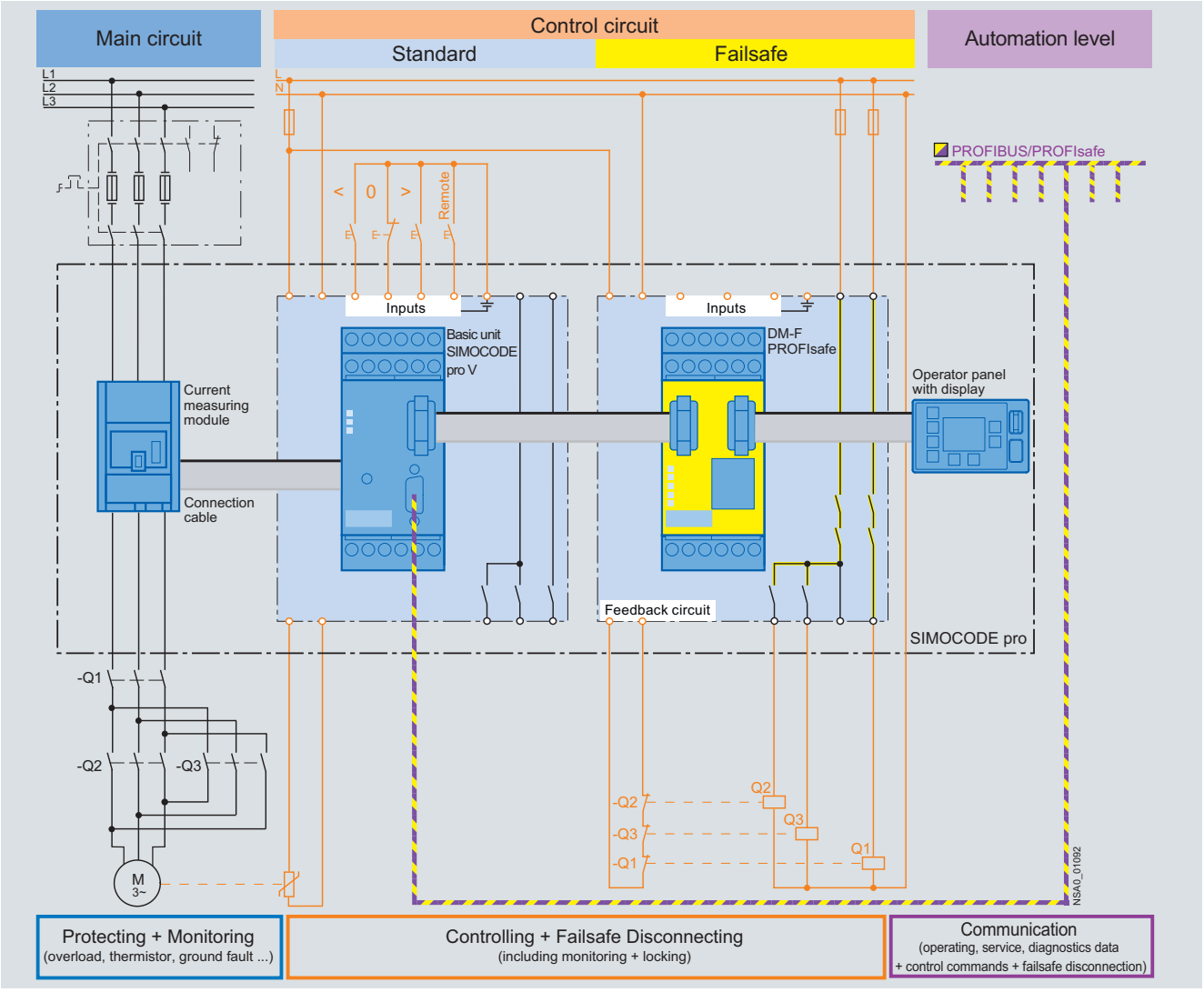
Safety technology for SIMOCODE pro

The safe disconnection of motors, particularly 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 failsafe expansion modules it is easy to integrate functions for failsafe disconnection in 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 in 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 failsafe expansion modules, depending on the requirements:

- the DM-F Local failsafe digital module for when direct assignment between a failsafe hardware disconnect signal and a motor feeder is required, or
- the DM-F PROFIsafe failsafe digital module for when a failsafe controller (F-CPU) creates the signal for the disconnection and transmits it failsafe through PROFIBUS/PROFIsafe to the motor management system



SIMOCODE pro combines all essential functions, including safety functions, through PROFIBUS/PROFIsafe for the motor feeder

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Selection and ordering data

Version	Current setting	Width	DT	Screw terminals Order No.	PS*
	A	mm			
SIMOCODE pro					
 3UF7 000-1A.00-0	**SIMOCODE pro C, Basic Unit 1** PROFIBUS DP interface, 12 Mbit/s, RS 485 4 I/3 O freely assignable, input for thermistor connection, monostable relay outputs, rated control supply voltage U_s:				
	• 24 V DC		►	**3UF7 000-1AB00-0**	1 unit
	• 110 ... 240 V AC/DC		►	**3UF7 000-1AU00-0**	1 unit
 3UF7 010-1A.00-0	**SIMOCODE pro V, Basic Unit 2** PROFIBUS DP interface, 12 Mbit/s, RS 485 4 I/3 O freely assignable, input for thermistor connection, monostable relay outputs, can be expanded by expansion modules rated control supply voltage U_s:				
	• 24 V DC		►	**3UF7 010-1AB00-0**	1 unit
	• 110 ... 240 V AC/DC		►	**3UF7 010-1AU00-0**	1 unit
 3UF7 100-1AA00-0	**Current measuring modules**				
	• Straight-through transformers	0.3 ... 3		**3UF7 100-1AA00-0**	1 unit
		2.4 ... 25		**3UF7 101-1AA00-0**	1 unit
		10 ... 100		**3UF7 102-1AA00-0**	1 unit
		20 ... 200		**3UF7 103-1AA00-0**	1 unit
	• Busbar connections	20 ... 200		**3UF7 103-1BA00-0**	1 unit
		63 ... 630		**3UF7 104-1BA00-0**	1 unit
 3UF7 110-1AA00-0	**Current/voltage measuring modules for SIMOCODE pro V** Voltage measuring up to 690 V if required in connection with a decoupling module				
	• Straight-through transformers	0.3 ... 3		**3UF7 110-1AA00-0**	1 unit
		2.4 ... 25		**3UF7 111-1AA00-0**	1 unit
		10 ... 100		**3UF7 112-1AA00-0**	1 unit
		20 ... 200		**3UF7 113-1AA00-0**	1 unit
	• Busbar connections	20 ... 200		**3UF7 113-1BA00-0**	1 unit
		63 ... 630		**3UF7 114-1BA00-0**	1 unit
 3UF7 150-1AA00-0	**Decoupling modules** For connecting upstream from a current/voltage measuring module on the system interface when using voltage detection in insulated, high-resistance or asymmetrically grounded systems and in single-phase systems			**3UF7 150-1AA00-0**	1 unit
 3UF7 200-1AA00-0	**Operator panel** Installation in control cabinet door or front plate, for plugging into basic unit, 10 LEDs for status indication and user-assignable buttons for controlling the motor		►	**3UF7 200-1AA00-0**	1 unit
 3UF7 210-1AA00-0	**Operator panels with display for SIMOCODE pro V**[1] Installation in control cabinet door or front plate, for plugging into basic unit 2, 7 LEDs for status indication and user-assignable buttons for controlling the motor, multilingual display, e.g. for indication of measured values, status information or fault messages		►	**3UF7 210-1AA00-0**	1 unit

[1] Only possible with basic unit 2, product version E03 and higher (from 12/2006).

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Expansion modules

Selection and ordering data

Version	DT	Screw terminals ⏚ Order No.	PS*
Expansion modules for SIMOCODE pro V			
With SIMOCODE pro V, it is possible to expand the type and number of inputs and outputs in steps. Each 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 V using a connection cable; through the second system interface, further expansion modules or the operator panel can be connected. The power supply for the expansion modules is provided by the connection cable through Basic Unit 2. *Note:* *Please order connection cable separately, see page 8/10.*			
Digital modules Up to two digital modules can be used to add additional binary inputs and relay outputs to basic unit. The input circuits of the digital modules are supplied from an external power supply. 4 binary inputs and 2 relay outputs, up to 2 digital modules can be connected per basic unit 2			
Relay outputs / Input voltage			
Monostable / 24 V DC	▶	**3UF7 300-1AB00-0**	1 unit
Monostable / 110 ... 240 V AC/DC	▶	**3UF7 300-1AU00-0**	1 unit
Bistable / 24 V DC	▶	**3UF7 310-1AB00-0**	1 unit
Bistable / 110 ... 240 V AC/DC	▶	**3UF7 310-1AU00-0**	1 unit
Analog modules Basic unit can be optionally expanded with analog inputs and outputs (0/4 ... 20 mA) by means of the analog module. 2 inputs (passive) for input and 1 output for output of 0/4 ... 20 mA signals, max. 1 analog module can be connected per Basic Unit 2.	▶	**3UF7 400-1AA00-0**	1 unit
Ground-fault modules Instead of ground-fault monitoring using the current measuring modules or current/voltage measuring modules, it may be necessary, especially in high-impedance grounded networks, to implement ground-fault monitoring for smaller ground fault currents using a summation current transformer. 1 input for connecting a summation current transformer 3UL22, up to 1 ground-fault module can be connected per Basic Unit 2 *Note:* *For related summation current transformers for rated fault currents 0.3 A, 0.5 A or 1 A see Catalog IC 10.*	▶	**3UF7 500-1AA00-0**	1 unit
Temperature modules Independently of the thermistor motor protection of the basic units, up to 3 analog temperature sensors can be evaluated using a temperature module. Sensor types: PT100/PT1000, KTY83/KTY84 or NTC 3 inputs for connecting up to 3 analog temperature sensors, up to 1 temperature module can be connected per Basic Unit 2	▶	**3UF7 700-1AA00-0**	1 unit


3UF7 300-1AU00-0


3UF7 400-1AA00-0


3UF7 500-1AA00-0


3UF7 700-1AA00-0

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Selection and ordering data

Version	DT	Screw terminals Order No.	PS*
Failsafe expansion modules for SIMOCODE pro V			
Thanks to the failsafe expansion modules, SIMOCODE pro V can be expanded with the function of a safety relay for the failsafe disconnection of motors. A maximum of 1 failsafe digital module can be connected; it can be used instead of a digital module. *The failsafe expansion modules are equipped likewise with two system interfaces at 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 connection cable separately, see page 8/10.*			
 3UF7 320-1AB00-0 **DM-F Local failsafe digital modules** For failsafe disconnection using a hardware signal 2 relay enabling circuits, joint switching; 2 relay outputs, common potential disconnected failsafe; inputs for sensor circuit, start signal, cascading and feedback circuit, safety function adjustable using DIP switches rated control supply voltage U_S:			
• 24 V DC	►	**3UF7 320-1AB00-0**	1 unit
• 110 ... 240 V AC/DC	►	**3UF7 320-1AU00-0**	1 unit
 3UF7 330-1AB00-0 **DM-F PROFIsafe failsafe digital modules** For failsafe disconnection using PROFIBUS/PROFIsafe 2 relay enabling circuits, joint switching; 2 relay outputs, common potential disconnected failsafe; 1 input for feedback circuit; 3 binary standard inputs rated control supply voltage U_S:			
• 24 V DC	►	**3UF7 330-1AB00-0**	1 unit
• 110 ... 240 V AC/DC	►	**3UF7 330-1AU00-0**	1 unit

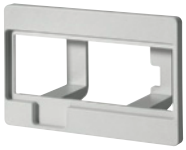
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Accessories

Selection and ordering data

	Version	DT	Order No.	PS*
Connection cables (essential accessory)				
 3UF7 932-0AA00-0	**Connection cables** In different lengths for connecting basic unit, current measuring module, current/voltage measuring module, operator panel or expansion modules or decoupling module:			
	• Length 0.025 m (flat) Important: Only suitable for connecting basic unit 2 to its expansion modules or for connecting expansion modules to each other; only when the front plates finish at the same height!	▶	**3UF7 930-0AA00-0**	1 unit
	• Length 0.1 m (flat)	▶	**3UF7 931-0AA00-0**	1 unit
	• Length 0.3 m (flat)	▶	**3UF7 935-0AA00-0**	1 unit
	• Length 0.5 m (flat)	▶	**3UF7 932-0AA00-0**	1 unit
	• Length 0.5 m (round)	▶	**3UF7 932-0BA00-0**	1 unit
	• Length 1.0 m (round)	▶	**3UF7 937-0BA00-0**	1 unit
	• Length 2.5 m (round)	▶	**3UF7 933-0BA00-0**	1 unit
PC cables and adapters				
 3UF7 940-0AA00-0	**For PC/PG communication with SIMOCODE pro** Through the system interface, for connecting to the serial interface of the PC/PG	▶	**3UF7 940-0AA00-0**	1 unit
	USB/serial adapters To connect an RS 232 PC cable to the USB port of a PC, we recommend using modular safety system 3RK3, soft starter 3RW44, ET 200S/ECOFAST/ET 200pro motor starter, AS-i safety monitor, AS-i analyzer in conjunction with SIMOCODE pro 3UF7		**3UF7 946-0AA00-0**	1 unit
Memory modules				
 3UF7 900-0AA00-0	The memory module enables the complete parameter assignment of a system to be saved and transferred to a new system, e.g. when a device is replaced, without the need for additional aids or detailed knowledge of the system interface	▶	**3UF7 900-0AA00-0**	1 unit
Interface covers				
 3UF7 950-0AA00-0	**For system interface**		**3UF7 950-0AA00-0**	5 units
Addressing plugs				
 3UF7 910-0AA00-0	**For assigning the PROFIBUS addresses without using a PC or programming device** On SIMOCODE pro through the system interface	▶	**3UF7 910-0AA00-0**	1 unit
Door adapters				
 3UF7 920-0AA00-0	**For external connection of the system interface** For example, outside a control cabinet		**3UF7 920-0AA00-0**	1 unit
Adapters for operator panels				
 3UF7 922-0AA00-0	The adapter enables the smaller 3UF7 20 operator panel from SIMOCODE pro to be used in a front panel cutout in which previously, e.g. after a change of system, a larger 3UF5 2 operator panel from SIMOCODE-DP had been used; degree of protection IP54		**3UF7 922-0AA00-0**	1 unit

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	Version	DT	Order No.	PS*
SIMOCODE ES 2007 Basic				
 3ZS1 312-4CC10-0YA5	**Floating license for one user** E-SW, software and documentation on CD, 3 languages (German/English/French), communication through system interface			
	• License key on USB stick, Class A	►	**3ZS1 312-4CC10-0YA5**	1 unit
SIMOCODE ES 2007 Standard				
	Floating license for one user E-SW, software and documentation on CD, 3 languages (German/English/French), communication through system interface, integrated graphics editor			
	• License key on USB stick, Class A	►	**3ZS1 312-5CC10-0YA5**	1 unit
SIMOCODE ES 2007 Premium				
	Floating license for one user E-SW, software and documentation on CD, 3 languages (German/English/French), communication through PROFIBUS or system interface, integrated graphics editor, STEP7 Object Manager			
	• License key on USB stick, Class A	►	**3ZS1 312-6CC10-0YA5**	1 unit
SIMOCODE pro Block Library for SIMATIC PCS 7				
 3UF7 982-0AA00-0	Scope of supply: AS modules and faceplates for integrating SIMOCODE pro into the PCS 7 process control system			
	Engineering software For one engineering station (single license) including runtime software for execution of the AS module in an automation system (single license), German/English/French, Type of delivery: CD incl. electronic documentation			
	• For PCS 7 Version V 6.0		**3UF7 982-0AA00-0**	1 unit
	• For PCS 7 Version V 6.1		**3UF7 982-0AA02-0**	1 unit
	• For PCS 7 Version V 7.0	►	**3UF7 982-0AA10-0**	1 unit

Please order PC cable separately, see page 8/10.

Note:

For more information see Chapter 12 "Planning, configuration and visualizing for SIRIUS" and on the attached CD-ROM in Catalog IC 10 · 2011.

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SIRIUS 3RP15 timing relays in industrial enclosure, 22.5 mm

Selection and ordering data

Solid-state timing relays for general use in control systems and mechanical engineering with:
- 1 or 2 CO contacts
- Single or selectable time setting ranges
- Switch position indication and voltage indication by LED


3RP15 05-1BP30


3RP15 11-1AP30


3RP15 25-1BW30


3RP15 27-1EM30


3RP15 05-2BP30


3RP15 11-2AP30


3RP15 25-2BW30

Version	Time setting range t adjustable by rotary switch to	Rated control supply voltage U_s 50/60 Hz AC V	Rated control supply voltage U_s DC V	DT	Screw terminals Order No.	PS*	DT	Spring-type terminals Order No.	PS*
3RP15 05 timing relays, multifunction, 15 time setting ranges									
The functions can be adjusted by means of rotary switches. Insert labels can be used to adjust different functions of the 3RP15 05 timing relay clearly and unmistakably. The corresponding labels can be ordered as an accessory. The same potential must be applied to terminals A. and B. For functions see 3RP19 01 label set, page 8/16.									
With LED and									
1 CO contacts, 8 functions	0.05 ... 1 s	--	12		**3RP15 05-1AA40**	1 unit		**--**	
	0.15 ... 3 s	24/100 ... 127	24	▶	**3RP15 05-1AQ30**	1 unit		**3RP15 05-2AQ30**	1 unit
	0.5 ... 10 s	24/200 ... 240	24	▶	**3RP15 05-1AP30**	1 unit		**3RP15 05-2AP30**	1 unit
	1.5 ... 30 s	24 ... 240[5]	24 ... 240[2]	▶	**3RP15 05-1AW30**	1 unit		**3RP15 05-2AW30**	1 unit
2 CO contacts, 16 functions	0.05 ... 1 min	24/100 ... 127	24	▶	**3RP15 05-1BQ30**	1 unit		**3RP15 05-2BQ30**	1 unit
	5 ... 100 s	24/200 ... 240	24	▶	**3RP15 05-1BP30**	1 unit		**3RP15 05-2BP30**	1 unit
	0.15 ... 3 min	24 ... 240[5]	24 ... 240[2]	▶	**3RP15 05-1BW30**	1 unit		**3RP15 05-2BW30**	1 unit
	0.5 ... 10 min	400 ... 440	--		**3RP15 05-1BT20**	1 unit		**--**	
	1.5 ... 30 min								
2 CO contacts, positively driven and hard gold-plated. 8 functions[3][4]	0.05 ... 1 h	24 ... 240	24 ... 240	▶	**3RP15 05-1RW30**	1 unit		**3RP15 05-2RW30**	1 unit
	5 ... 100 min								
	0.15 ... 3 h								
	0.5 ... 10 h								
	1.5 ... 30 h								
	5 ... 100 h								
	∞ [1]								
3RP15 1. timing relays, ON-delay, 1 time setting range									
With LED and 1 CO contact	0.5 ... 10 s	24/100 ... 127	24	▶	**3RP15 11-1AQ30**	1 unit		**3RP15 11-2AQ30**	1 unit
		24/200 ... 240	24	▶	**3RP15 11-1AP30**	1 unit		**3RP15 11-2AP30**	1 unit
	1.5 ... 30 s	24/100 ... 127	24	▶	**3RP15 12-1AQ30**	1 unit		**3RP15 12-2AQ30**	1 unit
		24/200 ... 240	24	▶	**3RP15 12-1AP30**	1 unit		**3RP15 12-2AP30**	1 unit
	5 ... 100 s	24/100 ... 127	24	▶	**3RP15 13-1AQ30**	1 unit		**3RP15 13-2AQ30**	1 unit
		24/200 ... 240	24	▶	**3RP15 13-1AP30**	1 unit		**3RP15 13-2AP30**	1 unit
3RP15 25 timing relays, ON-delay, 15 time setting ranges									
With LED and									
1 CO contacts	0.05 ... 1 s	24/100 ... 127	24	▶	**3RP15 25-1AQ30**	1 unit		**3RP15 25-2AQ30**	1 unit
	0.15 ... 3 s	24/200 ... 240	24	▶	**3RP15 25-1AP30**	1 unit		**3RP15 25-2AP30**	1 unit
2 CO contacts	0.5 ... 10 s	42 ... 48/60	42 ... 48/60[5]		**3RP15 25-1BR30**	1 unit		**--**	
	1.5 ... 30 s	24/100 ... 127	24	▶	**3RP15 25-1BQ30**	1 unit		**3RP15 25-2BQ30**	1 unit
	0.05 ... 1 min	24/200 ... 240	24	▶	**3RP15 25-1BP30**	1 unit		**3RP15 25-2BP30**	1 unit
	5 ... 100 s	24 ... 240[5]	24 ... 240[2]	▶	**3RP15 25-1BW30**	1 unit		**3RP15 25-2BW30**	1 unit
	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								
	∞ [1]								
3RP15 27 timing relays, ON-delay, two-wire design, 4 time setting ranges									
1 NO contact (semiconductor)	0.05 ... 1 s	24 ... 66	24 ... 66[5]		**3RP15 27-1EC30**	1 unit		**3RP15 27-2EC30**	1 unit
	0.2 ... 4 s	90 ... 240	90 ... 240[5]	▶	**3RP15 27-1EM30**	1 unit		**3RP15 27-2EM30**	1 unit
	1.5 ... 30 s								
	12 ... 240 s								

1) 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.
2) Operating range 0.7 to 1.1 x U_s.
3) Positively driven: NO and NC are never closed simultaneously; contact gap ≥ 0.5 mm is ensured, minimum make-break capacity 12 V, 3 mA.
4) The changeover contacts are actuated simultaneously, as a result of which only 8 functions are selectable (no wye-delta, no instantaneous contact).
5) Operating range 0.8 to 1.1 x U_s.

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SIRIUS 3RP15 timing relays in industrial enclosure, 22.5 mm


3RP15 33-1AP30


3RP15 40-1BB31


3RP15 55-1AP30


3RP15 60-1SP30


3RP15 76-2NP30


3RP15 33-2AP30


3RP15 40-2BB31

Version	Time setting range t adjustable by rotary switch to	Rated control supply voltage U_s 50/60 Hz AC V	Rated control supply voltage U_s DC V	DT	Screw terminals Order No.	PS*	DT	Spring-type terminals Order No.	PS*
3RP15 3. timing relays, OFF-delay, with auxiliary voltage, 1 time setting range									
With LED and 1 CO contact The same potential must be applied to terminals A and B	0.5 ... 10 s	24/100 ... 127	24		**3RP15 31-1AQ30**	1 unit		**3RP15 31-2AQ30**	1 unit
		24/200 ... 240	24	▶	**3RP15 31-1AP30**	1 unit		**3RP15 31-2AP30**	1 unit
	1.5 ... 30 s	24/100 ... 127	24		**3RP15 32-1AQ30**	1 unit		**3RP15 32-2AQ30**	1 unit
		24/200 ... 240	24	▶	**3RP15 32-1AP30**	1 unit		**3RP15 32-2AP30**	1 unit
	5 ... 100 s	24/100 ... 127	24		**3RP15 33-1AQ30**	1 unit		**3RP15 33-2AQ30**	1 unit
		24/200 ... 240	24	▶	**3RP15 33-1AP30**	1 unit		**3RP15 33-2AP30**	1 unit
3RP15 40 timing relays, OFF-delay, without auxiliary voltage, 9 time setting ranges[1]									
With LED and									
1 CO contacts	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 15 ... 300 s 30 ... 600 s	24	24[2]	▶	**3RP15 40-1AB31**	1 unit		**3RP15 40-2AB31**	1 unit
		100 ... 127	100 ... 127	▶	**3RP15 40-1AJ31**	1 unit		**3RP15 40-2AJ31**	1 unit
		200 ... 240	200 ... 240	▶	**3RP15 40-1AN31**	1 unit		**3RP15 40-2AN31**	1 unit
		24 ... 240	24 ... 240	▶	**3RP15 40-1AW31**	1 unit		**3RP15 40-2AW31**	1 unit
2 CO contacts		24	24[2]	▶	**3RP15 40-1BB31**	1 unit		**3RP15 40-2BB31**	1 unit
		100 ... 127	100 ... 127		**3RP15 40-1BJ31**	1 unit		**3RP15 40-2BJ31**	1 unit
		200 ... 240	200 ... 240	▶	**3RP15 40-1BN31**	1 unit		**3RP15 40-2BN31**	1 unit
		24 ... 240	24 ... 40	▶	**3RP15 40-1BW31**	1 unit		**3RP15 40-2BW31**	1 unit
3RP15 55 timing relays, clock-pulse relay, 15 time setting ranges									
With LED and 1 CO contact	0.05 ... 1 s 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 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 ∞ [3]	42 ... 48/60	42...48/60[4]		**3RP15 55-1AR30**	1 unit		**3RP15 55-2AR30**	1 unit
		24/100 ... 127	24	▶	**3RP15 55-1AQ30**	1 unit		**3RP15 55-2AQ30**	1 unit
		24/200 ... 240	24	▶	**3RP15 55-1AP30**	1 unit		**3RP15 55-2AP30**	1 unit
3RP15 60 timing relays, wye-delta function, dead interval 50 ms and overtravel time, 1 time setting range									
3 NO contacts (common contact root connecting terminal 17)	Wye-delta 1 ... 20 s , coasting time (idling) 30 ... 600 s	24/100 ... 127	24		**3RP15 60-1SQ30**	1 unit		--	
		24/200 ... 240	24	▶	**3RP15 60-1SP30**	1 unit		**3RP15 60-2SP30**	1 unit
3RP15 7. timing relays, wye-delta function[5], dead interval 50 ms, 1 time setting range									
1 NO contact instantaneous and 1 NO contact delayed (common contact root connecing terminal 17)	1 ... 20 s	24/100 ... 127	24	▶	**3RP15 74-1NQ30**	1 unit		**3RP15 74-2NQ30**	1 unit
		24/200 ... 240	24	▶	**3RP15 74-1NP30**	1 unit		**3RP15 74-2NP30**	1 unit
		200 ... 240/ 380 ... 440	--		**3RP15 74-1NM20**	1 unit		**3RP15 74-2NM20**	1 unit
	3 ... 60 s	24/100 ... 127	24	▶	**3RP15 76-1NQ30**	1 unit		**3RP15 76-2NQ30**	1 unit
		24/200 ... 240	24	▶	**3RP15 76-1NP30**	1 unit		**3RP15 76-2NP30**	1 unit
		200 ... 240/ 380 ... 440	--		**3RP15 76-1NM20**	1 unit		**3RP15 76-2NM20**	1 unit

For accessories, see page 8/16.

1) Setting of output contacts in as-supplied state not defined (bistable relay). Application of the control voltage once results in contact changeover to the correct setting.

2) Operating range 0.7 to 1.25 x U_s.

3) With switch position ∞ no timing. For test purposes (ON/OFF function) on site. For dead time "infinite", the relay is always off. For pulse time "infinite", the relay is always on.

4) Operating range 0.8 to 1.1 x U_s.

5) For example circuit see note on Technical Information on page 8/1.

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Illustrations are approximate

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SIRIUS 3RP20 timing relays, 45 mm

Selection and ordering data

Multifunction

The functions can be adjusted by means of rotary switches. Insert labels can be used to adjust different functions of the 3RP20 05 timing relay clearly and unmistakably. The corresponding labels can be ordered as an accessory. The same potential must be applied to terminals A. and B.

For functions see 3RP19 01 label set, page 8/16.


3RP20 05-1BW30


3RP20 25-1AP30


3RP20 05-2BW30


3RP20 25-2AP30

Version	Time setting range t	Rated control supply voltage U_s 50/60 Hz AC V	Rated control supply voltage U_s DC V	DT	Screw terminals Order No.	PS*	DT	Spring-type terminals Order No.	PS*
3RP20 05 timing relays, multifunction, 15 time setting ranges									
With LED and 1 CO contact, 8 functions	0.05 ... 1 s 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 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 ∞ [2]	24/100 ... 127 24/200 ... 240	24 24	▶ ▶	**3RP20 05-1AQ30** **3RP20 05-1AP30**	1 unit 1 unit ▶		**3RP20 05-2AQ30** **3RP20 05-2AP30**	1 unit 1 unit
With LED and 2 CO contacts, 16 functions[1]		24 ... 240[3]	24 ... 240[4]	▶	**3RP20 05-1BW30**	1 unit		**3RP20 05-2BW30**	1 unit
3RP20 25. timing relays, ON-delay, 15 time setting ranges									
With LED and 1 CO contact[1]	0.05 ... 1 s 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 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 ∞ [2]	24/100 ... 127 24/200 ... 240	24 24	▶ ▶	**3RP20 25-1AQ30** **3RP20 25-1AP30**	1 unit ▶ 1 unit ▶		**3RP20 25-2AQ30** **3RP20 25-2AP30**	1 unit 1 unit

For accessories, see page 8/16.

[1] Units with electrical 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_s.

[4] Operating range 0.7 to 1.1 x U_s.

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7PV15 timing relays in enclosure, 17.5 mm

Selection and ordering data

Solid-state timing relays for general use and 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 setting ranges
- Switch position indication and voltage indication by LED


7PV15 08-1AW30


7PV15 12-1AP30


7PV15 18-1AW30


7PV15 38-1AW30


7PV15 40-1AW30


7PV15 58-1AW30


7PV15 78-1BW30

Version	Time setting range t adjustable by rotary switch to	Rated control supply voltage U_s 50/60 Hz AC V	Rated control supply voltage U_s DC V	DT	Screw terminals Order No.	PS*
7PV15 08 timing relays, multifunction, 7 time setting ranges						
The functions can be adjusted by means of rotary switches. The same potential must be applied to terminals A. and B.						
With LED and 1 CO contact, 7 functions	0.05 ... 1 s 0.5 ... 10 s 5 ... 100 s 30 s ... 10 min 3 min ... 1 h 30 min ... 10 h 5 ... 100 h	12 ... 240	12 ... 240	▶	**7PV15 08-1AW30**	1 unit
With LED and 2 CO contacts, 7 functions		12 ... 240	12 ... 240	▶	**7PV15 08-1BW30**	1 unit
7PV15 1. timing relays, ON-delay, 1 time setting range						
With LED and 1 CO contact	0.05 ... 1 s	24/200 ... 240	24	▶	**7PV15 11-1AP30**	1 unit
	0.5 ... 10 s	24/100 ... 127	24	▶	**7PV15 12-1AQ30**	1 unit
		24/200 ... 240	24	▶	**7PV15 12-1AP30**	1 unit
	5 ... 100 s	24/100 ... 127	24	▶	**7PV15 13-1AQ30**	1 unit
		24/200 ... 240	24	▶	**7PV15 13-1AP30**	1 unit
7PV15 18 timing relays, ON-delay, 7 time setting ranges						
With LED and 1 CO contact	0.05 ... 1 s 0.5 ... 10 s 5 ... 100 s 30 s ... 10 min 3 min ... 1 h 30 min ... 10 h 5 ... 100 h	12 ... 240	12 ... 240	▶	**7PV15 18-1AW30**	1 unit
		90 ... 127	90 ... 127	▶	**7PV15 18-1AJ30**	1 unit
		180 ... 240	180 ... 240	▶	**7PV15 18-1AN30**	1 unit
7PV15 38 timing relays, OFF-delay, with auxiliary voltage, 7 time setting ranges						
With LED and 1 CO contact	0.05 ... 1 s 0.5 ... 10 s 5 ... 100 s 30 s ... 10 min 3 min ... 1 h 30 min ... 10 h 5 ... 100 h	12 ... 240	12 ... 240	▶	**7PV15 38-1AW30**	1 unit
7PV15 40 timing relays, OFF-delay, without auxiliary voltage, 7 time setting ranges						
With LED and 1 CO contact	0.05 ... 1 s 0.15 ... 3s 0.3 ... 6 s 0.5 ... 10 s 1.5 ... 30 s 3 ... 60 s 5 ... 100 s	12 ... 240	12 ... 240	▶	**7PV15 40-1AW30**	1 unit
7PV15 58 timing relays, clock-pulse relay, 7 time setting ranges						
With LED and 1 CO contact	0.05 ... 1 s 0.5 ... 10 s 5 ... 100 s 30 s ... 10 min 3 min ... 1 h 30 min ... 10 h 5 ... 100 h	12 ... 240	12 ... 240	▶	**7PV15 58-1AW30**	1 unit
7PV15 78 timing relays, wye-delta function, 7 time setting ranges						
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 min 3 min ... 1 h 30 min ... 10 h 5 ... 100 h	12 ... 240	12 ... 240	▶	**7PV15 78-1BW30**	1 unit

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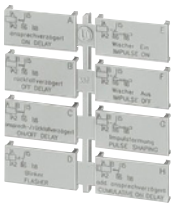
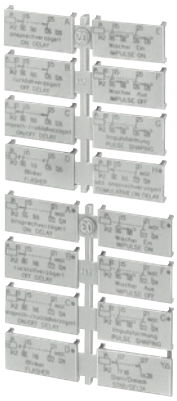
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Accessories

Selection and ordering data

Accessories for 3RP15 and 3RP20

	Version	Function	Identification letter	Use	DT	Order No.	PS*
Label sets for 3RP15 and 3RP20							
	Accessory for 3RP15 05 and 3RP20 (not included in the scope of supply). The label set offers the possibility of labeling timing relays with the set function in English and German.						
 3RP19 01-0A	1 label set (1 unit) with 8 functions	With ON-delay	A	For devices with 1 CO contact and 3RP15 05-.RW30		**3RP19 01-0A**	5 units
		OFF-delay with auxiliary voltage	B				
		ON-delay and OFF-delay with auxiliary voltage	C				
		Flashing, starting with interval	D				
		Passing make contact	E				
		Passing break contact with auxiliary voltage	F				
		Pulse-forming with auxiliary voltage	G				
		Additive ON-delay with auxiliary voltage	H				
 3RP19 01-0B	1 label set (1 unit) with 16 functions	With ON-delay	A	For devices with 2 CO contacts		**3RP19 01-0B**	5 units
		OFF-delay with auxiliary voltage	B				
		ON-delay and OFF-delay with auxiliary voltage	C				
		Flashing, starting with interval	D				
		Passing make contact	E				
		Passing break contact with auxiliary voltage	F				
		Pulse-forming with auxiliary voltage	G				
		Additive ON-delay with auxiliary voltage and instantaneous contact	H•				
		ON-delay and instantaneous contact	A•				
		OFF-delay with auxiliary voltage and instantaneous contact	B•				
		ON-delay and OFF-delay with auxiliary voltage and instantaneous contact	C•				
		Flashing, starting with interval, and instantaneous contact	D•				
		Passing make contact and instantaneous contact	E•				
		Passing break contact with auxiliary voltage and instantaneous contact	F•				
		Pulse-forming with auxiliary voltage and instantaneous contact	G•				
		Wye-delta function	Y/Δ				
Blank labels for 3RP15 and 3RP20							
	Blank labels, 20 mm x 7 mm, pastel turquoise[1]			For 3RP15, 3RP20		**3RT19 00-1SB20**	340 units
Covering caps and push-in lugs for 3RP15							
 3RP19 03	**Push-in lugs** For screw fixing, 2 units are required for each device			For 3RP15 with 1 or 2 CO contacts		**3RP19 03**	10 units
 3RP19 02	**Sealable covers** for securing against unauthorized adjustment of setting knobs			For 3RP15 with 1 or 2 CO contacts		**3RP19 02**	5 units
Tools for opening spring-type terminals							
 3RA29 08-1A	**Screwdrivers** for all SIRIUS devices with spring-type terminals 3.0 mm x 0.5 mm, length approx. 200 mm, titanium gray/black, partially insulated			For auxiliary circuit connections		**Spring-type terminals** **3RA29 08-1A**	1 unit

[1] PC labeling system for individual inscription of unit labeling plates available from:
murrplastik Systemtechnik GmbH
www.murrplastik.de

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SIRIUS 3RR2 Monitoring Relays for Mounting onto 3RT2 Contactors

Overview

The SIRIUS 3RR2 current monitoring relays are suitable for the load monitoring of motors or other loads. In two or three 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 onto 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 brackets for stand-alone installation are available for separate standard rail mounting.

Benefits

- Directly mountable onto 3RT2 contactors, i.e. no additional wiring outlay 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 overvoltage, undervoltage 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 alternatively with innovative spring-type 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 of 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, e.g. due to damaged insulation or dampness

Selection and ordering data

SIRIUS 3RR2 current monitoring relays

- For load monitoring of motors or other loads
- Multi-phase monitoring of undercurrent and overcurrent
- Starting and tripping delay can be adjusted separately
- Tripping delay 0 to 30 s
- Auto or manual RESET



3RR21 41-1AW30



3RR21 42-1AW30



3RR22 41-1FW30



3RR22 42-1FW30



3RR21 41-2AA30



3RR22 41-2FA30

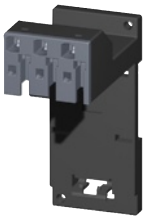
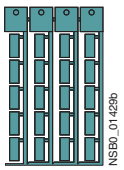
Size	Measuring range	Hysteresis	Power supply U_s	DT	Screw terminals	PS*	DT	Spring-type terminals	PS*
	A	A	V		Order No.			Order No.	
Basic versions									
Analogically adjustable, closed-circuit principle, 1 CO, 2-phase current monitoring, apparent current monitoring, start-up delay 0 ... 60 s									
S00	1.6 ... 16	6.25 % of threshold value	24 AC/DC 24 ... 240 AC/DC		**3RR21 41-1AA30** **3RR21 41-1AW30**	1 unit 1 unit		**3RR21 41-2AA30** **3RR21 41-2AW30**	1 unit 1 unit
S0	4 ... 40	6.25 % of threshold value	24 AC/DC 24 ... 240 AC/DC		**3RR21 42-1AA30** **3RR21 42-1AW30**	1 unit 1 unit		**3RR21 42-2AA30** **3RR21 42-2AW30**	1 unit 1 unit
Standard versions									
Digitally adjustable, LCD, open-circuit or closed-circuit principle, 1 CO, 1 semiconductor output, 3-phase current monitoring, active current or apparent current monitoring, phase sequence monitoring, residual current monitoring, blocking current monitoring, reclose delay time 0 ... 300 min, start-up delay 0 ... 99 s, separate settings for warning and alarm thresholds									
S00	1.6 ... 16	0.1 ... 3	24 AC/DC 24 ... 240 AC/DC		**3RR22 41-1FA30** **3RR22 41-1FW30**	1 unit 1 unit		**3RR22 41-2FA30** **3RR22 41-2FW30**	1 unit 1 unit
S0	4 ... 40	0.1 ... 8	24 AC/DC 24 ... 240 AC/DC		**3RR22 42-1FA30** **3RR22 42-1FW30**	1 unit 1 unit		**3RR22 42-2FA30** **3RR22 42-2FW30**	1 unit 1 unit

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Illustrations are approximate

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Current monitoring

Accessories

	Use	Version	Size	DT	Order No.	PS*
Terminal brackets for stand-alone installation[1]						
 3RU29 16-3AA01	For 3RR2	For separate mounting of the overload relays or monitoring relays; screw and snap-on mounting onto TH 35 standard mounting rail			**Screw terminals**	
		• Screw connection	S00	▶	**3RU29 16-3AA01**	1 unit
			S0	▶	**3RU29 26-3AA01**	1 unit
 3RU29 26-3AC01					**Spring-type terminals**	
		• Spring-type connection	S00		**3RU29 16-3AC01**	1 unit
			S0		**3RU29 26-3AC01**	1 unit
Blank labels						
 3RT19 00-1SB20	For 3RR2	**Unit labeling plates**[2] For SIRIUS devices 20 mm x 7 mm, pastel turquoise			**3RT19 00-1SB20**	340 units
Sealable covers						
 3RR29 40	For 3RR2	**Sealable covers** For securing against unintentional or unauthorized adjustment of settings			**3RR29 40**	5 units
	For 3RR21	**Sealing foils** For securing against unauthorized adjustment of setting knobs		▶	**3TK28 20-0AA00**	1 unit
Tools for opening spring-type terminals						
 3RA29 08-1A	For auxiliary circuit connections	**Screwdrivers** For all SIRIUS devices with spring-type terminals 3.0 mm x 0.5 mm, length approx. 200 mm, titanium gray/black, partially insulated			**Spring-type terminals** **3RA29 08-1A**	1 unit

[1] The accessories are identical to those of the 3RU21 thermal overload relays and the 3RB3 solid-state overload relays.

[2] PC labeling system for individual inscription of unit labeling plates available from: murrplastik Systemtechnik GmbH www.murrplastik.de

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Overview

Solid-state line monitoring relays provide maximum protection for mobile machines and plants or for unstable networks. Network and voltage faults can be detected early and rectified before far greater damage ensues.

Depending on the version, the relays monitor phase sequence, phase failure with and without N conductor monitoring, phase asymetry, undervoltage or overvoltage.

Phase asymetry 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 system voltage or the directly set limit values are overshot or undershot. The rms value of the voltage is measured.

With the 3UG46 17 or 3UG46 18 relay, a wrong direction of rotation can also be corrected automatically.

Application

The relays are used for mobile equipment, e.g. air conditioning compressors, refrigerating containers, building site compressors and cranes, and for motor protection.

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

Selection and ordering data


3UG45 11-1AP20


3UG46 15-1CR20


3UG46 16-1CR20


3UG46 17-1CR20


3UG46 18-1CR20


3UG45 11-2BP20


3UG45 12-2BR20

Hysteresis	Under-voltage detection	Over-voltage detection	Stabilization time	Tripping delay	Version of auxiliary contacts	Rated control supply voltage U_s [1]	DT	Screw terminals	PS*	DT	Spring-type terminals	PS*
			s	s	CO	V		Order No.			Order No.	
Monitoring of phase sequence												
Auto-RESET												
--	--	--	--	--	1 2	160 … 260 AC		**3UG45 11-1AN20** **3UG45 11-1BN20**	1 unit 1 unit		**3UG45 11-2AN20** **3UG45 11-2BN20**	1 unit 1 unit
					1 2	320 … 500 AC		**3UG45 11-1AP20** **3UG45 11-1BP20**	1 unit 1 unit		**3UG45 11-2AP20** **3UG45 11-2BP20**	1 unit 1 unit
					1 2	420 … 690 AC		**3UG45 11-1AQ20** **3UG45 11-1BQ20**	1 unit 1 unit		**3UG45 11-2AQ20** **3UG45 11-2BQ20**	1 unit 1 unit
Monitoring of phase sequence, phase failure and phase unbalance												
Auto-RESET, closed-circuit principle, unbalance threshold 10 %												
--	--	--	--	--	1 2	160 … 690 AC		**3UG45 12-1AR20** **3UG45 12-1BR20**	1 unit 1 unit		**3UG45 12-2AR20** **3UG45 12-2BR20**	1 unit 1 unit
Monitoring of phase sequence, phase failure, unbalance and undervoltage												
Analogically adjustable, Auto-RESET, closed-circuit principle, fixed unbalance threshold 20 %												
5 % of set value	✓	--	--	0.1 … 20	2	160 … 690 AC		**3UG45 13-1BR20**	1 unit		**3UG45 13-2BR20**	1 unit
Digitally adjustable, auto or manual RESET, open-circuit or closed-circuit principle, unbalance threshold 0 or 5 ... 20 %												
Adjustable 1 ... 20 V	✓	--	0.1 ... 20	0.1 … 20	2	160 … 690 AC		**3UG46 14-1BR20**	1 unit		**3UG46 14-2BR20**	1 unit
Monitoring of phase sequence, phase failure, overvoltage and undervoltage												
Digitally adjustable, Auto-RESET or manual RESET, open-circuit or closed-circuit principle												
Adjustable 1 ... 20 V	✓	✓	--	0.1 … 20 [2]	2 [2]	160 … 690 AC		**3UG46 15-1CR20**	1 unit		**3UG46 15-2CR20**	1 unit

✓ Function available -- Function not available

[1] Absolute limit values.

[2] 1 CO contact each and 1 tripping delay time each for U_{min} and U_{max}.

For accessories, see page 8/25.

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SIRIUS 3UG Monitoring Relays for Stand-Alone Installation

Line monitoring

Hysteresis	Under-voltage detec-tion	Over-voltage detec-tion	Power system stabiliza-tion time	Tripping delay	Version of auxiliary contacts	Rated control supply voltage U_s [1]	DT	Screw terminals	PS*	DT	Spring-type terminals	PS*
			s	s	CO	V		Order No.			Order No.	
Monitoring of phase sequence, phase and N conductor failure, overvoltage and undervoltage												
Digitally adjustable, Auto-RESET or manual RESET, open-circuit or closed-circuit principle												
Adjustable 1 ... 20 V	✓	✓	--	0.1 … 20 [2]	2 [2]	90… 400 AC against N		**3UG46 16-1CR20**	1 unit		**3UG46 16-2CR20**	1 unit
Automatic correction of the direction of rotation in case of wrong phase sequence, phase failure, phase unbalance, overvoltage and undervoltage												
Digitally adjustable, auto or manual RESET, open-circuit or closed-circuit principle, unbalance threshold 0 or 5 ... 20 %												
Adjustable 1 ... 20 V	✓	✓	--	0.1 … 20	2 [3]	160 … 690 AC		**3UG46 17-1CR20**	1 unit		**3UG46 17-2CR20**	1 unit
Automatic correction of the direction of rotation in case of wrong phase sequence, phase and N conductor failure, phase unbalance, overvoltage and undervoltage												
Digitally adjustable, auto or manual RESET, open-circuit or closed-circuit principle, unbalance threshold 0 or 5 ... 20 %												
Adjustable 1 ... 20 V	✓	✓	--	0.1 … 20	2 [3]	90… 400 AC against N		**3UG46 18-1CR20**	1 unit		**3UG46 18-2CR20**	1 unit

✓ Function available

-- Function not available

For accessories, see page 8/25.

1) Absolute limit values.

2) 1 CO contact each and 1 tripping delay time each for U_{min} and U_{max}.

3) 1 CO contact each for power system fault and phase sequence correction.

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Voltage monitoring

Overview

The relays monitor single-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).

Application

- Protection of a plant against destruction due to overvoltage
- Switch-on of a plant at a defined voltage and higher
- Protection against overloaded control supply voltages, particularly with battery power
- Threshold switch for analog signals from 0.1 to 10 V

Selection and ordering data

- Digitally adjustable, with illuminated LC display
- Auto or manual RESET
- Open or closed-circuit principle
- 1 CO contact



3UG46 31-1AA30



3UG46 33-2AL30

Measuring range	Hysteresis	Rated control supply voltage U_s	DT	Screw terminals	PS*	DT	Spring-type terminals	PS*
V	V	V		Order No.			Order No.	
Internal power supply without auxiliary voltage, start-up delay and tripping delay can be adjusted separately 0.1 ... 20 s								
17 … 275 AC/DC	0.1 ... 150	17 … 275 AC/DC [1]		**3UG46 33-1AL30**	1 unit		**3UG46 33-2AL30**	1 unit
Supplied from an external auxiliary voltage, tripping delay adjustable 0.1 ... 20 s								
0.1 … 60 AC/DC	0.1 ... 30	24 AC/DC		**3UG46 31-1AA30**	1 unit		**3UG46 31-2AA30**	1 unit
10 … 600 AC/DC	0.1 ... 300			**3UG46 32-1AA30**	1 unit		**3UG46 32-2AA30**	1 unit
0.1 … 60 AC/DC	0.1 ... 30	24 … 240 AC/DC		**3UG46 31-1AW30**	1 unit		**3UG46 31-2AW30**	1 unit
10 … 600 AC/DC	0.1 ... 300			**3UG46 32-1AW30**	1 unit		**3UG46 32-2AW30**	1 unit

1) Absolute limit values.

For accessories, see page 8/25.

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Current monitoring

Overview

The relays monitor single-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 supply voltage types.

Application

- Overcurrent and undercurrent monitoring
- Monitoring the functionality of electrical loads
- Open-circuit monitoring
- Threshold switch for analog signals from 4 to 20 mA

Selection and ordering data

- Digitally adjustable, with illuminated LC display
- Auto or manual RESET
- Open or closed-circuit principle
- 1 CO contacts

Measuring range	Hysteresis	Rated control supply voltage U_s	DT	Screw terminals	DT	Spring-type terminals	PS*
		V		Order No.		Order No.	
Monitoring of undercurrent and overcurrent, startup delay and tripping delay can be adjusted separately 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]		**3UG46 21-1AA30** **3UG46 22-1AA30**		**3UG46 21-2AA30** **3UG46 22-2AA30**	1 unit 1 unit
3 ... 500 mA AC/DC 0.05 ... 10 A AC/DC	0.1 ... 250 mA 0.01 ... 5 A	24 ... 240 AC/DC[2]		**3UG46 21-1AW30** **3UG46 22-1AW30**		**3UG46 21-2AW30** **3UG46 22-2AW30**	1 unit 1 unit

[1] No electrical separation. Load supply voltage 24 V.

[2] Electrical separation between control circuit and measuring circuit. Load supply voltage for protective separation max. 300 V, for simple isolation max. 500 V.

For accessories, see page 8/25.

With AC currents I > 10 A it is possible to use 4NC current transformers as an accessory, see Catalog LV 10.1, Chapter 2.

Power factor and active current monitoring

Overview

The 3UG46 41 power factor and active current monitoring device enables the load monitoring of motors.

Whereas power factor 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.

Application

- No-load monitoring and load shedding, such as in the event of a V-belt tear
- Underload monitoring in the low 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 networks for control of compensation equipment
- Broken cable between control cabinet and motor

Selection and ordering data

- For monitoring the power factor and the active current I_{res} (p.f. x I)
- Suitable for single- and three-phase currents
- Digitally adjustable, with illuminated LC display
- 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

Measuring range		Hysteresis		Stabilization time	OFF-delay	Rated control supply voltage U_s[1]	DT	Screw terminals	PS*	DT	Spring-type terminals	PS*
For power factor	For active current I_{res}	For power factor	For active current I_{res}			50/60 Hz AC						
P.f.	A	P.f.	A	s	s	V		Order No.			Order No.	
0.10 ... 0.99	0.2 ... 10.0	0.1	0.1 ... 2.0	0 ... 99	0.1 ... 20.0	90 ... 690		**3UG46 41-1CS20**	1 unit		**3UG46 41-2CS20**	1 unit

[1] Absolute limit values.

For accessories, see page 8/25.

With AC currents I_{res} > 10 A it is possible to use 4NC current transformers as an accessory, see Catalog LV 10.1.

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Residual current monitoring: Residual-current monitoring relays

Overview

The 3UG46 24 residual-current monitoring relay is used together with the 3UL22 summation current transformer for plant monitoring.

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

Selection and ordering data

- For monitoring residual currents $I_{\Delta n}$ 0.3 to 40 A
- For 3UL22 summation current transformers with feed-through opening 40 to 120 mm
- Digitally adjustable, with illuminated LC display
- Separately adjustable limit value and warning threshold
- Permanent display of actual value and tripping state
- 1 CO contact each for limit violation and warning threshold

Display range	Setting range	Hysteresis		Startup / tripping delay time	Rated control supply voltage U_s [2]	DT	Screw terminals	PS*	DT	Spring-type terminals	PS*
		Limit value	Warning value				Order No.			Order No.	
A	A	A	A	s	V						
10 ... 120 % of $I_{\Delta n}$	10 ... 100 % of $I_{\Delta n}$	LSB [1] up to 50 % of $I_{\Delta n}$	5 % of $I_{\Delta n}$	0.1 ... 20	90 ... 690		**3UG46 24-1CS20**	1 unit		**3UG46 24-2CS20**	1 unit

[1] LSB: Smallest adjustable value, transformer-dependent, ≤ 1 % of $I_{\Delta n}$.

[2] Absolute limit values.

For accessories, see page 8/25.
For 3UL22 summation current transformers see below.

Residual-current monitoring: Summation current transformers

Overview

The 3UL22 summation current transformers detect fault currents in machines and plants. Together with the 3UG46 24 residual current monitoring relay or the SIMOCODE 3UF motor management and control unit it is possible to perform residual-current and ground-fault monitoring.

Selection and ordering data

	Feed-through opening diameter	Rated insulation voltage U_i	Rated fault current $I_{\Delta n}$	For Protodur cable, can be fed through	DT	Screw terminals	PS*
	mm	V AC	A	max. mm²		Order No.	
Summation current transformers (essential accessory for 3UG46 24 or SIMOCODE 3UF)							
 3UL22 01-1A	40	690	0.3	4 x 95		**3UL22 01-1A**	1 unit
			0.5			**3UL22 01-2A**	1 unit
			1			**3UL22 01-3A**	1 unit
	65	690	0.3	4 x 240		**3UL22 02-1A**	1 unit
			0.5			**3UL22 02-2A**	1 unit
			1			**3UL22 02-3A**	1 unit
			6			**3UL22 02-1B**	1 unit
			10			**3UL22 02-2B**	1 unit
			16			**3UL22 02-3B**	1 unit
			25			**3UL22 02-4B**	1 unit
			40			**3UL22 02-5B**	1 unit
	120	1000	0.3	8 x 300		**3UL22 03-1A**	1 unit
			0.5			**3UL22 03-2A**	1 unit
			1			**3UL22 03-3A**	1 unit
			6			**3UL22 03-1B**	1 unit
			10			**3UL22 03-2B**	1 unit
			16			**3UL22 03-3B**	1 unit
			25			**3UL22 03-4B**	1 unit
			40			**3UL22 03-5B**	1 unit

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Insulation monitoring for ungrounded AC networks

Overview

Relay for monitoring the insulation resistance between the ungrounded single or three-phase AC supply and a protective conductor

- Measuring principle with superimposed DC voltage
- Two selectable measuring ranges of 1 to 110 kΩ
- Stepless setting within the measuring range
- Auto-RESET function with fixed hysteresis or storage of the tripping operation can be selected
- Test function with test button and terminal connections on the front
- Switching output: 1 CO contact
- Insulation fault indication with a red LED
- Control supply voltage indication with a green LED
- Electromagnetically compatible according to EN 61000-6-2 and EN 61000-6-4

Application

The 3UG30 81 monitoring device is suitable for insulation monitoring of AC systems with one or three phases in ungrounded networks (IT networks).

Control supply voltage

The 3UG30 81-1AK20 has alternative voltage terminals. Only one control supply voltage is permitted to be connected to it! Terminals A1 and A2 are used to connect 230 V AC and terminals A1 and B2 are used to connect 115 V AC.

The 3UG30 81-1AW30 has a wide-range input of 24 V to 240 V AC/DC on terminals A1 and A2.

Selection and ordering data

Measuring range U_e	Rated control supply voltage U_s	DT	Screw terminals	PS*
kΩ	V		Order No.	
Insulation monitors for ungrounded AC networks				
1 ... 110	115 / 230 AC		**3UG30 81-1AK20**	1 unit
	24 ... 240 AC/DC		**3UG30 81-1AW30**	1 unit



3UG30 81-1AK20

For accessories, see page 8/25.

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Insulation monitoring for ungrounded DC networks

Overview

Relay for monitoring the insulation resistance between ungrounded pure DC networks and a protective conductor

- Measuring principle for residual current measurement
- Response value can be adjusted steplessly from 10 to 110 kΩ
- Auto-RESET function with hysteresis or storage of the tripping operation can be selected
- Front selector switch for open-circuit and closed-circuit principle for the output relay
- Test function with test buttons on the front for L+ and L- and over terminal connections
- Switching output: 1 CO contact
- Insulation fault indicator for L+ and L- through two red LEDs
- Control supply voltage indication with a green LED
- Electromagnetically compatible according to EN 61000-6-2 and EN 61000-6-4

Application

The 3UG30 82 monitoring relay has been designed for insulation monitoring in ungrounded, purely DC networks with or without filtering. It is mainly used to monitor ungrounded DC voltage networks as well as to monitor battery-powered systems.

Control supply voltage

Due to the electrical isolation of the supply voltage and the measuring circuit, the relay can be used for DC networks in which the auxiliary voltage is either supplied externally or where the network to be monitored also serves as the power supply.

Note:

If the monitoring relay is supplied with an external voltage, then the terminals A1 and L+ as well as A2 and L- must not be connected with each other.

Selection and ordering data

Measuring range U_e	Rated control supply voltage U_s	DT	Screw terminals	PS*
kΩ	V		Order No.	
Insulation monitors for ungrounded DC networks				
10 ... 110	24 ... 240 AC/DC		**3UG30 82-1AW30**	1 unit



3UG30 82-1AW30

For accessories, see page 8/25.

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Level monitoring: Level monitoring relays

Overview

The 3UG45 01 level monitoring relay is used together with 1 to 3-pole sensors to monitor the levels of conductive liquids.

Application

- Single-point and two-point level monitoring
- Overflow protection
- Dry run protection
- Leak monitoring

Selection and ordering data

- For level monitoring of electrically conductive liquids
- Control principle: inlet or outlet 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 indicating the relay state
- 1 green LED for indicating the applied control supply voltage
- 1 CO contact

Sensitivity	Tripping delay time	Rated control supply voltage U_s	DT	Screw terminals	PS*	DT	Spring-type terminals	PS*
kΩ	s	V AC/DC		Order No.			Order No.	
2 ... 200	0.5 ... 10	24[1]		**3UG45 01-1AA30**	1 unit		**3UG45 01-2AA30**	1 unit
		24 ... 240		**3UG45 01-1AW30**	1 unit		**3UG45 01-2AW30**	1 unit

[1] The rated control supply voltage and the measuring circuit are not electrically separated.

For accessories, see page 8/25.

For level monitoring sensors see below.

Level monitoring relays: Level monitoring sensors

Selection and ordering data

	Version	DT	Order No.	PS*
Level monitoring sensors (essential accessory)				
	The wire electrodes can be cut or bent to the required length before or after installation. The Teflon insulation must be removed over a length of approx. 5 mm.			
 3UG32 07-3A	**Three-pole wire electrode, 500 mm long** For 2-point liquid level control in an insulating tank. One electrode each for the min. and max. value and a common reference electrode.	►	**3UG32 07-3A**	1 unit
 3UG32 07-2A	**Two-pole wire electrode, 500 mm long** For alarm indication in the event of overflow or low level and for 2-point liquid level control, when the conductive tank is used as the reference electrode.	►	**3UG32 07-2A**	1 unit
 3UG32 07-2B	**Two-pole bow electrode** Thanks to the small space requirements due to lateral fitting, ideal for use in small containers and pipes, as a leak monitor and level monitor or for warning of water entering an enclosure.	►	**3UG32 07-2B**	1 unit
 3UG32 07-1B	**Single-pole bow electrode for lateral fitting** As a max. value electrode for lateral fitting or for alarm indication in conductive tanks or pipes.	►	**3UG32 07-1B**	1 unit
 3UG32 07-1C	**Single-pole rod electrode for lateral fitting** For high flow velocities or for intensively sparkling fluids.		**3UG32 07-1C**	1 unit

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Speed monitoring

Overview

The 3UG46 51 monitoring relay is used together with a sensor to monitor motor drives for overspeed and/or underspeed.

Furthermore, this 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).

Application

- Slip or tear of a belt drive
- Overload monitoring
- Transport monitoring for completeness

Selection and ordering data

- For speed monitoring in min^{-1} (rpm)
- Two- or three-wire sensor with mechanical or electronic 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 2200 pulses min^{-1} (0.0017 to 36.7 Hz)
- With or without enable signal for the operating mechanism to be monitored
- Digitally adjustable, with illuminated LC display
- 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

Measuring range	Hysteresis	Startup delay time	Tripping delay time	Pulses per revolution	Rated control supply voltage U_s AC/DC	DT	Screw terminals	PS*	DT	Spring-type terminals	PS*
rpm	rpm	s	s		V		Order No.			Order No.	
0.1 ... 2200	OFF	0 ... 900	0.1 ... 99.9	1 ... 10	24[1]		**3UG46 51-1AA30**	1 unit		**3UG46 51-2AA30**	1 unit
	0.1 ... 99.9				24 ... 240		**3UG46 51-1AW30**	1 unit		**3UG46 51-2AW30**	1 unit

[1] The rated control supply voltage and the measuring circuit are not electrically separated.

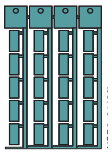
For accessories see below.

For matching sensors see Catalog FS 10 "Sensors for Production Automation".

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Accessories

Selection and ordering data

	Use	Version	DT	Order No.	PS*
Blank labels					
 3RT19 00-1SB20	For 3UG4	**Unit labeling plates** For SIRIUS devices			
		20 mm x 7 mm, pastel turquoise[1]		**3RT19 00-1SB20**	340 units
	For 3UG4	**Inscription labels for sticking** For SIRIUS devices			
		19 mm x 6 mm, pastel turquoise		**3RT19 00-1SB60**	3060 units
		19 mm x 6 mm, zinc yellow		**3RT19 00-1SD60**	3060 units
Push-in lugs and covers					
 3RP19 03	For 3UG4	**Push-in lugs** For screw fixing, 2 units are required for each device		**3RP19 03**	10 units
	For 3UG4	**Sealable covers** For securing against unauthorized adjustment of setting knobs		**3RP19 02**	5 units
 3RP19 02	For 3UG45	**Sealing foils** For securing against unauthorized adjustment of setting knobs	▶	**3TK28 20-0AA00**	1 unit
Covers for insulation monitoring relays					
	For 3UG30 81, 3UG30 82	**Sealable, transparent covers**		**3UG32 08-1A**	1 unit
Tools for opening spring-type terminals					
 3RA29 08-1A	For auxiliary circuit connections	**Screwdrivers** For all SIRIUS devices with spring-type terminals 3.0 mm x 0.5 mm, length approx. 200 mm, titanium gray/black, partially insulated		**Spring-type terminals** **3RA29 08-1A**	1 unit

[1] PC labeling system for individual inscription of unit labeling plates available from:
murrplastik Systemtechnik GmbH
www.murrplastik.de

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General data

Overview

The 3RS10, 3RS11, 3RS20 and 3RS21 temperature monitoring relays can be used for measuring temperatures in solid, liquid and gas media.

The temperature is detected by the sensor in the medium, evaluated by the device and monitored for overshoot or undershoot or for staying within an operating range (window function).

Relays, analogically adjustable for 1 sensor

Selection and ordering data

- For temperature monitoring with resistance sensors or thermo-elements
- Temperature range -55 °C to +1000 °C, depending on sensor type
- Wide-range voltage versions are electrically separated.
- Analogically adjustable, setting accuracy ±5 %
- Versions with 2 separately adjustable threshold values and adjustable open/closed-circuit principle
- Hysteresis for threshold value 1 is adjustable (2 to 20 %), hysteresis for threshold 2 is non-adjustable (5 %)
- 1 NC + 1 NO for versions with one threshold value
- 1 CO for threshold value1 and 1 NO for threshold value 2

	Sensor	Function	Measuring range	Rated control supply voltage U_s AC 50/60 Hz	DT	Screw terminals	PS*	DT	Spring-type terminals	PS*
			°C	V		Order No.			Order No.	
Analogically adjustable, 1 threshold value, width 22.5 mm; closed-circuit principle; without memory; 1 NO + 1 NC										
 3RS10 00-1CD10	PT100 (resistance sensor)	Overshoot	- 50 … + 50	24 AC/DC		**3RS10 00-1CD00**	1 unit		**3RS10 00-2CD00**	1 unit
				110 / 230 AC		**3RS10 00-1CK00**	1 unit		**3RS10 00-2CK00**	1 unit
			0 … + 100	24 AC/DC		**3RS10 00-1CD10**	1 unit		**3RS10 00-2CD10**	1 unit
				110 / 230 AC		**3RS10 00-1CK10**	1 unit		**3RS10 00-2CK10**	1 unit
			0 … + 200	24 AC/DC		**3RS10 00-1CD20**	1 unit		**3RS10 00-2CD20**	1 unit
				110 / 230 AC		**3RS10 00-1CK20**	1 unit		**3RS10 00-2CK20**	1 unit
		Undershoot	- 50 … + 50	24 AC/DC		**3RS10 10-1CD00**	1 unit		--	
				110 / 230 AC		**3RS10 10-1CK00**	1 unit		--	
			0 … + 100	24 AC/DC		**3RS10 10-1CD10**	1 unit		--	
				110 / 230 AC		**3RS10 10-1CK10**	1 unit		--	
			0 … + 200	24 AC/DC		**3RS10 10-1CD20**	1 unit		--	
				110 / 230 AC		**3RS10 10-1CK20**	1 unit		--	
 3RS10 00-2CD10	Type J (thermo-element)	Overshoot	0 … + 200	24 AC/DC		**3RS11 00-1CD20**	1 unit		**3RS11 00-2CD20**	1 unit
				110 / 230 AC		**3RS11 00-1CK20**	1 unit		--	
			0 … + 600	24 AC/DC		**3RS11 00-1CD30**	1 unit		--	
				110 / 230 AC		**3RS11 00-1CK30**	1 unit		--	
	Type K (thermo-element)	Overshoot	0 … + 200	24 AC/DC		**3RS11 01-1CD20**	1 unit		--	
				110 / 230 AC		**3RS11 01-1CK20**	1 unit		--	
			0 … + 600	24 AC/DC		**3RS11 01-1CD30**	1 unit		--	
				110 / 230 AC		**3RS11 01-1CK30**	1 unit		--	
			+ 500 … + 1000	24 AC/DC		**3RS11 01-1CD40**	1 unit		--	
				110 / 230 AC		**3RS11 01-1CK40**	1 unit		--	
Analogically adjustable for warning and disconnection, 2 threshold values, 22.5 mm width, open/closed-circuit principle switchable; without memory; 1 NO + 1 CO										
 3RS10 20-1DD00	PT100 (resistance sensor)	Overshoot	- 50 … + 50	24 AC/DC		**3RS10 20-1DD00**	1 unit		--	
				24 … 240 AC/DC		**3RS10 20-1DW00**	1 unit		--	
			0 … + 100	24 AC/DC		**3RS10 20-1DD10**	1 unit		--	
				24 … 240 AC/DC		**3RS10 20-1DW10**	1 unit		--	
			0 … + 200	24 AC/DC		**3RS10 20-1DD20**	1 unit		--	
				24 … 240 AC/DC		**3RS10 20-1DW20**	1 unit		**3RS10 20-2DW20**	1 unit
		Undershoot	-50 … + 50	24 AC/DC		**3RS10 30-1DD00**	1 unit		--	
				24 … 240 AC/DC		**3RS10 30-1DW00**	1 unit		--	
			0 … + 100	24 AC/DC		**3RS10 30-1DD10**	1 unit		--	
				24 … 240 AC/DC		**3RS10 30-1DW10**	1 unit		--	
 3RS11 20-2DD20			0 … + 200	24 AC/DC		**3RS10 30-1DD20**	1 unit		**3RS10 30-2DD20**	1 unit
				24 … 240 AC/DC		**3RS10 30-1DW20**	1 unit		--	
	Type J (thermo-element)	Overshoot	0 … + 200	24 AC/DC		**3RS11 20-1DD20**	1 unit		**3RS11 20-2DD20**	1 unit
				24 … 240 AC/DC		**3RS11 20-1DW20**	1 unit		--	
			0 … + 600	24 AC/DC		**3RS11 20-1DD30**	1 unit		--	
				24 … 240 AC/DC		**3RS11 20-1DW30**	1 unit		--	
	Type K (thermo-element)	Overshoot	0 … + 200	24 … 240 AC/DC		**3RS11 21-1DW20**	1 unit		--	
			0 … + 600	24 … 240 AC/DC		**3RS11 21-1DW30**	1 unit		--	
			+ 500 … + 1000	24 AC/DC		**3RS11 21-1DD40**	1 unit		--	

For accessories, see page 8/28.

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Selection and ordering data

- For temperature monitoring with resistance sensors or thermo-elements
- Temperature range dependent on sensor type
  - for 3RS10, 3RS11: -99 to +1800 °C
  - for 3RS20, 3RS21: -99 to +1830 °F
- Wide-range voltage versions are electrically separated.
- Non-volatile
- Short-circuit and open-circuit detection in sensor circuit
- Digitally adjustable, with illuminated LC display
- Overshoot, undershoot or range monitoring
- Exact sensor type can be set
- 2 separately adjustable threshold values
- 1 hysteresis applies to both thresholds (0 to 99 K)
- 1 delay time applies to both thresholds (0 to 999 s)
- Adjustable open/closed-circuit principle
- Adjustable manual/remote RESET
- Permanent display of actual value in °C or °F and tripping state
- 1 CO contact each per threshold value
- 1 NO for sensor monitoring

	Sensor	Measuring range (measuring range limit depends on sensor)	Rated control supply voltage U_s AC 50/60 Hz	DT	Screw terminals	PS*	DT	Spring-type terminals	PS*
			V AC		Order No.			Order No.	
Temperature monitoring relay, digitally adjustable, 2 threshold values, width 45 mm, 1 CO + 1 CO + 1 NO, memory function possible with external jumper, device parameters are non-volatile									
 3RS10 40-1GD50  3RS10 40-2GW50	PT100/1000; KTY83/84; NTC (resistance sensors)[1]	- 50 … + 500 °C	24 AC/DC		**3RS10 40-1GD50**	1 unit		**3RS10 40-2GD50**	1 unit
			24 … 240 AC/DC		**3RS10 40-1GW50**	1 unit		**3RS10 40-2GW50**	1 unit
		- 58 … + 932 °F	24 AC/DC		**3RS20 40-1GD50**	1 unit		**3RS20 40-2GD50**	1 unit
			24 … 240 AC/DC		**3RS20 40-1GW50**	1 unit		**3RS20 40-2GW50**	1 unit
	TYPE J, K, T, E, N (thermoele-ment)	- 99 … + 999 °C	24 AC/DC		**3RS11 40-1GD60**	1 unit		**3RS11 40-2GD60**	1 unit
			24 … 240 AC/DC		**3RS11 40-1GW60**	1 unit		**3RS11 40-2GW60**	1 unit
		- 99 … + 1830 °F	24 AC/DC		**3RS21 40-1GD60**	1 unit		**3RS21 40-2GD60**	1 unit
			24 … 240 AC/DC		**3RS21 40-1GW60**	1 unit		**3RS21 40-2GW60**	1 unit
Temperature monitoring relay, digitally adjustable, 2 threshold values, width 45 mm; 1 CO + 1 CO + 1 NO, tripping state and device parameters are non-volatile									
	PT100/1000; KTY83/84; NTC (resistance sensors)[1]	- 50 … + 750 °C	24 AC/DC		**3RS10 42-1GD70**	1 unit		**3RS10 42-2GD70**	1 unit
			24 … 240 AC/DC		**3RS10 42-1GW70**	1 unit		**3RS10 42-2GW70**	1 unit
	TYPE J, K, T, E, N, R, S, B (thermoele-ment)	- 99 … +1800 °C	24 AC/DC		**3RS11 42-1GD80**	1 unit		**3RS11 42-2GD80**	1 unit
			24 … 240 AC/DC		**3RS11 42-1GW80**	1 unit		**3RS11 42-2GW80**	1 unit

[1] NTC type: B57227-K333-A1 (100 °C: 1.8 kΩ; 25 °C: 32.762 kΩ).

For accessories, see page 8/28.

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Relays, digitally adjustable for up to 3 sensors

Selection and ordering data

- For monitoring the temperatures of solids, liquids, and gases
- For two- and three-wire resistance sensors or thermoelements
- Temperature range independent of sensor type
  - for 3RS10: -50 to +500 °C
  - for 3RS20: -58 to +932 °F
- Wide-range voltage versions are electrically separated.
- Non-volatile
- Short-circuit and open-circuit detection in sensor circuit
- Digitally adjustable, with illuminated LC display
- Overshoot, undershoot or range monitoring adjustable
- Exact sensor type and number of sensors can be set
- 2 separately adjustable threshold values
- 1 hysteresis; applies to both thresholds (0 to 99 K)
- 1 delay time; applies to both thresholds (0 to 999 s)
- Adjustable open/closed-circuit principle
- With connectable and disconnectable error memory
- Permanent display of actual value in °C or °F and tripping state
- 1 CO contact each per threshold value
- 1 NO for sensor monitoring

Sensor	Number of sensors	Measuring range (measuring range limit depends on the sensor)	Rated control supply voltage U_s	DT	Screw terminals	PS*	DT	Spring-type terminals	PS*
			V AC/DC		Order No.			Order No.	
Motor monitoring relays, digitally adjustable for up to 3 sensors, width 45 mm; 1 CO + 1 CO + 1 NO									
PT100/1000; KTY83/84; NTC (resistance sensors)[1]	1 ... 3 sensors	-50 ... +500 °C	24 ...240		**3RS10 41-1GW50**	1 unit		**3RS10 41-2GW50**	1 unit
		-58 ... +932 °F	24 ...240		**3RS20 41-1GW50**	1 unit		**3RS20 41-2GW50**	1 unit



3RS10 41-1GW50

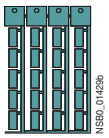
[1] NTC type: B57227-K333-A1 (100 °C: 1.8 kΩ; 25 °C: 32.762 kΩ).

For accessories see below.

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Accessories

Selection and ordering data

	Use	Version	DT	Order No.	PS*
Blank labels					
 3RT19 00-1SB20	For 3RS1	**Unit labeling plates** For SIRIUS devices			
		20 mm x 7 mm, pastel turquoise[1]		**3RT19 00-1SB20**	340 units
	For 3RS1	**Inscription labels for sticking** For SIRIUS devices			
		19 mm x 6 mm, pastel turquoise		**3RT19 00-1SB60**	3060 units
		19 mm x 6 mm, zinc yellow		**3RT19 00-1SD60**	3060 units
Push-in lugs and covers					
 3RP19 03	For 3RS1	**Push-in lugs** For screw fixing, 2 units are required for each device		**3RP19 03**	10 units
 3RP19 02	For 3RS1, analogically adjustable	**Sealable covers** for securing against unauthorized adjustment of setting knobs		**3RP19 02**	5 units
	For 3RS1	**Sealing foils** For securing against unauthorized adjustment of setting knobs	►	**3TK28 20-0AA00**	1 unit
Tools for opening spring-type terminals					
 3RA29 08-1A	For auxiliary circuit connections	**Screwdrivers** For all SIRIUS devices with spring-type terminals 3.0 mm x 0.5 mm, length approx. 200 mm, titanium gray/black, partially insulated		**Spring-type terminals** **3RA29 08-1A**	1 unit

[1] PC labeling system for individual inscription of unit labeling plates available from: murrplastik Systemtechnik GmbH www.murrplastik.de .

Matching sensors can be found at www.siemens.com/temperature

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

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SIRIUS 3RN1 Thermistor Motor Protection

Overview

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 and abruptly change their resistance at their limit temperature.

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 diagnosis thanks to versions that indicate open- and short-circuit in the sensor circuit
- All versions with removable terminals
- All versions with screw terminals or alternatively with innovative spring-type terminals

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 ensure, in addition, a high switching reliability that is even higher than an electronic control.

Direct motor protection

- At increased ambient temperatures
- For high switching frequency
- For long start-up and braking procedures
- Used together with frequency converters (low speeds)

ATEX approval for operation in areas subject to explosion hazard

The SIRIUS 3RN1 thermistor motor protection relay for PTC sensors is certified according to ATEX Ex II (2) G and GD for gases and dust. You can find more information about ATEX at www.siemens.com/industrial-controls/atex.

Selection and ordering data

- For monitoring the motor winding temperature using temperature-dependent resistors (PTCs, type A) that are directly installed in the motor winding by the manufacturer
- Monostable versions with closed-circuit principle, i.e. relays respond in the event of control supply voltage failure
- 3RN10 13-.BW01: Bistable version, does not trigger in the event of control supply voltage failure
- All devices have PTB01 ATEX approval for dust or gas. You can find more information about ATEX at www.siemens.com/industrial-controls/atex.
- All devices except for 24 V AC/DC feature electrical separation
- Versions with safe isolation up to 300 V according to EN 61140
- Non-volatile versions
- Versions with short-circuit and open-circuit detection in sensor circuit
- Versions with solid-state compatible contacts with hard gold-plating
- Versions for up to 6 sensor circuits
- Versions with Manual-RESET, Remote-RESET, Auto-RESET and test button
- Terminal labeling according to DIN 50005
- All terminals are removable
- Width 22.5 mm (45 mm on version for several sensor circuits)

	RESET	Contacts	Rated control supply voltage U_s 50/60 Hz	DT	Screw terminals	PS*	DT	Spring-type terminals	PS*
			V		Order No.			Order No.	
Compact signal evaluation units, width 22.5 mm, 1 LED									
	Terminal A1 is jumpered with the root of the changeover contact								
	Auto	1 CO	24 AC/DC	▶	**3RN10 00-1AB00**	1 unit		**3RN10 00-2AB00**	1 unit
			110 AC		**3RN10 00-1AG00**	1 unit		**3RN10 00-2AG00**	1 unit
			230 AC	▶	**3RN10 00-1AM00**	1 unit		**3RN10 00-2AM00**	1 unit
Standard evaluation units, width 22.5 mm, 2 LEDs									
 3RN10 11-1BB00	Auto	1 NO + 1 NC	24 AC/DC	▶	**3RN10 10-1CB00**	1 unit	▶	**3RN10 10-2CB00**	1 unit
			110 AC	▶	**3RN10 10-1CG00**	1 unit		**3RN10 10-2CG00**	1 unit
			230 AC	▶	**3RN10 10-1CM00**	1 unit		**3RN10 10-2CM00**	1 unit
			24 … 240 AC/DC	▶	**3RN10 10-1CW00**	1 unit		**3RN10 10-2CW00**	1 unit
		2 CO	24 AC/DC		**3RN10 10-1BB00**	1 unit		**3RN10 10-2BB00**	1 unit
			110 AC		**3RN10 10-1BG00**	1 unit		**3RN10 10-2BG00**	1 unit
			230 AC		**3RN10 10-1BM00**	1 unit		**3RN10 10-2BM00**	1 unit
		2 CO, hard gold-plated	24 AC/DC		**3RN10 10-1GB00**	1 unit		**3RN10 10-2GB00**	1 unit
	Manual/ Remote[1]	1 NO + 1 NC	24 AC/DC	▶	**3RN10 11-1CB00**	1 unit		**3RN10 11-2CB00**	1 unit
			110 / 230 AC	▶	**3RN10 11-1CK00**	1 unit		**3RN10 11-2CK00**	1 unit
	Short-circuit detection for sensor circuit								
 3RN10 12-2CK00	Manual/ Remote[1]	2 CO	24 AC/DC		**3RN10 11-1BB00**	1 unit		**3RN10 11-2BB00**	1 unit
			110 AC		**3RN10 11-1BG00**	1 unit		**3RN10 11-2BG00**	1 unit
			230 AC		**3RN10 11-1BM00**	1 unit		**3RN10 11-2BM00**	1 unit
		2 CO, hard gold-plated	24 AC/DC		**3RN10 11-1GB00**	1 unit		**3RN10 11-2GB00**	1 unit
	Non-volatile[2]								
	Manual/Auto/ Remote	1 NO + 1 NC	24 AC/DC	▶	**3RN10 12-1CB00**	1 unit		**3RN10 12-2CB00**	1 unit
			110 / 230 AC	▶	**3RN10 12-1CK00**	1 unit		**3RN10 12-2CK00**	1 unit

[1] The unit can be reset with the RESET button or by disconnecting the control supply voltage.

[2] For protection against voltage failure see note on Technical Information on page 8/1.

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

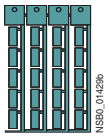
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For PTC sensors

	RESET	Contacts	Rated control supply voltage U_s 50/60 Hz	DT	Screw terminals	PS*	DT	Spring-type terminals	PS*
			V		Order No.			Order No.	
Standard evaluation units, width 22.5 mm, 2 LEDs (continued)									
 3RN10 13-1BB00	Non-volatile[1], short-circuit detection in sensor circuit								
	Manual/Auto/ Remote	2 CO	24 AC/DC		**3RN10 12-1BB00**	1 unit		**3RN10 12-2BB00**	1 unit
			110 AC		**3RN10 12-1BG00**	1 unit		**3RN10 12-2BG00**	1 unit
			230 AC		**3RN10 12-1BM00**	1 unit		**3RN10 12-2BM00**	1 unit
		2 CO, hard gold-plated	24 AC/DC		**3RN10 12-1GB00**	1 unit		**3RN10 12-2GB00**	1 unit
	Non-volatile[1], short-circuit and open-circuit detection and indication in sensor circuit; wide-range voltage with screw terminal with safe isolation								
	Manual/Auto/ Remote	2 CO	24 AC/DC	►	**3RN10 13-1BB00**	1 unit		**3RN10 13-2BB00**	1 unit
			24 … 240 AC/DC	►	**3RN10 13-1BW10**	1 unit		**3RN10 13-2BW00**	1 unit
		2 CO, hard gold-plated	24 … 240 AC/DC		**3RN10 13-1GW10**	1 unit		**3RN10 13-2GW00**	1 unit
Evaluation units for 2 sensor circuits, warning and disconnection, width 22.5 mm, 3 LEDs									
	Test/RESET button, non-volatile[1]								
	Manual/Auto/ Remote	1 NO + 1 CO	24 … 240 AC/DC	►	**3RN10 22-1DW00**	1 unit		**3RN10 22-2DW00**	1 unit
Evaluation units for 6 sensor circuits, multiple motor protection, width 45 mm, 8 LEDs									
 3RN10 62-1CW30	Test/RESET button, non-volatile[1]								
	Manual/Auto/ Remote	1 NO + 1 NC	24 … 240 AC/DC	►	**3RN10 62-1CW00**	1 unit		**3RN10 62-2CW00**	1 unit
Bistable evaluation units, width 22.5 mm									
	Test / RESET button, non-volatile[1], short-circuit and open-circuit detection and indication in sensor circuit								
	Manual/Auto/ Remote	2 CO	24 … 240 AC/DC	►	**3RN10 13-1BW01**	1 unit		**3RN10 13-2BW01**	1 unit

[1] For protection against voltage failure see note on Technical Information on page 8/1.

Accessories

	Use	Version	DT	Order No.	PS*
Blank labels					
 3RT19 00-1SB20	For 3RN1	**Unit labeling plates** For SIRIUS devices			
		20 mm x 7 mm, pastel turquoise[1]		**3RT19 00-1SB20**	340 units
	For 3RN1	**Inscription labels for sticking** For SIRIUS devices			
		19 mm x 6 mm, pastel turquoise		**3RT19 00-1SB60**	3060 units
		19 mm x 6 mm, zinc yellow		**3RT19 00-1SD60**	3060 units
Push-in lugs					
 3RP19 03	For 3RN1	**Push-in lugs** For screw fixing, 2 units are required for each device		**3RP19 03**	10 units
Tools for opening spring-type terminals					
 3RA29 08-1A	For auxiliary circuit connections	**Screwdrivers** For all SIRIUS devices with spring-type terminals 3.0 mm x 0.5 mm, length approx. 200 mm, titanium gray/black, partially insulated		**Spring-type terminals** **3RA29 08-1A**	1 unit

[1] PC labeling system for individual inscription of unit labeling plates available from: murrplastik Systemtechnik GmbH www.murrplastik.de

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Illustrations are approximate

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Selection and ordering data



3TK28 21-1CB30



3TK28 25-1BB40



3TK28 26-2BB40



3TK28 27-1BB41

Rated control supply voltage U_s	Enabling circuit, floating		Enabling circuit, electronic		Signaling circuit	OFF-delay t_v	DT	Screw terminals	PS*	DT	Spring-type terminals	PS*
	Stop category		Stop category									
	0	1	0	1				Order No.			Order No.	
V						s						
Basic units												
With floating enabling circuits												
3TK28 20 "Auto/monitored start"												
• 24 AC/DC	3 NO	--	--	--	1	--	▶	**3TK28 20-1CB30**	1 unit	▶	**3TK28 20-2CB30**	1 unit
• 115 AC	3 NO	--	--	--	1	--	▶	**3TK28 20-1AJ20**	1 unit	▶	**3TK28 20-2AJ20**	1 unit
• 230 AC	3 NO	--	--	--	1	--	▶	**3TK28 20-1AL20**	1 unit	▶	**3TK28 20-2AL20**	1 unit
3TK28 21 "Auto start"												
• 24 AC/DC	3 NO	--	--	--	1	--	▶	**3TK28 21-1CB30**	1 unit	▶	**3TK28 21-2CB30**	1 unit
3TK28 22 "Auto start"												
• 24 AC/DC	2 NO	--	--	--	--	--	▶	**3TK28 22-1CB30**	1 unit		**3TK28 22-2CB30**	1 unit
3TK28 23 "Monitored start"												
• 24 AC/DC	2 NO	--	--	--	--	--	▶	**3TK28 23-1CB30**	1 unit		**3TK28 23-2CB30**	1 unit
3TK28 24 "Auto start"												
• 24 AC/DC	2 NO	--	--	--	--	--	▶	**3TK28 24-1CB30**	1 unit		**3TK28 24-2CB30**	1 unit
• 24 DC	2 NO	--	--	--	--	--	▶	**3TK28 24-1BB40**	1 unit	▶	**3TK28 24-2BB40**	1 unit
• 115 AC	2 NO	--	--	--	--	--		**3TK28 24-1AJ20**	1 unit		**3TK28 24-2AJ20**	1 unit
• 230 AC	2 NO	--	--	--	--	--	▶	**3TK28 24-1AL20**	1 unit		**3TK28 24-2AL20**	1 unit
3TK28 25 "Auto and monitored start"												
• 24 DC	3 NO	--	--	--	2	--	▶	**3TK28 25-1BB40**	1 unit	▶	**3TK28 25-2BB40**	1 unit
• 24 AC	3 NO	--	--	--	2	--		**3TK28 25-1AB20**	1 unit		**3TK28 25-2AB20**	1 unit
• 115 AC	3 NO	--	--	--	2	--	▶	**3TK28 25-1AJ20**	1 unit		**3TK28 25-2AJ20**	1 unit
• 230 AC	3 NO	--	--	--	2	--	▶	**3TK28 25-1AL20**	1 unit		**3TK28 25-2AL20**	1 unit
3TK28 26 "Auto and monitored start"												
• 24 DC	4 NO	--	--	--	3	--	▶	**3TK28 26-1BB40**	1 unit		**3TK28 26-2BB40**	1 unit
• 24 ... 240 AC/DC	4 NO	--	--	--	2	--	▶	**3TK28 26-1CW30**	1 unit		**3TK28 26-2CW30**	1 unit
With time-delay enabling circuits												
3TK28 26 t_v "Auto and monitored start"												
• 24 DC	2 NO	2 NO	--	--	4	0.05 ... 3		**3TK28 26-1BB41**	1 unit		**3TK28 26-2BB41**	1 unit
• 24 ... 240 AC/DC	2 NO	2 NO	--	--	3	0.05 ... 3		**3TK28 26-1CW31**	1 unit		**3TK28 26-2CW31**	1 unit
• 24 DC	2 NO	2 NO	--	--	4	0.5 ... 30		**3TK28 26-1BB42**	1 unit		**3TK28 26-2BB42**	1 unit
• 24 ... 240 AC/DC	2 NO	2 NO	--	--	3	0.5 ... 30		**3TK28 26-1CW32**	1 unit		**3TK28 26-2CW32**	1 unit
• 24 DC	2 NO	2 NO	--	--	4	5 ... 300		**3TK28 26-1BB44**	1 unit		**3TK28 26-2BB44**	1 unit
• 24 ... 240 AC/DC	2 NO	2 NO	--	--	3	5 ... 300		**3TK28 26-1CW34**	1 unit		**3TK28 26-2CW34**	1 unit
3TK28 27 t_v "Monitored start"												
• 24 DC	2 NO	2 NO	--	--	1	0.05 ... 3	▶	**3TK28 27-1BB41**	1 unit		**3TK28 27-2BB41**	1 unit
• 24 AC	2 NO	2 NO	--	--	1	0.05 ... 3		**3TK28 27-1AB21**	1 unit		**3TK28 27-2AB21**	1 unit
• 115 AC	2 NO	2 NO	--	--	1	0.05 ... 3		**3TK28 27-1AJ21**	1 unit		**3TK28 27-2AJ21**	1 unit
• 230 AC	2 NO	2 NO	--	--	1	0.05 ... 3		**3TK28 27-1AL21**	1 unit		**3TK28 27-2AL21**	1 unit
• 24 DC	2 NO	2 NO	--	--	1	0.5 ... 30	▶	**3TK28 27-1BB40**	1 unit		**3TK28 27-2BB40**	1 unit
• 24 AC	2 NO	2 NO	--	--	1	0.5 ... 30		**3TK28 27-1AB20**	1 unit		**3TK28 27-2AB20**	1 unit
• 115 AC	2 NO	2 NO	--	--	1	0.5 ... 30	▶	**3TK28 27-1AJ20**	1 unit		**3TK28 27-2AJ20**	1 unit
• 230 AC	2 NO	2 NO	--	--	1	0.5 ... 30	▶	**3TK28 27-1AL20**	1 unit		**3TK28 27-2AL20**	1 unit
3TK28 28 t_v "Auto start"												
• 24 DC	2 NO	2 NO	--	--	1	0.05 ... 3	▶	**3TK28 28-1BB41**	1 unit		**3TK28 28-2BB41**	1 unit
• 24 AC	2 NO	2 NO	--	--	1	0.05 ... 3		**3TK28 28-1AB21**	1 unit		**3TK28 28-2AB21**	1 unit
• 115 AC	2 NO	2 NO	--	--	1	0.05 ... 3		**3TK28 28-1AJ21**	1 unit		**3TK28 28-2AJ21**	1 unit
• 230 AC	2 NO	2 NO	--	--	1	0.05 ... 3		**3TK28 28-1AL21**	1 unit		**3TK28 28-2AL21**	1 unit
• 24 DC	2 NO	2 NO	--	--	1	0.5 ... 30	▶	**3TK28 28-1BB40**	1 unit	▶	**3TK28 28-2BB40**	1 unit
• 24 AC	2 NO	2 NO	--	--	1	0.5 ... 30		**3TK28 28-1AB20**	1 unit		**3TK28 28-2AB20**	1 unit
• 115 AC	2 NO	2 NO	--	--	1	0.5 ... 30		**3TK28 28-1AJ20**	1 unit		**3TK28 28-2AJ20**	1 unit
• 230 AC	2 NO	2 NO	--	--	1	0.5 ... 30		**3TK28 28-1AL20**	1 unit		**3TK28 28-2AL20**	1 unit

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Illustrations are approximate

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With relay enabling circuits



3TK28 30-1CB30

Rated control supply voltage U_s	Enabling circuit, floating		Enabling circuit, electronic		Signaling circuit	OFF-delay t_v	DT	Screw terminals	PS*	DT	Spring-type terminals	PS*
	Stop category		Stop category									
	0	1	0	1				Order No.			Order No.	
V						s						
Two-hand control devices												
With floating enabling circuits												
3TK28 34 "Without start function"												
• 24 DC	2 NO + 2 NC	--	--	--	2	--	►	**3TK28 34-1BB40**	1 unit		**3TK28 34-2BB40**	1 unit
• 24 AC	2 NO + 2 NC	--	--	--	2	--		**3TK28 34-1AB20**	1 unit		**3TK28 34-2AB20**	1 unit
• 115 AC	2 NO + 2 NC	--	--	--	2	--		**3TK28 34-1AJ20**	1 unit		**3TK28 34-2AJ20**	1 unit
• 230 AC	2 NO + 2 NC	--	--	--	2	--		**3TK28 34-1AL20**	1 unit		**3TK28 34-2AL20**	1 unit
Expansion units												
With floating enabling circuits												
3TK28 30 "Without start function"												
• 24 AC/DC	4 NO	--	--	--	--	--	►	**3TK28 30-1CB30**	1 unit	►	**3TK28 30-2CB30**	1 unit
• 115 AC	4 NO	--	--	--	--	--		**3TK28 30-1AJ20**	1 unit		**3TK28 30-2AJ20**	1 unit
• 230 AC	4 NO	--	--	--	--	--		**3TK28 30-1AL20**	1 unit		**3TK28 30-2AL20**	1 unit

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With electronic enabling circuits

Selection and ordering data



3TK28 41-1BB40



3TK28 42-1BB41



3TK28 45-1HB40

Rated control supply voltage U_s	Enabling circuit, floating		Enabling circuit, electronic		Signaling circuit	OFF-delay t_v	DT	Screw terminals	PS*	DT	Spring-type terminals	PS*
	Stop category		Stop category									
	0	1	0	1				Order No.			Order No.	
V						s						
Basic units												
With electronic enabling circuits												
3TK28 40 "Auto and monitored start"												
• 24 DC	--	--	2	--	--	--		**3TK28 40-1BB40**	1 unit		**3TK28 40-2BB40**	1 unit
3TK28 41 "Auto and monitored start"												
• 24 DC	--	--	2	--	--	--		**3TK28 41-1BB40**	1 unit		**3TK28 41-2BB40**	1 unit
With time-delay enabling circuits												
3TK28 42 t_v "auto and monitored start"												
• 24 DC	--	--	1	1	--	0.05 ... 3		**3TK28 42-1BB41**	1 unit		**3TK28 42-2BB41**	1 unit
	--	--	1	1	--	0.5 ... 30		**3TK28 42-1BB42**	1 unit		**3TK28 42-2BB42**	1 unit
	--	--	1	1	--	5 ... 300		**3TK28 42-1BB44**	1 unit		**3TK28 42-2BB44**	1 unit
Multi-function units												
3TK28 45 "Automatic and monitored start"												
• 24 DC	2 NO	--	2	--	1	--		**3TK28 45-1HB40**	1 unit		**3TK28 45-2HB40**	1 unit

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Illustrations are approximate

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With electronic enabling circuits

Selection and ordering data



3TK28 45-1HB41



3TK28 45-2DB40

Rated control supply voltage U_s	Enabling circuit, floating		Enabling circuit, electronic		Signaling circuit	OFF-delay t_v	DT	Screw terminals	PS*	DT	Spring-type terminals	PS*
	Stop category		Stop category									
	0	1	0	1				Order No.			Order No.	
V						s						
Multi-function units (continued)												
3TK28 45 t_v "Automatic and monitored start"												
• 24 DC	1 NO	1 NO	1	1	1	0.05 ... 3		**3TK28 45-1HB41**	1 unit		**3TK28 45-2HB41**	1 unit
	1 NO	1 NO	1	1	1	0.5 ... 30		**3TK28 45-1HB42**	1 unit		**3TK28 45-2HB42**	1 unit
	1 NO	1 NO	1	1	1	5 ... 300		**3TK28 45-1HB44**	1 unit		**3TK28 45-2HB44**	1 unit
3TK28 45 "Monitored start"												
• 24 DC	2 NO	--	2	--	1	--		**3TK28 45-1DB40**	1 unit		**3TK28 45-2DB40**	1 unit
3TK28 45 t_v "Monitored start"												
• 24 DC	1 NO	1 NO	1	1	1	0.05 ... 3		**3TK28 45-1DB41**	1 unit		**3TK28 45-2DB41**	1 unit
	1 NO	1 NO	1	1	1	0.5 ... 30		**3TK28 45-1DB42**	1 unit		**3TK28 45-2DB42**	1 unit
	1 NO	1 NO	1	1	1	5 ... 300		**3TK28 45-1DB44**	1 unit		**3TK28 45-2DB44**	1 unit
3TK28 45 "OK button"												
• 24 DC	2 NO	--	2	--	1	--		**3TK28 45-1EB40**	1 unit		**3TK28 45-2EB40**	1 unit
3TK28 45 t_v"OK button"												
• 24 DC	1 NO	1 NO	1	1	1	0.05 ... 3		**3TK28 45-1EB41**	1 unit		**3TK28 45-2EB41**	1 unit
	1 NO	1 NO	1	1	1	0.5 ... 30		**3TK28 45-1EB42**	1 unit		**3TK28 45-2EB42**	1 unit
	1 NO	1 NO	1	1	1	5 ... 300		**3TK28 45-1EB44**	1 unit		**3TK28 45-2EB44**	1 unit
3TK28 45 t_v "Spring-type interlocking"												
• 24 DC	1 NO	1 NO	1	1	1	0.05 ... 3		**3TK28 45-1FB41**	1 unit		**3TK28 45-2FB41**	1 unit
	1 NO	1 NO	1	1	1	0.5 ... 30		**3TK28 45-1FB42**	1 unit		**3TK28 45-2FB42**	1 unit
	1 NO	1 NO	1	1	1	5 ... 300		**3TK28 45-1FB44**	1 unit		**3TK28 45-2FB44**	1 unit
3TK28 45 t_v "Solenoid interlocking"												
• 24 DC	1 NO	1 NO	1	1	1	0.05 ... 3		**3TK28 45-1GB41**	1 unit		**3TK28 45-2GB41**	1 unit
	1 NO	1 NO	1	1	1	0.5 ... 30		**3TK28 45-1GB42**	1 unit		**3TK28 45-2GB42**	1 unit
	1 NO	1 NO	1	1	1	5 ... 300		**3TK28 45-1GB44**	1 unit		**3TK28 45-2GB44**	1 unit

With special functions

Selection and ordering data



3TK28 10-0BA01



3TK28 10-0GA02



3TK28 10-1BA41

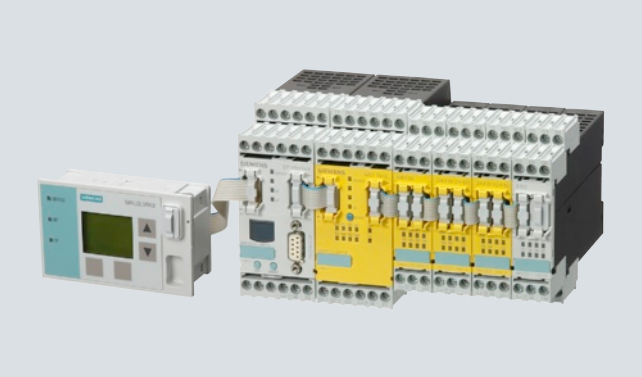
Rated control supply voltage U_s	Enabling circuit, floating		Enabling circuit, electronic		Signaling circuit	OFF delay t_v	DT	Screw terminals	PS*	DT	Spring-type terminals	PS*
	Stop category		Stop category									
	0	1	0	1				Order No.			Order No.	
V						s						
Standstill monitors												
3TK28 10-0												
• 24 DC	3 NO + 1 NC	--	--	--	3	0.2... 6		**3TK28 10-0BA01**	1 unit		**3TK28 10-0BA02**	1 unit
• 230 AC	3 NO + 1 NC	--	--	--	3	0.2... 6		**3TK28 10-0GA01**	1 unit		**3TK28 10-0GA02**	1 unit
• 400 AC	3 NO + 1 NC	--	--	--	3	0.2... 6		**3TK28 10-0JA01**	1 unit		**3TK28 10-0JA02**	1 unit
Overspeed monitors												
3TK28 10-1												
• 24 DC	2	--	--	--	2	0 ... 600		**3TK28 10-1BA41**	1 unit		**3TK28 10-1BA42**	1 unit
• 120 ... 240 AC/DC	2	--	--	--	2	0 ... 600		**3TK28 10-1KA41**	1 unit		**3TK28 10-1KA42**	1 unit

*** You can order this quantity or a multiple thereof.**
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General data

Overview



SIRIUS 3RK3 modular safety system

The 3RK3 modular safety system (MSS) is a freely parameterizable modular safety relay. Depending on the type of external connection, safety-orientated applications up to Category 4 according to EN 954-1, Performance Level e according to ISO 13849-1 and SIL3 according to IEC 62061 can be realized.

The modular safety relay enables the interconnection of several safety applications. Using the MSS ES graphical parameterization tool it is very easy to create the safety functions as well as their logical links on the PC. For example disconnection ranges, ON delays, OFF delays and other dependencies can be defined.

With the optional expansion modules, both safety-related and standard, the system is flexibly adapted to the required safety applications.

The MSS comprises the following system components:
- Central module
- Expansion modules
- Interface module
- Diagnostics module
- Parameterization software
- Accessories

The comprehensive error and status diagnostics provides the possibility of finding errors in the system and localizing signals from sensors. Plant downtimes can be reduced as the result.

The optional PROFIBUS DP interface module transfers diagnostics data to higher-level bus systems (e.g. PROFIBUS DP). These data are then available for further processing in the automation system.

Benefits

- More functionality and flexibility through freely configurable safety logic
- For all safety applications thanks to compliance with the highest safety standards (Category 4 according to EN 954-1, Performance Level e according to ISO 13849-1 or SIL3 according to IEC 62061)
- Suitable for use all over the world through compliance with all product-relevant, globally established certifications
- Modular hardware configuration
- Parameterization by means of software instead of wiring
- Removable terminal for greater plant availability
- Comprehensive diagnostics with MSS ES parameterization software

Communication

The 3RK3 modular safety system can be connected to PROFIBUS through the DP interface and exchange data with higher-level control systems.

The MSS supports among other things:
- Baud rates up to 12 Mbit/s
- Automatic baud rate detection
- Cyclic services (DPV0) and acyclic services (DPV1)
- Exchange of 32-bit cyclic data
- Diagnostics using data record invocations

Application

The 3RK3 modular safety system can be used for all safety-oriented requirements in the manufacturing industry and offers the following safety functions:
- EMERGENCY-STOP:
  With this function, signals from EMERGENCY-STOP devices with positive-opening contacts are evaluated.
- Protective door monitoring:
  Signals from protective doors or protective flaps with positive opening contacts or an NC-NO combination are evaluated.
- Non-contact protective devices (BWS):
  Signals from e.g. light curtains and laser scanners are evaluated.
- Switching mats:
  Signals from switching mats with NC contacts or crossover monitoring are evaluated.
- Two-hand operator controls:
  With this function, signals from a two-hand operator control device are evaluated.
- OK buttons:
  Signals from OK buttons with NO contact are evaluated.
- Operating mode selector switches:
  With this function signals from an operating mode selector switch with NO contacts are evaluated. Up to 5 operating modes can be defined. The operating mode to be implemented can be freely configured in the downstream logic.
- Logic operation functions:
  AND, OR, XOR, NAND, NOR, negation (NEG), flip-flop (FF-RS)
- Counter functions:
  - The safety relay supports the counting function "counter 0 -> 1". The count value is changed only when there is a positive edge at the count inputs. The current count value can be counted forwards or backwards through one own count input each.
  - The safety relay supports the counting function "For negative edge 1 -> 0". The count value is changed only when there is a negative edge. The current count value can be counted forwards or backwards through one own count input each.
  - The safety relay supports the counting function "For both edges". The count value is changed both when there is a positive edge and when there is a negative edge. The current count value can be counted forwards or backwards through one own count input each.
- Time functions:
  ON delay, On delay (trigger), passing make contact, passing make contact (trigger), OFF delay, OFF delay (trigger), clock-pulsing.
- Start functions:
  Manual and automatic start
- Output functions:
  Standard outputs and fail-safe outputs can be actuated.

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Selection and ordering data



3RK3 111-1AA10



3RK3 211-1AA10
3RK3 221-1AA10
3RK3 231-1AA10
3RK3 242-1AA10



3RK3 251-1AA10



3RK3 311-1AA10
3RK3 321-1AA10



3RK3 511-1BA10



3RK3 611-3AA00

Version	DT	Screw terminals Order No.	PS*	DT	Spring-type terminals Order No.	PS*
Central modules						
3RK3 Basic Central module with safety-orientated inputs and outputs • 8 inputs • 1 two-channel relay output • 1 two-channel solid-state output Max. 7 expansion modules can be connected, 3RK3 931-0AA00 memory module included in the scope of supply		**3RK3 111-1AA10**	1 unit		**3RK3 111-2AA10**	1 unit
Expansion modules						
4/8 F-DI Safety-related input modules • 8 inputs		**3RK3 211-1AA10**	1 unit		**3RK3 211-2AA10**	1 unit
2/4 F-DI 1/2 F-RO Safety-related input/output modules • 4 inputs • 2 single-channel relay outputs		**3RK3 221-1AA10**	1 unit		**3RK3 221-2AA10**	1 unit
2/4 F-DI 2F-DO Safety-related input/output modules • 4 inputs • 2 two-channel solid-state outputs		**3RK3 231-1AA10**	1 unit		**3RK3 231-2AA10**	1 unit
4/8 F-RO Safety-oriented output modules • 8 single-channel relay outputs		**3RK3 251-1AA10**	1 unit		**3RK3 251-2AA10**	1 unit
4 F-DO Safety-oriented output modules • 4 two-channel solid-state outputs		**3RK3 242-1AA10**	1 unit		**3RK3 242-2AA10**	1 unit
8 DI Standard input modules • 8 inputs		**3RK3 321-1AA10**	1 unit		**3RK3 321-2AA10**	1 unit
8 DO Standard output modules • 8 solid-state outputs		**3RK3 311-1AA10**	1 unit		**3RK3 311-2AA10**	1 unit
Interface modules						
DP interface PROFIBUS DP interface, 12 Mbit/s, RS 485, 32 bit cyclic data exchange, acyclic exchange of diagnostics data		**3RK3 511-1BA10**	1 unit		**3RK3 511-2BA10**	1 unit
Operating and monitoring modules						
Diagnostics modules		**3RK3 611-3AA00**	1 unit		--	

Note:

Connection cable required, see page 8/36.

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

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Accessories

Selection and ordering data

Version			DT	Order No.	PS*
Connection cables (essential accessory)					
 3UF7 932-0AA00-0	For connection of				
	Central module with expansion modules or interface module	Diagnostic module to central modules or interface module			
	✓	✓	• Length 0.025 m (flat)	►	**3UF7 930-0AA00-0**	1 unit
	--	✓	• Length 0.1 m (flat)	►	**3UF7 931-0AA00-0**	1 unit
	--	✓	• Length 0.3 m (flat)	►	**3UF7 935-0AA00-0**	1 unit
	--	✓	• Length 0.5 m (flat)	►	**3UF7 932-0AA00-0**	1 unit
	--	✓	• Length 0.5 m (round)	►	**3UF7 932-0BA00-0**	1 unit
	--	✓	• Length 1.0 m (round)	►	**3UF7 937-0BA00-0**	1 unit
	--	✓	• Length 2.5 m (round)	►	**3UF7 933-0BA00-0**	1 unit
PC cables and adapters					
 3UF7 940-0AA00-0	**PC cable for PC/PG communication with 3RK3 modular safety system** Through the system interface, for connecting to the serial interface of the PC/PG			►	**3UF7 940-0AA00-0**	1 unit
	USB/serial adapters To connect an RS 232 PC cable to the USB port of a PC, recommended for use in conjunction with 3RK3				**3UF7 946-0AA00-0**	1 unit
Interface covers					
 3UF7 950-0AA00-0	**For system interface**				**3UF7 950-0AA00-0**	5 units
Memory modules					
 3RK3 931-0AA00	**For parameterizing the 3RK3 modular safety system without a PC/PG through the system interface**				**3RK3 931-0AA00**	1 unit
Door adapters					
 3UF7 920-0AA00-0	**For external connection of the system interface, e.g. outside a control cabinet**				**3UF7 920-0AA00-0**	1 unit
Modular Safety System ES 2008					
 3ZS1 314-5CC10-0YA5	**Parameterization, startup and diagnostics software for the 3RK3** Runs under Win XP PROF/Win VISTA: Business32, Ultimate32; without PC cable					
	Basic					
	Floating license for one user E-SW, software and documentation on CD, 3 languages (German/English/French), communication through the system interface					
	• License key on USB stick, Class A			►	**3ZS1 314-4CC10-0YA5**	1 unit
	Standard					
	Floating license for one user E-SW, software and documentation on CD, 3 languages (German/English/French), communication through the system interface					
	• License key on USB stick, Class A				**3ZS1 314-5CC10-0YA5**	1 unit
	Software Update Service For 1 year with automatic extension, assuming the current software version is in use, E-SW, software and documentation on CD, communication through the system interface			►	**3ZS1 314-5CC10-0YL5**	1 unit

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Overview

Interface 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. This means that electrical separation is essential due to the different supply systems. The resistance of the wiring causes potential differences and losses which must be prevented.

Electromagnetic faults and overvoltages can affect the signals on the input side in particular or even destroy the analog modules. All terminals of the 3RS17 interface 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.

Application

Transformers are used in analog signal processing for

- Electrical separation
- Conversion of normalized and non-normalized signals
- Matching of gain and impedances
- Conversion to a frequency for processing by a digital input
- Overvoltage and EMC protection
- Short-circuit protection of the outputs
- Potential duplication

Selection and ordering data

All transformers except the passive single interface converters have a yellow LED for indicating "Power on".



3RS17 05-2FD00



3RS1705-2FE00

Inputs	Output	Width	Rated control supply voltage U_s	Electrical separation	DT	Screw terminals	PS*	DT	Spring-type terminals	PS*
		mm	V			Order No.			Order No.	
Single interface converters, active										
0 ... 10 V	0 ... 10 V	6.2	24 AC/DC	2 paths		**3RS17 00-1AD00**	1 unit		**3RS17 00-2AD00**	1 unit
				3 paths		**3RS17 00-1AE00**	1 unit		**3RS17 00-2AE00**	1 unit
	0 ... 20 mA	6.2	24 AC/DC	2 paths		**3RS17 00-1CD00**	1 unit		**3RS17 00-2CD00**	1 unit
				3 paths		**3RS17 00-1CE00**	1 unit		**3RS17 00-2CE00**	1 unit
	4 ... 20 mA	6.2	24 AC/DC	2 paths		**3RS17 00-1DD00**	1 unit		**3RS17 00-2DD00**	1 unit
				3 paths		**3RS17 00-1DE00**	1 unit		**3RS17 00-2DE00**	1 unit
0 ... 20 mA	0 ... 10 V	6.2	24 AC/DC	2 paths		**3RS17 02-1AD00**	1 unit		**3RS17 02-2AD00**	1 unit
				3 paths		**3RS17 02-1AE00**	1 unit		**3RS17 02-2AE00**	1 unit
	0 ... 20 mA	6.2	24 AC/DC	2 paths		**3RS17 02-1CD00**	1 unit		**3RS17 02-2CD00**	1 unit
				3 paths		**3RS17 02-1CE00**	1 unit		**3RS17 02-2CE00**	1 unit
	4 ... 20 mA	6.2	24 AC/DC	2 paths		**3RS17 02-1DD00**	1 unit		**3RS17 02-2DD00**	1 unit
				3 paths		**3RS17 02-1DE00**	1 unit		**3RS17 02-2DE00**	1 unit
4 ... 20 mA	0 ... 10 V	6.2	24 AC/DC	2 paths		**3RS17 03-1AD00**	1 unit		**3RS17 03-2AD00**	1 unit
				3 paths		**3RS17 03-1AE00**	1 unit		**3RS17 03-2AE00**	1 unit
	0 ... 20 mA	6.2	24 AC/DC	2 paths		**3RS17 03-1CD00**	1 unit		**3RS17 03-2CD00**	1 unit
				3 paths		**3RS17 03-1CE00**	1 unit		**3RS17 03-2CE00**	1 unit
	4 ... 20 mA	6.2	24 AC/DC	2 paths		**3RS17 03-1DD00**	1 unit		**3RS17 03-2DD00**	1 unit
				3 paths		**3RS17 03-1DE00**	1 unit		**3RS17 03-2DE00**	1 unit
Switchable multi-range converters, active										
0 ... 10 V, 0 ... 20 mA, 4 ... 20 mA, selectable	0 ... 10 V, 0 ... 20 mA, 4 ... 20 mA, selectable	6.2	24 AC/DC	2 paths		**3RS17 05-1FD00**	1 unit		**3RS17 05-2FD00**	1 unit
				3 paths		**3RS17 05-1FE00**	1 unit		**3RS17 05-2FE00**	1 unit
		17.5	24 ... 240 AC/DC	3 paths		**3RS17 05-1FW00**	1 unit		**3RS17 05-2FW00**	1 unit
0 ... 10 V, 0 ... 20 mA, 4 ... 20 mA, selectable	0 ... 50 Hz, 0 ... 100 Hz, 0 ... 1 kHz, 0 ... 10 kHz, selectable	6.2	24 AC/DC	2 paths		**3RS17 05-1KD00**	1 unit		**3RS17 05-2KD00**	1 unit
		17.5	24 ... 240 AC/DC	3 paths		**3RS17 05-1KW00**	1 unit		**3RS17 05-2KW00**	1 unit

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SIRIUS 3RS17 interface converters


3RS17 06-1FD00

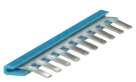

3RS17 20-1ET00


3RS17 25-2FD00

Inputs	Output	Width	Rated control supply voltage U_s	Electrical separation	DT	Screw terminals	PS*	DT	Spring-type terminals	PS*
		mm	V			Order No.			Order No.	
Switchable universal converters, active, with 16 input ranges and 3 output ranges										
0 ... 60 mV, 0 ... 100 mV, 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, 0 ... 20 mA, 4 ... 20 mA, +/-5 mA, +/-20 mA, selectable	0 ... 10 V, 0 ... 20 mA, 4 ... 20 mA, selectable	17.5	24 AC/DC	2 paths		**3RS17 06-1FD00**	1 unit		**3RS17 06-2FD00**	1 unit
				3 paths		**3RS17 06-1FE00**	1 unit		**3RS17 06-2FE00**	1 unit
			24 … 240 AC/DC	3 paths		**3RS17 06-1FW00**	1 unit		**3RS17 06-2FW00**	1 unit
Switchable multi-range converters, active, with manual/automatic switch and single potentiometer as manual analog signal transmitter										
0 ... 10 V, 0 ... 20 mA, 4 ... 20 mA, selectable	0 ... 10 V, 0 ... 20 mA, 4 ... 20 mA, selectable	17.5	24 AC/DC	2 paths		**3RS17 25-1FD00**	1 unit		**3RS17 25-2FD00**	1 unit
			24 … 240 AC/DC	3 paths		**3RS17 25-1FW00**	1 unit		**3RS17 25-2FW00**	1 unit

Inputs	Output	Width	Number of channels	Electrical separation	DT	Screw terminals	PS*	DT	Spring-type terminals	PS*
		mm				Order No.			Order No.	
Single interface converters, passive										
0/4 ... 20 mA	0/4 ... 20 mA	6.2	1	2 paths		**3RS17 20-1ET00**	1 unit		**3RS17 20-2ET00**	1 unit
		12.5	1	2 paths		**3RS17 21-1ET00**	1 unit		**3RS17 21-2ET00**	1 unit
			2	2 paths		**3RS17 22-1ET00**	1 unit		**3RS17 22-2ET00**	1 unit

Accessories

	Use	Version	DT	Order No.	PS*
Tools for opening spring-type terminals					
 3RA29 08-1A	For auxiliary circuit connections	**Screwdrivers** For all SIRIUS devices with spring-type terminals 3.0 mm x 0.5 mm, length approx. 200 mm, titanium gray/black, partially insulated		**Spring-type terminals** **3RA29 08-1A**	1 unit
Connecting combs, blue					
 3TX7 014-7AA00	For 3RS17..-..E00	For linking the same potentials, 16 terminals, current carrying capacity for infeed max. 6 A		**3TX7 014-7AA00**	5 units
Galvanic isolation plates					
 3TX7 014-7CE00	For 3RS17..-..E00	--		**3TX7 014-7CE00**	10 units

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Illustrations are approximate

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Detecting Devices

9



9/2 **Introduction**

3SE5, 3SE2 Position Switches

9/4 General data

3SE5, molded-plastic enclosures

9/6 - Enclosure width 31 mm according to EN 50047

9/10 - Enclosure width 40 mm according to EN 50041 new

3SE5, metal enclosures

9/14 - Enclosure width 31 mm according to EN 50047 new

9/18 - Enclosure width 40 mm according to EN 50041

9/22 - Enclosure width 56 mm

9/22 - Enclosure width 56 mm, XL new

9/24 - Compact design new

9/25 3SE5, open-type design

9/26 Accessories and spare parts

With Separate Actuator

9/28 General data

9/29 3SE5, molded-plastic enclosures

9/30 3SE5, metal enclosures

9/31 Accessories

9/32 3SE2, molded-plastic enclosures

With Interlocking

9/33 General data

9/34 3SE5, molded-plastic enclosures

9/35 3SE5, metal enclosures

9/31 Accessories

Hinge Switches

9/36 3SE5, molded-plastic and metal enclosures

3SF1 AS-Interface Position Switches

Molded-plastic and metal enclosures

9/37 - Enclosure width 31 mm according to EN 50047

9/37 - Enclosure width 50 mm

Metal enclosures

9/39 - Enclosure width 40 mm according to EN 50041

9/39 - Enclosure width 56 mm

With Separate Actuator

9/41 Molded-plastic and metal enclosures

With Interlocking

9/42 Molded-plastic and metal enclosures

3SE6 Magnetically Operated Switches

9/43 Magnetic monitoring systems

More technical information

can be found at
www.siemens.com/industrial-controls/support

under Product List:
- Technical specifications

under Entry List:
- Updates
- Downloads
- FAQ
- Manuals
- Characteristic curves
- Certificates

and at
www.siemens.com/industrial-controls/configurators
- Configurators

Note:

Other versions such as position switches for ambient temperatures up to -40 °C or explosion protection (ATEX) can be found

- in Catalog IC 10 · 2011 on the attached CD-ROM or in the Information and Download Center

- in the interactive catalog CA 01

- in the Industry Mall

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Introduction

Overview



3SE5 23.,
3SE5 21.
3SF1 2.4



3SE5 24.,

3SF1 244



3SE5 13.,
3SE5 11.,
3SF1 114



3SE5 12.,

3SF1 124



3SE5 16.



3SE5 232,
3SE5 212,
3SF1 2.4



3SE5 132,
3SE5 112,
3SF1 1.4

	Position switches, standard					Hinge switches	
Enclosures							
Molded-plastic	✓	✓	✓	--	--	✓	✓
Metal	✓	--	✓	✓	✓	✓	✓
Dimensions (W x H x D) in mm	31 × 68 × 33	50 × 53 × 33	40 × 78 × 38	56 × 78 × 38	56 × 100 × 38	31 × 68 × 33	40 × 78 × 38
Degree of protection	IP65, IP66/IP67	IP66/IP67	IP66/IP67	IP66/IP67	IP66/IP67	IP65, IP66/IP67	IP66/IP67
Standards							
IEC 60947-5-1	Mounting and operating points acc. to EN 50047	Operating points acc. to EN 50047	Mounting and operating points acc. to EN 50041	Operating points acc. to EN 50041	Operating points acc. to EN 50047	Mounting and operating points acc. to EN 50047	Mounting and operating points acc. to EN 50041
Approvals	CE, UL, CSA, CCC		CE, UL, CSA, CCC			CE, UL, CSA, CCC	
Contact blocks							
2 slow-action contacts	1 NO + 1 NC, 2 NC		1 NO + 1 NC, 2 NC		--	1 NO + 1 NC	
2 snap-action contacts	1 NO + 1 NC		1 NO + 1 NC		--	1 NO + 1 NC	
• Short stroke	1 NO + 1 NC		✓		--	✓	
• With 2 × 2 mm contact gap	1 NO + 1 NC		✓		--	✓	
3 slow-action contacts	1 NO + 2 NC, 2 NO + 1 NC		1 NO + 2 NC, 2 NO + 1 NC		--	1 NO + 2 NC	
• With make-before-break	1 NO + 2 NC		1 NO + 2 NC		--	1 NO + 2 NC	
3 snap-action contacts	1 NO + 2 NC		1 NO + 2 NC		--	1 NO + 2 NC	
2 x (2 or 3 contacts)	--		--		✓	--	
Special features							
LED status display	✓		✓		--	✓	
Increased corrosion protection	✓		✓		✓	✓	
Explosion protection (ATEX)	--		✓		✓	✓	
ASIsafe integrated	✓		✓		--	✓	
Electrical specifications							
Insulation voltage U_i	400 V		400 V			400 V	
Conventional thermal current I_{the}	6 A/10 A (3-/2-pole)		6 A/10 A (3-/2-pole)			6 A/10 A (3-/2-pole)	
Connections							
Cable entry	1 × M20 × 1.5	2 × M20 × 1.5	1 × M20 × 1.5	3 × M20 × 1.5	1 × M20 × 1.5	1 × M20 × 1.5	1 × M20 × 1.5
M12 connector socket, 4-, 5- or 8-pole	✓	✓	✓	✓	✓	✓	✓
Connector socket, 6-pole + PE	--	--	✓	✓	--	--	--
Actuators							
Rounded plungers and roller plungers	✓		✓			--	
Roller and angular roller levers	✓		✓			--	
Spring rod	✓		✓			--	
Twist levers and rod actuators	✓		✓			--	
Fork lever	--		✓			--	
Hinge switches	--		--			✓	
Page							
Complete units	9/6, 9/14	•	9/10, 9/18	•	•	9/36	9/36
Modular system	9/8, 9/16	•	9/12, 9/20	9/22	9/22	--	--
Ambient temperature -40 °C	•	•	•	•	--	--	--
ASIsafe	9/37	9/37	9/39	9/39	--	9/37	9/39
ATEX	•	--	•	•	•	•	•

✓ Available
-- Not available
• See Catalog IC 10 · 2011

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3SE5 413, 3SE5 423



3SE5 250



3SE5 232, 3SE5 242, 3SF1 2.4



3SE5 112, 3SE5 122, 3SF1 1.4



3SE5 322, 3SE5 312, 3SF1 3.4



3SE6

	Compact design	Open-type	Position switches with separate actuator		Position switches with interlocking	Magnetically operated switches
Enclosures						
Molded-plastic	--	✓	✓	✓	✓	✓
Metal	✓		✓	✓	✓	--
Dimensions (W x H x D) in mm	30 × .. × .., 40 × .. × ..	30 × 48.5 × 20	31 × 68 × 33, 50 × 53 × 33	40 × 78 × 38, 56 × 78 × 38	54 × 185 × 44	M30 × 44, 19 × 33 × 13, 25 × 88 × 13
Degree of protection	IP66/IP67	IP10 or IP20	IP65, IP66/IP67	IP66/IP67	IP66/IP67	IP67
Standards IEC 60947-5-1	--	Mounting and operating points acc. to EN 50047	Mounting acc. to EN 50047	Mounting acc. to EN 50041	EN 1088	Category 3 or 4 acc. to ISO 13849-1 (EN 954-1)
Approvals	CE, UL, CSA	--	CE, TÜV, UL, CSA, CCC		CE, TÜV, UL, CSA, CCC	CE, TÜV, UL, CSA
Contact blocks						
2 slow-action contacts	--	1 NO + 1 NC	1 NO + 1 NC		--	--
2 snap-action contacts	1 NO + 1 NC	1 NO + 1 NC	--		--	--
• Short stroke	--	✓				
• With 2 × 2 mm contact gap	--	✓				
3 slow-action contacts	--	1 NO + 2 NC	1 NO + 2 NC		--	--
• With make-before-break	--	1 NO + 2 NC	--			
3 snap-action contacts	--	1 NO + 2 NC	--		--	--
6 slow-action contacts	--	--	--		2 × (1 NO + 2 NC)	--
Reed contacts	--	--	--		--	1 NO + 1 NC or 2 NC
Special features						
LED status display	--	--	✓		✓	--
Increased corrosion protection	--	--	✓		✓	--
Explosion protection (ATEX)	--	--	✓		--	--
ASIsafe integrated	--	--	✓		✓	--
Electrical specifications						
Insulation voltage U_i		400 V	400 V		400 V	--
Conventional thermal current I_{the}		6 A	6 A		6 A	--
Connections						
Cable entry	--	--	1 × M20 × 1.5, 2 × M20 × 1.5	1 × M20 × 1.5, 3 × M20 × 1.5	3 × M20 × 1.5	--
M12 connector socket, 4- or 5-pole	✓	--	✓	✓	✓	✓
Molded cables	✓	--	--	--	--	✓
AS-Interface	--	--	✓	✓	✓	✓ (through I/O module)
Actuators						
Plungers, twist levers	✓	✓	--		--	--
Separate actuators	--	--	✓		✓	--
Page						
Complete units	9/24	9/25	9/29, 9/30	9/29, 9/30	9/34, 9/35	--
Modular system	--	--	--	--	--	9/43
ASIsafe	--	--	9/41	9/41	9/42	9/43
ATEX	--	--	●	●	--	--

✓ Available
-- Not available
● See Catalog IC 10 · 2011

Note:
For safety characteristics see Catalog IC 10 · 2011 "Appendix" on the attached CD-ROM.

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General data

Overview

The innovative SIRIUS 3SE5 position switches are modern in design, compact, modular and simple to connect. They save time and increase flexibility during installation of a whole range of switch variants. 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 molded-plastic and metal enclosures

Modular system

The 3SE5 series features a new 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.

An easy plug-in method enables fast replacement of the actuator heads.



Examples of selection options in the modular system

Design

All enclosure variants have an integrated chlorinated rubber diaphragm (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
- Molded-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
- Molded-plastic and metal enclosures according to EN 50041, 40 mm wide, IP66/IP67, 1 cable entry
- Molded-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 3SE5 series:

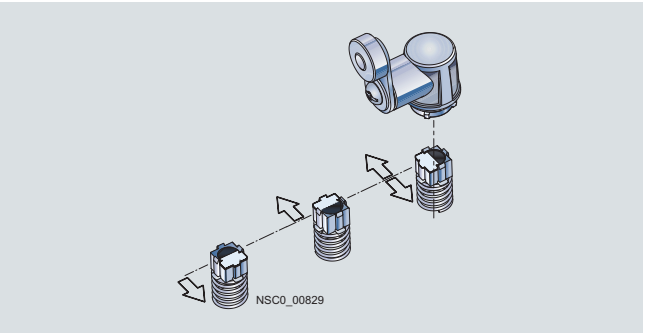
- With contact blocks with two or three contacts (screw terminals) designed as slow-action or snap-action contacts; the slow-action contacts also with make-before-break
- Optional LED status display
- With mounted four- or five-pole M12 connector socket (available for the wide enclosures as an accessory for self-assembly)
- With 6-pole connector socket + PE on the metal enclosures
- Versions with increased corrosion protection
- Versions for operating temperature up to –40 °C
- Metal enclosures for explosion protection (ATEX) (see Catalog IC 10 · 2011 or the Industry Mall)
- AS-Interface version with integrated ASIsafe electronics for all enclosure designs (see page 9/37)

Actuator variants

All actuators can be rotated around the axis in increments of 22.5°. The following actuator variants are available:

- Standard, rounded and roller plungers
- Roller and angular roller levers
- Spring rod
- Twist levers and rod actuators with twist actuator
- Fork levers with twist actuator

The actuator rollers are available with various materials and diameters.



Twist actuators for twist levers and rod actuators, with setting of switching to right, left or right/left (standard for all twist actuators except fork levers)

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Options

On the following pages you will find selection tables for complete units as well as components of the modular system.

☐ Complete units

☒ 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 variants 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 teflon plunger
- Version with increased corrosion protection
- Version with 2 LEDs
- Version with M12 connector socket or 6-pole + PE
- Version with M12 connector socket and with 2 LEDs

For the molded-plastic enclosures with a width of 31 and 50 mm the basic switches are designed as complete units with rounded plunger (according to standard).

Online configurator

The online configurator helps you not only to select and order the right switch but also to create complete product documentation.

- Product data sheets
- Dimensional drawings
- Operating travel diagrams
- CAD data in 2D and 3D model images
- Ordering data
- Product photos

www.siemens.com/industrial-controls/configurators

Complete units

Ordering example

Required:
- Position switch according to EN 50047 in a molded-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 ☐
		Order No.
Complete units • Enclosure width 31 mm		
	***Angular roller levers*** **With metal lever and plastic roller 13 mm** Slow-action contacts 1 NO + 1 NC	**3SE5 232-0BF10**

Modular system

Ordering example 1

Required:
- Position switch according to EN 50047 in a molded-plastic enclosure
- Contact block with slow-action contacts 1 NO + 1 NC
- Angular roller lever, metal lever and plastic roller

To be ordered separately:

	Version	Modular system ☒
		Order No.
Basic switches • Enclosure width 31 mm		
	**With teflon plunger** Slow-action contacts 1 NO + 1 NC	**3SE5 232-0BC05**
		+
Operating mechanisms		
	**Angular roller levers** Metal lever, plastic roller	**3SE5 000-0AF10**

Ordering example 2

Required:
- Position switch according to EN 50047 in a molded-plastic enclosure
- Contact block with slow-action contacts 1 NO + 1 NC
- Twist lever, high-grade steel lever and plastic roller

To be ordered separately:

	Version	Modular system ☒
		Order No.
Basic switches • Enclosure width 31 mm		
	**With teflon plunger** Slow-action contacts 1 NO + 1 NC	**3SE5 232-0BC05**
		+
Twist actuators		
	**Twist actuator**	**3SE5 000-0AK00**
	**Twist levers** High-grade steel lever, plastic roller	**3SE5 000-0AA31**

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3SE5, molded-plastic enclosures
Enclosure width 31 mm according to EN 50047

Selection and ordering data

Complete units

2 or 3 contacts · Degree of protection IP65 · Cable entry M20 × 1.5[1)]

	Version	Contacts[2)]		LEDs	DT	Complete units Order No.	PS*
Complete units[3)] • Enclosure width 31 mm							
 Rounded plungers	***Rounded plungers, type B, acc. to EN 50047***						
	With teflon plunger						
	Slow-action contacts	1 NO + 1 NC	➔	--	▶	**3SE5 232-0BC05**	1 unit
	Snap-action contacts	1 NO + 1 NC	➔	--		**3SE5 232-0CC05**	1 unit
	Snap-action contacts, integrated[4)]	1 NO + 1 NC	➔	--	▶	**3SE5 232-0HC05**	1 unit
	Snap-action contacts • Short-stroke, integrated[4)]	1 NO + 1 NC	➔	--		**3SE5 232-0FC05**	1 unit
	Snap-action contacts • 2 × 2 mm contact gap	1 NO + 1 NC	➔	--		**3SE5 232-0GC05**	1 unit
	Slow-action contacts	1 NO + 2 NC	➔	--		**3SE5 232-0KC05**	1 unit
	Snap-action contacts	1 NO + 2 NC	➔	--		**3SE5 232-0LC05**	1 unit
	Slow-action contacts with make-before-break	1 NO + 2 NC	➔	--		**3SE5 232-0MC05**	1 unit
	Slow-action contacts	2 NO + 1 NC	➔	--		**3SE5 232-0PC05**	1 unit
 With increased corrosion protection	**With increased corrosion protection**						
	Slow-action contacts	1 NO + 1 NC	➔	--		**3SE5 232-0BC05-1CA0**	1 unit
	Snap-action contacts	1 NO + 1 NC	➔	--		**3SE5 232-0CC05-1CA0**	1 unit
	Slow-action contacts	1 NO + 2 NC	➔	--		**3SE5 232-0KC05-1CA0**	1 unit
	Snap-action contacts	1 NO + 2 NC	➔	--		**3SE5 232-0LC05-1CA0**	1 unit
	Slow-action contacts with make-before-break	1 NO + 2 NC	➔	--		**3SE5 232-0MC05-1CA0**	1 unit
	Slow-action contacts	2 NO + 1 NC	➔	--		**3SE5 232-0PC05-1CA0**	1 unit
	With M12 connector socket, 4-pole (250 V, 4 A)						
	Slow-action contacts	1 NO + 1 NC	➔	--		**3SE5 234-0BC05-1AC4**	1 unit
	Snap-action contacts, integrated[4)]	1 NO + 1 NC	➔	--		**3SE5 234-0HC05-1AC4**	1 unit
	Slow-action contacts	2 NC	➔	--		**3SE5 234-0KC05-1AE0**	1 unit
	Snap-action contacts	2 NC	➔	--		**3SE5 234-0LC05-1AE0**	1 unit
 With 2 LEDs	**With 2 LEDs, yellow/green**						
	Slow-action contacts	1 NO + 2 NC	➔	24 V DC		**3SE5 232-1KC05**	1 unit
	Snap-action contacts	1 NO + 2 NC	➔	24 V DC		**3SE5 232-1LC05**	1 unit
	Slow-action contacts	1 NO + 2 NC	➔	230 V AC		**3SE5 232-3KC05**	1 unit
	Snap-action contacts	1 NO + 2 NC	➔	230 V AC		**3SE5 232-3LC05**	1 unit
	With M12 connector socket, 5-pole (125 V, 4 A) **and 2 LEDs**						
	Slow-action contacts	1 NO + 1 NC	➔	24 V DC		**3SE5 234-1BC05-1AF3**	1 unit
	Snap-action contacts	1 NO + 1 NC	➔	24 V DC		**3SE5 234-1CC05-1AF3**	1 unit
 Roller plungers	***Roller plungers, type C acc. to EN 50047***						
	With plastic roller 10 mm						
	Slow-action contacts	1 NO + 1 NC	➔	--		**3SE5 232-0BD03**	1 unit
	Snap-action contacts • Integrated[4)]	1 NO + 1 NC	➔	--	▶	**3SE5 232-0HD03**	1 unit
	Snap-action contacts • Short-stroke, integrated[4)]	1 NO + 1 NC	➔	--		**3SE5 232-0FD03**	1 unit
	Slow-action contacts	1 NO + 2 NC	➔	--		**3SE5 232-0KD03**	1 unit
	Snap-action contacts	1 NO + 2 NC	➔	--		**3SE5 232-0LD03**	1 unit
 Roller plungers with central fixing	**Actuator head rotated by 90°**						
	Snap-action contacts	1 NO + 2 NC	➔	--		**3SE5 232-0LD03-1AH0**	1 unit
	With M12 connector socket, 4-pole (250 V, 4 A)						
	Snap-action contacts, integrated[4)]	1 NO + 1 NC	➔	--		**3SE5 234-0HD03-1AC4**	1 unit
	Roller plunger with central fixing						
	Snap-action contacts, integrated[4)]	1 NO + 1 NC	➔	--		**3SE5 232-0HD10**	1 unit
	Slow-action contacts	1 NO + 2 NC	➔	--		**3SE5 232-0KD10**	1 unit

1) A cable gland with seal must be used with the quick-connect method.
2) Normally closed contact (NC) with positive opening according to IEC 60947-5-1, Appendix K, and positively driven actuator, necessary in safety circuits. Identification by the symbol ➔.
3) Popular versions.
4) Subsequent replacement of contact blocks is not possible.

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

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3SE5, molded-plastic enclosures
Enclosure width 31 mm according to EN 50047

2 or 3 contacts · Degree of protection IP65 · Cable entry M20 × 1.5[1)]

Version	Contacts[2)]		LEDs	DT	Complete units Order No.	PS*
Complete units[3)] • Enclosure width 31 mm						
Roller levers, type E acc. to EN 50047						
With metal lever and plastic roller 13 mm						
Slow-action contacts	1 NO + 1 NC	➔	--		**3SE5 232-0BE10**	1 unit
Snap-action contacts, integrated[4)]	1 NO + 1 NC	➔	--	▶	**3SE5 232-0HE10**	1 unit
Slow-action contacts	1 NO + 2 NC	➔	--		**3SE5 232-0KE10**	1 unit
Snap-action contacts	1 NO + 2 NC	➔	--		**3SE5 232-0LE10**	1 unit
With M12 connector socket, 4-pole (250 V, 4 A)						
Snap-action contacts, integrated[4)]	1 NO + 1 NC	➔	--		**3SE5 234-0HE10-1AC4**	1 unit
Angular roller levers						
With metal lever and plastic roller 13 mm						
Slow-action contacts	1 NO + 1 NC	➔	--		**3SE5 232-0BF10**	1 unit
Snap-action contacts, integrated[4)]	1 NO + 1 NC	➔	--		**3SE5 232-0HF10**	1 unit
Slow-action contacts	1 NO + 2 NC	➔	--		**3SE5 232-0KF10**	1 unit
Snap-action contacts	1 NO + 2 NC	➔	--		**3SE5 232-0LF10**	1 unit
Spring rod						
Length 142.5 mm, with plastic plunger 50 mm						
Snap-action contacts, integrated[4)]	1 NO + 1 NC		--		**3SE5 232-0HR01**	1 unit
With M12 connector socket, 4-pole (250 V, 4 A)						
Snap-action contacts, integrated[4)]	1 NO + 1 NC		--		**3SE5 234-0HR01-1AC4**	1 unit
Twist levers, type A acc. to EN 50047						
With metal lever 21 mm and plastic roller 19 mm						
Slow-action contacts	1 NO + 1 NC	➔	--		**3SE5 232-0BK21**	1 unit
Snap-action contacts, integrated[4)]	1 NO + 1 NC	➔	--		**3SE5 232-0HK21**	1 unit
Slow-action contacts	1 NO + 2 NC	➔	--		**3SE5 232-0KK21**	1 unit
Snap-action contacts	1 NO + 2 NC	➔	--		**3SE5 232-0LK21**	1 unit
With M12 connector socket, 4-pole (250 V, 4 A)						
Snap-action contacts, integrated[4)]	1 NO + 1 NC	➔	--		**3SE5 234-0HK21-1AC4**	1 unit
With metal lever 35 mm and plastic roller 19 mm						
Snap-action contacts, integrated[4)]	1 NO + 1 NC	➔	--		**3SE5 232-0HK15**	1 unit
Twist levers, adjustable length						
With metal lever with grid hole and plastic roller 19 mm						
Snap-action contacts, integrated[4)]	1 NO + 1 NC	➔	--		**3SE5 232-0HK60**	1 unit
With metal lever and plastic roller 19 mm						
Slow-action contacts	1 NO + 1 NC		--		**3SE5 232-0BK50**	1 unit
Snap-action contacts, integrated[4)]	1 NO + 1 NC		--	▶	**3SE5 232-0HK50**	1 unit
Snap-action contacts	1 NO + 2 NC		--		**3SE5 232-0LK50**	1 unit
With M12 connector socket, 4-pole (250 V, 4 A)						
Snap-action contacts, integrated[4)]	1 NO + 1 NC		--		**3SE5 234-0HK50-1AC4**	1 unit
Rod actuator						
With aluminum rod, length 200 mm						
Snap-action contacts, integrated[4)]	1 NO + 1 NC		--		**3SE5 232-0HK80**	1 unit
With plastic rod, length 200 mm						
Snap-action contacts, integrated[4)]	1 NO + 1 NC		--		**3SE5 232-0HK82**	1 unit
With M12 connector socket, 4-pole (250 V, 4 A)						
Snap-action contacts, integrated[4)]	1 NO + 1 NC		--		**3SE5 234-0HK82-1AC4**	1 unit

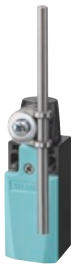

Roller levers


Angular roller levers


Spring rod


Twist levers


Twist lever, adjustable length


Rod actuator

1) A cable gland with seal must be used with the quick-connect method.
2) Normally closed contact (NC) with positive opening according to IEC 60947-5-1, Appendix K, and positively driven actuator, necessary in safety circuits. Identification by the symbol ➔.
3) Popular versions.
4) Subsequent replacement of contact blocks is not possible.

Note: If the device you require is not available as a complete unit, see "Modular system" on the next page.

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

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3SE5, molded-plastic enclosures
Enclosure width 31 mm according to EN 50047

Modular system

2 or 3 contacts · Degree of protection IP65 · Cable entry M20 × 1.5[1)]

	Version	Contacts[2)]		LEDs	DT	Modular system ◇ Order No.	PS*
Basic switches • Enclosure width 31 mm (with rounded plunger[3)])							
 Basic switches	**With teflon plunger**						
	Slow-action contacts	1 NO + 1 NC	⊖	--	▶	**3SE5 232-0BC05**	1 unit
	Snap-action contacts	1 NO + 1 NC	⊖	--		**3SE5 232-0CC05**	1 unit
	Snap-action contacts, integrated[4)]	1 NO + 1 NC	⊖	--	▶	**3SE5 232-0HC05**	1 unit
	Snap-action contacts • Short-stroke, integrated[4)]	1 NO + 1 NC	⊖	--		**3SE5 232-0FC05**	1 unit
	Snap-action contacts • 2 × 2 mm contact gap	1 NO + 1 NC	⊖	--		**3SE5 232-0GC05**	1 unit
	Slow-action contacts	1 NO + 2 NC	⊖	--		**3SE5 232-0KC05**	1 unit
	Snap-action contacts	1 NO + 2 NC	⊖	--		**3SE5 232-0LC05**	1 unit
	Slow-action contacts with make-before-break	1 NO + 2 NC	⊖	--		**3SE5 232-0MC05**	1 unit
	Slow-action contacts	2 NO + 1 NC	⊖	--		**3SE5 232-0PC05**	1 unit
 With increased corrosion protection	**With increased corrosion protection**[5)]						
	Slow-action contacts	1 NO + 1 NC	⊖	--		**3SE5 232-0BC05-1CA0**	1 unit
	Snap-action contacts	1 NO + 1 NC	⊖	--		**3SE5 232-0CC05-1CA0**	1 unit
	Slow-action contacts	1 NO + 2 NC	⊖	--		**3SE5 232-0KC05-1CA0**	1 unit
	Snap-action contacts	1 NO + 2 NC	⊖	--		**3SE5 232-0LC05-1CA0**	1 unit
	Slow-action contacts with make-before-break	1 NO + 2 NC	⊖	--		**3SE5 232-0MC05-1CA0**	1 unit
	Slow-action contacts	2 NO + 1 NC	⊖	--		**3SE5 232-0PC05-1CA0**	1 unit
 With M12 socket	**With M12 connector socket, 4-pole** (250 V, 4 A)						
	Slow-action contacts	1 NO + 1 NC	⊖	--		**3SE5 234-0BC05-1AC4**	1 unit
	Snap-action contacts, integrated[4)]	1 NO + 1 NC	⊖	--		**3SE5 234-0HC05-1AC4**	1 unit
	Slow-action contacts	2 NC	⊖	--		**3SE5 234-0KC05-1AE0**	1 unit
	Snap-action contacts	2 NC	⊖	--		**3SE5 234-0LC05-1AE0**	1 unit
 With 2 LEDs	**With 2 LEDs, yellow/green**						
	Slow-action contacts	1 NO + 2 NC	⊖	24 V DC		**3SE5 232-1KC05**	1 unit
	Snap-action contacts	1 NO + 2 NC	⊖	24 V DC		**3SE5 232-1LC05**	1 unit
	Slow-action contacts	1 NO + 2 NC	⊖	230 V AC		**3SE5 232-3KC05**	1 unit
	Snap-action contacts	1 NO + 2 NC	⊖	230 V AC		**3SE5 232-3LC05**	1 unit
 With M12 socket and 2 LEDs	**With M12 connector socket, 5-pole** (125 V, 4 A) **and 2 LEDs**						
	Slow-action contacts	1 NO + 1 NC	⊖	24 V DC		**3SE5 234-1BC05-1AF3**	1 unit
	Snap-action contacts	1 NO + 1 NC	⊖	24 V DC		**3SE5 234-1CC05-1AF3**	1 unit

1) A cable gland with seal must be used with the quick-connect method.
2) Normally closed contact (NC) with positive opening according to IEC 60947-5-1, Appendix K, and positively driven actuator, necessary in safety circuits. Identification by the symbol ⊖.
3) On enclosure width 31 mm the basic switch is also a complete unit with rounded plunger.
4) Subsequent replacement of contact blocks is not possible.
5) Use corresponding high-grade steel lever.

Note: For selection aid, see page 9/5.

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

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3SE5, molded-plastic enclosures
Enclosure width 31 mm according to EN 50047

	Version[1]		Diameter	DT	Modular system ◇	PS*
			mm		Order No.	
Operating mechanisms						
 Roller plungers	**Roller plunger, type C according to EN 50047**					
	Plastic rollers	➔	10		**3SE5 000-0AD03**	1 unit
	High-grade steel rollers	➔	10		**3SE5 000-0AD04**	1 unit
 With central fixing	**Roller plunger with central fixing**					
	Plastic rollers	➔	10		**3SE5 000-0AD10**	1 unit
	High-grade steel rollers	➔	10		**3SE5 000-0AD11**	1 unit
 Roller levers	**Roller lever, type E according to EN 50047**					
	Metal lever, plastic roller	➔	13		**3SE5 000-0AE10**	1 unit
	Metal lever, high-grade steel roller	➔	13		**3SE5 000-0AE11**	1 unit
	High-grade steel lever, plastic roller	➔	13		**3SE5 000-0AE12**	1 unit
	High-grade steel lever, high-grade steel roller	➔	13		**3SE5 000-0AE13**	1 unit
 Angular roller levers	**Angular roller levers**					
	Metal lever, plastic roller	➔	13		**3SE5 000-0AF10**	1 unit
	Metal lever, high-grade steel roller	➔	13		**3SE5 000-0AF11**	1 unit
	High-grade steel lever, plastic roller	➔	13		**3SE5 000-0AF12**	1 unit
	High-grade steel lever, high-grade steel roller	➔	13		**3SE5 000-0AF13**	1 unit
 Spring rod	**Spring rod** (for switches with snap-action contacts only)					
	Plastic plunger:					
	• Length 142.5 mm (spring 50 mm, plunger 50 mm)				**3SE5 000-0AR01**	1 unit
	• Length 76 mm (spring 23.5 mm, plunger 10 mm)				**3SE5 000-0AR03**	1 unit
	• Length 242.5 mm (spring 150 mm, plunger 50 mm)				**3SE5 000-0AR04**	1 unit
	High-grade steel plunger:					
	• Length 142.5 mm (spring 50 mm, plunger 50 mm)				**3SE5 000-0AR02**	1 unit
Twist actuators						
 Twist actuator	**Twist actuators**, plastic (without lever)					
	Switching right and/or left, adjustable	➔			**3SE5 000-0AK00**	1 unit
	Levers for twist actuators					
	Twist lever 21 mm, straight, type A according to EN 50047					
 Twist levers	Metal lever, plastic roller	➔	19		**3SE5 000-0AA21**	1 unit
	Metal lever, high-grade steel roller	➔	19		**3SE5 000-0AA22**	1 unit
	Metal lever, roller with ball bearing	➔	19		**3SE5 000-0AA23**	1 unit
	Metal lever, plastic roller	➔	30		**3SE5 000-0AA25**	1 unit
	High-grade steel lever, plastic roller	➔	19		**3SE5 000-0AA31**	1 unit
	High-grade steel lever, high-grade steel roller	➔	19		**3SE5 000-0AA32**	1 unit
 Twist lever, adjustable length	**Twist levers 30 mm, straight**[2]					
	Metal lever, plastic roller	➔	19		**3SE5 000-0AA24**	1 unit
	Twist levers, adjustable length, with grid hole					
	Metal lever, plastic roller	➔	19		**3SE5 000-0AA60**	1 unit
	Metal lever, high-grade steel roller	➔	19		**3SE5 000-0AA61**	1 unit
	Metal lever, plastic roller	➔	50		**3SE5 000-0AA67**	1 unit
	Metal lever, rubber roller	➔	50		**3SE5 000-0AA68**	1 unit
	High-grade steel lever, plastic roller	➔	19		**3SE5 000-0AA62**	1 unit
	High-grade steel lever, high-grade steel roller	➔	19		**3SE5 000-0AA63**	1 unit
 Rod actuator	**Twist levers, adjustable length**					
	Metal lever, plastic roller		19		**3SE5 000-0AA50**	1 unit
	Metal lever, high-grade steel roller		19		**3SE5 000-0AA51**	1 unit
	Metal lever, plastic roller		30		**3SE5 000-0AA55**	1 unit
	Metal lever, plastic roller		50		**3SE5 000-0AA57**	1 unit
	Metal lever, rubber roller		50		**3SE5 000-0AA58**	1 unit
	High-grade steel lever, plastic roller		19		**3SE5 000-0AA52**	1 unit
	High-grade steel lever, high-grade steel roller		19		**3SE5 000-0AA53**	1 unit
	Rod actuator					
	Aluminum rod, length 200 mm		6		**3SE5 000-0AA80**	1 unit
	Spring rod, length 200 mm		6		**3SE5 000-0AA81**	1 unit
	Plastic rod, length 200 mm		6		**3SE5 000-0AA82**	1 unit

[1] Positively driven actuator, necessary in safety circuits, identification by the symbol ➔.

[2] Can be clinch mounted (turned through 180°, rear of lever).

*** You can order this quantity or a multiple thereof.**

Illustrations are approximate

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3SE5, molded-plastic enclosures
Enclosure width 40 mm according to EN 50041

Selection and ordering data

Complete units

2 or 3 contacts · Degree of protection IP66/67 · Cable entry M20 × 1.5

	Version	Contacts[1]		LEDs	DT	Complete units Order No.	PS*
Complete units[2] • Enclosure width 40 mm							
 Plain plungers	***Plain plungers***						
	With high-grade steel plunger						
	Slow-action contacts	1 NO + 1 NC	➔	--		**3SE5 132-0BB01**	1 unit
	Snap-action contacts	1 NO + 1 NC	➔	--		**3SE5 132-0CB01**	1 unit
	Slow-action contacts	1 NO + 2 NC	➔	--		**3SE5 132-0KB01**	1 unit
	Snap-action contacts	1 NO + 2 NC	➔	--		**3SE5 132-0LB01**	1 unit
	Slow-action contacts	2 NO + 1 NC	➔	--		**3SE5 132-0PB01**	1 unit
 Rounded plungers	***Rounded plungers, type B according to EN 50041***						
	With plastic plunger						
	Slow-action contacts	1 NO + 1 NC	➔	--		**3SE5 132-0BC03**	1 unit
	Snap-action contacts	1 NO + 1 NC	➔	--		**3SE5 132-0CC03**	1 unit
	Slow-action contacts	1 NO + 2 NC	➔	--		**3SE5 132-0KC03**	1 unit
	Snap-action contacts	1 NO + 2 NC	➔	--		**3SE5 132-0LC03**	1 unit
	Slow-action contacts	2 NO + 1 NC	➔	--		**3SE5 132-0PC03**	1 unit
 Roller plungers	***Roller plungers, type C acc. to EN 50041***						
	With plastic roller 13 mm						
	Slow-action contacts	1 NO + 1 NC	➔	--		**3SE5 132-0BD05**	1 unit
	Snap-action contacts	1 NO + 1 NC	➔	--		**3SE5 132-0CD05**	1 unit
	Slow-action contacts	1 NO + 2 NC	➔	--		**3SE5 132-0KD05**	1 unit
	Snap-action contacts	1 NO + 2 NC	➔	--		**3SE5 132-0LD05**	1 unit
	Slow-action contacts	2 NO + 1 NC	➔	--		**3SE5 132-0PD05**	1 unit
 Roller levers	***Roller levers***						
	With metal lever and plastic roller 22 mm						
	Slow-action contacts	1 NO + 1 NC	➔	--		**3SE5 132-0BE05**	1 unit
	Snap-action contacts	1 NO + 1 NC	➔	--		**3SE5 132-0CE05**	1 unit
	Slow-action contacts	1 NO + 2 NC	➔	--		**3SE5 132-0KE05**	1 unit
	Snap-action contacts	1 NO + 2 NC	➔	--		**3SE5 132-0LE05**	1 unit
	Slow-action contacts	2 NO + 1 NC	➔	--		**3SE5 132-0PE05**	1 unit
 Angular roller levers	***Angular roller levers***						
	With metal lever and plastic roller 22 mm						
	Slow-action contacts	1 NO + 1 NC	➔	--		**3SE5 132-0BF05**	1 unit
	Snap-action contacts	1 NO + 1 NC	➔	--		**3SE5 132-0CF05**	1 unit
	Snap-action contacts	1 NO + 2 NC	➔	--		**3SE5 132-0LF05**	1 unit
 Spring rod	***Spring rod***						
	Length 142.5 mm, with plastic plunger 50 mm						
	Snap-action contacts	1 NO + 1 NC		--		**3SE5 132-0CR01**	1 unit
	Snap-action contacts	1 NO + 2 NC		--		**3SE5 132-0LR01**	1 unit

[1] Normally closed contact (NC) with positive opening according to IEC 60947-5-1, Appendix K, and positively driven actuator, necessary in safety circuits, identification by the symbol ➔.

[2] Popular versions.

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

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3SE5, molded-plastic enclosures
Enclosure width 40 mm according to EN 50041

2 or 3 contacts · Degree of protection IP66/IP67 · Cable entry M20 × 1.5

	Version	Contacts[1]		LEDs	DT	Complete units Order No.	PS*
Complete units[2] • Enclosure width 40 mm							
 Twist levers	***Twist levers, type A acc. to EN 50041***						
	With metal lever 27 mm and plastic roller 19 mm						
	Slow-action contacts	1 NO + 1 NC	➔	--		**3SE5 132-0BJ01**	1 unit
	Snap-action contacts	1 NO + 1 NC	➔	--		**3SE5 132-0CJ01**	1 unit
	Slow-action contacts	1 NO + 2 NC	➔	--		**3SE5 132-0KJ01**	1 unit
	Snap-action contacts	1 NO + 2 NC	➔	--		**3SE5 132-0LJ01**	1 unit
	Slow-action contacts	2 NO + 1 NC	➔	--		**3SE5 132-0PJ01**	1 unit
 Twist lever, adjustable length, with grid hole	***Twist levers, adjustable length***						
	With metal lever with grid hole and plastic roller 19 mm						
	Snap-action contacts	1 NO + 1 NC	➔	--		**3SE5 132-0CJ60**	1 unit
	Snap-action contacts	1 NO + 2 NC	➔	--		**3SE5 132-0LJ60**	1 unit
 Twist lever, adjustable length	**With metal lever and plastic roller 19 mm**						
	Snap-action contacts	1 NO + 1 NC		--		**3SE5 132-0CJ50**	1 unit
	Snap-action contacts	1 NO + 2 NC		--		**3SE5 132-0LJ50**	1 unit
 Rod actuator	***Rod actuators, type D, acc. to EN 50041***						
	With aluminum rod, length 200 mm						
	Snap-action contacts	1 NO + 1 NC		--		**3SE5 132-0CJ80**	1 unit
	With plastic rod, length 200 mm						
	Snap-action contacts	1 NO + 1 NC		--		**3SE5 132-0CJ82**	1 unit

[1] Normally closed contact (NC) with positive opening according to IEC 60947-5-1, Appendix K, and positively driven actuator, necessary in safety circuits, identification by the symbol ➔.

[2] Popular versions.

Note:

If the device you require is not available as a complete unit, see "Modular system" on the next page.

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

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3SE5, molded-plastic enclosures
Enclosure width 40 mm according to EN 50041

Modular system

2 or 3 contacts · Degree of protection IP66/IP67 · Cable entry M20 × 1.5

	Version	Contacts[1]		LEDs	DT	Modular system ◇ Order No.	PS*
Basic switches • Enclosure width 40 mm							
 Basic switches	**With M20 × 1.5 connecting thread**						
	Slow-action contacts	1 NO + 1 NC	➔	--		**3SE5 132-0BA00**	1 unit
	Snap-action contacts	1 NO + 1 NC	➔	--		**3SE5 132-0CA00**	1 unit
	• Gold-plated contacts		➔			**3SE5 132-0CA00-1AC1**	1 unit
	Slow-action contacts	1 NO + 2 NC	➔	--		**3SE5 132-0KA00**	1 unit
	Snap-action contacts	1 NO + 2 NC	➔	--		**3SE5 132-0LA00**	1 unit
	Slow-action contacts with make-before-break	1 NO + 2 NC	➔	--		**3SE5 132-0MA00**	1 unit
	Slow-action contacts	2 NO + 1 NC	➔	--		**3SE5 132-0PA00**	1 unit
 With increased corrosion protection	**With increased corrosion protection**[2]						
	Slow-action contacts	1 NO + 1 NC	➔	--		**3SE5 132-0BA00-1CA0**	1 unit
	Snap-action contacts	1 NO + 1 NC	➔	--		**3SE5 132-0CA00-1CA0**	1 unit
	Slow-action contacts	1 NO + 2 NC	➔	--		**3SE5 132-0KA00-1CA0**	1 unit
	Snap-action contacts	1 NO + 2 NC	➔	--		**3SE5 132-0LA00-1CA0**	1 unit
	Slow-action contacts with make-before-break	1 NO + 2 NC	➔	--		**3SE5 132-0MA00-1CA0**	1 unit
	Slow-action contacts	2 NO + 1 NC	➔	--		**3SE5 132-0PA00-1CA0**	1 unit
 With M12 socket	**With M12 connector socket, 4-pole** (250 V, 4 A)						
	Slow-action contacts	1 NO + 1 NC	➔	--		**3SE5 134-0BA00-1AC4**	1 unit
	Snap-action contacts	1 NO + 1 NC	➔	--		**3SE5 134-0CA00-1AC4**	1 unit
	Slow-action contacts	2 NC	➔	--		**3SE5 134-0KA00-1AE0**	1 unit
	Snap-action contacts	2 NC	➔	--		**3SE5 134-0LA00-1AE0**	1 unit
 With 2 LEDs	**With 2 LEDs, yellow/green**						
	Slow-action contacts	1 NO + 2 NC	➔	24 V DC		**3SE5 132-1KA00**	1 unit
	Snap-action contacts	1 NO + 2 NC	➔	24 V DC		**3SE5 132-1LA00**	1 unit
	Slow-action contacts	1 NO + 2 NC	➔	230 V AC		**3SE5 132-3KA00**	1 unit
	Snap-action contacts	1 NO + 2 NC	➔	230 V AC		**3SE5 132-3LA00**	1 unit

[1] Normally closed contact (NC) with positive opening according to IEC 60947-5-1, Appendix K, and positively driven actuator, necessary in safety circuits, identification by the symbol ➔.

[2] Use corresponding high-grade steel lever.

Note: For selection aid, see page 9/5.

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

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3SE5, molded-plastic enclosures
Enclosure width 40 mm according to EN 50041

	Version[1]		Diameter	DT	Modular system ◇	PS*
			mm		Order No.	
Operating mechanisms						
 Plain plungers	**Plain plungers**					
	High-grade steel plungers	➔	10		**3SE5 000-0AB01**	1 unit
 Plungers	**Rounded plungers, type B according to EN 50041**					
	Plastic plungers	➔	10		**3SE5 000-0AC03**	1 unit
	Roller plunger, type C according to EN 50041					
	Plastic plunger, plastic roller	➔	13		**3SE5 000-0AD05**	1 unit
	Plastic plunger, high-grade steel roller	➔	13		**3SE5 000-0AD06**	1 unit
 Roller levers	**Roller levers**					
	Metal lever with plastic roller, plastic base	➔	22		**3SE5 000-0AE05**	1 unit
 Angular roller levers	**Angular roller levers**					
	Metal lever with plastic roller, plastic base	➔	22		**3SE5 000-0AF05**	1 unit
 Spring rod	**Spring rod** (for switches with snap-action contacts only)					
	Plastic plunger:					
	• Length 142.5 mm (spring 50 mm, plunger 50 mm)				**3SE5 000-0AR01**	1 unit
	• Length 76 mm (spring 23.5 mm, plunger 10 mm)				**3SE5 000-0AR03**	1 unit
	• Length 242.5 mm (spring 150 mm, plunger 50 mm)				**3SE5 000-0AR04**	1 unit
	High-grade steel plunger:					
	• Length 142.5 mm (spring 50 mm, plunger 50 mm)				**3SE5 000-0AR02**	1 unit
Twist actuators						
 Twist actuator	**Twist actuators**, plastic (without lever)					
	• For twist levers and rod actuators, switching right and/or left, adjustable	➔			**3SE5 000-0AJ00**	1 unit
	Levers for twist actuators					
 Twist levers	**Twist levers, offset, type A according to EN 50041**					
	Metal lever 27 mm, plastic roller	➔	19		**3SE5 000-0AA01**	1 unit
	Metal lever 27 mm, high-grade steel roller	➔	19		**3SE5 000-0AA02**	1 unit
	Metal lever 27 mm, roller with ball bearing	➔	19		**3SE5 000-0AA03**	1 unit
	Metal lever 27 mm, 2 plastic rollers	➔	19		**3SE5 000-0AA04**	1 unit
	Metal lever 27 mm, plastic roller	➔	30		**3SE5 000-0AA05**	1 unit
	Metal lever 27 mm, rubber roller	➔	50		**3SE5 000-0AA08**	1 unit
	High-grade steel lever 27 mm, plastic roller	➔	19		**3SE5 000-0AA11**	1 unit
	High-grade steel lever 27 mm, high-grade steel roller	➔	19		**3SE5 000-0AA12**	1 unit
	Metal lever 35 mm, plastic roller	➔	19		**3SE5 000-0AA15**	1 unit
 Twist levers, adjustable length	**Twist levers 30 mm, straight**[2]					
	Metal lever, plastic roller	➔	19		**3SE5 000-0AA24**	1 unit
	Metal lever, plastic roller	➔	30		**3SE5 000-0AA26**	1 unit
	Twist levers, adjustable length, with grid hole					
	Metal lever, plastic roller	➔	19		**3SE5 000-0AA60**	1 unit
	Metal lever, high-grade steel roller	➔	19		**3SE5 000-0AA61**	1 unit
	Metal lever, rubber roller	➔	50		**3SE5 000-0AA68**	1 unit
	High-grade steel lever, plastic roller	➔	19		**3SE5 000-0AA62**	1 unit
	High-grade steel lever, high-grade steel roller	➔	19		**3SE5 000-0AA63**	1 unit
 Rod actuator	**Twist levers, adjustable length**					
	Metal lever, plastic roller		19		**3SE5 000-0AA50**	1 unit
	Metal lever, high-grade steel roller		19		**3SE5 000-0AA51**	1 unit
	Metal lever, plastic roller		30		**3SE5 000-0AA55**	1 unit
	Metal lever, rubber roller		50		**3SE5 000-0AA58**	1 unit
	High-grade steel lever, plastic roller		19		**3SE5 000-0AA52**	1 unit
	High-grade steel lever, high-grade steel roller		19		**3SE5 000-0AA53**	1 unit
	Rod actuators, type D according to EN 50041					
	Aluminum rod, length 200 mm		6		**3SE5 000-0AA80**	1 unit
	Spring rod, length 200 mm		6		**3SE5 000-0AA81**	1 unit
	Plastic rod, length 200 mm		6		**3SE5 000-0AA82**	1 unit

[1] Positively driven actuator, necessary in safety circuits, identification by the symbol ➔.

[2] Can be clinch mounted (turned through 180°, rear of lever).

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

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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 M20 × 1.5

	Version	Contacts[1]		LEDs	DT	Complete units Order No.	PS*
Complete units[2] • Enclosure width 31 mm							
	Rounded plungers, type B, acc. to EN 50047						
 Rounded plungers	**With plunger**						
	Slow-action contacts	1 NO + 1 NC	⊖	--		**3SE5 212-0BC05**	1 unit
	Snap-action contacts	1 NO + 1 NC	⊖	--		**3SE5 212-0CC05**	1 unit
	Slow-action contacts	1 NO + 2 NC	⊖	--		**3SE5 212-0KC05**	1 unit
	Snap-action contacts	1 NO + 2 NC	⊖	--		**3SE5 212-0LC05**	1 unit
	Slow-action contacts with make-before-break	1 NO + 2 NC	⊖	--		**3SE5 212-0MC05**	1 unit
	Slow-action contacts	2 NO + 1 NC	⊖	--		**3SE5 212-0PC05**	1 unit
 With increased corrosion protection	**With increased corrosion protection**						
	Slow-action contacts	1 NO + 1 NC	⊖	--		**3SE5 212-0BC05-1CA0**	1 unit
	Snap-action contacts	1 NO + 1 NC	⊖	--		**3SE5 212-0CC05-1CA0**	1 unit
	Slow-action contacts	1 NO + 2 NC	⊖	--		**3SE5 212-0KC05-1CA0**	1 unit
	Snap-action contacts	1 NO + 2 NC	⊖	--		**3SE5 212-0LC05-1CA0**	1 unit
	Slow-action contacts with make-before-break	1 NO + 2 NC	⊖	--		**3SE5 212-0MC05-1CA0**	1 unit
	Slow-action contacts	2 NO + 1 NC	⊖	--		**3SE5 212-0PC05-1CA0**	1 unit
	With M12 connector socket, 5-pole (125 V, 4 A)						
	Slow-action contacts	1 NO + 1 NC	⊖	--		**3SE5 214-0BC05-1AC5**	1 unit
	Snap-action contacts	1 NO + 1 NC	⊖	--		**3SE5 214-0CC05-1AC5**	1 unit
	Slow-action contacts	2 NC	⊖	--		**3SE5 214-0KC05-1AE1**	1 unit
	Snap-action contacts	2 NC	⊖	--		**3SE5 214-0LC05-1AE1**	1 unit
 With 2 LEDs	**With 2 LEDs, yellow/green**						
	Slow-action contacts	1 NO + 2 NC	⊖	24 V DC		**3SE5 212-1KC05**	1 unit
	Snap-action contacts	1 NO + 2 NC	⊖	24 V DC		**3SE5 212-1LC05**	1 unit
	Slow-action contacts	1 NO + 2 NC	⊖	230 V AC		**3SE5 212-3KC05**	1 unit
	Snap-action contacts	1 NO + 2 NC	⊖	230 V AC		**3SE5 212-3LC05**	1 unit
	With M12 connector socket, 5-pole (125 V, 4 A) **and 2 LEDs**						
	Slow-action contacts	1 NO + 1 NC	⊖	24 V DC		**3SE5 214-1BC05-1AF3**	1 unit
	Snap-action contacts	1 NO + 1 NC	⊖	24 V DC		**3SE5 214-1CC05-1AF3**	1 unit
 Plain plungers	***Plain plungers***						
	With high-grade steel plunger						
	Slow-action contacts	1 NO + 1 NC	⊖	--		**3SE5 212-0BB01**	1 unit
	Snap-action contacts	1 NO + 1 NC	⊖	--		**3SE5 212-0CB01**	1 unit
	Slow-action contacts	1 NO + 2 NC	⊖	--		**3SE5 212-0KB01**	1 unit
	Snap-action contacts	1 NO + 2 NC	⊖	--		**3SE5 212-0LB01**	1 unit
 Roller plungers	***Roller plungers, type C acc. to EN 50047***						
	With plastic roller 10 mm						
	Slow-action contacts	1 NO + 1 NC	⊖	--		**3SE5 212-0BD03**	1 unit
	Snap-action contacts	1 NO + 1 NC	⊖	--		**3SE5 212-0CD03**	1 unit
	Slow-action contacts	1 NO + 2 NC	⊖	--		**3SE5 212-0KD03**	1 unit
	Snap-action contacts	1 NO + 2 NC	⊖	--		**3SE5 212-0LD03**	1 unit

[1] Normally closed contact (NC) with positive opening according to IEC 60947-5-1, Appendix K, and positively driven actuator, necessary in safety circuits, identification by the symbol ⊖.

[2] Popular versions.

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

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3SE5, metal enclosures
Enclosure width 31 mm according to EN 50047

2 or 3 contacts · Degree of protection IP66/IP67 · Cable entry M20 × 1.5

	Version	Contacts[1]		LEDs	DT	Complete units Order No.	PS*
Complete units[2] • Enclosure width 31 mm							
 Roller levers	***Roller levers, type E acc. to EN 50047***						
	With metal lever and plastic roller 13 mm						
	Slow-action contacts	1 NO + 1 NC	➔	--		**3SE5 212-0BE10**	1 unit
	Snap-action contacts	1 NO + 1 NC	➔	--		**3SE5 212-0CE10**	1 unit
	Slow-action contacts	1 NO + 2 NC	➔	--		**3SE5 212-0KE10**	1 unit
	Snap-action contacts	1 NO + 2 NC	➔	--		**3SE5 212-0LE10**	1 unit
 Angular roller levers	***Angular roller levers***						
	With metal lever and plastic roller 13 mm						
	Slow-action contacts	1 NO + 1 NC	➔	--		**3SE5 212-0BF10**	1 unit
	Snap-action contacts	1 NO + 1 NC	➔	--		**3SE5 212-0CF10**	1 unit
	Slow-action contacts	1 NO + 2 NC	➔	--		**3SE5 212-0KF10**	1 unit
	Snap-action contacts	1 NO + 2 NC	➔	--		**3SE5 212-0LF10**	1 unit
 Twist levers	***Twist levers, type A acc. to EN 50047***						
	With metal lever 21 mm and plastic roller 19 mm						
	Slow-action contacts	1 NO + 1 NC	➔	--		**3SE5 212-0BK21**	1 unit
	Snap-action contacts	1 NO + 1 NC	➔	--		**3SE5 212-0CK21**	1 unit
	Slow-action contacts	1 NO + 2 NC	➔	--		**3SE5 212-0KK21**	1 unit
	Snap-action contacts	1 NO + 2 NC	➔	--		**3SE5 212-0LK21**	1 unit
 Twist lever, adjustable length	***Twist levers, adjustable length***						
	With metal lever with grid hole and plastic roller 19 mm						
	Snap-action contacts	1 NO + 1 NC	➔	--		**3SE5 212-0CK60**	1 unit
	Slow-action contacts	1 NO + 2 NC	➔	--		**3SE5 212-0KK60**	1 unit
	Snap-action contacts	1 NO + 2 NC	➔	--		**3SE5 212-0LK60**	1 unit
	With metal lever and plastic roller 19 mm						
	Slow-action contacts	1 NO + 1 NC		--		**3SE5 212-0BK50**	1 unit
	Snap-action contacts	1 NO + 1 NC		--		**3SE5 212-0CK50**	1 unit
	Snap-action contacts	1 NO + 2 NC		--		**3SE5 212-0LK50**	1 unit

[1] Normally closed contact (NC) with positive opening according to IEC 60947-5-1, Appendix K, and positively driven actuator, necessary in safety circuits, identification by the symbol ➔.

[2] Popular versions.

Note:

If the device you require is not available as a complete unit, see "Modular system" on the next page.

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

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3SE5, metal enclosures
Enclosure width 31 mm according to EN 50047

Modular system

2 or 3 contacts · Degree of protection IP66/IP67 · Cable entry M20 × 1.5

	Version	Contacts[1]		LEDs	DT	Modular system ◇ Order No.	PS*
Basic switches • Enclosure width 31 mm (with rounded plunger[2])							
 Basic switches	**With plunger**						
	Slow-action contacts	1 NO + 1 NC	➔	--		**3SE5 212-0BC05**	1 unit
	Snap-action contacts	1 NO + 1 NC	➔	--		**3SE5 212-0CC05**	1 unit
	Slow-action contacts	1 NO + 2 NC	➔	--		**3SE5 212-0KC05**	1 unit
	Snap-action contacts	1 NO + 2 NC	➔	--		**3SE5 212-0LC05**	1 unit
	Slow-action contacts with make-before-break	1 NO + 2 NC	➔	--		**3SE5 212-0MC05**	1 unit
	Slow-action contacts	2 NO + 1 NC	➔	--		**3SE5 212-0PC05**	1 unit
 With increased corrosion protection	**With increased corrosion protection**[3]						
	Slow-action contacts	1 NO + 1 NC	➔	--		**3SE5 212-0BC05-1CA0**	1 unit
	Snap-action contacts	1 NO + 1 NC	➔	--		**3SE5 212-0CC05-1CA0**	1 unit
	Slow-action contacts	1 NO + 2 NC	➔	--		**3SE5 212-0KC05-1CA0**	1 unit
	Snap-action contacts	1 NO + 2 NC	➔	--		**3SE5 212-0LC05-1CA0**	1 unit
	Slow-action contacts with make-before-break	1 NO + 2 NC	➔	--		**3SE5 212-0MC05-1CA0**	1 unit
	Slow-action contacts	2 NO + 1 NC	➔	--		**3SE5 212-0PC05-1CA0**	1 unit
 With M12 socket	**With M12 connector socket, 5-pole** (125 V, 4 A)						
	Slow-action contacts	1 NO + 1 NC	➔	--		**3SE5 214-0BC05-1AC5**	1 unit
	Snap-action contacts	1 NO + 1 NC	➔	--		**3SE5 214-0CC05-1AC5**	1 unit
	Slow-action contacts	2 NC	➔	--		**3SE5 214-0KC05-1AE1**	1 unit
	Snap-action contacts	2 NC	➔	--		**3SE5 214-0LC05-1AE1**	1 unit
 With 2 LEDs	**With 2 LEDs, yellow/green**						
	Slow-action contacts	1 NO + 2 NC	➔	24 V DC		**3SE5 212-1KC05**	1 unit
	Snap-action contacts	1 NO + 2 NC	➔	24 V DC		**3SE5 212-1LC05**	1 unit
	Slow-action contacts	1 NO + 2 NC	➔	230 V AC		**3SE5 212-3KC05**	1 unit
	Snap-action contacts	1 NO + 2 NC	➔	230 V AC		**3SE5 212-3LC05**	1 unit
 With M12 socket and 2 LEDs	**With M12 connector socket, 5-pole** (125 V, 4 A) **and 2 LEDs**						
	Slow-action contacts	1 NO + 1 NC	➔	24 V DC		**3SE5 214-1BC05-1AF3**	1 unit
	Snap-action contacts	1 NO + 1 NC	➔	24 V DC		**3SE5 214-1CC05-1AF3**	1 unit

[1] Normally closed contact (NC) with positive opening according to IEC 60947-5-1, Appendix K, and positively driven actuator, necessary in safety circuits, identification by the symbol ➔.

[2] On enclosure width 31 mm the basic switch is also a complete unit with rounded plunger.

[3] Use corresponding high-grade steel lever.

Note: For selection aid, see page 9/5.

	Version[1]		Diameter	DT	Modular system ◇ Order No.	PS*
			mm			
Operating mechanisms						
 Plain plungers	**Plain plungers**					
	High-grade steel plungers	➔	10	A	**3SE5 000-0AB01**	1 unit
 Roller plungers	**Roller plunger, type C according to EN 50047**					
	Plastic rollers	➔	10	A	**3SE5 000-0AD03**	1 unit
	High-grade steel rollers	➔	10	B	**3SE5 000-0AD04**	1 unit

[1] Positively driven actuator, necessary in safety circuits, identification by the symbol ➔.

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

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3SE5, metal enclosures
Enclosure width 31 mm according to EN 50047

	Version[1]		Diameter	DT	Modular system	PS*
			mm		Order No.	
Operating mechanisms						
 With central fixing	**Roller plunger with central fixing**					
	Plastic rollers	➔	10		**3SE5 000-0AD10**	1 unit
	High-grade steel rollers	➔	10		**3SE5 000-0AD11**	1 unit
 Roller levers	**Roller lever, type E according to EN 50047**					
	Metal lever, plastic roller	➔	13		**3SE5 000-0AE10**	1 unit
	Metal lever, high-grade steel roller	➔	13		**3SE5 000-0AE11**	1 unit
	High-grade steel lever, plastic roller	➔	13		**3SE5 000-0AE12**	1 unit
	High-grade steel lever, high-grade steel roller	➔	13		**3SE5 000-0AE13**	1 unit
 Angular roller levers	**Angular roller levers**					
	Metal lever, plastic roller	➔	13		**3SE5 000-0AF10**	1 unit
	Metal lever, high-grade steel roller	➔	13		**3SE5 000-0AF11**	1 unit
	High-grade steel lever, plastic roller	➔	13		**3SE5 000-0AF12**	1 unit
	High-grade steel lever, high-grade steel roller	➔	13		**3SE5 000-0AF13**	1 unit
 Spring rod	**Spring rod** (for switches with snap-action contacts only)					
	Plastic plunger:					
	• Length 142.5 mm (spring 50 mm, plunger 50 mm)				**3SE5 000-0AR01**	1 unit
	• Length 76 mm (spring 23.5 mm, plunger 10 mm)				**3SE5 000-0AR03**	1 unit
	• Length 242.5 mm (spring 150 mm, plunger 50 mm)				**3SE5 000-0AR04**	1 unit
	High-grade steel plunger:					
	• Length 142.5 mm (spring 50 mm, plunger 50 mm)				**3SE5 000-0AR02**	1 unit
Twist actuators						
 Twist actuator	**Twist actuators**, plastic (without lever)					
	Switching right and/or left, adjustable	➔			**3SE5 000-0AK00**	1 unit
	Levers for twist actuators					
	Twist lever, straight, type A according to EN 50047					
 Twist levers	Metal lever 21 mm, plastic roller	➔	19		**3SE5 000-0AA21**	1 unit
	Metal lever 21 mm, high-grade steel roller	➔	19		**3SE5 000-0AA22**	1 unit
	Metal lever 21 mm, roller with ball bearing	➔	19		**3SE5 000-0AA23**	1 unit
	Metal lever 21 mm, plastic roller	➔	30		**3SE5 000-0AA25**	1 unit
	High-grade steel lever 21 mm, plastic roller	➔	19		**3SE5 000-0AA31**	1 unit
	High-grade steel lever 21 mm, high-grade steel roller	➔	19		**3SE5 000-0AA32**	1 unit
 Twist lever, adjustable length	**Twist levers 30 mm, straight**[2]					
	Metal lever, plastic roller	➔	19		**3SE5 000-0AA24**	1 unit
	Metal lever, plastic roller	➔	30		**3SE5 000-0AA26**	1 unit
	Twist levers, adjustable length, with grid hole					
	Metal lever, plastic roller	➔	19		**3SE5 000-0AA60**	1 unit
	Metal lever, high-grade steel roller	➔	19		**3SE5 000-0AA61**	1 unit
	Metal lever, plastic roller	➔	50		**3SE5 000-0AA67**	1 unit
	Metal lever, rubber roller	➔	50		**3SE5 000-0AA68**	1 unit
	High-grade steel lever, plastic roller	➔	19		**3SE5 000-0AA62**	1 unit
	High-grade steel lever, high-grade steel roller	➔	19		**3SE5 000-0AA63**	1 unit
 Rod actuator	**Twist levers, adjustable length**					
	Metal lever, plastic roller		19		**3SE5 000-0AA50**	1 unit
	Metal lever, high-grade steel roller		19		**3SE5 000-0AA51**	1 unit
	Metal lever, plastic roller		30		**3SE5 000-0AA55**	1 unit
	Metal lever, plastic roller		50		**3SE5 000-0AA57**	1 unit
	Metal lever, rubber roller		50		**3SE5 000-0AA58**	1 unit
	High-grade steel lever, plastic roller		19		**3SE5 000-0AA52**	1 unit
	High-grade steel lever, high-grade steel roller		19		**3SE5 000-0AA53**	1 unit
	Rod actuators, type D according to EN 50041					
	Aluminum rod, length 200 mm		6		**3SE5 000-0AA80**	1 unit
	Spring rod, length 200 mm		6		**3SE5 000-0AA81**	1 unit
	Plastic rod, length 200 mm		6		**3SE5 000-0AA82**	1 unit
	Plastic rod, length 330 mm		6		**3SE5 000-0AA83**	1 unit

[1] Positively driven actuator, necessary in safety circuits, identification by the symbol ➔.

[2] Can be clinch mounted (turned through 180°, rear of lever).

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

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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 M20 × 1.5

	Version	Contacts[1]		LEDs	DT	Complete units Order No.	PS*
Complete units[2] • Enclosure width 40 mm							
 Plain plungers	***Plain plungers***						
	With high-grade steel plunger						
	Slow-action contacts	1 NO + 1 NC	➔	--		**3SE5 112-0BB01**	1 unit
	Snap-action contacts	1 NO + 1 NC	➔	--		**3SE5 112-0CB01**	1 unit
	Slow-action contacts	1 NO + 2 NC	➔	--		**3SE5 112-0KB01**	1 unit
	Snap-action contacts	1 NO + 2 NC	➔	--		**3SE5 112-0LB01**	1 unit
 Rounded plungers	***Rounded plungers, type B according to EN 50041***						
	With high-grade steel plungers, with 3 mm overtravel						
	Slow-action contacts	1 NO + 1 NC	➔	--		**3SE5 112-0BC02**	1 unit
	Snap-action contacts	1 NO + 1 NC	➔	--	▶	**3SE5 112-0CC02**	1 unit
	Slow-action contacts	1 NO + 2 NC	➔	--		**3SE5 112-0KC02**	1 unit
	Snap-action contacts	1 NO + 2 NC	➔	--		**3SE5 112-0LC02**	1 unit
 Roller plungers	***Roller plungers, type C acc. to EN 50041***						
	With high-grade steel roller 13 mm, with 3 mm overtravel						
	Slow-action contacts	1 NO + 1 NC	➔	--		**3SE5 112-0BD02**	1 unit
	Snap-action contacts	1 NO + 1 NC	➔	--	▶	**3SE5 112-0CD02**	1 unit
	Slow-action contacts	1 NO + 2 NC	➔	--		**3SE5 112-0KD02**	1 unit
	Snap-action contacts	1 NO + 2 NC	➔	--		**3SE5 112-0LD02**	1 unit
	With M12 connector socket, 5-pole (125 V, 4 A) **and 2 LEDs**						
	Snap-action contacts	1 NO + 1 NC	➔	24 V DC		**3SE5 114-1CD02-1AF3**	1 unit
 Roller levers	***Roller levers***						
	With metal lever and plastic roller 22 mm						
	Slow-action contacts	1 NO + 1 NC	➔	--		**3SE5 112-0BE01**	1 unit
	Snap-action contacts	1 NO + 1 NC	➔	--	▶	**3SE5 112-0CE01**	1 unit
	Slow-action contacts	1 NO + 2 NC	➔	--		**3SE5 112-0KE01**	1 unit
	Snap-action contacts	1 NO + 2 NC	➔	--		**3SE5 112-0LE01**	1 unit
 Angular roller levers	***Angular roller levers***						
	With metal lever and plastic roller 22 mm						
	Slow-action contacts	1 NO + 1 NC	➔	--		**3SE5 112-0BF01**	1 unit
	Snap-action contacts	1 NO + 1 NC	➔	--		**3SE5 112-0CF01**	1 unit
	Snap-action contacts	1 NO + 2 NC	➔	--		**3SE5 112-0LF01**	1 unit
 Spring rod	***Spring rod***						
	Length 142.5 mm, with plastic plunger 50 mm						
	Snap-action contacts	1 NO + 1 NC		--	▶	**3SE5 112-0CR01**	1 unit

[1] Normally closed contact (NC) with positive opening according to IEC 60947-5-1, Appendix K, and positively driven actuator, necessary in safety circuits, identification by the symbol ➔.

[2] Popular versions.

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

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3SE5, metal enclosures
Enclosure width 40 mm according to EN 50041

2 or 3 contacts · Degree of protection IP66/IP67 · Cable entry M20 × 1.5

	Version	Contacts[1]		LEDs	DT	Complete units Order No.	PS*
Complete units[2] • Enclosure width 40 mm							
 Twist levers	***Twist levers, type A acc. to EN 50041***						
	With metal lever 27 mm and plastic roller 19 mm						
	Slow-action contacts	1 NO + 1 NC	⊖	--		**3SE5 112-0BH01**	1 unit
	Snap-action contacts	1 NO + 1 NC	⊖	--	▶	**3SE5 112-0CH01**	1 unit
	Slow-action contacts	1 NO + 2 NC	⊖	--		**3SE5 112-0KH01**	1 unit
	Snap-action contacts	1 NO + 2 NC	⊖	--		**3SE5 112-0LH01**	1 unit
	With M12 connector socket, 5-pole (125 V, 4 A)						
	Snap-action contacts	1 NO + 1 NC	⊖	--		**3SE5 114-0CH01-1AC5**	1 unit
	With M12 connector socket, 5-pole (125 V, 4 A) **and 2 LEDs**						
	Snap-action contacts	1 NO + 1 NC	⊖	24 V DC		**3SE5 114-1CH01-1AF3**	1 unit
	With metal lever 27 mm and high-grade steel roller 19 mm						
	Slow-action contacts	1 NO + 1 NC	⊖	--		**3SE5 112-0BH02**	1 unit
	Snap-action contacts	1 NO + 1 NC	⊖	--		**3SE5 112-0CH02**	1 unit
 Twist lever, adjustable length with grid hole	**With M12 connector socket, 5-pole** (125 V, 4 A) **and 2 LEDs**						
	Snap-action contacts	1 NO + 1 NC	⊖	--		**3SE5 114-1CH02-1AF3**	1 unit
	With metal lever 30 mm and plastic roller 19 mm						
	Snap-action contacts	1 NO + 1 NC	⊖	--	▶	**3SE5 112-0CH24**	1 unit
	Twist levers, adjustable length						
	With metal lever with grid hole and plastic roller 19 mm						
	Slow-action contacts	1 NO + 1 NC	⊖	--		**3SE5 112-0BH60**	1 unit
	Snap-action contacts	1 NO + 1 NC	⊖	--	▶	**3SE5 112-0CH60**	1 unit
	Snap-action contacts	1 NO + 2 NC	⊖	--		**3SE5 112-0LH60**	1 unit
 Twist lever, adjustable length	**With metal lever and plastic roller 19 mm**						
	Slow-action contacts	1 NO + 1 NC		--		**3SE5 112-0BH50**	1 unit
	Snap-action contacts	1 NO + 1 NC		--	▶	**3SE5 112-0CH50**	1 unit
	Snap-action contacts	1 NO + 2 NC		--		**3SE5 112-0LH50**	1 unit
	With M12 connector socket, 8-pole (30 V, 2 A) **and 2 LEDs**						
	Snap-action contacts	1 NO + 2 NC	⊖	24 V DC		**3SE5 114-1LH50-1AD4**	1 unit
	With metal lever and high-grade steel roller 19 mm						
	Snap-action contacts	1 NO + 1 NC		--		**3SE5 112-0CH51**	1 unit
 Fork lever	***Fork levers, latching***						
	With metal lever and 2 plastic rollers 19 mm						
	Snap-action contacts	1 NO + 1 NC	⊖	--		**3SE5 112-0CT11**	1 unit
 Rod actuator	***Rod actuators, type D, acc. to EN 50041***						
	With aluminum rod, length 200 mm						
	Snap-action contacts	1 NO + 1 NC		--	▶	**3SE5 112-0CH80**	1 unit
	With plastic rod, length 200 mm						
	Snap-action contacts	1 NO + 1 NC		--		**3SE5 112-0CH82**	1 unit

[1] Normally closed contact (NC) with positive opening according to IEC 60947-5-1, Appendix K, and positively driven actuator, necessary in safety circuits, identification by the symbol ⊖.

[2] Popular versions.

Note:

If the device you require is not available as a complete unit, see "Modular system" on the next page.

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

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3SE5, metal enclosures
Enclosure width 40 mm according to EN 50041

Modular system

2 or 3 contacts · Degree of protection IP66/IP67 · Cable entry M20 × 1.5

	Version	Contacts[1]		LEDs	DT	Modular system ◇ Order No.	PS*
Basic switches • Enclosure width 40 mm							
 Basic switches	**With M20 × 1.5 connecting thread**						
	Slow-action contacts	1 NO + 1 NC	➔	--		**3SE5 112-0BA00**	1 unit
	Snap-action contacts	1 NO + 1 NC	➔	--		**3SE5 112-0CA00**	1 unit
	• Gold-plated contacts		➔			**3SE5 112-0CA00-1AC1**	1 unit
	Slow-action contacts	1 NO + 2 NC	➔	--		**3SE5 112-0KA00**	1 unit
	Snap-action contacts	1 NO + 2 NC	➔	--		**3SE5 112-0LA00**	1 unit
	Slow-action contacts with make-before-break	1 NO + 2 NC	➔	--		**3SE5 112-0MA00**	1 unit
	Slow-action contacts	2 NO + 1 NC	➔	--		**3SE5 112-0PA00**	1 unit
 With increased corrosion protection	**With increased corrosion protection**[2]						
	Slow-action contacts	1 NO + 1 NC	➔	--		**3SE5 112-0BA00-1CA0**	1 unit
	Snap-action contacts	1 NO + 1 NC	➔	--		**3SE5 112-0CA00-1CA0**	1 unit
	Slow-action contacts	1 NO + 2 NC	➔	--		**3SE5 112-0KA00-1CA0**	1 unit
	Snap-action contacts	1 NO + 2 NC	➔	--		**3SE5 112-0LA00-1CA0**	1 unit
	Slow-action contacts with make-before-break	1 NO + 2 NC	➔	--		**3SE5 112-0MA00-1CA0**	1 unit
	Slow-action contacts	2 NO + 1 NC	➔	--		**3SE5 112-0PA00-1CA0**	1 unit
 With M12 socket	**With M12 connector socket, 5-pole** (125 V, 4 A)						
	Slow-action contacts	1 NO + 1 NC	➔	--		**3SE5 114-0BA00-1AC5**	1 unit
	Snap-action contacts	1 NO + 1 NC	➔	--		**3SE5 114-0CA00-1AC5**	1 unit
	Slow-action contacts	2 NC	➔	--		**3SE5 114-0KA00-1AE1**	1 unit
	Snap-action contacts	2 NC	➔	--		**3SE5 114-0LA00-1AE1**	1 unit
 with plug, 6-pole + PE	**With connector socket, 6-pole + PE** (250 V, 10 A)						
	Slow-action contacts	1 NO + 2 NC	➔	--		**3SE5 115-0KA00-1AD1**	1 unit
	Snap-action contacts	1 NO + 2 NC	➔	--		**3SE5 115-0LA00-1AD1**	1 unit
	With connector socket, 6-pole + PE (250 V, 10 A) **and quick-release device**						
	Snap-action contacts	1 NO + 1 NC	➔	--		**3SE5 115-0CA00-1AD0**	1 unit
 With 2 LEDs	**With 2 LEDs, yellow/green**						
	Slow-action contacts	1 NO + 2 NC	➔	24 V DC		**3SE5 112-1KA00**	1 unit
	Snap-action contacts	1 NO + 2 NC	➔	24 V DC		**3SE5 112-1LA00**	1 unit
	Slow-action contacts	1 NO + 2 NC	➔	230 V AC		**3SE5 112-3KA00**	1 unit
	Snap-action contacts	1 NO + 2 NC	➔	230 V AC		**3SE5 112-3LA00**	1 unit
 With M12 socket and 2 LEDs	**With M12 connector socket, 5-pole** (125 V, 4 A) **and 2 LEDs**						
	Slow-action contacts	1 NO + 1 NC	➔	24 V DC		**3SE5 114-1BA00-1AF3**	1 unit
	Snap-action contacts	1 NO + 1 NC	➔	24 V DC		**3SE5 114-1CA00-1AF3**	1 unit
	With M12 connector socket, 8-pole (30 V, 2 A) **and 2 LEDs**						
	Snap-action contacts	1 NO + 2 NC	➔	24 V DC		**3SE5 114-1LA00-1AD4**	1 unit
 With socket, 6-pole + PE, and 2 LEDs	**With connector socket, 6-pole + PE** (10 A), **and 2 LEDs**						
	Slow-action contacts	1 NO + 1 NC	➔	24 V DC		**3SE5 115-1BA00-1AF2**	1 unit
	Snap-action contacts	1 NO + 1 NC	➔	24 V DC		**3SE5 115-1CA00-1AF2**	1 unit
	Snap-action contacts	2 NC	➔	24 V DC		**3SE5 115-1LA00-1AD2**	1 unit

[1] Normally closed contact (NC) with positive opening according to IEC 60947-5-1, Appendix K, and positively driven actuator, necessary in safety circuits, identification by the symbol ➔.

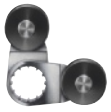
[2] Use corresponding high-grade steel lever.

Note: For selection aid, see page 9/5.

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

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3SE5, metal enclosures
Enclosure width 40 mm according to EN 50041

	Version[1]		Diameter	DT	Modular system ◇	PS*
			mm		Order No.	
Operating mechanisms						
 Plungers	**Plain plungers**					
	High-grade steel plungers	➔	10		**3SE5 000-0AB01**	1 unit
	Rounded plungers, type B according to EN 50041					
	High-grade steel plungers, with 3 mm overtravel	➔	10		**3SE5 000-0AC02**	1 unit
	Roller plunger, type C according to EN 50041					
	High-grade steel roller, with 3 mm overtravel	➔	13		**3SE5 000-0AD02**	1 unit
 Roller levers	**Roller levers**					
	Metal lever, plastic roller	➔	22		**3SE5 000-0AE01**	1 unit
	Metal lever, high-grade steel roller	➔	22		**3SE5 000-0AE02**	1 unit
	High-grade steel lever, plastic roller	➔	22		**3SE5 000-0AE03**	1 unit
	High-grade steel lever, high-grade steel roller	➔	22		**3SE5 000-0AE04**	1 unit
 Angular roller levers	**Angular roller levers**					
	Metal lever, plastic roller	➔	22		**3SE5 000-0AF01**	1 unit
	Metal lever, high-grade steel roller	➔	22		**3SE5 000-0AF02**	1 unit
	High-grade steel lever, plastic roller	➔	22		**3SE5 000-0AF03**	1 unit
	High-grade steel lever, high-grade steel roller	➔	22		**3SE5 000-0AF04**	1 unit
 Spring rod	**Spring rod** (for switches with snap-action contacts only)					
	Plastic plunger:					
	• Length 142.5 mm (spring 50 mm, plunger 50 mm)				**3SE5 000-0AR01**	1 unit
	• Length 76 mm (spring 23.5 mm, plunger 10 mm)				**3SE5 000-0AR03**	1 unit
	• Length 242.5 mm (spring 150 mm, plunger 50 mm)				**3SE5 000-0AR04**	1 unit
	High-grade steel plunger:					
	• Length 142.5 mm (spring 50 mm, plunger 50 mm)				**3SE5 000-0AR02**	1 unit
Twist actuators						
 Twist actuator	**Twist actuators**, metal (without lever)					
	• For twist levers and rod actuators, switching right and/or left, adjustable	➔			**3SE5 000-0AH00**	1 unit
	• For fork levers, latching	➔			**3SE5 000-0AT10**	1 unit
	Levers for twist actuators					
 Twist levers	**Twist levers, offset, type A according to EN 50041**					
	Metal lever 27 mm, plastic roller	➔	19		**3SE5 000-0AA01**	1 unit
	Metal lever 27 mm, high-grade steel roller	➔	19		**3SE5 000-0AA02**	1 unit
	Metal lever 27 mm, roller with ball bearing	➔	19		**3SE5 000-0AA03**	1 unit
	Metal lever 27 mm, 2 plastic rollers	➔	19		**3SE5 000-0AA04**	1 unit
	Metal lever 27 mm, plastic roller	➔	30		**3SE5 000-0AA05**	1 unit
	Metal lever 27 mm, rubber roller	➔	50		**3SE5 000-0AA08**	1 unit
	High-grade steel lever 27 mm, plastic roller	➔	19		**3SE5 000-0AA11**	1 unit
	High-grade steel lever 27 mm, high-grade steel roller	➔	19		**3SE5 000-0AA12**	1 unit
	Metal lever 35 mm, plastic roller	➔	19		**3SE5 000-0AA15**	1 unit
 Twist lever, adjustable length	**Twist levers 30 mm, straight**[2]					
	Metal lever, plastic roller	➔	19		**3SE5 000-0AA24**	1 unit
	Twist levers, adjustable length, with grid hole					
	Metal lever, plastic roller	➔	19		**3SE5 000-0AA60**	1 unit
	Metal lever, high-grade steel roller	➔	19		**3SE5 000-0AA61**	1 unit
	Metal lever, rubber roller	➔	50		**3SE5 000-0AA68**	1 unit
	High-grade steel lever, plastic roller	➔	19		**3SE5 000-0AA62**	1 unit
	High-grade steel lever, high-grade steel roller	➔	19		**3SE5 000-0AA63**	1 unit
 Fork lever	**Twist levers, adjustable length**					
	Metal lever, plastic roller		19		**3SE5 000-0AA50**	1 unit
	Metal lever, high-grade steel roller		19		**3SE5 000-0AA51**	1 unit
	Metal lever, plastic roller		30		**3SE5 000-0AA55**	1 unit
	Metal lever, rubber roller		50		**3SE5 000-0AA58**	1 unit
	High-grade steel lever, plastic roller		19		**3SE5 000-0AA52**	1 unit
	High-grade steel lever, high-grade steel roller		19		**3SE5 000-0AA53**	1 unit
	Fork lever (for switches with snap-action contacts only)					
	2 metal levers, 2 plastic rollers	➔	19		**3SE5 000-0AT01**	1 unit
	2 metal levers, 2 high-grade steel rollers	➔	19		**3SE5 000-0AT02**	1 unit
	2 high-grade steel levers, 2 plastic rollers	➔	19		**3SE5 000-0AT03**	1 unit
 Rod actuator	**Rod actuators, type D according to EN 50041**					
	Aluminum rod, length 200 mm		6		**3SE5 000-0AA80**	1 unit
	Spring rod, length 200 mm		6		**3SE5 000-0AA81**	1 unit
	Plastic rod, length 200 mm		6		**3SE5 000-0AA82**	1 unit

[1] Positively driven actuator, necessary in safety circuits, identification by the symbol ➔.

[2] Can be clinch mounted (turned through 180°, rear of lever).

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

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3SE5, metal enclosures
Enclosure width 56 mm / 56 mm, XL

Selection and ordering data

Modular system

2 or 3 contacts · Degree of protection IP66/IP67 · Cable entry 3 × (M20 × 1.5)

	Version	Contacts[1]		LEDs	DT	Modular system ◇ Order No.	PS*
Basic switches • Enclosure width 56 mm							
 Basic switches	**With 3 x M20 x 1.5 connecting thread**						
	Slow-action contacts	1 NO + 1 NC	➔	--		**3SE5 122-0BA00**	1 unit
	Snap-action contacts	1 NO + 1 NC	➔	--		**3SE5 122-0CA00**	1 unit
	Slow-action contacts	1 NO + 2 NC	➔	--		**3SE5 122-0KA00**	1 unit
	Snap-action contacts	1 NO + 2 NC	➔	--		**3SE5 122-0LA00**	1 unit
	Slow-action contacts with make-before-break	1 NO + 2 NC	➔	--		**3SE5 122-0MA00**	1 unit
	Slow-action contacts	2 NO + 1 NC	➔	--		**3SE5 122-0PA00**	1 unit
 With increased corrosion protection	**With increased corrosion protection[1]**						
	Slow-action contacts	1 NO + 1 NC	➔	--		**3SE5 122-0BA00-1CA0**	1 unit
	Snap-action contacts	1 NO + 1 NC	➔	--		**3SE5 122-0CA00-1CA0**	1 unit
	Slow-action contacts	1 NO + 2 NC	➔	--		**3SE5 122-0KA00-1CA0**	1 unit
	Snap-action contacts	1 NO + 2 NC	➔	--		**3SE5 122-0LA00-1CA0**	1 unit
	Slow-action contacts with make-before-break	1 NO + 2 NC	➔	--		**3SE5 122-0MA00-1CA0**	1 unit
	Slow-action contacts	2 NO + 1 NC	➔	--		**3SE5 122-0PA00-1CA0**	1 unit
 With 2 LEDs	**With 2 LEDs, yellow/green**						
	Slow-action contacts	1 NO + 2 NC	➔	24 V DC		**3SE5 122-1KA00**	1 unit
	Snap-action contacts	1 NO + 2 NC	➔	24 V DC		**3SE5 122-1LA00**	1 unit
	Slow-action contacts	1 NO + 2 NC	➔	230 V AC		**3SE5 122-3KA00**	1 unit
	Snap-action contacts	1 NO + 2 NC	➔	230 V AC		**3SE5 122-3LA00**	1 unit

4 or 6 contacts · Degree of protection IP66/IP67 · Cable entry 3 × (M20 × 1.5)

	Version	Contacts[1]		LEDs	DT	Modular system ◇ Order No.	PS*
Basic switches • Enclosure width 56 mm, XL							
 Basic switches	**With 3 x M20 x 1.5 connecting thread**						
	Slow-action contacts	2 x (1 NO + 1 NC)	➔	--		**3SE5 162-0BA00**	1 unit
	Snap-action contacts	2 x (1 NO + 1 NC)	➔	--		**3SE5 162-0CA00**	1 unit
	Slow-action contacts with make-before-break	2 x (1 NO + 2 NC)	➔	--		**3SE5 162-0DA00**	1 unit
	With increased corrosion protection[1]						
	Slow-action contacts	2 x (1 NO + 1 NC)	➔	--		**3SE5 162-0BA00-1CA0**	1 unit
	Snap-action contacts	2 x (1 NO + 1 NC)	➔	--		**3SE5 162-0CA00-1CA0**	1 unit
	Slow-action contacts with make-before-break	2 x (1 NO + 2 NC)	➔	--		**3SE5 162-0DA00-1CA0**	1 unit

[1] Normally closed contact (NC) with positive opening according to IEC 60947-5-1, Appendix K, and positively driven actuator, necessary in safety circuits, identification by the symbol ➔.

[2] Use corresponding high-grade steel lever.

Note: For selection aid, see page 9/5.

	Version[1]		Diameter mm	DT	Modular system ◇ Order No.	PS*
Operating mechanisms						
 Rounded plungers, roller plungers	**Plain plungers**					
	High-grade steel plungers	➔	10		**3SE5 000-0AB01**	1 unit
	Rounded plungers, type B according to EN 50041					
	High-grade steel plungers, with 3 mm overtravel	➔	10		**3SE5 000-0AC02**	1 unit
	Roller plunger, type C according to EN 50041					
	High-grade steel roller, with 3 mm overtravel	➔	13		**3SE5 000-0AD02**	1 unit
 Roller levers	**Roller levers**					
	Metal lever, plastic roller	➔	22		**3SE5 000-0AE01**	1 unit
	Metal lever, high-grade steel roller	➔	22		**3SE5 000-0AE02**	1 unit
	High-grade steel lever, plastic roller	➔	22		**3SE5 000-0AE03**	1 unit
	High-grade steel lever, high-grade steel roller	➔	22		**3SE5 000-0AE04**	1 unit

[1] Positively driven actuator, necessary in safety circuits, identification by the symbol ➔.

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

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3SE5, metal enclosures
Enclosure width 56 mm / 56 mm, XL

	Version[1]		Diameter	DT	Modular system	PS*
			mm		Order No.	
Operating mechanisms						
 Angular roller levers	**Angular roller levers**					
	Metal lever, plastic roller	➔	22		**3SE5 000-0AF01**	1 unit
	Metal lever, high-grade steel roller	➔	22		**3SE5 000-0AF02**	1 unit
	High-grade steel lever, plastic roller	➔	22		**3SE5 000-0AF03**	1 unit
	High-grade steel lever, high-grade steel roller	➔	22		**3SE5 000-0AF04**	1 unit
 Spring rod	**Spring rod** (for switches with snap-action contacts only)					
	Plastic plunger:					
	• Length 142.5 mm (spring 50 mm, plunger 50 mm)				**3SE5 000-0AR01**	1 unit
	• Length 76 mm (spring 23.5 mm, plunger 10 mm)				**3SE5 000-0AR03**	1 unit
	• Length 242.5 mm (spring 150 mm, plunger 50 mm)				**3SE5 000-0AR04**	1 unit
	High-grade steel plunger:					
	• Length 142.5 mm (spring 50 mm, plunger 50 mm)				**3SE5 000-0AR02**	1 unit
Twist actuators						
 Twist actuator	**Twist actuators**, metal (without lever)					
	• For twist levers and rod actuators, switching right and/or left, adjustable	➔			**3SE5 000-0AH00**	1 unit
	• For fork levers, latching	➔			**3SE5 000-0AT10**	1 unit
	Levers for twist actuators					
 Twist levers	**Twist levers 27 mm, offset, type A according to EN 50041**					
	Metal lever, plastic roller	➔	19		**3SE5 000-0AA01**	1 unit
	Metal lever, high-grade steel roller	➔	19		**3SE5 000-0AA02**	1 unit
	Metal lever, roller with ball bearing	➔	19		**3SE5 000-0AA03**	1 unit
	Metal lever, 2 plastic rollers	➔	19		**3SE5 000-0AA04**	1 unit
	Metal lever, plastic roller	➔	30		**3SE5 000-0AA05**	1 unit
	Metal lever, plastic roller	➔	50		**3SE5 000-0AA07**	1 unit
	Metal lever, rubber roller	➔	50		**3SE5 000-0AA08**	1 unit
	High-grade steel lever, plastic roller	➔	19		**3SE5 000-0AA11**	1 unit
	High-grade steel lever, high-grade steel roller	➔	19		**3SE5 000-0AA12**	1 unit
 Twist lever, adjustable length	**Twist levers 35 mm, offset**					
	Metal lever, plastic roller	➔	19		**3SE5 000-0AA15**	1 unit
	Twist levers 30 mm, straight[2]					
	Metal lever, plastic roller	➔	19		**3SE5 000-0AA24**	1 unit
	Metal lever, plastic roller	➔	30		**3SE5 000-0AA26**	1 unit
	Twist levers, adjustable length, with grid hole					
	Metal lever, plastic roller	➔	19		**3SE5 000-0AA60**	1 unit
	Metal lever, high-grade steel roller	➔	19		**3SE5 000-0AA61**	1 unit
	Metal lever, plastic roller	➔	50		**3SE5 000-0AA67**	1 unit
	Metal lever, rubber roller	➔	50		**3SE5 000-0AA68**	1 unit
	High-grade steel lever, plastic roller	➔	19		**3SE5 000-0AA62**	1 unit
	High-grade steel lever, high-grade steel roller	➔	19		**3SE5 000-0AA63**	1 unit
 Rod actuator	**Twist levers, adjustable length**					
	Metal lever, plastic roller		19		**3SE5 000-0AA50**	1 unit
	Metal lever, high-grade steel roller		19		**3SE5 000-0AA51**	1 unit
	Metal lever, plastic roller		30		**3SE5 000-0AA55**	1 unit
	Metal lever, plastic roller		50		**3SE5 000-0AA57**	1 unit
	Metal lever, rubber roller		50		**3SE5 000-0AA58**	1 unit
	High-grade steel lever, plastic roller		19		**3SE5 000-0AA52**	1 unit
	High-grade steel lever, high-grade steel roller		19		**3SE5 000-0AA53**	1 unit
	Rod actuators, type D according to EN 50041					
	Aluminum rod, length 200 mm		6		**3SE5 000-0AA80**	1 unit
	Spring rod, length 200 mm		6		**3SE5 000-0AA81**	1 unit
	Plastic rod, length 200 mm		6		**3SE5 000-0AA82**	1 unit
 Fork lever	**Fork lever** (for switches with snap-action contacts only)					
	2 metal levers, 2 plastic rollers	➔	19		**3SE5 000-0AT01**	1 unit
	2 metal levers, 2 high-grade steel rollers	➔	19		**3SE5 000-0AT02**	1 unit
	2 high-grade steel levers, 2 plastic rollers	➔	19		**3SE5 000-0AT03**	1 unit
	2 high-grade steel levers, 2 high-grade steel rollers	➔	19		**3SE5 000-0AT04**	1 unit

[1] Positively driven actuator, necessary in safety circuits, identification by the symbol ➔.

[2] Can be clinch mounted (turned through 180°, rear of lever).

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Illustrations are approximate

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3SE5, metal enclosures
Compact design

Overview

Particularly in harsh environments or on equipment with limited space, the small 3SE5 4 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 places.

- Various actuator versions available
- Actuators rotatble in increments of 90°
- Use in safety circuits up to Category 4 according to EN ISO 13849-1.
- Insensitive to electromagnetic interference

Selection and ordering data

2 snap-action contacts 1 NO + 1 NC · Degree of protection IP67 · With connecting cable or M12 connector socket

	Version[1]		Enclosure width	DT	Order No.	PS*
			mm			
Complete units • Enclosure width 30 or 40 mm						
 Rounded plungers	**Rounded plungers**					
	• Standard mounting					
	- With 2 m cable 5 x 0.75 mm²	➔	30		**3SE5 413-0CC20-1EA2**	1 unit
		➔	40		**3SE5 423-0CC20-1EA2**	1 unit
	- With 5 m cable 5 x 0.75 mm²	➔	30		**3SE5 413-0CC20-1EA5**	1 unit
	- With M12 connector socket	➔	30		**3SE5 413-0CC20-1EB1**	1 unit
		➔	40		**3SE5 423-0CC20-1EB1**	1 unit
 With central fixing	• With central fixing					
	- With 2 m cable 5 x 0.75 mm²	➔	30		**3SE5 413-0CC21-1EA2**	1 unit
		➔	40		**3SE5 423-0CC21-1EA2**	1 unit
 With external seal	• With external seal					
	- With 2 m cable 5 x 0.75 mm²	➔	30		**3SE5 413-0CC22-1EA2**	1 unit
		➔	40		**3SE5 423-0CC22-1EA2**	1 unit
 Roller plungers	**Roller plungers**					
	• Standard mounting					
	- With 2 m cable 5 x 0.75 mm²	➔	30		**3SE5 413-0CD20-1EA2**	1 unit
		➔	40		**3SE5 423-0CD20-1EA2**	1 unit
	- With 5 m cable 5 x 0.75 mm²	➔	30		**3SE5 413-0CD20-1EA5**	1 unit
	- With M12 connector socket	➔	30		**3SE5 413-0CD20-1EB1**	1 unit
		➔	40		**3SE5 423-0CD20-1EB1**	1 unit
 With plug	• With central fixing					
	- With 2 m cable 5 x 0.75 mm²	➔	30		**3SE5 413-0CD21-1EA2**	1 unit
		➔	40		**3SE5 423-0CD21-1EA2**	1 unit
	• Actuator head rotated 90°					
	- With 2 m cable 5 x 0.75 mm²	➔	30		**3SE5 413-0CD23-1EA2**	1 unit
 Twist levers	**Twist levers**					
	• Standard mounting					
	- With 2 m cable 5 x 0.75 mm²	➔	30		**3SE5 413-0CN20-1EA2**	1 unit
		➔	40		**3SE5 423-0CN20-1EA2**	1 unit
	- With 5 m cable 5 x 0.75 mm²	➔	30		**3SE5 413-0CN20-1EA5**	1 unit
	- With M12 connector socket	➔	30		**3SE5 413-0CN20-1EB1**	1 unit
		➔	40		**3SE5 423-0CN20-1EB1**	1 unit

[1] Normally closed contact (NC) with positive opening according to IEC 60947-5-1, Appendix K, and positively driven actuator, necessary in safety circuits, identification by the symbol ➔.

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

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Overview



Open-type

Their compact design makes these switches particularly suitable for use in confined conditions. The fixing dimensions and operating points are according to EN 50047.

The switches are equipped with two or three contacts in slow-action or snap-action versions. The stroke is 6 mm.

The empty enclosure can be equipped with all switch block variants (see page 9/27).

Selection and ordering data

2 or 3 contacts · Degree of protection IP20 (2 contacts), IP10 (3 contacts)

	Version	Contacts[1]		DT	Order No.	PS*
Molded-plastic enclosures • Enclosure width 30 mm						
	With teflon plunger, Ø 6 mm					
 2 contacts	Contact block with 2 contacts					
	Slow-action contacts	1 NO + 1 NC	⊖		**3SE5 250-0BC05**	1 unit
	Snap-action contacts	1 NO + 1 NC	⊖	►	**3SE5 250-0CC05**	1 unit
 3 contacts	Contact block with 3 contacts					
	Slow-action contacts	1 NO + 2 NC	⊖		**3SE5 250-0KC05**	1 unit
	Snap-action contacts	1 NO + 2 NC	⊖		**3SE5 250-0LC05**	1 unit
	Slow-action contacts with make-before-break	1 NO + 2 NC	⊖		**3SE5 250-0MC05**	1 unit
	Slow-action contacts	2 NO + 1 NC	⊖		**3SE5 250-0PC05**	1 unit
 Empty enclosures	Empty enclosures without contact block	--	⊖		**3SE5 250-0AC05**	1 unit

[1] Normally closed contact (NC) with positive opening according to IEC 60947-5-1, Appendix K, and positively driven actuator, necessary in safety circuits, identification by the symbol ⊖.

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Illustrations are approximate

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Accessories and spare parts

Selection and ordering data

The quick-release devices and plug-in connections are used for fast installation and replacement of position switches.

	Version	DT	Order No.	PS*
Quick-release devices for enclosure width 40 mm				
 3SY3 110  3SY3 027	**Adapter plates with screws**		**3SY3 110**	1 unit
	Base plates with locking lever		**3SY3 027**	1 unit
Plug-in connections for M20 × 1.5 connecting threads				
 3SY3 131  3SY3 136	**Connector sockets (6-pole + PE), for M20 × 1.5** For max. 250 V, 10 A With 0.75 mm² connecting cable, plastic, degree of protection IP65, ambient temperature –40 to +90 °C		**3SY3 131**	1 unit
	Cable box (6-pole + PE)[1] With terminal compartment, can be pre-assembled, plastic, degree of protection IP65		**3SY3 136**	1 unit
 3SY3 127  3SY3 134	**Connector sockets (4-pole), M12, for M20 × 1.5, fixed** For max 250 V, 4 A, U_{imp} = 2500 V With four 0.25 mm² connecting cables, plastic, degree of protection IP67, ambient temperature –40 to +85 °C		**3SY3 127**	1 unit
	Connector sockets (5-pole), M12, for M20 × 1.5, fixed For max. 125 V, 4 A, U_{imp} = 1500 V With five 0.25 mm² connecting cables, plastic, degree of protection IP67, ambient temperature –40 to +85 °C		**3SY3 128**	1 unit
	Connector sockets (8-pole), M12, for M20 × 1.5, fixed, metal version For max. 30 V, 2 A, U_{imp} = 800 V With eight 0.25 mm² connecting cables, metal, degree of protection IP67, ambient temperature –40 to +85 °C		**3SY3 134**	1 unit
Adapters and cable glands for M20 × 1.5 connecting threads				
 3SX9 917  3SX9 918	**Adapters according to** ⓒSA, ⓒUL **and** ⓒUR For cable entry from M20 × 1.5 to NPT 1/2			
	• Metal		**3SX9 917**	1 unit
	• Plastic		**3SX9 918**	1 unit
 3SX9 926	**Cable glands M20 × 1.5** Plastic		**3SX9 926**	1 unit

[1] For wiring, a crimping tool is necessary, max. conductor cross-section 1 mm².

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

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Accessories and spare parts

	Version	Color/ contacts[1]	DT	Order No.	PS*
Optional accessories for 3SE52					
	**Protective caps, rubber**, for rounded plungers according to EN 50047, 3SE5 ...-..C05	Black	A	**3SE5 000-0AC30**	1 unit
Spare parts for 3SE51, 3SE52					
 Enclosure width 31 mm	**Empty enclosures, molded-plastic**	Turquoise			
	Enclosure width 31 mm			**3SE5 232-0AC05**	1 unit
	• With increased corrosion protection			**3SE5 232-0AC05-1CA0**	1 unit
	Enclosure width 50 mm			**3SE5 242-0AC05**	1 unit
	• With increased corrosion protection			**3SE5 242-0AC05-1CA0**	1 unit
 Enclosure width 40 mm	**Empty enclosures, metal**	Turquoise			
	Enclosure width 31 mm			**3SE5 212-0AC05**	1 unit
	• With increased corrosion protection			**3SE5 212-0AC05-1CA0**	1 unit
	Enclosure width 40 mm			**3SE5 112-0AA00**	1 unit
	• With increased corrosion protection			**3SE5 112-0AA00-1CA0**	1 unit
	Enclosure width 56 mm			**3SE5 122-0AA00**	1 unit
	• With increased corrosion protection			**3SE5 122-0AA00-1CA0**	1 unit
	Enclosure width 56 mm, XL[2]			**3SE5 162-0AA00**	1 unit
 2 contacts	**Contact blocks with 2 contacts**				
	• Slow-action contacts	1 NO + 1 NC	➔	**3SE5 000-0BA00**	1 unit
	• Snap-action contacts	1 NO + 1 NC			
	- Standard		➔	**3SE5 000-0CA00**	1 unit
	- Gold-plated contacts		➔	**3SE5 000-0CA00-1AC1**	1 unit
	- 2 × 2 mm switching interval		➔	**3SE5 000-0GA00**	1 unit
	- Short stroke		➔	**3SE5 000-0NA00**	1 unit
 3 contacts	**Contact blocks with 3 contacts**				
	• Slow-action contacts	1 NO + 2 NC	➔	**3SE5 000-0KA00**	1 unit
	• Snap-action contacts	1 NO + 2 NC	➔	**3SE5 000-0LA00**	1 unit
	• Slow-action contacts with make-before-break	1 NO + 2 NC	➔	**3SE5 000-0MA00**	1 unit
	• Slow-action contacts	2 NO + 1 NC	➔	**3SE5 000-0PA00**	1 unit

[1] Normally closed contact (NC) with positive opening according to IEC 60947-5-1, Appendix K, identification by the symbol ➔.

[2] Equip the XL enclosure only with contact combinations in accordance with page 9/22.

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

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3SE5, 3SE2 Position Switches
With Separate Actuator

General data

Overview

Position switches with separate actuator are used where the position of doors, covers or protective grills must be monitored for safety reasons.

3SE5 position switches with separate actuator have the same enclosures as the standard switches (modular system).



Position switches with head for separate actuator

Design

Enclosure sizes

The 3SE5 switches are available in various enclosure sizes:

- Molded-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
- Molded-plastic and metal enclosures according to EN 50041, 40 mm wide, IP66/IP67, 1 cable entry
- Molded-plastic enclosures, 50 mm wide, IP66/IP67, 2 cable entries
- Metal enclosures, 56 mm wide, IP66/IP67, 3 cable entries

Also available is a switch in the 3SE2 series which has arisen 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 two- or three-pole switching elements designed as slow-action contacts
- Optional LED status display
- With mounted four- or five-pole M12 connector socket (available for the wide enclosures as an accessory for self-assembly)
- With 6-pole connector socket + PE on the metal enclosures
- Similarly with a combination of connector socket and LED indicators
- Metal enclosures for explosion protection (ATEX) (see Catalog IC 10 · 2011 or the Industry Mall)
- AS-Interface version with integrated ASIsafe electronics for all enclosure designs (see page 9/41)

For a description of the basic switches see page 9/4.

Operation

The actuator head is included in the scope of supply. For actuation from four directions it can be adjusted through 4 × 90°. The switches can also be approached from above.

The twist actuators of the 3SE2 243 and 3SE2 257 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 position switch and must be ordered separately from a choice of six versions to suit the application (see page 9/31).

The actuator is encoded. Simple overruling by hand or auxiliary devices is impossible.

Radius actuators

The position switches with radius actuators are particularly suitable for rotatable 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 safety (see page 9/31).



Blocking inserts with padlock

Dust protection

A rubber cap to protect the twist actuator from contamination is available for operation in dusty environments (see page 9/31).

Contact reliability

The new switching blocks ensure an extremely high contact stability. This applies even when the devices are switching low voltages and currents, e.g. 1 mA at 5 V DC.

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".

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Selection and ordering data

Complete units

2 or 3 contacts · 5 directions of approach · Degree of protection IP65 (only 31 mm) or IP66/IP67 · Cable entry M20 × 1.5

	Version[1]	Contacts[2]		LEDs	DT	Complete units Order No.	PS*
Enclosure width 31 mm according to EN 50047							
 With separate actuator	**5 directions of approach**						
	Slow-action contacts	1 NO + 1 NC	➔	--		**3SE5 232-0RV40**	1 unit
	Slow-action contacts	1 NO + 2 NC	➔	--	▶	**3SE5 232-0QV40**	1 unit
	With increased minimum pull-out force 30 N						
	Slow-action contacts	1 NO + 2 NC	➔	--		**3SE5 232-0QV40-1AA1**	1 unit
 With M12 socket	**With M12 connector socket, 4-pole** (250 V, 4 A)						
	Slow-action contacts	1 NO + 1 NC	➔	--		**3SE5 234-0RV40-1AC4**	1 unit
	Slow-action contacts	2 NC	➔	--		**3SE5 234-0QV40-1AE0**	1 unit
 With 2 LEDs	**With 2 LEDs, yellow/green**						
	Slow-action contacts	1 NO + 1 NC	➔	24 V DC		**3SE5 232-1RV40**	1 unit
	Slow-action contacts	1 NO + 1 NC	➔	230 V AC		**3SE5 232-3RV40**	1 unit
	With M12 connector socket, 5-pole (125 V, 4 A) **and 2 LEDs**						
	Slow-action contacts	1 NO + 1 NC	➔	24 V DC		**3SE5 234-1RV40-1AF3**	1 unit
Enclosure width 40 mm according to EN 50041							
 With separate actuator	**5 directions of approach**						
	Slow-action contacts	1 NO + 2 NC	➔	--		**3SE5 132-0QV20**	1 unit
 With 2 LEDs	**With 2 LEDs, yellow/green**						
	Slow-action contacts	1 NO + 2 NC	➔	24 V DC		**3SE5 132-1QV20**	1 unit
	Slow-action contacts	1 NO + 2 NC	➔	230 V AC		**3SE5 132-3QV20**	1 unit
Enclosure width 50 mm							
 With separate actuator	**5 directions of approach**						
	Slow-action contacts	1 NO + 2 NC	➔	--		**3SE5 242-0QV40**	1 unit
	With increased minimum pull-out force 30 N						
	Slow-action contacts	1 NO + 1 NC	➔	--		**3SE5 242-0RV40-1AA1**	1 unit
	With 2 LEDs, yellow/green						
	Slow-action contacts	1 NO + 2 NC	➔	24 V DC		**3SE5 242-1QV40**	1 unit
	Slow-action contacts	1 NO + 2 NC	➔	230 V AC		**3SE5 242-3QV40**	1 unit

[1] Supplied without actuator. Please order separately (see page 9/31).

[2] Normally closed contact (NC) with positive opening according to IEC 60947-5-1, Appendix K, identification by the symbol ➔.

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3SE5, 3SE2 Position Switches

With Separate Actuator

3SE5, metal enclosures
Enclosure width 31 mm / 40 mm / 56 mm

Selection and ordering data

Complete units

2 or 3 contacts · 5 directions of approach · Degree of protection IP66/IP67 · Cable entry M20 × 1.5

	Version[1]	Contacts[2]		LEDs	DT	Complete units Order No.	PS*
Enclosure width 31 mm according to EN 50047							
 With separate actuator	**5 directions of approach**						
	Slow-action contacts	1 NO + 1 NC	⊖	--		**3SE5 212-0RV40**	1 unit
	Slow-action contacts	1 NO + 2 NC	⊖	--		**3SE5 212-0QV40**	1 unit
 With 2 LEDs	**With 2 LEDs, yellow/green**						
	Slow-action contacts	1 NO + 1 NC	⊖	24 V DC		**3SE5 212-1RV40**	1 unit
	Slow-action contacts	1 NO + 1 NC	⊖	230 V AC		**3SE5 212-3RV40**	1 unit
Enclosure width 40 mm according to EN 50041							
 With separate actuator	**5 directions of approach**						
	Slow-action contacts	1 NO + 2 NC	⊖	--	►	**3SE5 112-0QV10**	1 unit
	With increased minimum pull-out force 30 N						
	Slow-action contacts	1 NO + 2 NC	⊖	--	►	**3SE5 112-0QV10-1AA7**	1 unit
 With M12 socket	**With M12 connector socket, 5-pole** (125 V, 4 A)						
	Slow-action contacts	1 NO + 1 NC	⊖	--		**3SE5 114-0RV10-1AC5**	1 unit
	Slow-action contacts	2 NC	⊖	--		**3SE5 114-0QV10-1AE1**	1 unit
	With connector socket, 6-pole + PE (250 V, 10 A)						
	Slow-action contacts	1 NO + 2 NC	⊖	--		**3SE5 115-0QV10-1AD1**	1 unit
	With 2 LEDs, yellow/green						
	Slow-action contacts	1 NO + 2 NC	⊖	24 V DC		**3SE5 112-1QV10**	1 unit
	Slow-action contacts	1 NO + 2 NC	⊖	230 V AC		**3SE5 112-3QV10**	1 unit
 With 2 LEDs	**With M12 connector socket, 5-pole** (125 V, 4 A) **and 2 LEDs**						
	Slow-action contacts	1 NO + 1 NC	⊖	24 V DC		**3SE5 114-1RV10-1AF3**	1 unit
	With connector socket, 6-pole + PE (10 A)**, and 2 LEDs**						
	Slow-action contacts	1 NO + 1 NC	⊖	24 V DC		**3SE5 115-1RV10-1AF2**	1 unit
Enclosure width 56 mm							
 With separate actuator	**5 directions of approach**						
	Slow-action contacts	1 NO + 2 NC	⊖	--		**3SE5 122-0QV10**	1 unit
	With increased minimum pull-out force 30 N						
	Slow-action contacts	1 NO + 2 NC	⊖	--		**3SE5 122-0QV10-1AA7**	1 unit
	With 2 LEDs, yellow/green						
	Slow-action contacts	1 NO + 2 NC	⊖	24 V DC		**3SE5 122-1QV10**	1 unit
	Slow-action contacts	1 NO + 2 NC	⊖	230 V AC		**3SE5 122-3QV10**	1 unit

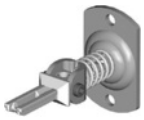
[1] Supplied without actuator. Please order separately (see page 9/31).

[2] Normally closed contact (NC) with positive opening according to IEC 60947-5-1, Appendix K, identification by the symbol ⊖.

*** You can order this quantity or a multiple thereof.**
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Selection and ordering data

	Version	DT	Order No.	PS*
Actuators for 3SE5				
 3SE5 000-0AV01	**Standard actuators** • Length 75.6 mm	►	**3SE5 000-0AV01**	1 unit
 3SE5 000-0AV02	• With vertical fixing, length 53 mm		**3SE5 000-0AV02**	1 unit
 3SE5 000-0AV03	• With transverse fixing, length 47 mm		**3SE5 000-0AV03**	1 unit
 3SE5 000-0AV06	**Radius actuators**, length 51 mm • Direction of approach from the left • Direction of approach from the right		**3SE5 000-0AV04** **3SE5 000-0AV06**	1 unit 1 unit
 3SE5 000-0AV05	**Universal radius actuators**, length 77 mm		**3SE5 000-0AV05**	1 unit
 3SE5 000-0AV07	**Universal radius actuators, heavy-duty** • Length 67 mm • Length 77 mm		**3SE5 000-0AV07-1AK2** **3SE5 000-0AV07**	1 unit 1 unit
Optional accessories for 3SE5				
 3SE5 000-0AV08-1AA2	**Protective caps** made of black rubber for the actuator head, to protect the actuator openings from contamination (Only for enclosure width 40 or 56 mm)		**3SE5 000-0AV08-1AA2**	1 unit
 3SE5 000-0AV08-1AA3	**Blocking inserts**, high-grade steel, for actuator head, for up to 8 padlocks		**3SE5 000-0AV08-1AA3**	1 unit
Connections for 3SE5, 3SE2				
 3SY3 127	**Connector sockets (4-pole), M12, fixed for M20 × 1.5** For max. 250 V, 4 A With 0.25 mm^2 connecting cable, plastic, degree of protection IP67, ambient temperature –40 to +85 °C		**3SY3 127**	1 unit
	Connector sockets (5-pole), M12, fixed for M20 × 1.5 For max. 125 V, 4 A With 0.25 mm^2 connecting cable, plastic, degree of protection IP67, ambient temperature –40 to +85 °C		**3SY3 128**	1 unit
 3SX9 926	**Cable glands M20 × 1.5** Plastic		**3SX9 926**	1 unit

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Illustrations are approximate

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3SE5, 3SE2 Position Switches

With Separate Actuator

3SE2, molded-plastic enclosures
Enclosure width 52 mm

Selection and ordering data

Complete units

1 or 3 contacts · 3 directions of approach · Degree of protection IP67

Version[1]	Contacts[2]		Operation	DT	Complete units Order No.	PS*
Molded-plastic enclosures in special width of 52 mm						
Lateral and front-end actuation			6 mm stroke			
• With M20 × 1.5 connecting thread						
- Slow-action contacts	1 NO + 2 NC	⊖	Holding force 5 N	▶	**3SE2 243-0XX40**	1 unit
		⊖	Holding force 30 N	▶	**3SE2 243-0XX**	1 unit
		⊖	With automatic ejection	▶	**3SE2 243-0XX30**	1 unit
- Slow-action contacts	1 NC	⊖	Holding force 5 N	▶	**3SE2 257-6XX40**	1 unit
		⊖	Holding force 30 N	▶	**3SE2 257-6XX**	1 unit
		⊖	With automatic ejection		**3SE2 257-6XX30**	1 unit
• With M16 × 1.5 connecting thread						
- Slow-action contacts	1 NO + 2 NC	⊖	Holding force 5 N		**3SE2 243-0XX48**	1 unit
		⊖	Holding force 30 N		**3SE2 243-0XX18**	1 unit
		⊖	With automatic ejection		**3SE2 243-0XX38**	1 unit
- Slow-action contacts	1 NC	⊖	Holding force 5 N		**3SE2 257-6XX48**	1 unit
		⊖	Holding force 30 N		**3SE2 257-6XX18**	1 unit
		⊖	With automatic ejection		**3SE2 257-6XX38**	1 unit



3SE 2 243

1) Supplied without actuator. Please order separately.

2) Normally closed contact (NC) with positive opening according to IEC 60947-5-1, Appendix K, identification by the symbol ⊖.

Version	DT	Order No.	PS*
Accessories			
Actuators			
• Standard actuators (r_{min} = 150 mm), length 28 mm		**3SX3 218**	1 unit
• Universal radius actuators (r_{min} = 45 mm), length 34 mm		**3SX3 228**	1 unit
• Radius actuator, adjustable radius, length 34 mm		**3SX3 256**	1 unit
• Ball locating, force adjustable up to 100 N by 2 screws, length 28 mm		**3SX3 217**	1 unit
• Actuator, length 34 mm, with dust protection and slit cover		**3SX3 234**	1 unit
Accessories			
• Slit cover (1 set = 3 units)		**3SX3 233**	3 units



3SX3 218



3SX3 228



3SX3 256



3SX3 217



3SX3 234

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* You can order this quantity or a multiple thereof.
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Overview

The position switches with interlocking are exceptional safety-related devices which prevent an unforeseen or intentional opening of protective doors, protective grills or other covers as long as a dangerous situation is present (i.e. follow-on motion of the switched off machine).



Position switches with interlocking

The safety position switches with interlocking are comprised of a switch part with electromechanical interlock 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 position switches with interlocking are offered in molded-plastic or metal enclosures.
Dimensions (W × H × D): 54 mm × 185 mm × 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 × 90°. The 3SE5 3 switches can also be approached from above.

The actuator is not included in the scope of supply of the position switch and must be ordered separately from a choice of six versions to suit the application (see page 9/31).

Actuation data

- Maximum actuating speed v_{max} = 1.5 m/s
- Minimum actuating speed v_{min} = 0.4 mm/s
- Minimum force in the direction of actuation F_{min} = 30 N

The actuator is encoded. Simple overruling by hand or auxiliary devices is impossible.

Radius actuators

The position switches with radius actuators are particularly suitable for rotatable 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 locking device for attaching up to eight padlocks is available for even more safety (see page 9/31).

Dust protection

A rubber cap to protect the twist actuator from contamination is available for operation in dusty environments (see page 9/31).

Interlocking

There are two versions for locking the actuator:

- Spring-actuated lock (closed-circuit principle) with various release mechanisms
- Magnetic field lock (open-circuit principle)

The spring-actuated switch is equipped with an auxiliary release for emergency situations or setup mode. Available as options:

- Escape release or
- Emergency release

Contact blocks

The position switches with interlocking 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 failsafe principle according to EN 1088.

Optical signaling equipment

The position switches with interlocking are available with an optional optical signaling device.

The signaling device indicates the switch position of the lock and the protective device optically by means of 2 LEDs on the front.

Protective device	Interlocking	Display	Meaning
Closed	Released		Actuator to be pulled
Closed	Locked		Actuator locked
Open	Released		Actuator pulled

Note:

The voltage of the LEDs at the monitored contacts must be the same as the operational voltage of the solenoid (same potential).

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3SE5, 3SE2 Position Switches

With Interlocking

3SE5, molded-plastic enclosures
With locking force up to 1200 N

Selection and ordering data

6 slow-action contacts · 5 directions of approach · Degree of protection IP66/IP67 · Cable entry 3 × M20 × 1.5
Locking force 1300 N (1000 N according to GS-ET 19)

	Interlock[1]	LEDs	Solenoid, rated operational voltage	Positive opening[2]	DT	Complete units Position monitoring: Actuators: 1 NO + 2 NC Solenoid: 1 NO + 2 NC Order No.	PS*
			V				
1300 N locking force · Enclosure width 54 mm							
 3SE5 312-0SD2.	**Spring-actuated locks**						
	• With auxiliary release	--	24 DC	⊖	▶	**3SE5 322-0SD21**	1 unit
		--	115 AC	⊖		**3SE5 322-0SD22**	1 unit
		--	230 AC	⊖		**3SE5 322-0SD23**	1 unit
		Yellow/Green	24 DC	⊖		**3SE5 322-1SD21**	1 unit
		Yellow/Green	115 AC	⊖		**3SE5 322-2SD22**	1 unit
		Yellow/Green	230 AC	⊖		**3SE5 322-3SD23**	1 unit
 3SE5 312-0SE2.	• With auxiliary release with lock	--	24 DC	⊖		**3SE5 322-0SE21**	1 unit
		--	115 AC	⊖		**3SE5 322-0SE22**	1 unit
		--	230 AC	⊖		**3SE5 322-0SE23**	1 unit
		Yellow/Green	24 DC	⊖		**3SE5 322-1SE21**	1 unit
		Yellow/Green	115 AC	⊖		**3SE5 322-2SE22**	1 unit
		Yellow/Green	230 AC	⊖		**3SE5 322-3SE23**	1 unit
 3SE5 312-0SF2.	• With escape release from the front	--	24 DC	⊖		**3SE5 322-0SF21**	1 unit
		--	115 AC	⊖		**3SE5 322-0SF22**	1 unit
		--	230 AC	⊖		**3SE5 322-0SF23**	1 unit
		Yellow/Green	24 DC	⊖		**3SE5 322-1SF21**	1 unit
		Yellow/Green	115 AC	⊖		**3SE5 322-2SF22**	1 unit
		Yellow/Green	230 AC	⊖		**3SE5 322-3SF23**	1 unit
	• With escape release from the front and emergency release from the back	--	24 DC	⊖		**3SE5 322-0SL21**	1 unit
 3SE5 312-0SG2.	• With escape release from the back and auxiliary release from the front	--	24 DC	⊖		**3SE5 322-0SG21**	1 unit
		--	115 AC	⊖		**3SE5 322-0SG22**	1 unit
		--	230 AC	⊖		**3SE5 322-0SG23**	1 unit
		Yellow/Green	24 DC	⊖		**3SE5 322-1SG21**	1 unit
		Yellow/Green	115 AC	⊖		**3SE5 322-2SG22**	1 unit
		Yellow/Green	230 AC	⊖		**3SE5 322-3SG23**	1 unit
	• With escape release from the back and auxiliary release with lock from the front	--	24 DC	⊖		**3SE5 322-0SH21**	1 unit
 3SE5 312-0SJ2.	• With emergency release from the back and auxiliary release from the front	--	24 DC	⊖		**3SE5 322-0SJ21**	1 unit
		--	115 AC	⊖		**3SE5 322-0SJ22**	1 unit
		--	230 AC	⊖		**3SE5 322-0SJ23**	1 unit
		Yellow/Green	24 DC	⊖		**3SE5 322-1SJ21**	1 unit
		Yellow/Green	115 AC	⊖		**3SE5 322-2SJ22**	1 unit
		Yellow/Green	230 AC	⊖		**3SE5 322-3SJ23**	1 unit
 3SE5 312-0SB2.	**Magnetic field lock**	--	24 DC	⊖	▶	**3SE5 322-0SB21**	1 unit
		--	115 AC	⊖		**3SE5 322-0SB22**	1 unit
		--	230 AC	⊖		**3SE5 322-0SB23**	1 unit
		Yellow/Green	24 DC	⊖		**3SE5 322-1SB21**	1 unit
		Yellow/Green	115 AC	⊖		**3SE5 322-2SB22**	1 unit
		Yellow/Green	230 AC	⊖		**3SE5 322-3SB23**	1 unit

[1] Supplied without actuator. Please order separately (see page 9/31).

[2] Normally closed contact (NC) with positive opening according to IEC 60947-5-1, Appendix K, identification by the symbol ⊖.

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

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Selection and ordering data

6 slow-action contacts · 5 directions of approach · Degree of protection IP66/IP67 · Cable entry 3 × M20 × 1.5
Locking force 2600 N (2000 N according to GS-ET 19)

	Interlock[1]	LEDs	Solenoid, rated operational voltage	Positive opening[2]	DT	**Complete units** Position monitoring: Actuators: 1 NO + 2 NC Solenoid: 1 NO + 2 NC Order No.	PS*
			V				
2600 N locking force · Enclosure width 54 mm							
 3SE5 312-0SD1.	**Spring-actuated locks**						
	• With auxiliary release	--	24 DC	➔	▶	**3SE5 312-0SD11**	1 unit
		--	115 AC	➔		**3SE5 312-0SD12**	1 unit
		--	230 AC	➔		**3SE5 312-0SD13**	1 unit
		Yellow/Green	24 DC	➔		**3SE5 312-1SD11**	1 unit
		Yellow/Green	115 AC	➔		**3SE5 312-2SD12**	1 unit
		Yellow/Green	230 AC	➔		**3SE5 312-3SD13**	1 unit
 3SE5 312-0SE1.	• With auxiliary release With lock	--	24 DC	➔		**3SE5 312-0SE11**	1 unit
		--	115 AC	➔		**3SE5 312-0SE12**	1 unit
		--	230 AC	➔		**3SE5 312-0SE13**	1 unit
			48 AC/DC	➔		**3SE5 312-0SE14**	1 unit
		Yellow/Green	24 DC	➔		**3SE5 312-1SE11**	1 unit
		Yellow/Green	115 AC	➔		**3SE5 312-2SE12**	1 unit
		Yellow/Green	230 AC	➔		**3SE5 312-3SE13**	1 unit
 3SE5 312-0SF1.	• With escape release from the front	--	24 DC	➔		**3SE5 312-0SF11**	1 unit
		--	115 AC	➔		**3SE5 312-0SF12**	1 unit
		--	230 AC	➔		**3SE5 312-0SF13**	1 unit
		Yellow/Green	24 DC	➔		**3SE5 312-1SF11**	1 unit
		Yellow/Green	115 AC	➔		**3SE5 312-2SF12**	1 unit
		Yellow/Green	230 AC	➔		**3SE5 312-3SF13**	1 unit
 3SE5 312-0SG1.	• With escape release from the back and auxiliary release from the front	--	24 DC	➔		**3SE5 312-0SG11**	1 unit
		--	115 AC	➔		**3SE5 312-0SG12**	1 unit
		--	230 AC	➔		**3SE5 312-0SG13**	1 unit
		Yellow/Green	24 DC	➔		**3SE5 312-1SG11**	1 unit
		Yellow/Green	115 AC	➔		**3SE5 312-2SG12**	1 unit
		Yellow/Green	230 AC	➔		**3SE5 312-3SG13**	1 unit
	• With escape release from the back and auxiliary release with lock from the front	--	24 DC	➔		**3SE5 312-0SH11**	1 unit
 3SE5 312-0SJ1.	• With emergency release from the back and auxiliary release from the front	--	24 DC	➔		**3SE5 312-0SJ11**	1 unit
		--	115 AC	➔		**3SE5 312-0SJ12**	1 unit
		--	230 AC	➔		**3SE5 312-0SJ13**	1 unit
		Yellow/Green	24 DC	➔		**3SE5 312-1SJ11**	1 unit
		Yellow/Green	115 AC	➔		**3SE5 312-2SJ12**	1 unit
		Yellow/Green	230 AC	➔		**3SE5 312-3SJ13**	1 unit
 3SE5 312-0SB1.	**Magnetic field lock**	--	24 DC	➔	▶	**3SE5 312-0SB11**	1 unit
		--	115 AC	➔		**3SE5 312-0SB12**	1 unit
		--	230 AC	➔		**3SE5 312-0SB13**	1 unit
		Yellow/Green	24 DC	➔		**3SE5 312-1SB11**	1 unit
		Yellow/Green	115 AC	➔		**3SE5 312-2SB12**	1 unit
		Yellow/Green	230 AC	➔		**3SE5 312-3SB13**	1 unit

[1] Supplied without actuator. Please order separately (see page 9/31).

[2] Normally closed contact (NC) with positive opening according to IEC 60947-5-1, Appendix K, identification by the symbol ➔.

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Illustrations are approximate

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3SE5, 3SE2 Position Switches

Hinge Switches

3SE5, molded-plastic and metal enclosures
Enclosure width 31 mm / 40 mm

Overview

3SE5 hinge switches have the same enclosures as the standard switches (modular system).

Selection and ordering data

Complete units

2 or 3 contacts · Degree of protection IP65 (only 31 mm molded-plastic) or IP67/IP68 · Cable entry M20 × 1.5

	Version	Snap-action contacts[1]	DT	Complete units Order No.	PS*
Molded-plastic enclosures					
 With hollow shaft	***Enclosure width 31 mm according to EN 50047***				
	With hollow shaft				
	Operating angle 10°	1 NO + 1 NC	➔	**3SE5 232-0HU21**	1 unit
	Operating angle 10°	1 NO + 2 NC	➔	**3SE5 232-0LU21**	1 unit
	With solid shaft				
	Operating angle 10°	1 NO + 1 NC	➔	**3SE5 232-0HU22**	1 unit
	Operating angle 10°	1 NO + 2 NC	➔	**3SE5 232-0LU22**	1 unit
 With solid shaft	***Enclosure width 40 mm according to EN 50041***				
	With hollow shaft Operating angle 10°	1 NO + 2 NC	➔	**3SE5 132-0LU21**	1 unit
	With solid shaft Operating angle 10°	1 NO + 2 NC	➔	**3SE5 132-0LU22**	1 unit
Metal enclosures					
 With solid shaft	***Enclosure width 31 mm according to EN 50047***				
	With hollow shaft Operating angle 10°	1 NO + 2 NC	➔	**3SE5 212-0LU21**	1 unit
	With solid shaft Operating angle 10°	1 NO + 2 NC	➔	**3SE5 212-0LU22**	1 unit
 With hollow shaft	***Enclosure width 40 mm according to EN 50041***				
	With hollow shaft Operating angle 10°	1 NO + 2 NC	➔	**3SE5 112-0LU21**	1 unit
	With solid shaft Operating angle 10°	1 NO + 2 NC	➔	**3SE5 112-0LU22**	1 unit
Actuator heads (replacement)					
 With hollow shaft	**With hollow shaft** Operating angle 10°			**3SE5 000-0AU21**	1 unit
 With solid shaft	**With solid shaft** Operating angle 10°			**3SE5 000-0AU22**	1 unit

[1] Normally closed contact (NC) with positive opening according to IEC 60947-5-1, Appendix K, identification by the symbol ➔.

Note:

The respective actuators are included in the scope of supply for the complete units.

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Illustrations are approximate

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Molded-plastic and metal enclosures
Enclosure width 31 mm acc. to EN 50047 / 50 mm

Overview

Modular system

For the ASIsafe version of the position switch, the basic switch and actuator must be ordered separately.

With the 3SF1 position switches the ASIsafe electronics are integrated in the switch enclosure.

Approvals

- Category 2 according to ISO 13849-1 (EN 954-1) or SIL 1 according to IEC 61508
- Category 3 or 4 according to ISO 13849-1 (EN 954-1) or SIL 2 or 3 according to IEC 61508 by using a second 3SE5 position switch

Selection and ordering data

1 or 2 contacts · 3 LEDs · Degree of protection IP65 (only 31 mm molded-plastic) or IP66/IP67 · M12 connector socket

	Version	Contacts[1]		LEDs	DT	Modular system ◇	PS*
						Order No.	
Molded-plastic enclosures · Basic switches (with rounded plunger[2])							
	Enclosure width 31 mm according to EN 50047						
 ASIsafe basic switch	**With teflon plunger**						
	With M12 connector socket, 4-pole Channel 1 on NC contact Channel 2 on NC contact						
	Slow-action contacts	2 NC	➔	24 V DC		**3SF1 234-1KC05-1BA1**	1 unit
	Snap-action contacts	2 NC	➔	24 V DC		**3SF1 234-1LC05-1BA1**	1 unit
 ASIsafe basic switch	**Enclosure width 50 mm**						
	With teflon plunger						
	With M12 connector socket, 4-pole Channel 1 on NC contact Channel 2 on M12 socket, right						
	Slow-action contacts	1 NC	➔	24 V DC		**3SF1 244-1KC05-1BA2**	1 unit
	Snap-action contacts	1 NC	➔	24 V DC		**3SF1 244-1LC05-1BA2**	1 unit
Metal enclosures · Basic switches (with rounded plunger[2])							
	Enclosure width 31 mm according to EN 50047						
 ASIsafe basic switch	**With plunger**						
	With M12 connector socket, 4-pole Channel 1 on NC contact Channel 2 on NC contact						
	Slow-action contacts	2 NC	➔	24 V DC		**3SF1 214-1KC05-1BA1**	1 unit
	Snap-action contacts	2 NC	➔	24 V DC		**3SF1 214-1LC05-1BA1**	1 unit

[1] Normally closed contact (NC) with positive opening according to IEC 60947-5-1, Appendix K, and positively driven actuator, necessary in safety circuits, identification by the symbol ➔.

[2] On enclosure widths 31 mm and 50 mm the basic switch is a complete unit with rounded plunger. For hinge switches the version with snap-action contacts should be used.

Note: For selection aid, see page 9/5.

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Illustrations are approximate

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Molded-plastic and metal enclosures
Enclosure width 31 mm acc. to EN 50047 / 50 mm

	Version[1]		Diameter plunger/roll	DT	Modular system	PS*
			mm		Order No.	
Operating mechanisms						
 Plain plungers	**Plain plungers**					
	High-grade steel plungers	➔	10		**3SE5 000-0AB01**	1 unit
 Roller plungers	**Roller plunger, type C according to EN 50047**					
	Plastic rollers	➔	10		**3SE5 000-0AD03**	1 unit
	High-grade steel rollers	➔	10		**3SE5 000-0AD04**	1 unit
 With central fixing	**Roller plunger with central fixing**					
	Plastic rollers	➔	10		**3SE5 000-0AD10**	1 unit
	High-grade steel rollers	➔	10		**3SE5 000-0AD11**	1 unit
 Roller levers	**Roller lever, type E according to EN 50047**					
	Metal lever, plastic roller	➔	13		**3SE5 000-0AE10**	1 unit
	Metal lever, high-grade steel roller	➔	13		**3SE5 000-0AE11**	1 unit
	High-grade steel lever, plastic roller	➔	13		**3SE5 000-0AE12**	1 unit
	High-grade steel lever, high-grade steel roller	➔	13		**3SE5 000-0AE13**	1 unit
 Angular roller levers	**Angular roller levers**					
	Metal lever, plastic roller	➔	13		**3SE5 000-0AF10**	1 unit
	Metal lever, high-grade steel roller	➔	13		**3SE5 000-0AF11**	1 unit
	High-grade steel lever, plastic roller	➔	13		**3SE5 000-0AF12**	1 unit
	High-grade steel lever, high-grade steel roller	➔	13		**3SE5 000-0AF13**	1 unit
Twist actuators with lever						
 Twist actuator	**Twist actuators**, plastic (without lever)					
	Switching right or left, adjustable	➔			**3SE5 000-0AK00**	1 unit
	Levers for twist actuators					
 Twist levers	**Twist lever, type A acc. to EN 50047**					
	Metal lever, plastic roller	➔	19		**3SE5 000-0AA21**	1 unit
	Metal lever, high-grade steel roller	➔	19		**3SE5 000-0AA22**	1 unit
	Metal lever, roller with ball bearing	➔	19		**3SE5 000-0AA23**	1 unit
	Metal lever, plastic roller	➔	30		**3SE5 000-0AA25**	1 unit
 Twist lever, adjustable length	High-grade steel lever, plastic roller	➔	19		**3SE5 000-0AA31**	1 unit
	High-grade steel lever, high-grade steel roller	➔	19		**3SE5 000-0AA32**	1 unit
	Twist levers 30 mm, straight[2]					
	Metal lever, plastic roller	➔	19		**3SE5 000-0AA24**	1 unit
	Metal lever, plastic roller	➔	30		**3SE5 000-0AA26**	1 unit
	Twist levers, adjustable length, with grid hole					
	Metal lever, plastic roller	➔	19		**3SE5 000-0AA60**	1 unit
	Metal lever, high-grade steel roller	➔	19		**3SE5 000-0AA61**	1 unit
	Metal lever, plastic roller	➔	50		**3SE5 000-0AA67**	1 unit
	Metal lever, rubber roller	➔	50		**3SE5 000-0AA68**	1 unit
	High-grade steel lever, plastic roller	➔	19		**3SE5 000-0AA62**	1 unit
	High-grade steel lever, high-grade steel roller	➔	19		**3SE5 000-0AA63**	1 unit

[1] Positively driven actuator, necessary in safety circuits, identification by the symbol ➔.

[2] Can be clinch mounted (turned through 180°, rear of lever).

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Metal enclosures
Enclosure width 40 mm acc. to EN 50041 / 56 mm

Overview

Modular system

For the ASIsafe version of the position switch, the basic switch and actuator must be ordered separately.

With the 3SF1 position switches the ASIsafe electronics are integrated in the switch enclosure.

Approvals

- Category 2 according to ISO 13849-1 (EN 954-1) or SIL 1 according to IEC 61508
- Category 3 or 4 according to ISO 13849-1 (EN 954-1) or SIL 2 or 3 according to IEC 61508 by using a second 3SE5 position switch

Selection and ordering data

1 or 2 contacts · 3 LEDs · Degree of protection IP66/IP67 · M12 connector socket

	Version	Contacts[1]		LEDs	DT	Modular system ◇	PS*
						Order No.	
Metal enclosures · Basic switches[2]							
	Enclosure width 40 mm according to EN 50041						
 ASIsafe basic switch	With M12 connector socket, 4-pole Channel 1 on NC contact Channel 2 on NC contact						
	Slow-action contacts	2 NC	➔	24 V DC		**3SF1 114-1KA00-1BA1**	1 unit
	Snap-action contacts	2 NC	➔	24 V DC		**3SF1 114-1LA00-1BA1**	1 unit
	Enclosure width 56 mm						
 ASIsafe basic switch	With M12 connector socket, 4-pole Channel 1 on NC contact Channel 2 on M12 socket, right						
	Slow-action contacts	1 NC	➔	24 V DC		**3SF1 124-1KA00-1BA2**	1 unit
	Snap-action contacts	1 NC	➔	24 V DC		**3SF1 124-1LA00-1BA2**	1 unit

[1] Normally closed contact (NC) with positive opening according to IEC 60947-5-1, Appendix K, and positively driven actuator, necessary in safety circuits, identification by the symbol ➔.

[2] For hinge switches the version with snap-action contacts should be used.

Note: For selection aid, see page 9/5.

	Version[1]		Diameter plunger/roll	DT	Modular system ◇	PS*
			mm		Order No.	
Operating mechanisms						
 Plain plungers	**Plain plungers**					
	High-grade steel plungers	➔	10		**3SE5 000-0AB01**	1 unit
 Rounded plungers	**Rounded plungers, type B, acc. to EN 50041**					
	High-grade steel plungers, with 3 mm overtravel	➔	10		**3SE5 000-0AC02**	1 unit
 Roller plungers	**Roller plungers, type C acc. to EN 50041**					
	High-grade steel roller, with 3 mm overtravel	➔	13		**3SE5 000-0AD02**	1 unit

[1] Positively driven actuator, necessary in safety circuits, identification by the symbol ➔.

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Metal enclosures
Enclosure width 40 mm acc. to EN 50041 / 56 mm

	Version[1]		Roller diameter	DT	Modular system	PS*
			mm		Order No.	
Operating mechanisms						
 Roller levers	**Roller levers**					
	Metal lever, plastic roller	➔	22		**3SE5 000-0AE01**	1 unit
	Metal lever, high-grade steel roller	➔	22		**3SE5 000-0AE02**	1 unit
	High-grade steel lever, plastic roller	➔	22		**3SE5 000-0AE03**	1 unit
	High-grade steel lever, high-grade steel roller	➔	22		**3SE5 000-0AE04**	1 unit
 Angular roller levers	**Angular roller levers**					
	Metal lever, plastic roller	➔	22		**3SE5 000-0AF01**	1 unit
	Metal lever, high-grade steel roller	➔	22		**3SE5 000-0AF02**	1 unit
	High-grade steel lever, plastic roller	➔	22		**3SE5 000-0AF03**	1 unit
	High-grade steel lever, high-grade steel roller	➔	22		**3SE5 000-0AF04**	1 unit
Twist actuators with lever						
 Twist actuator	**Twist actuators**, metal (without lever)					
	• For twist levers, switching right or left, adjustable					
	- For enclosure width 40 and 56 mm	➔			**3SE5 000-0AH00**	1 unit
	• For fork levers, latching	➔			**3SE5 000-0AT10**	1 unit
	Levers for twist actuators					
 Twist levers	**Twist levers 27 mm, offset, type A, according to EN 50041**					
	Metal lever, plastic roller	➔	19		**3SE5 000-0AA01**	1 unit
	Metal lever, high-grade steel roller	➔	19		**3SE5 000-0AA02**	1 unit
	Metal lever, roller with ball bearing	➔	19		**3SE5 000-0AA03**	1 unit
	Metal lever, 2 plastic rollers	➔	19		**3SE5 000-0AA04**	1 unit
 Twist lever, adjustable length	Metal lever, plastic roller	➔	30		**3SE5 000-0AA05**	1 unit
	Metal lever, plastic roller	➔	50		**3SE5 000-0AA07**	1 unit
	Metal levers, rubber roller	➔	50		**3SE5 000-0AA08**	1 unit
	High-grade steel lever, plastic roller	➔	19		**3SE5 000-0AA11**	1 unit
	High-grade steel lever, high-grade steel roller	➔	19		**3SE5 000-0AA12**	1 unit
	Twist levers 35 mm, offset					
	Metal lever, plastic roller	➔	19		**3SE5 000-0AA15**	1 unit
	Twist levers 30 mm, straight[2]					
	Metal lever, plastic roller	➔	19		**3SE5 000-0AA24**	1 unit
	Metal lever, plastic roller	➔	30		**3SE5 000-0AA26**	1 unit
 Fork lever	**Twist levers, adjustable length, with grid hole**					
	Metal lever, plastic roller	➔	19		**3SE5 000-0AA60**	1 unit
	Metal lever, high-grade steel roller	➔	19		**3SE5 000-0AA61**	1 unit
	Metal lever, plastic roller	➔	50		**3SE5 000-0AA67**	1 unit
	Metal lever, rubber roller	➔	50		**3SE5 000-0AA68**	1 unit
	High-grade steel lever, plastic roller	➔	19		**3SE5 000-0AA62**	1 unit
	High-grade steel lever, high-grade steel roller	➔	19		**3SE5 000-0AA63**	1 unit
	Fork lever (for switches with snap-action contacts only)					
	Metal lever, 2 plastic rollers	➔	19		**3SE5 000-0AT01**	1 unit
	Metal lever, 2 high-grade steel rollers	➔	19		**3SE5 000-0AT02**	1 unit
	High-grade steel lever, 2 plastic rollers	➔	19		**3SE5 000-0AT03**	1 unit
	High-grade steel lever, 2 high-grade steel rollers	➔	19		**3SE5 000-0AT04**	1 unit

[1] Positively driven actuator, necessary in safety circuits, identification by the symbol ➔.

[2] Can be clinch mounted (turned through 180°, rear of lever).

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Overview

Characteristics

- Contacts: 1 or 2 slow-action contacts
- Status display with 3 LEDs 24 V DC; 1: F–IN1, 2: F–IN2, 3: AS-i/FAULT
- Degree of protection IP66/IP67 (IP65 for 31 mm molded-plastic enclosures)

Approvals

- Category 3 according to ISO 13849-1 (EN 954-1) or SIL 2 according to IEC 61508
- Category 4 according to ISO 13849-1 (EN 954-1) or SIL 3 according to IEC 61508 by using a second 3SE5 position switch

Selection and ordering data

	Version[1]	Contacts[2]	DT	Complete units Order No.	PS*
Molded-plastic enclosures					
	***Enclosure width 31 mm according to EN 50047*** **5 directions of approach** With M12 connector socket, 4-pole; channel 1 on NC contact, channel 2 on NC contact Slow-action contacts	2 NC	➔	**3SF1 234-1QV40-1BA1**	1 unit
	***Enclosure width 50 mm*** **5 directions of approach** With M12 connector socket, 4-pole; channel 1 on NC contact, channel 2 on M12 socket, right Slow-action contacts	1 NC	➔	**3SF1 244-1QV40-1BA2**	1 unit
Metal enclosures					
	***Enclosure width 31 mm according to EN 50047*** **5 directions of approach** With M12 connector socket, 4-pole; channel 1 on NC contact, channel 2 on NC contact Slow-action contacts	2 NC	➔	**3SF1 214-1QV40-1BA1**	1 unit
	***Enclosure width 40 mm according to EN 50041*** **5 directions of approach** With M12 connector socket, 4-pole; channel 1 on NC contact, channel 2 on NC contact Slow-action contacts	2 NC	➔	**3SF1 114-1QV10-1BA1**	1 unit
	***Enclosure width 56 mm*** **5 directions of approach** With M12 connector socket, 4-pole; channel 1 on NC contact, channel 2 on M12 socket, right Slow-action contacts	1 NC	➔	**3SF1 124-1QV10-1BA2**	1 unit

[1] Supplied without actuator. Please order separately.

[2] Normally closed contact (NC) with positive opening according to IEC 60947-5-1, Appendix K, identification by the symbol ➔.

For actuators and optional accessories see page 9/31.

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3SF1 AS-Interface Position Switches

With Interlocking

Molded-plastic and metal enclosures with locking force greater than 1200 N / 2000 N

Overview

5 directions of approach · Degree of protection IP66/IP67

- Slow-action contacts:
  - Version -1BA1: ASIsafe channel 1 on 1 NC contact from the actuator and channel 2 on 1 NC contact from the solenoid[1)]
  - Version -1BA3: ASIsafe channel 1 on the first NC contact from the actuator and channel 2 on the second NC contact from the actuator
  - Version -1BA4: ASIsafe channel 1 on 2 NC contacts from the actuator and channel 2 on 1 NC contact from the solenoid. A discrepancy between the two contacts of the actuator will be evaluated already in the switch.
- Solenoid: Rated operational voltage 24 V DC
- Locking force
  - Molded-plastic enclosures: 1300 N (1000 N according to GS-ET 19)
  - Metal enclosures: 2600 N (2000 N according to GS-ET 19)
- Status display with 4 LEDs 24 V DC; 1: AS-i, 2: FAULT, 3: F–IN1, 4: F–IN2

Safety level

The new 3SF1 324-1S.21-1BA4 safety position switches are also recommended in the case of series connections for protective door interlocking where reliable diagnostics and quick restart capability of equipment is required.

They feature:

- feedback from the solenoid and
- no opening of the doors after the solenoid is unlocked.

With AS-i safety monitor or in DP/AS-i F-Link it is possible to achieve SIL 2 according to IEC 61508 or PL d according to ISO 13849-1.

Comparison of versions

Safety switch Type	Contacts Actuator / magnet	Achievable safety level	Diagnostics Feedback from the solenoid	Reclose condition after unlocking the solenoid (depending on the type of evaluation)
3SF1 3.4-1S.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
3SF1 324-1S.21-1BA3	2 NC	SIL 2 / PL d	--	Door does not have to be opened
3SF1 324-1S.21-1BA4	2 NC / 1 NC	SIL 2 / PL d	✓	Door does not have to be opened

Selection and ordering data

9

Interlock[1)]	Contacts[2)] actuator / solenoid	DT	Molded-plastic enclosures Complete units Order No.	PS*	DT	Metal enclosures Complete units Order No.	PS*
Enclosure width 54 mm							
Spring-actuated locks							
• With auxiliary release	1 NC / 1 NC ➔		**3SF1 324-1SD21-1BA1**	1 unit		**3SF1 314-1SD11-1BA1**	1 unit
	2 NC / -- ➔		**3SF1 324-1SD21-1BA3**	1 unit		**--**	
	2 NC / 1 NC ➔		**3SF1 324-1SD21-1BA4**	1 unit		**--**	
• With auxiliary release with lock	1 NC / 1 NC ➔		**3SF1 324-1SE21-1BA1**	1 unit		**3SF1 314-1SE11-1BA1**	1 unit
• With escape release from the front	1 NC / 1 NC ➔		**3SF1 324-1SF21-1BA1**	1 unit		**3SF1 314-1SF11-1BA1**	1 unit
	2 NC / 1 NC ➔		**3SF1 324-1SF21-1BA4**	1 unit		**--**	
• With escape release from the back and auxiliary release from the front	1 NC / 1 NC ➔		**3SF1 324-1SG21-1BA1**	1 unit		**3SF1 314-1SG11-1BA1**	1 unit
	2 NC / 1 NC ➔		**3SF1 324-1SG21-1BA4**	1 unit		**--**	
• With emergency release from the back and auxiliary release from the front	1 NC / 1 NC ➔		**3SF1 324-1SJ21-1BA1**	1 unit		**3SF1 314-1SJ11-1BA1**	1 unit
Magnetic field lock	1 NC / 1 NC ➔		**3SF1 324-1SB21-1BA1**	1 unit		**3SF1 314-1SB11-1BA1**	1 unit
	2 NC / -- ➔		**3SF1 324-1SB21-1BA3**	1 unit		**--**	



3SF1 324-1SD21-...



3SF1 324-1SF21-...



3SF1 324-1SB21-...

[1)] Supplied without actuator. Please order separately.

[2)] Normally closed contact (NC) with positive opening according to IEC 60947-5-1, Appendix K, identification by the symbol ➔.

For actuators and optional accessories see page 9/31.

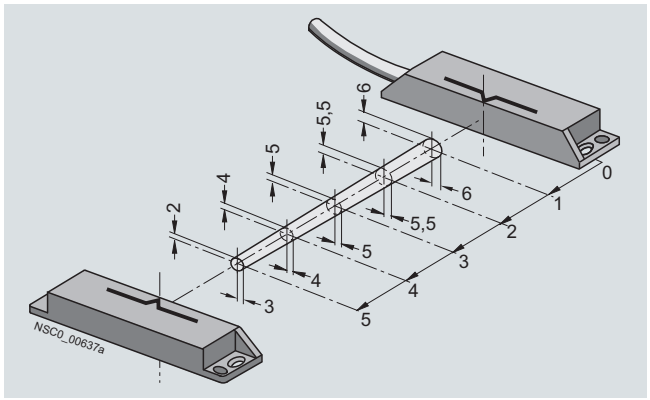
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Overview



Switching magnets and contact blocks



Enabling range (example)

A magnetically operated switch is comprised of a coded switching magnet and a switching element (sensor unit). Evaluation requires a safety relay or connection to a bus system.

3SE6 806 safety relays

Up to six protective devices (sensors) can be connected to the safety relay.

The device has six current-sourcing semiconductor outputs (Y1 ... Y6) which signal the state of the connected protective devices.

There are two floating enabling circuits (safe circuits) as NO contact circuits and one floating signaling circuit as a NC contact circuit. The number of enabling circuits can be increased by adding one or more 3TK28 30 expansion modules.

Application

SIRIUS 3SE6 magnetically operated switches are designed for mounting on movable protective guards (hoods, hinge switches, doors, etc.). Evaluation can be performed by means of a safety relay or through connection to a bus system.

The 3SE6 6 non-contact, magnetically operated safety switches stand out due to their enclosed design with a high degree of protection IP67. They are particularly suitable therefore for areas exposed to contamination, cleaning or disinfecting.

A magnetic 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 are used the 3SE6 806 safety relay provides a high degree of protection against manipulation and can be installed in safety circuits up to Category 3 according to ISO 13849-1 (EN 954-1).

Combination of monitoring units and magnetically operated switches

Monitoring units		**Magnetically operated switches (contact block + switching magnet)**				**Achievable category** (EN 954-1)/ **Performance level** (EN ISO 13849-1)
		1 NO + 1 NC			2 NC	
		3SE6 605-1BA	3SE6 605-2BA	3SE6 605-3BA	3SE6 604-2BA	
		3SE6 704-1BA	3SE6 704-2BA	3SE6 704-3BA	3SE6 704-2BA	
Relay outputs						
SIRIUS safety relays, 6-fold	3SE6 806-2CD00	✓	✓	✓	--	**Cat. 3**
SIRIUS safety relays	3TK28 26	✓	✓	✓	✓	**Cat. 4/e**
Solid-state outputs						
SIRIUS safety relays	3TK28 40	--	--	--	✓	**Cat. 3/d**
	3TK28 41, 3TK28 42, 3TK28 45	--	--	--	✓	**Cat. 4/e**
SIRIUS safety relays with contactor relay	3TK28 50, 3TK28 51, 3TK28 52	--	--	--	✓	**Cat. 3/d**
	3TK28 53	--	--	--	✓	**Cat. 4/e**
ASIsafe compact safety modules	3RK1 205, 3RK1 405	--	--	--	✓	**Cat. 4**
SIMATIC S7-31xF-2 DP or SIMATIC ET 200M	SM 326 F, 24 DI, 24 V DC, SM 326 F, 8 DI, NAMUR	✓	✓	✓	✓	**Cat. 4**
SIMATIC ET 200S PROFIsafe	4/8 F-DI / 3 F-DO, 24 V DC	✓	✓	✓	✓	**Cat. 3**
	4/8 F DI, 24 V DC	✓	✓	✓	✓	**Cat. 4**
SIMATIC ET 200eco	4/8 F DI, 24 V DC	✓	✓	✓	✓	**Cat. 4**
SIMATIC ET 200pro	8/16 F-DI, 24 V DC, 4/8 F-DI / 4 F-DO 2 A, 24 V DC, F-Switch	✓	✓	✓	✓	**Cat. 4**
Modular Safety System	3RK3	✓	✓	✓	✓	**Cat. 4/e**

✓ Suitable magnetically operated switch

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Magnetic monitoring systems

Selection and ordering data

2 contacts · Degree of protection IP67 · Connection with cable or M8 connector

	Version	Size	Contacts	DT	Order No.	PS*
		mm				
Round sensor units						
	**Switching magnets (coded)**	M30			**3SE6 704-1BA**	1 unit
	**Contact blocks**					
	• With cable, 3 m	M30	1 NO + 1 NC		**3SE6 605-1BA**	1 unit
	• With M12 plug, 4-pole	M30	1 NO + 1 NC		**3SE6 605-1BA02**	1 unit
Rectangular sensor units						
	**Switching magnets (coded)**	25 × 88			**3SE6 704-2BA**	1 unit
	**Contact blocks**					
	• With cable, 3 m	25 × 88	1 NO + 1 NC		**3SE6 605-2BA**	1 unit
			2 NC		**3SE6 604-2BA**	1 unit
	• With M8 plug, 4-pole	25 × 88	1 NO + 1 NC		**3SE6 605-2BA01**	1 unit
			2 NC		**3SE6 604-2BA01**	1 unit
	**Switching magnets (coded)**	25 × 33			**3SE6 704-3BA**	1 unit
	Contact blocks with cable, 3 m	25 × 33	1 NO + 1 NC		**3SE6 605-3BA**	1 unit
Accessories						
	**Spacers**	25 × 88			**3SX3 260**	1 unit
	**Spacers**	25 × 33			**3SX3 261**	1 unit

	Version	Number of inputs	Enabling/ signaling circuits	DT	Order No.	PS*
Monitoring units						
	**Safety relay, 6-output** Rated control supply voltage 24 V DC Outputs: • 6 current-sourcing semiconductor outputs (Y1 ... Y6) for signaling the state of the inputs • 2 floating enabling circuits (safe circuits) as NO contact circuits • 1 floating signaling circuit as a NC contact circuit.	6	2 NO / 1 NC		**3SE6 806-2CD00**	1 unit

For more monitoring units see Chapter 8 and Catalog IK PI.

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Commanding and Signaling Devices

10



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	3SB2 Pushbuttons and Indicator Lights, 16 mm
10/4	General data
10/5	Complete units
10/6	Accessories
	3SB3 Pushbuttons and Indicator Lights, 22 mm
10/7	General data
	Actuators and Indicators, Plastic, Round, 22 mm
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10/11	Actuators and indicators
	Actuators and Indicators, Metal, Round, 22 mm
10/15	Complete units
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IK PI[1)]	Enclosures and Front Panel Modules for AS-Interface
	3SB3 Two-Hand Operation Consoles
10/39	Plastic and metal enclosures
	3SE7, 3SF2 Cable-Operated Switches
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	3SE2, 3SE3 Foot Switches
10/44	Plastic and metal enclosures
	8WD4 Signaling Columns
10/45	General data
10/46	8WD42 signaling columns, 50 mm diameter
10/46	8WD44 signaling columns, 70 mm diameter
	8WD5 Integrated Signal Lamps
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More technical information

can be found at
www.siemens.com/industrial-controls/support

under Product List:
- Technical specifications

under Entry List:
- Updates
- Downloads
- FAQ
- Manuals
- Characteristic curves
- Certificates

and at
www.siemens.com/industrial-controls/configurators
- Configurators

1) See Catalog IK PI.

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Introduction

Overview






	3SB2	3SB30, 3SB32	3SB31, 3SB33	3SB35, 3SB36
Pushbuttons and indicator lights				
Designs				
Nominal diameter	16 mm	22 mm	26 mm × 26 mm	22 mm
Version	Plastic, round	Plastic, round	Plastic, square	Metal, round
Actuators				
Pushbuttons and switches	✓[1)]	✓	✓	✓
Illuminated pushbuttons and switches	✓[1)]	✓	✓	✓
Mushroom pushbuttons	--	✓	--	✓
Push-pull buttons	--	✓	--	✓
EMERGENCY-STOP mushroom pushbuttons	✓	✓	✓	✓
Selector switches	✓	✓	✓	✓
Key-operated switches	✓	✓	✓	✓
Special actuators				
Coordinate switches	--	✓	--	--
Twin pushbuttons	--	✓	--	--
Potentiometer drives	--	✓	--	--
Indicators				
Indicator lights	✓	✓	✓	✓
Acoustic signaling devices	--	✓	--	--
Contact blocks				
Single-pole	✓	✓	✓	✓
Two-pole	✓	✓	✓	✓
Lampholders				
Wedge bases	✓	✓ (with solder connections)	✓ (with solder connections)	✓ (with solder connections)
BA 9s bases	--	✓	✓	✓
With integrated LED	--	✓	✓	✓
Connections				
Plug-in connection	✓	--	--	--
Screw terminals	--	✓	✓	✓
Spring-type terminals	--	✓	✓	✓
Solder pins	✓	✓	✓	✓
AS-Interface	--	✓	✓	✓

✓ Standard
-- Not available
❏ Optional
1) Only pushbuttons, no pushbutton switches.

AS-Interface solutions

Commanding and signaling devices of the SIRIUS 3SB3 series can be connected to the AS-Interface communication system quickly and easily with the help of various solutions.

For AS-Interface solutions, see catalog IK PI "Industrial Communication for Automation & Drives".

AS-Interface EMERGENCY-STOP according to ISO 13850

Using a special F adapter, EMERGENCY-STOP devices according to ISO 13850 (former EN 418) can be directly connected through the standard AS-Interface with safety-oriented communication (see page 10/26).

AS-Interface enclosures

Enclosures with standard fittings are listed in this catalog. For customized enclosures, use the 3SB configurator to select the elements for equipping (see page 10/37).

AS-Interface front panel modules

The front panel module has one 4I/4O slave for connection of four 3SB3 commanding or signaling devices (see Catalog IK PI).

Note:

For pushbuttons and indicator lights in square design see Catalog IC 10 · 2011 on the attached CD-ROM and in the Industry Mall.

For safety characteristics see Catalog IC 10 · 2011 "Appendix" --> "Standards and approvals".

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	3SB38	3SB38 6	3SE7, 3SF2	3SE29
	Enclosures	**Two-hand operation consoles**	**Cable-operated switches**	**Foot switches**
Enclosures				
Plastic	✓	✓	--	✓
Metal	✓	✓	✓	✓
Actuators				
Pushbuttons and switches	✓	✓	✓	✓
Illuminated pushbuttons and switches	✓	✓	--	--
Mushroom pushbuttons	✓	✓	--	--
Push-pull buttons	✓	❑	--	--
EMERGENCY-STOP mushroom pushbuttons	✓	✓	✓	--
Selector switches	✓	❑	--	--
Key-operated switches	✓	❑	--	--
Bowden wires	--	--	✓	--
Indicators				
Indicator lights	✓	❑	✓	--
Acoustic signaling devices	✓	❑	--	--
Contact blocks				
Single-pole	✓	✓	--	--
Two-pole	--	✓	✓	✓
Three-pole	--	--	--	✓
Four-pole	--	--	✓	✓
Connections				
Screw terminals	✓	✓	✓	✓
Spring-type terminals	✓	❑	--	--
Molded cables	--	--	--	✓
Plug-in connection	❑	❑	❑	❑
AS-Interface	✓	❑	✓	--





	8WD42, 8WD44	8WD53
	Signaling columns	**Integrated signal lamps**
Enclosures		
Plastic	✓	✓
Metal	--	--
Lighting		
Incandescent lamps	✓	✓
LEDs	✓	✓
Flashlights	✓	✓
Connections		
Screw terminals	✓	✓
Spring-type terminals	✓	--
AS-Interface	✓	--

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General data

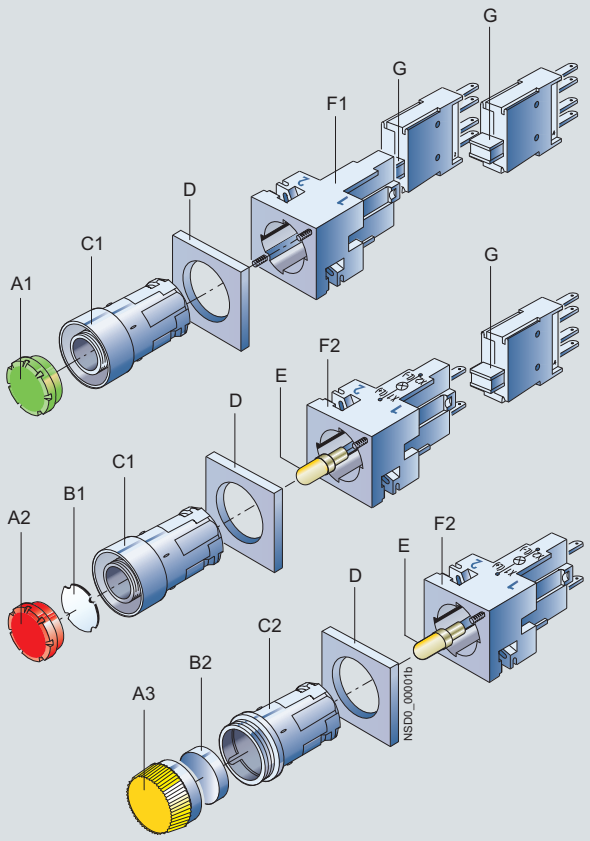
Overview

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, EN 60947-1,
IEC 60947-5-1, EN 60947-5-1,
IEC 60947-5-5, EN 60947-5-5 for EMERGENCY-STOP mushroom pushbuttons.

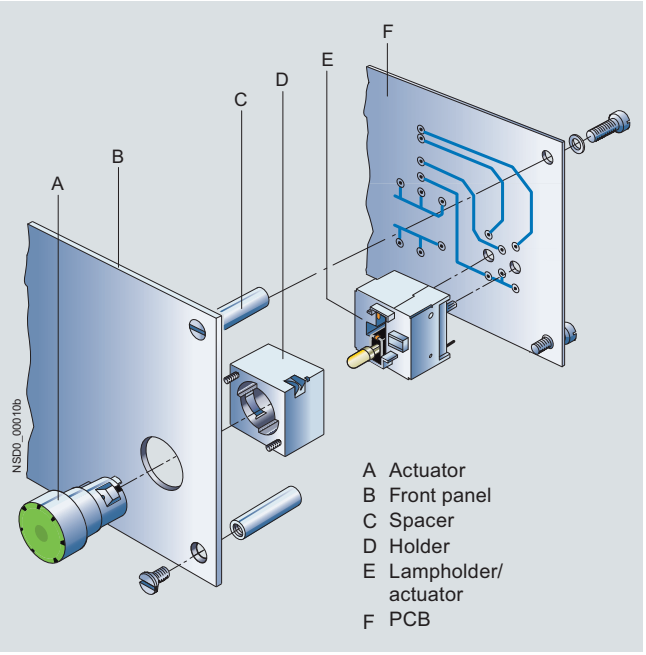
Version with flat connector



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 4.6d
F1 Holders
F2 Lampholder with holder
G Contact blocks (1NO or 1NC) for snapping onto the holder or onto the lampholder(1NO or 1NC)

For 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 0.8 mm × 0.8 mm solder pins of length 3.5 mm.



Connection methods

Flat connectors

Solder pin connections

The terminals are indicated in the corresponding tables by the symbols shown on orange backgrounds.

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Selection and ordering data

Version	Contact blocks	Color of handle	DT	Flat connectors	PS*
				Order No.	
 Pushbuttons with flat button					
Pushbuttons with flat button	1 NO	Black	►	**3SB22 02-0AB01**	1 unit
	1 NC	Black		**3SB22 03-0AB01**	1 unit
	1 NC	Red	►	**3SB22 03-0AC01**	1 unit
	1 NO	Yellow		**3SB22 02-0AD01**	1 unit
	1 NO	Green	►	**3SB22 02-0AE01**	1 unit
	1 NO	Blue		**3SB22 02-0AF01**	1 unit
	1 NO	White	►	**3SB22 02-0AG01**	1 unit
	1 NO	Clear[1]		**3SB22 02-0AH01**	1 unit
Illuminated pushbuttons with flat button Lampholder W2 x 4.6 d without lamp[2]	1 NC	Red	►	**3SB22 07-0AC01**	1 unit
	1 NO	Yellow[1]		**3SB22 06-0AD01**	1 unit
	1 NO	Green	►	**3SB22 06-0AE01**	1 unit
	1 NO	Blue		**3SB22 06-0AF01**	1 unit
	1 NO	Clear[1]	►	**3SB22 06-0AH01**	1 unit
 Illuminated pushbutton with raised button					
Illuminated pushbuttons with flat button Lampholder W2 x 4.6 d with incandescent lamp 24 V	1 NC	Red	►	**3SB22 27-0AC01**	1 unit
	1 NO	Yellow[1]		**3SB22 26-0AD01**	1 unit
	1 NO	Green	►	**3SB22 26-0AE01**	1 unit
	1 NO	Blue		**3SB22 26-0AF01**	1 unit
	1 NO	Clear[1]	►	**3SB22 26-0AH01**	1 unit
Pushbuttons with raised button	1 NO	Black		**3SB22 02-0LB01**	1 unit
	1 NC	Red		**3SB22 03-0LC01**	1 unit
	1 NO	Yellow		**3SB22 02-0LD01**	1 unit
	1 NO	Blue		**3SB22 02-0LF01**	1 unit
	1 NO	Clear[1]		**3SB22 02-0LH01**	1 unit
Illuminated pushbuttons with raised button Lampholder W2 x 4.6 d[2]	1 NC	Red		**3SB22 07-0LC01**	1 unit
	1 NO	Yellow[1]		**3SB22 06-0LD01**	1 unit
	1 NO	Green		**3SB22 06-0LE01**	1 unit
	1 NO	Blue		**3SB22 06-0LF01**	1 unit
	1 NO	Clear[1]		**3SB22 06-0LH01**	1 unit
 EMERGENCY-STOP mushroom pushbuttons					
Illuminated pushbuttons with raised button Lampholder W2 x 4.6 d with incandescent lamp 24 V	1 NC	Red		**3SB22 27-0LC01**	1 unit
	1 NO	Yellow[1]		**3SB22 26-0LD01**	1 unit
	1 NO	Green		**3SB22 26-0LE01**	1 unit
	1 NO	Blue		**3SB22 26-0LF01**	1 unit
	1 NO	Clear[1]		**3SB22 26-0LH01**	1 unit
EMERGENCY-STOP mushroom pushbuttons acc. to ISO 13850, latching[3] Latches automatically when pressed; unlatches by turning the mushroom head anticlockwise, with yellow name plate, with inscription "NOT-HALT"	1 NC ➔[4]	Red	►	**3SB22 03-1AC01**	1 unit
 Selector switches					
Selector switches with 2 switch positions Switching sequence O-I, 62° operating angle, latching 	1 NO	Black	►	**3SB22 02-2AB01**	1 unit
	1 NO	Red		**3SB22 02-2AC01**	1 unit
	1 NO	Green		**3SB22 02-2AE01**	1 unit
	1 NO	White		**3SB22 02-2AG01**	1 unit
Selector switches, 3 switch positions Switching sequence I-O-II, 2 × 62° operating angle, latching 	1 NO, 1 NO	Black	►	**3SB22 10-2DB01**	1 unit
	1 NO, 1 NO	Red		**3SB22 10-2DC01**	1 unit
	1 NO, 1 NO	Green		**3SB22 10-2DE01**	1 unit
	1 NO, 1 NO	White		**3SB22 10-2DG01**	1 unit
Selector switches, 3 switch positions Switching sequence I-O-II, 2 × 50° operating angle, momentary-contact type 	1 NO, 1 NO	Black	►	**3SB22 10-2EB01**	1 unit
	1 NO, 1 NO	Red		**3SB22 10-2EC01**	1 unit
	1 NO, 1 NO	Green		**3SB22 10-2EE01**	1 unit
	1 NO, 1 NO	White		**3SB22 10-2EG01**	1 unit
 Indicator lights					
Indicator lights Lampholder W2 x 4.6 d without lamp[2]	--	Red	►	**3SB22 04-6BC06**	1 unit
	--	Yellow		**3SB22 04-6BD06**	1 unit
	--	Green	►	**3SB22 04-6BE06**	1 unit
	--	White	►	**3SB22 04-6BG06**	1 unit
	--	Clear		**3SB22 04-6BH06**	1 unit
Indicator lights Lampholder W2 x 4.6 d with incandescent lamp 24 V	--	Red	►	**3SB22 24-6BC06**	1 unit
	--	Yellow		**3SB22 24-6BD06**	1 unit
	--	Green	►	**3SB22 24-6BE06**	1 unit
	--	White	►	**3SB22 24-6BG06**	1 unit
	--	Clear		**3SB22 24-6BH06**	1 unit

[1] Inscription is possible by inserting a label.

[2] For wedge base lamps, see Accessories.

[3] The mushroom pushbutton cannot be combined with 3SB29 02-0AB name plate or 3SB29 02-0AA single frame.

[4] NC contact with positive opening according to IEC 60947-5-1, Appendix K, identification by the symbol ➔.

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

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Complete units

	Version	Contact blocks	Lock No.	Key removal position	DT	Flat connectors	PS*
						Order No.	
 CES key-operated switch	**CES key-operated switches, 2 switch positions** Switching sequence O-I, 62° operating angle, latching 	1 NO 1 NO	SB2 SB2	O O + I	►	**3SB22 02-4LA01** **3SB22 02-4LB01**	1 unit 1 unit
	CES key-operated switches, 3 switch positions Switching sequence I-O-II, 2 × 62° operating angle, latching 	1 NO, 1 NO 1 NO, 1 NO	SB2 SB2	O I + O + II		**3SB22 10-4PA01** **3SB22 10-4PB01**	1 unit 1 unit
	CES key-operated switches, 3 switch positions Switching sequence I-O-II, 2 × 50° operating angle, momentary-contact type 	1 NO, 1 NO	SB2	O		**3SB22 10-4QA01**	1 unit

For actuators and indicators, holders and lampholders see Catalog IC 10 · 2011 or the Industry Mall.

Accessories

	Version	Lamp voltage	Color	DT	Order No.	PS*
		V				
	**Incandescent lamps** Wedge base W2 × 4.6 d, 1.0 W	AC/DC 6 12 24 30 48 60	Clear	 ► 	 **3SB29 08-1AA** **3SB29 08-1AB** **3SB29 08-1AC** **3SB29 08-1AD** **3SB29 08-1AE** **3SB29 08-1AF**	 10 units 10 units 10 units 10 units 10 units 10 units
	**LED lamps, super-bright** Wedge base W2 × 4.6 d	24 AC/DC	Red Yellow Green White Blue		**3SB39 01-1SB** **3SB39 01-1RB** **3SB39 01-1TB** **3SB39 01-1UB** **3SB29 08-1BD**	10 units 10 units 10 units 10 units 10 units
	**Lamp extractors** For lamps with bases W2 × 4.6 d			►	**3SB29 08-2AB**	1 unit
	**Voltage reducers**[1] For connecting the 3SB29 08-1AE incandescent lamp (48 V) to 230 V AC				**3SB24 04-3D**	1 unit
	**Contact blocks with one contact** 1 NO 1 NC ➔[2]			 ► ►	 **3SB24 04-0B** **3SB24 04-0C**	 1 unit 1 unit
	**Dismantling tools** For holders and lampholders with holder			►	**3SB29 08-2AA**	1 unit
	**Mounting tools** For buttons and screw lenses			►	**3SB29 08-2AC**	1 unit
	**Name plates, yellow, Ø 50 mm** As backing plate for EMERGENCY STOP, self-adhesive • Blank • With German inscription "NOT-HALT" • With German inscription "NOT-AUS"		Yellow	 ► ► ►	 **3SB29 08-2AF** **3SB29 08-2AG** **3SB29 08-2AK**	 1 unit 1 unit 1 unit

[1] Use fixpoint terminal according to IEC 60439-1.

[2] NC contact with positive opening according to IEC 60947-5-1, Appendix K, in conjunction with EMERGENCY-STOP mushroom pushbuttons. Identification by the symbol ➔.

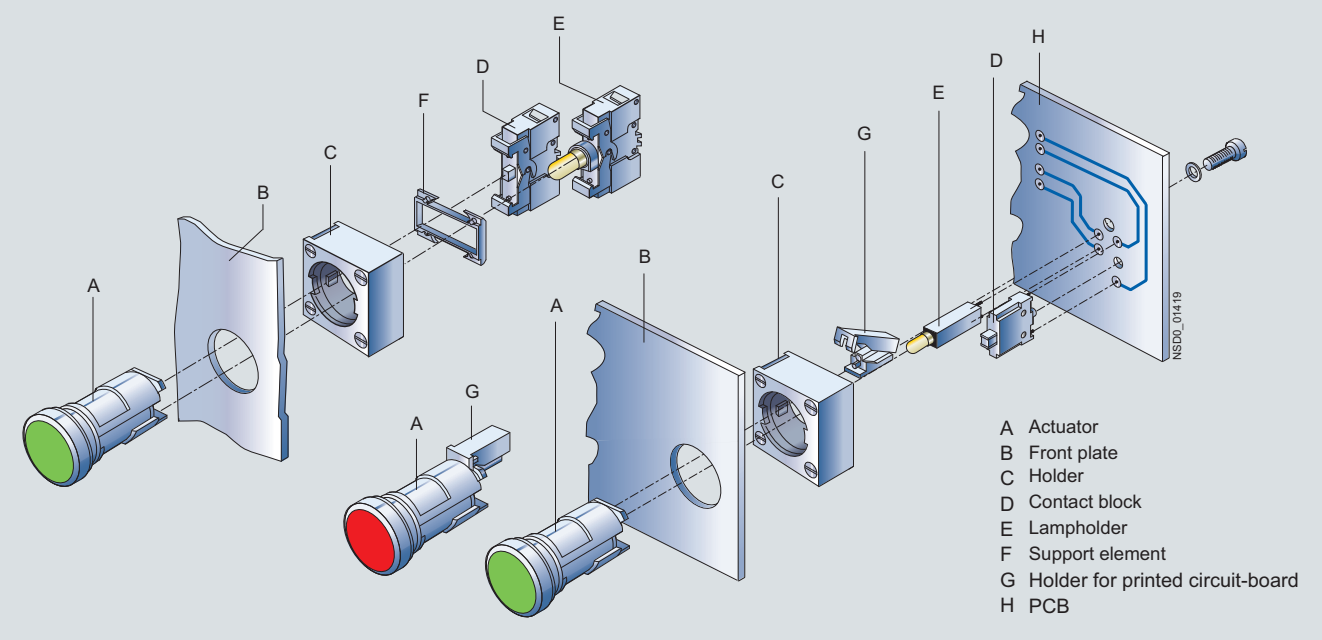
For more accessories see Catalog IC 10 · 2011 or the Industry Mall.

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

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Overview

Design



Front panel mounting and installation on printed circuit boards

The 3SB3 series is a modular range of commanding and signaling devices for front panel mounting and rear conductor connection. As an alternative, individual elements can also be supplied for use on printed circuit boards. Complete units are offered for the most commonly used applications.

The 3SB3 series is available:

- Made of molded plastic in flat, round and square design
- Made of metal in round design.

The devices are of modern industrial design and can be mounted rapidly by a single person. The operating surfaces of the pushbuttons and illuminated pushbuttons are concave. The lenses of the indicator lights are convex.

The metal version with a high degree of protection according to IP67 and NEMA 4 is available for the world market.

One command point comprises:

- An actuator or lens assembly in front of the control panel
- A holder for mounting behind the control panel
- Up to 3 contact blocks and/or 1 lampholder behind the control panel
- A comprehensive range of accessories for inscription

Two contact blocks can be snapped onto the actuator in the standard version.

When three contact blocks or illuminated actuators are required, an additional holder must be plugged onto the actuator from the rear.

- 3SB39 01-0AB holder for 3 contact blocks or for 2 contact blocks and 1 lampholder
- 3SB39 01-0AC holder with pressure plates for actuating a central contact block when using a selector switch, key-operated switch and twin pushbutton with 3 contact blocks.

For illuminated pushbuttons, illuminated switches and illuminated selector switches the holder is included in the scope of supply as standard.

Contact blocks

The contact blocks are fitted with a slow-action contact (1 NO contact or 1 NC contact) with double operating contacts. These ensure a high switching reliability even with small voltages and currents, such as 5 V/1 mA. They are suitable for use in solid-state systems as well as conventional controls.

Standards

IEC 60947-1, EN 60947-1,
IEC 60947-5-1, EN 60947-5-1,
IEC 60947-5-5, EN 60947-5-5 for EMERGENCY-STOP mushroom pushbuttons.

Connection methods

The devices are available with screw terminals (box terminals), spring-type terminals or solder pins.

	Screw terminals
	Spring-type terminals
	Solder pin connections
	The terminals are indicated in the corresponding tables by the symbols shown on orange backgrounds.

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3SB3 Pushbuttons and Indicator Lights, 22 mm

Actuators and Indicators, Plastic, Round, 22 mm

Complete units

Selection and ordering data

Rated voltage of lamp	Color of handle	Contacts for front plate mounting	DT	Screw terminals	PS*	DT	Spring-type terminals	PS*
V				Order No.			Order No.	
Pushbuttons								
 Pushbutton with flat button								
Pushbuttons with flat button								
--	Black	1 NO	▶	**3SB32 02-0AA11**	1 unit		**3SB32 02-0AA11-0CC0**	1 unit
	Black	1 NC		**3SB32 03-0AA11**	1 unit		**3SB32 03-0AA11-0CC0**	1 unit
	Red	1 NC	▶	**3SB32 03-0AA21**	1 unit		**3SB32 03-0AA21-0CC0**	1 unit
	Yellow	1 NO		**3SB32 02-0AA31**	1 unit		**3SB32 02-0AA31-0CC0**	1 unit
	Green	1 NO	▶	**3SB32 02-0AA41**	1 unit		**3SB32 02-0AA41-0CC0**	1 unit
	Blue	1 NO		**3SB32 02-0AA51**	1 unit		**3SB32 02-0AA51-0CC0**	1 unit
	White	1 NO	▶	**3SB32 02-0AA61**	1 unit		**3SB32 02-0AA61-0CC0**	1 unit
 Illuminated pushbutton with flat button								
Illuminated pushbuttons with flat button (including holder for 3 elements)								
With integrated LED 24 AC/DC	Red[1]	1 NC	▶	**3SB32 46-0AA21**	1 unit		**3SB32 46-0AA21-0CC0**	1 unit
	Yellow[1]	1 NO		**3SB32 45-0AA31**	1 unit		**3SB32 45-0AA31-0CC0**	1 unit
	Green[1]	1 NO	▶	**3SB32 45-0AA41**	1 unit		**3SB32 45-0AA41-0CC0**	1 unit
	Blue[1]	1 NO		**3SB32 45-0AA51**	1 unit		**3SB32 45-0AA51-0CC0**	1 unit
	White	1 NO		**3SB32 45-0AA61**	1 unit		**3SB32 45-0AA61-0CC0**	1 unit
	Clear[1]	1 NO	▶	**3SB32 45-0AA71**	1 unit		**3SB32 45-0AA71-0CC0**	1 unit
With BA 9s lampholder, without lamp	Red[1]	1 NC		**3SB32 07-0AA21**	1 unit		**3SB32 07-0AA21-0CC0**	1 unit
	Yellow[1]	1 NO		**3SB32 06-0AA31**	1 unit		**3SB32 06-0AA31-0CC0**	1 unit
	Green[1]	1 NO		**3SB32 06-0AA41**	1 unit		**3SB32 06-0AA41-0CC0**	1 unit
	Blue[1]	1 NO		**3SB32 06-0AA51**	1 unit		**3SB32 06-0AA51-0CC0**	1 unit
	White	1 NO		**3SB32 06-0AA61**	1 unit		**3SB32 06-0AA61-0CC0**	1 unit
	Clear[1]	1 NO		**3SB32 06-0AA71**	1 unit		**3SB32 06-0AA71-0CC0**	1 unit
Selector switches								
 Selector switch								
Selector switches, 2 switch positions Switching sequence O-I, 50° operating angle								
Latching	Black	1 NO	▶	**3SB32 02-2KA11**	1 unit		**3SB32 02-2KA11-0CC0**	1 unit
		1 NO + 1 NC		**3SB32 01-2KA11**	1 unit		**3SB32 01-2KA11-0CC0**	1 unit
Selector switches, 3 switch positions Switching sequence I-O-II, 2 x 50° operating angle								
Latching	Black	1 NO, 1 NO	▶	**3SB32 10-2DA11**	1 unit		**3SB32 10-2DA11-0CC0**	1 unit
		1 NO + 1 NC, 1 NO + 1 NC		**3SB32 08-2DA11**	1 unit		**3SB32 08-2DA11-0CC0**	1 unit
Momentary contact type	Black	1 NO, 1 NO		**3SB32 10-2EA11**	1 unit		**3SB32 10-2EA11-0CC0**	1 unit
		1 NO + 1 NC, 1 NO + 1 NC		**3SB32 08-2EA11**	1 unit		**3SB32 08-2EA11-0CC0**	1 unit
Key-operated switches								
 RONIS key-operated switch								
RONIS key-operated switch, 2 switch positions With 2 keys, removal position O + I, switching sequence O-I, 50° operating angle								
Latching	Lock No. SB 30	1 NO	▶	**3SB32 02-4AD11**	1 unit		**3SB32 02-4AD11-0CC0**	1 unit
		1 NO + 1 NC		**3SB32 01-4AD11**	1 unit		**3SB32 01-4AD11-0CC0**	1 unit

[1] Inscription is possible by inserting a label.

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

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Complete units

Color of handle	Contacts for front plate mounting[1]	DT	Screw terminals	PS*	DT	Spring-type terminals	PS*
			Order No.			Order No.	
EMERGENCY-STOP devices according to ISO 13850, with yellow name plate, Ø 80 mm, with inscription							
 With rotate-to-unlatch mechanism	**EMERGENCY-STOP mushroom pushbuttons, Ø 40 mm, with positive latching function** With rotate-to-unlatch mechanism						
	• German inscription "NOT-HALT"						
Red	1 NC	➔	► **3SB32 03-1HA20**	1 unit		**3SB32 03-1HA20-0CC0**	1 unit
Red	1 NC with mounting monitoring	➔	**3SB32 66-1HA20**	1 unit		--	
Red	1 NO + 1 NC	➔	**3SB32 01-1HA20**	1 unit		**3SB32 01-1HA20-0CC0**	1 unit
	• English inscription "EMERGENCY STOP"						
Red	1 NC	➔	**3SB32 03-1HR20**	1 unit		--	
Red	1 NC with mounting monitoring	➔	**3SB32 66-1HR20**	1 unit		--	
Red	1 NO + 1 NC	➔	**3SB32 01-1HR20**	1 unit		--	
	• French inscription "ARRET D'URGENCE"						
Red	1 NC	➔	**3SB32 03-1HP20**	1 unit		--	
Red	1 NO + 1 NC	➔	**3SB32 01-1HP20**	1 unit		--	
 With rotate-to-unlatch mechanism and switch position indication	With rotate-to-unlatch mechanism and mechanical switch position indication						
	• German inscription "NOT-HALT"						
Red	1 NC	➔	► **3SB32 03-1HA26**	1 unit		**3SB32 03-1HA26-0CC0**	1 unit
Red	1 NC with mounting monitoring	➔	**3SB32 66-1HA26**	1 unit		--	
Red	1 NO + 1 NC	➔	**3SB32 01-1HA26**	1 unit		**3SB32 01-1HA26-0CC0**	1 unit
	• English inscription "EMERGENCY STOP"						
Red	1 NC	➔	**3SB32 03-1HR26**	1 unit		--	
Red	1 NC with mounting monitoring	➔	**3SB32 66-1HR26**	1 unit		--	
Red	1 NO + 1 NC	➔	**3SB32 01-1HR26**	1 unit		--	
 With pull-to-unlatch mechanism	With pull-to-unlatch mechanism						
	• German inscription "NOT-HALT"						
Red	1 NC	➔	**3SB32 03-1TA20**	1 unit		--	
Red	1 NO + 1 NC	➔	**3SB32 01-1TA20**	1 unit		--	
	• English inscription "EMERGENCY STOP"						
Red	1 NC	➔	**3SB32 03-1TR20**	1 unit		--	
Red	1 NO + 1 NC	➔	**3SB32 01-1TR20**	1 unit		--	

[1] NC contact with positive opening according to IEC 60947-5-1, Appendix K. Identification by the symbol ➔.
Can be used with 3TK28 safety relays.
Certificate:

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

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3SB3 Pushbuttons and Indicator Lights, 22 mm

Actuators and Indicators, Plastic, Round, 22 mm

Complete units

Rated voltage of lamp / acoustic transformer	Color of lens	DT	Screw terminals	PS*	DT	Spring-type terminals	PS*
V			Order No.			Order No.	
Signaling devices							
 Indicator light with smooth lens							
Indicator lights with smooth lens[1] With integrated LED							
24 AC/DC	Red	►	**3SB32 44-6AA20**	1 unit		**3SB32 44-6AA20-0CC0**	1 unit
	Yellow		**3SB32 44-6AA30**	1 unit		**3SB32 44-6AA30-0CC0**	1 unit
	Green	►	**3SB32 44-6AA40**	1 unit		**3SB32 44-6AA40-0CC0**	1 unit
	Blue		**3SB32 44-6AA50**	1 unit		**3SB32 44-6AA50-0CC0**	1 unit
	White		**3SB32 44-6AA60**	1 unit		**3SB32 44-6AA60-0CC0**	1 unit
	Clear	►	**3SB32 44-6AA70**	1 unit		**3SB32 44-6AA70-0CC0**	1 unit
With BA 9s lampholder, without lamp							
--	Red		**3SB32 04-6AA20**	1 unit		**3SB32 04-6AA20-0CC0**	1 unit
	Yellow		**3SB32 04-6AA30**	1 unit		**3SB32 04-6AA30-0CC0**	1 unit
	Green		**3SB32 04-6AA40**	1 unit		**3SB32 04-6AA40-0CC0**	1 unit
	Blue		**3SB32 04-6AA50**	1 unit		**3SB32 04-6AA50-0CC0**	1 unit
	White		**3SB32 04-6AA60**	1 unit		**3SB32 04-6AA60-0CC0**	1 unit
	Clear		**3SB32 04-6AA70**	1 unit		**3SB32 04-6AA70-0CC0**	1 unit
 Indicator light with lens with concentric rings							
Indicator lights with lens with concentric rings[1] with integrated LED							
24 AC/DC	Red	►	**3SB32 44-6BA20**	1 unit		**3SB32 44-6BA20-0CC0**	1 unit
	Yellow		**3SB32 44-6BA30**	1 unit		**3SB32 44-6BA30-0CC0**	1 unit
	Green	►	**3SB32 44-6BA40**	1 unit		**3SB32 44-6BA40-0CC0**	1 unit
	Blue		**3SB32 44-6BA50**	1 unit		**3SB32 44-6BA50-0CC0**	1 unit
	White		**3SB32 44-6BA60**	1 unit		**3SB32 44-6BA60-0CC0**	1 unit
	Clear	►	**3SB32 44-6BA70**	1 unit		**3SB32 44-6BA70-0CC0**	1 unit
With BA 9s lampholder, without lamp							
--	Amber		**3SB32 04-6BA00**	1 unit		**--**	
	Red		**3SB32 04-6BA20**	1 unit		**3SB32 04-6BA20-0CC0**	1 unit
	Yellow		**3SB32 04-6BA30**	1 unit		**3SB32 04-6BA30-0CC0**	1 unit
	Green		**3SB32 04-6BA40**	1 unit		**3SB32 04-6BA40-0CC0**	1 unit
	Blue		**3SB32 04-6BA50**	1 unit		**3SB32 04-6BA50-0CC0**	1 unit
	White		**3SB32 04-6BA60**	1 unit		**3SB32 04-6BA60-0CC0**	1 unit
	Clear		**3SB32 04-6BA70**	1 unit		**3SB32 04-6BA70-0CC0**	1 unit
 Acoustic signaling device							
Acoustic signaling devices, IP65[2] Continuous tone 2.4 kHz, operational current min. 4 mA, sound pressure min. 80 dB/10 cm							
24 AC/DC	Black		**3SB32 33-7BA10**	1 unit		**--**	
115 AC/DC			**3SB32 34-7BA10**	1 unit		**--**	
230 AC/DC			**3SB32 35-7BA10**	1 unit		**--**	

[1] Inscription by inserting a label is not possible.

[2] Mounting in 3SB38 enclosure only with 3SB3400-1A lampholder; not possible with 3SB3420-1A lampholder for floor mounting.

Version	Color of handle	DT	Without connection	PS*
			Order No.	
Special devices				
 Potentiometer drive				
Potentiometer drives[1][2] With shaft Ø 6 mm, 30 ... 32 mm long Degree of protection IP65	--		**3SB10 00-7CH07**	1 unit
 Pushbutton with 12 mm stroke				
Pushbuttons with extended stroke[1] For actuating relays				
12 mm stroke Degree of protection IP65	Black		**3SB30 00-0EA11**	1 unit

[1] Mounting in 3SB38 enclosure is not possible.

[2] The potentiometer is not included in the scope of supply.

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

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Selection and ordering data

Version	Inscriptions	Color of handle	DT	Order No.	PS*
Pushbuttons with holder[1]					
 With flat button					
Pushbuttons with flat button		Black	▶	**3SB30 00-0AA11**	1 unit
		Red	▶	**3SB30 00-0AA21**	1 unit
		Yellow		**3SB30 00-0AA31**	1 unit
		Green	▶	**3SB30 00-0AA41**	1 unit
		Blue		**3SB30 00-0AA51**	1 unit
		White	▶	**3SB30 00-0AA61**	1 unit
		Clear[2]		**3SB30 00-0AA71**	1 unit
	I	Green		**3SB30 00-0AA81**	1 unit
	O	Red		**3SB30 00-0AB01**	1 unit
	I	White		**3SB30 00-0AB11**	1 unit
	O	Black		**3SB30 00-0AB21**	1 unit
	R	Blue		**3SB30 00-0AC81**	1 unit
 With raised button					
Pushbuttons with raised button		Black		**3SB30 00-0BA11**	1 unit
		Red		**3SB30 00-0BA21**	1 unit
		Yellow		**3SB30 00-0BA31**	1 unit
		Green		**3SB30 00-0BA41**	1 unit
		Blue		**3SB30 00-0BA51**	1 unit
		White		**3SB30 00-0BA61**	1 unit
Illuminated pushbuttons with flat button (incl. holder for 3 elements)		Amber[2]		**3SB30 01-0AA01**	1 unit
		Red[2]	▶	**3SB30 01-0AA21**	1 unit
		Yellow[2]	▶	**3SB30 01-0AA31**	1 unit
		Green[2]	▶	**3SB30 01-0AA41**	1 unit
		Blue[2]		**3SB30 01-0AA51**	1 unit
		White		**3SB30 01-0AA61**	1 unit
		Clear[2]	▶	**3SB30 01-0AA71**	1 unit
 Illuminated pushbutton with raised button					
Illuminated pushbuttons with raised button (incl. holder for 3 elements)		Red		**3SB30 01-0BA21**	1 unit
		Yellow		**3SB30 01-0BA31**	1 unit
		Green		**3SB30 01-0BA41**	1 unit
		Blue		**3SB30 01-0BA51**	1 unit
		Clear		**3SB30 01-0BA71**	1 unit
Pushbuttons with flat button, **latching**, unlatches by pressing again		Black		**3SB30 00-0DA11**	1 unit
		Red		**3SB30 00-0DA21**	1 unit
		Yellow		**3SB30 00-0DA31**	1 unit
		Green		**3SB30 00-0DA41**	1 unit
		Blue		**3SB30 00-0DA51**	1 unit
		White		**3SB30 00-0DA61**	1 unit
		Gray		**3SB30 00-0DB51**	1 unit
Illuminated pushbuttons with flat button, **latching**, unlatches by pressing again (incl. holder for 3 elements)		Red[2]		**3SB30 01-0DA21**	1 unit
		Yellow[2]		**3SB30 01-0DA31**	1 unit
		Green[2]		**3SB30 01-0DA41**	1 unit
		Blue[2]		**3SB30 01-0DA51**	1 unit
		White		**3SB30 01-0DA61**	1 unit
		Clear[2]		**3SB30 01-0DA71**	1 unit
Mushroom pushbuttons with holder[1)3)]					
 Mushroom pushbutton, Ø 40 mm					
Mushroom pushbuttons, Ø 30 mm		Black		**3SB30 00-1DA11**	1 unit
		Red		**3SB30 00-1DA21**	1 unit
		Yellow		**3SB30 00-1DA31**	1 unit
		Green		**3SB30 00-1DA41**	1 unit
Mushroom pushbuttons, Ø 40 mm		Black	▶	**3SB30 00-1GA11**	1 unit
		Red	▶	**3SB30 00-1GA21**	1 unit
		Yellow		**3SB30 00-1GA31**	1 unit
		Green		**3SB30 00-1GA41**	1 unit
Mushroom pushbuttons, Ø 60 mm		Black		**3SB30 00-1QA11**	1 unit
		Red		**3SB30 00-1QA21**	1 unit
		Yellow		**3SB30 00-1QA31**	1 unit
		Green		**3SB30 00-1QA41**	1 unit
 Illuminated mushroom pushbutton, Ø 30 mm					
Illuminated mushroom pushbuttons, Ø 30 mm (incl. holder for 3 elements)		Red		**3SB30 01-1DA21**	1 unit
		Yellow		**3SB30 01-1DA31**	1 unit
		Green		**3SB30 01-1DA41**	1 unit
		White		**3SB30 01-1DA61**	1 unit
Illuminated mushroom pushbuttons, Ø 40 mm (incl. holder for 3 elements)		Yellow		**3SB30 01-1GA31**	1 unit
		Green		**3SB30 01-1GA41**	1 unit
		White		**3SB30 01-1GA61**	1 unit
Push-pull buttons, Ø 30 mm,[4)], **latching**, pull to unlatch		Black		**3SB30 00-1EA11**	1 unit
		Red		**3SB30 00-1EA21**	1 unit
Push-pull buttons, Ø 40 mm,[4)], **latching**, pull to unlatch		Black	▶	**3SB30 00-1CA11**	1 unit
		Red	▶	**3SB30 00-1CA21**	1 unit
Push-pull buttons, Ø 60 mm, latching, pull to unlatch		Black		**3SB30 00-1RA11**	1 unit
		Red		**3SB30 00-1RA21**	1 unit

1) Also available without holder. Supplement Order No. with **"-Z"** and quote order code **"B01"**. Price reduction.

2) Inscription is possible by inserting a label.

3) Maximum permissible equipment: 3 single-pole or 2 double-pole contact blocks. When using the 3SB39 01-0AB holder, the central command point must not be empty.

4) Also available as illuminated push-pull buttons 3SB30 01-1EA.1, -1CA-1 in various colors.

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

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3SB3 Pushbuttons and Indicator Lights, 22 mm

Actuators and Indicators, Plastic, Round, 22 mm

Actuators and indicators



Selector switch, non-illuminated



Selector switch, illuminated



Selector switch, illuminated

Version	Version Illumination	Color of handle	DT	Order No.	PS*
Selector switches with holder[1]					
Selector switches with 2 switch positions					
Switching sequence O-I, 50° operating angle, latching	**Non-illuminated**	Black	►	**3SB30 00-2KA11**	1 unit
		Red		**3SB30 00-2KA21**	1 unit
		Green		**3SB30 00-2KA41**	1 unit
		White		**3SB30 00-2KA61**	1 unit
	Illuminated (incl. holder for 3 elements)	Red		**3SB30 01-2KA21**	1 unit
		Yellow		**3SB30 01-2KA31**	1 unit
		Green		**3SB30 01-2KA41**	1 unit
		Blue		**3SB30 01-2KA51**	1 unit
		Clear		**3SB30 01-2KA71**	1 unit
Switching sequence O-I, 50° operating angle, momentary contact type	**Non-illuminated**	Black	►	**3SB30 00-2LA11**	1 unit
		Red		**3SB30 00-2LA21**	1 unit
		Green		**3SB30 00-2LA41**	1 unit
		White		**3SB30 00-2LA61**	1 unit
	Illuminated (incl. holder for 3 elements)	Red		**3SB30 01-2LA21**	1 unit
		Yellow		**3SB30 01-2LA31**	1 unit
		Green		**3SB30 01-2LA41**	1 unit
		Blue		**3SB30 01-2LA51**	1 unit
		Clear		**3SB30 01-2LA71**	1 unit
Selector switches with 3 switch positions					
Switching sequence I-O-II, 2 x 50° operating angle, latching	**Non-illuminated**	Black	►	**3SB30 00-2DA11**	1 unit
		Red		**3SB30 00-2DA21**	1 unit
		Green		**3SB30 00-2DA41**	1 unit
		White		**3SB30 00-2DA61**	1 unit
	Illuminated (incl. holder for 3 elements)	Red		**3SB30 01-2DA21**	1 unit
		Yellow		**3SB30 01-2DA31**	1 unit
		Green		**3SB30 01-2DA41**	1 unit
		Blue		**3SB30 01-2DA51**	1 unit
		Clear		**3SB30 01-2DA71**	1 unit
Switching sequence I-O-II, 2 x 50° operating angle, momentary contact type	**Non-illuminated**	Black	►	**3SB30 00-2EA11**	1 unit
		Red		**3SB30 00-2EA21**	1 unit
		Green		**3SB30 00-2EA41**	1 unit
		White		**3SB30 00-2EA61**	1 unit
	Illuminated (incl. holder for 3 elements)	Red		**3SB30 01-2EA21**	1 unit
		Yellow		**3SB30 01-2EA31**	1 unit
		Green		**3SB30 01-2EA41**	1 unit
		Blue		**3SB30 01-2EA51**	1 unit
		Clear		**3SB30 01-2EA71**	1 unit



RONIS key-operated switch



CES key-operated switch

Version	Lock version: Type	Lock No.	Key removal position	DT	Order No.	PS*
Key-operated switches with holder[1]						
Key-operated switches with 2 keys, 2 switch positions						
Switching sequence O-I, 50° operating angle, latching	RONIS	SB 30	O+I		**3SB30 00-4HD11**	1 unit
			O		**3SB30 00-4HD01**	1 unit
			I		**3SB30 00-4HD21**	1 unit
Switching sequence O-I, 50° operating angle, latching	RONIS	SB 30	O+I	►	**3SB30 00-4AD11**	1 unit
			O	►	**3SB30 00-4AD01**	1 unit
			I		**3SB30 00-4AD21**	1 unit
	CES	SSG 10	O+I	►	**3SB30 00-4LD11**	1 unit
			O	►	**3SB30 00-4LD01**	1 unit
			I		**3SB30 00-4LD21**	1 unit
• With key monitoring[2]	CES	SSG 10	O		**3SB30 00-4LD05**	1 unit
Switching sequence O-I, 50° operating angle, momentary contact type	RONIS	SB 30	O	►	**3SB30 00-4BD01**	1 unit
	CES	SSG 10	O	►	**3SB30 00-4MD01**	1 unit
Key-operated switches with 2 keys, 3 switch positions						
Switching sequence I-O-II, 2 x 50° operating angle, latching	RONIS	SB 30	I+O+II		**3SB30 00-4DD11**	1 unit
			O		**3SB30 00-4DD01**	1 unit
	CES	SSG 10	I+O+II		**3SB30 00-4PD11**	1 unit
			O		**3SB30 00-4PD01**	1 unit
• With key monitoring[2]	CES	SSG 10	O		**3SB30 00-4PD05**	1 unit
Switching sequence I-O-II, 2 x 50° operating angle, momentary contact type	RONIS	SB 30	O		**3SB30 00-4ED01**	1 unit
	CES	SSG 10	O		**3SB30 00-4QD01**	1 unit

[1] Also available without holder. Supplement Order No. with **"-Z"** and quote order code **"B01"**. Price reduction.

[2] For key-operated switches with key monitoring, the enclosed holder must be used. The key is scanned by a single-pole 3SB34 NC contact block snapped onto the center position, the switch positions by additional contact blocks.

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

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	Version	Color of handle	Approval	DT	Order No.	PS*
EMERGENCY-STOP devices according to ISO 13850 and IEC 60947-5-5, with holder[1)2)]. Can also be used with 3TK28 safety relays.						
 Mushroom diameter 32 mm	**EMERGENCY-STOP mushroom pushbuttons, Ø 32 mm,** with positive latching according to ISO 13850, with rotate-to-unlatch mechanism	Red	VDE		**3SB30 00-1FA20**	1 unit
 Mushroom diameter 40 mm, with rotate-to-unlatch mechanism, with switch position indication	**EMERGENCY-STOP mushroom pushbuttons, Ø 40 mm,** with positive latching according to ISO 13850, with rotate-to-unlatch mechanism	Red	VDE			
	• Without switch position indication			►	**3SB30 00-1HA20**	1 unit
	• With mechanical switch position indication				**3SB30 00-1HA26**	1 unit
 Mushroom diameter 40 mm, pull-to-unlatch mechanism	**EMERGENCY-STOP mushroom pushbuttons, Ø 40 mm,** with positive latching according to ISO 13850, with pull-to-unlatch mechanism	Red	VDE		**3SB30 00-1TA20**	1 unit
	EMERGENCY-STOP mushroom pushbuttons, Ø 60 mm, with positive latching according to ISO 13850, with rotate-to-unlatch mechanism	Red	VDE		**3SB30 00-1AA20**	1 unit
 Mushroom diameter 40 mm, with CES key-operated switch	**EMERGENCY-STOP mushroom pushbuttons, Ø 40 mm, with RONIS key-operated switches,** lock No. SB 30, with positive latching according to ISO 13850, unlocking only possible using key	Red	VDE		**3SB30 00-1BA20**	1 unit
	EMERGENCY-STOP mushroom pushbuttons, Ø 40 mm, with CES lock, lock No. SSG 10, with positive latching according to ISO 13850, unlocking only possible using key	Red	VDE		**3SB30 00-1KA20**	1 unit

	Version	Color of lens	DT	Order No.	PS*
Signaling elements with holder[1)]					
 Indicator lights	**Indicator lights** With smooth lens[3)]	Amber		**3SB30 01-6AA00**	1 unit
		Red	►	**3SB30 01-6AA20**	1 unit
		Yellow		**3SB30 01-6AA30**	1 unit
		Green	►	**3SB30 01-6AA40**	1 unit
		Blue		**3SB30 01-6AA50**	1 unit
		White		**3SB30 01-6AA60**	1 unit
		Clear	►	**3SB30 01-6AA70**	1 unit
	Indicator lights With lens with concentric rings[3)]	Amber		**3SB30 01-6BA00**	1 unit
		Red		**3SB30 01-6BA20**	1 unit
		Yellow		**3SB30 01-6BA30**	1 unit
		Green		**3SB30 01-6BA40**	1 unit
		Blue		**3SB30 01-6BA50**	1 unit
		White		**3SB30 01-6BA60**	1 unit
		Clear		**3SB30 01-6BA70**	1 unit
 Acoustic signaling device	**Acoustic signaling devices, IP40[4)]** For acoustic signal transformer 24 V DC[5)] (without BA 9s base)	Black		**3SB30 00-7AA10**	1 unit

1) Also available without holder. Supplement Order No. with **"-Z"** and quote order code **"B01"**. Price reduction.

2) The yellow backing plates must be ordered separately, see Accessories on page 10/32.

3) Inscription by inserting a label is not possible.

4) For acoustic signaling devices in degree of protection IP65 see page 10/10.

5) To order 3SB1902-2BN acoustic signal transformers separately, see Accessories.
The 3SB34 00-1A lampholder is also required; only version with screw terminals can be used. With front mounting, use in the enclosure is also possible.

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

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3SB3 Pushbuttons and Indicator Lights, 22 mm

Actuators and Indicators, Plastic, Round, 22 mm

Actuators and indicators

Version	Inscriptions	Color of handle	DT	Order No.	PS*
Twin pushbuttons with holder[1)2)]					
 Twin pushbuttons with flat buttons					
Twin pushbuttons, with flat, square buttons	I/O[3)]	Green/Red		**3SB31 00-8AC21**	1 unit
	I/O[3)]	White/Black		**3SB31 00-8AC31**	1 unit
	↑ / ↓ [3)]	White/White		**3SB31 00-8AC61-0AD0**	1 unit
Twin pushbuttons, with flat and raised, square button	I/O[3)]	Green/Red		**3SB31 00-8CC21**	1 unit
	I/O[3)]	White/Black		**3SB31 00-8CC31**	1 unit
Twin pushbuttons with indicator light with holder[1)2)]					
 Twin pushbuttons with indicator light, with flat and raised buttons					
Twin pushbuttons with indicator light, with flat, square buttons, incl. holder for 3 elements	I/O[3)]	Green/Red		**3SB31 01-8BC21**	1 unit
	I/O[3)]	White/Black		**3SB31 01-8BC31**	1 unit
	↑ / ↓ [3)]	Green/Red		**3SB31 01-8BC81**	1 unit
Twin pushbuttons with indicator light, with flat and raised, square buttons, including holder for 3 elements	I/O[3)]	Green/Red		**3SB31 01-8DC21**	1 unit
	I/O[3)]	White/Black		**3SB31 01-8DC31**	1 unit

1) Also available without holder. Supplement Order No. with **"-Z"** and quote order code **"B01"**. Price reduction.

2) Mounting the twin pushbuttons in 3SB38 enclosure is not possible.

3) Black inscription for green, red and white buttons; white inscription on black button.

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Version	Use	DT	Order No.	PS*
Accessories for twin pushbuttons				
 Label holders				
Label holders 70 mm x 30 mm for inscription label 12.5 mm x 27 mm[1)]	Twin pushbuttons		**3SB39 22-0AY**	10 units
 Protective cap				
Protective caps, clear Silicone, for degree of protection IP67	Twin pushbuttons with flat buttons		**3SB39 21-0AQ**	1 unit

1) Mounting in 3SB38 enclosure is not possible.
For blank labels see pages 10/28 and 10/29.

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

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Selection and ordering data

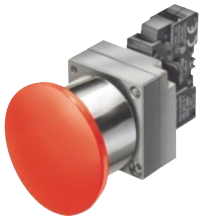
Rated voltage of lamp	Color of handle	Contacts for front plate mounting	DT	Screw terminals	PS*	DT	Spring-type terminals	PS*
V				Order No.			Order No.	
Pushbuttons and mushroom pushbuttons								
Pushbuttons with flat button								
--	Black	1 NO	▶	**3SB36 02-0AA11**	1 unit		**3SB36 02-0AA11-0CC0**	1 unit
	Black	1 NC		**3SB36 03-0AA11**	1 unit		**3SB36 03-0AA11-0CC0**	1 unit
	Red	1 NC	▶	**3SB36 03-0AA21**	1 unit		**3SB36 03-0AA21-0CC0**	1 unit
	Yellow	1 NO		**3SB36 02-0AA31**	1 unit		**3SB36 02-0AA31-0CC0**	1 unit
	Green	1 NO	▶	**3SB36 02-0AA41**	1 unit		**3SB36 02-0AA41-0CC0**	1 unit
	Blue	1 NO		**3SB36 02-0AA51**	1 unit		**3SB36 02-0AA51-0CC0**	1 unit
	White	1 NO	▶	**3SB36 02-0AA61**	1 unit		**3SB36 02-0AA61-0CC0**	1 unit
Illuminated pushbuttons with flat button								
• With integrated LED (including holder for 3 elements)								
24 AC/DC	Red[1]	1 NC	▶	**3SB36 46-0AA21**	1 unit		**3SB36 46-0AA21-0CC0**	1 unit
	Yellow[1]	1 NO		**3SB36 45-0AA31**	1 unit		**3SB36 45-0AA31-0CC0**	1 unit
	Green[1]	1 NO	▶	**3SB36 45-0AA41**	1 unit		**3SB36 45-0AA41-0CC0**	1 unit
	Blue[1]	1 NO		**3SB36 45-0AA51**	1 unit		**3SB36 45-0AA51-0CC0**	1 unit
	White	1 NO		**3SB36 45-0AA61**	1 unit		**3SB36 45-0AA61-0CC0**	1 unit
	Clear[1]	1 NO	▶	**3SB36 45-0AA71**	1 unit		**3SB36 45-0AA71-0CC0**	1 unit
230 AC	Red[1]	1 NC	▶	**3SB36 54-0AA21**	1 unit		**3SB36 54-0AA21-0CC0**	1 unit
	Yellow[1]	1 NO		**3SB36 53-0AA31**	1 unit		**3SB36 53-0AA31-0CC0**	1 unit
	Green[1]	1 NO	▶	**3SB36 53-0AA41**	1 unit		**3SB36 53-0AA41-0CC0**	1 unit
	Blue[1]	1 NO		**3SB36 53-0AA51**	1 unit		**3SB36 53-0AA51-0CC0**	1 unit
	White	1 NO		**3SB36 53-0AA61**	1 unit		**3SB36 53-0AA61-0CC0**	1 unit
	Clear[1]	1 NO	▶	**3SB36 53-0AA71**	1 unit		**3SB36 53-0AA71-0CC0**	1 unit
• With BA 9s lampholder, without lamp (including holder for 3 elements)								
--	Red[1]	1 NC		**3SB36 07-0AA21**	1 unit		**3SB36 07-0AA21-0CC0**	1 unit
	Amber[1]	1 NO		**3SB36 06-0AA01**	1 unit		--	
	Yellow[1]	1 NO		**3SB36 06-0AA31**	1 unit		**3SB36 06-0AA31-0CC0**	1 unit
	Green[1]	1 NO		**3SB36 06-0AA41**	1 unit		**3SB36 06-0AA41-0CC0**	1 unit
	Blue[1]	1 NO		**3SB36 06-0AA51**	1 unit		**3SB36 06-0AA51-0CC0**	1 unit
	White	1 NO		**3SB36 06-0AA61**	1 unit		**3SB36 06-0AA61-0CC0**	1 unit
	Clear[1]	1 NO		**3SB36 06-0AA71**	1 unit		**3SB36 06-0AA71-0CC0**	1 unit
Illuminated pushbuttons with flat, solvent-resistant button[2], with integrated LED (including holder for 3 elements)								
24 AC/DC	Red[1]	1 NC		**3SB36 46-0AA21-0PA0**	1 unit		--	
	Yellow[1]	1 NO		**3SB36 45-0AA31-0PA0**	1 unit		--	
	Green[1]	1 NO		**3SB36 45-0AA41-0PA0**	1 unit		--	
	Blue[1]	1 NO		**3SB36 45-0AA51-0PA0**	1 unit		--	
	White	1 NO		**3SB36 45-0AA61-0PA0**	1 unit		--	
	Clear[1]	1 NO		**3SB36 45-0AA71-0PA0**	1 unit		--	
Mushroom push-pull buttons, Ø 40 mm, latching, with pull-to-unlatch mechanism								
--	Red	1 NC		**3SB36 03-1CA21**	1 unit		**3SB36 03-1CA21-0CC0**	1 unit
		1 NO + 1 NC		**3SB36 01-1CA21**	1 unit		**3SB36 01-1CA21-0CC0**	1 unit



Pushbutton with flat button



Illuminated pushbutton with flat button



Mushroom push-pull button

1) Inscription is possible by inserting a label.

2) Not suitable for laser inscription.

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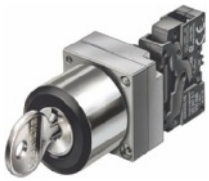
*** You can order this quantity or a multiple thereof.**
Illustrations are approximate

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3SB3 Pushbuttons and Indicator Lights, 22 mm

Actuators and Indicators, Metal, Round, 22 mm

Complete units

Version	Color of handle/ Lock No.	Contacts for front plate mounting	DT	Screw terminals Order No.	PS*	DT	Spring-type terminals Order No.	PS*
Selector switches								
 Selector switches								
Selector switches, 2 switch positions Switching sequence O-I, 50° operating angle								
Latching 	Black	1 NO	▶	**3SB36 02-2KA11**	1 unit		**3SB36 02-2KA11-0CC0**	1 unit
		1 NO + 1 NC		**3SB36 01-2KA11**	1 unit		**3SB36 01-2KA11-0CC0**	1 unit
Selector switches, 3 switch positions switching sequence I-O-II, 2 x 50° operating angle								
Latching 	Black	1 NO, 1 NO	▶	**3SB36 10-2DA11**	1 unit		**3SB36 10-2DA11-0CC0**	1 unit
		1 NO + 1 NC, 1 NO + 1 NC	▶	**3SB36 08-2DA11**	1 unit		**3SB36 08-2DA11-0CC0**	1 unit
Momentary contact type 	Black	1 NO, 1 NO	▶	**3SB36 10-2EA11**	1 unit		**3SB36 10-2EA11-0CC0**	1 unit
		1 NO + 1 NC, 1 NO + 1 NC		**3SB36 08-2EA11**	1 unit		**3SB36 08-2EA11-0CC0**	1 unit
Key-operated switches								
 RONIS key-operated switch								
RONIS key-operated switch, 2 switch positions with 2 keys, removal position O + I, switching sequence O-I, 50° operating angle								
Latching 	SB 30	1 NO	▶	**3SB36 02-4AD11**	1 unit		**3SB36 02-4AD11-0CC0**	1 unit
		1 NO + 1 NC		**3SB36 01-4AD11**	1 unit		**3SB36 01-4AD11-0CC0**	1 unit

Rated voltage of lamp	Color of lens	DT	Screw terminals Order No.	PS*	DT	Spring-type terminals Order No.	PS*
V							
Indicator lights							
 Indicator lights							
Indicator lights with lens with concentric rings[1] • With integrated LED							
24 AC/DC	Red	▶	**3SB36 44-6BA20**	1 unit		**3SB36 44-6BA20-0CC0**	1 unit
	Yellow		**3SB36 44-6BA30**	1 unit		**3SB36 44-6BA30-0CC0**	1 unit
	Green	▶	**3SB36 44-6BA40**	1 unit		**3SB36 44-6BA40-0CC0**	1 unit
	Blue		**3SB36 44-6BA50**	1 unit		**3SB36 44-6BA50-0CC0**	1 unit
	White		**3SB36 44-6BA60**	1 unit		**3SB36 44-6BA60-0CC0**	1 unit
	Clear	▶	**3SB36 44-6BA70**	1 unit		**3SB36 44-6BA70-0CC0**	1 unit
230 AC	Red	▶	**3SB36 52-6BA20**	1 unit		**3SB36 52-6BA20-0CC0**	1 unit
	Yellow		**3SB36 52-6BA30**	1 unit		**3SB36 52-6BA30-0CC0**	1 unit
	Green	▶	**3SB36 52-6BA40**	1 unit		**3SB36 52-6BA40-0CC0**	1 unit
	Blue		**3SB36 52-6BA50**	1 unit		**3SB36 52-6BA50-0CC0**	1 unit
	White		**3SB36 52-6BA60**	1 unit		**3SB36 52-6BA60-0CC0**	1 unit
	Clear	▶	**3SB36 52-6BA70**	1 unit		**3SB36 52-6BA70-0CC0**	1 unit
• With BA 9s lampholder, without lamp							
--	Red		**3SB36 04-6BA20**	1 unit		**3SB36 04-6BA20-0CC0**	1 unit
	Yellow		**3SB36 04-6BA30**	1 unit		**3SB36 04-6BA30-0CC0**	1 unit
	Green		**3SB36 04-6BA40**	1 unit		**3SB36 04-6BA40-0CC0**	1 unit
	Blue		**3SB36 04-6BA50**	1 unit		**3SB36 04-6BA50-0CC0**	1 unit
	White		**3SB36 04-6BA60**	1 unit		**3SB36 04-6BA60-0CC0**	1 unit
	Clear		**3SB36 04-6BA70**	1 unit		**3SB36 04-6BA70-0CC0**	1 unit

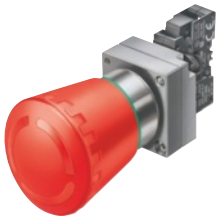
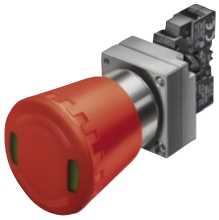
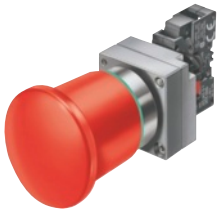
[1] Inscription by inserting a label is not possible.

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

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Complete units

Color of handle	Contacts for front plate mounting[1]	DT	Screw terminals Order No.	PS*	DT	Spring-type terminals Order No.	PS*
EMERGENCY-STOP devices according to ISO 13850, with yellow name plate, Ø 80 mm, with inscription							
 EMERGENCY-STOP mushroom pushbutton Rotate-to-unlatch mechanism	**EMERGENCY-STOP mushroom pushbuttons, Ø 40 mm, with positive latching function,** with rotate-to-unlatch mechanism						
	• German inscription "NOT-HALT"						
Red	1 NC	►	**3SB36 03-1HA20**	1 unit		**3SB36 03-1HA20-0CC0**	1 unit
	1 NC with mounting monitoring	►	**3SB36 66-1HA20**	1 unit		**3SB36 03-1HA20-0CC0**	1 unit
	1 NO + 1 NC		**3SB36 01-1HA20**	1 unit		**3SB36 01-1HA20-0CC0**	1 unit
	1 NC, 1 NC		**--**			**3SB36 11-1HA20-0CC0**	1 unit
	• English inscription "EMERGENCY STOP"						
Red	1 NC		**3SB36 03-1HR20**	1 unit		**--**	
	1 NC with mounting monitoring		**3SB36 66-1HR20**	1 unit		**--**	
	1 NO + 1 NC		**3SB36 01-1HR20**	1 unit		**--**	
	• French inscription "ARRET D'URGENCE"						
Red	1 NC		**3SB36 03-1HP20**	1 unit		**--**	
	1 NO + 1 NC		**3SB36 01-1HP20**	1 unit		**--**	
 EMERGENCY-STOP mushroom pushbutton with rotate-to-unlatch mechanism and switch position indication	With rotate-to-unlatch mechanism and mechanical switch position indication						
	• German inscription "NOT-HALT"						
Red	1 NC	►	**3SB36 03-1HA26**	1 unit		**3SB36 03-1HA26-0CC0**	1 unit
	1 NC with mounting monitoring	►	**3SB36 66-1HA26**	1 unit		**3SB36 03-1HA26-0CC0**	1 unit
	1 NO + 1 NC		**3SB36 01-1HA26**	1 unit		**3SB36 01-1HA26-0CC0**	1 unit
	• English inscription "EMERGENCY STOP"						
Red	1 NC		**3SB36 03-1HR26**	1 unit		**--**	
	1 NC with mounting monitoring		**3SB36 66-1HR26**	1 unit		**--**	
	1 NO + 1 NC		**3SB36 01-1HR26**	1 unit		**--**	
 EMERGENCY-STOP mushroom pushbutton with pull-to-unlatch mechanism	With pull-to-unlatch mechanism, solvent-resistant[2]						
	• German inscription "NOT-HALT"						
Red	1 NC		**3SB36 03-1TA20**	1 unit		**3SB36 03-1TA20-0CC0**	1 unit
	1 NO + 1 NC		**3SB36 01-1TA20**	1 unit		**3SB36 01-1TA20-0CC0**	1 unit
	1 NC, 1 NC		**--**			**3SB36 11-1TA20-0CC0**	1 unit
	• English inscription "EMERGENCY STOP"						
Red	1 NC		**3SB36 03-1TR20**	1 unit		**--**	
	1 NO + 1 NC		**3SB36 01-1TR20**	1 unit		**--**	
	• French inscription "ARRET D'URGENCE"						
Red	1 NC		**3SB36 03-1TP20**	1 unit		**--**	
	1 NO + 1 NC		**3SB36 01-1TP20**	1 unit		**--**	

1) NC contact with positive opening according to IEC 60947-5-1, Appendix K. Identification by the symbol ⊖.
Can be used with 3TK28 safety relays.
Certificate:

2) Not suitable for laser inscription.

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

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3SB3 Pushbuttons and Indicator Lights, 22 mm

Actuators and Indicators, Metal, Round, 22 mm

Selection and ordering data

Version	Inscriptions	Color of handle	DT	Order No.	PS*
Pushbuttons with holder[1]					
 Pushbuttons with flat button					
Pushbuttons with flat button		Black	▶	**3SB35 00-0AA11**	1 unit
		Red	▶	**3SB35 00-0AA21**	1 unit
		Yellow		**3SB35 00-0AA31**	1 unit
		Green	▶	**3SB35 00-0AA41**	1 unit
		Blue		**3SB35 00-0AA51**	1 unit
		White	▶	**3SB35 00-0AA61**	1 unit
		Gray		**3SB35 00-0AB51**	1 unit
		Clear[2]		**3SB35 00-0AA71**	1 unit
	I	Green		**3SB35 00-0AA81**	1 unit
	O	Red		**3SB35 00-0AB01**	1 unit
	I	White		**3SB35 00-0AB11**	1 unit
	O	Black		**3SB35 00-0AB21**	1 unit
	R	Blue		**3SB35 00-0AC81**	1 unit
 Pushbuttons with raised button					
Pushbuttons with flat solvent-resistant button[3]		Black	▶	**3SB35 00-0AA11**	1 unit
		Red		**3SB35 00-0AA21-0PA0**	1 unit
		Yellow		**3SB35 00-0AA31-0PA0**	1 unit
		Green		**3SB35 00-0AA41-0PA0**	1 unit
		Blue		**3SB35 00-0AA51-0PA0**	1 unit
		White		**3SB35 00-0AA61-0PA0**	1 unit
 Illuminated pushbuttons with flat button					
Pushbuttons with raised button		Black		**3SB35 00-0BA11**	1 unit
		Red		**3SB35 00-0BA21**	1 unit
		Yellow		**3SB35 00-0BA31**	1 unit
		Green		**3SB35 00-0BA41**	1 unit
		Blue		**3SB35 00-0BA51**	1 unit
		White		**3SB35 00-0BA61**	1 unit
Illuminated pushbuttons with flat button (incl. holder for 3 elements)		Red[2]	▶	**3SB35 01-0AA21**	1 unit
		Amber[2]		**3SB35 01-0AA01**	1 unit
		Yellow[2]		**3SB35 01-0AA31**	1 unit
		Green[2]	▶	**3SB35 01-0AA41**	1 unit
		Blue[2]		**3SB35 01-0AA51**	1 unit
		White		**3SB35 01-0AA61**	1 unit
		Clear[2]	▶	**3SB35 01-0AA71**	1 unit
 Illuminated pushbuttons with raised button					
Illuminated pushbuttons with flat, solvent-resistant button[3] (incl. holder for 3 elements)		Red[2]		**3SB35 01-0AA21-0PA0**	1 unit
		Yellow[2]		**3SB35 01-0AA31-0PA0**	1 unit
		Green[2]		**3SB35 01-0AA41-0PA0**	1 unit
		Blue[2]		**3SB35 01-0AA51-0PA0**	1 unit
		White		**3SB35 01-0AA61-0PA0**	1 unit
		Clear[2]		**3SB35 01-0AA71-0PA0**	1 unit
Illuminated pushbuttons with raised button (incl. holder for 3 elements)		Red		**3SB35 01-0BA21**	1 unit
		Amber		**3SB35 01-0BA01**	1 unit
		Yellow		**3SB35 01-0BA31**	1 unit
		Green		**3SB35 01-0BA41**	1 unit
		Blue		**3SB35 01-0BA51**	1 unit
		Clear		**3SB35 01-0BA71**	1 unit
 Pushbutton with flat button					
Pushbuttons with flat button, latching, unlatches by pressing again		Black		**3SB35 00-0DA11**	1 unit
		Red		**3SB35 00-0DA21**	1 unit
		Yellow		**3SB35 00-0DA31**	1 unit
		Green		**3SB35 00-0DA41**	1 unit
		Blue		**3SB35 00-0DA51**	1 unit
		White		**3SB35 00-0DA61**	1 unit
		Gray		**3SB35 00-0DB51**	1 unit
Illuminated pushbuttons with flat button, latching, unlatches by pressing again (incl. holder for 3 elements)		Red[2]		**3SB35 01-0DA21**	1 unit
		Amber[2]		**3SB35 01-0DA01**	1 unit
		Yellow[2]		**3SB35 01-0DA31**	1 unit
		Green[2]		**3SB35 01-0DA41**	1 unit
		Blue[2]		**3SB35 01-0DA51**	1 unit
		White		**3SB35 01-0DA61**	1 unit
		Clear[2]		**3SB35 01-0DA71**	1 unit

[1] Also available without holder. Supplement Order No. with **"–Z"** and quote order code **"B01"**. Price reduction.

[2] Inscription is possible by inserting a label.

[3] Not suitable for laser inscription.

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

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	Version	Color of handle	DT	Order No.	PS*
Mushroom pushbuttons with holder[1]					
 Mushroom pushbutton, Ø 30 mm	**Mushroom pushbuttons, Ø 30 mm**	Black Red Yellow Green		**3SB35 00-1DA11** **3SB35 00-1DA21** **3SB35 00-1DA31** **3SB35 00-1DA41**	1 unit 1 unit 1 unit 1 unit
	Mushroom pushbuttons, Ø 40 mm	Black Red Yellow Green		**3SB35 00-1GA11** **3SB35 00-1GA21** **3SB35 00-1GA31** **3SB35 00-1GA41**	1 unit 1 unit 1 unit 1 unit
 Mushroom pushbutton, Ø 40 mm	**Mushroom pushbuttons, Ø 60 mm**	Black Red Yellow Green		**3SB35 00-1QA11** **3SB35 00-1QA21** **3SB35 00-1QA31** **3SB35 00-1QA41**	1 unit 1 unit 1 unit 1 unit
	Illuminated mushroom pushbuttons, Ø 30 mm (incl. holder for 3 elements)	Amber Yellow Green White		**3SB35 01-1DA01** **3SB35 01-1DA31** **3SB35 01-1DA41** **3SB35 01-1DA61**	1 unit 1 unit 1 unit 1 unit
 Illuminated mushroom pushbutton, Ø 60 mm	**Illuminated mushroom pushbuttons, Ø 40 mm** (incl. holder for 3 elements)	Amber Yellow Green White		**3SB35 01-1GA01** **3SB35 01-1GA31** **3SB35 01-1GA41** **3SB35 01-1GA61**	1 unit 1 unit 1 unit 1 unit
	Illuminated mushroom pushbuttons, Ø 60 mm (incl. holder for 3 elements)	Amber Yellow Green White		**3SB35 01-1QA01** **3SB35 01-1QA31** **3SB35 01-1QA41** **3SB35 01-1QA61**	1 unit 1 unit 1 unit 1 unit
 Push-pull button, Ø 30 mm	**Push-pull buttons, Ø 30 mm, latching,** pull to unlatch	Black Red		**3SB35 00-1EA11** **3SB35 00-1EA21**	1 unit 1 unit
	Push-pull buttons, Ø 40 mm, latching, pull to unlatch	Black Red Yellow Green		**3SB35 00-1CA11** **3SB35 00-1CA21** **3SB35 00-1CA31** **3SB35 00-1CA41**	1 unit 1 unit 1 unit 1 unit
 Push-pull button, Ø 40 mm	**Push-pull buttons, Ø 60 mm, latching,** pull to unlatch	Black Red		**3SB35 00-1RA11** **3SB35 00-1RA21**	1 unit 1 unit
	Push-pull buttons, Ø 30 mm, latching, pull to unlatch, **can be illuminated** (incl. holder for 3 elements)	Red Amber Yellow Green Blue Clear		**3SB35 01-1EA21** **3SB35 01-1EA01** **3SB35 01-1EA31** **3SB35 01-1EA41** **3SB35 01-1EA51** **3SB35 01-1EA71**	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit
 Push-pull button, Ø 60 mm, can be illuminated	**Push-pull buttons, Ø 40 mm, latching,** pull to unlatch, **can be illuminated** (incl. holder for 3 elements)	Red Amber Yellow Green Blue Clear		**3SB35 01-1CA21** **3SB35 01-1CA01** **3SB35 01-1CA31** **3SB35 01-1CA41** **3SB35 01-1CA51** **3SB35 01-1CA71**	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit
	Push-pull buttons, Ø 60 mm, latching, pull to unlatch, **can be illuminated** (incl. holder for 3 elements)	Red Amber Yellow Green Blue Clear		**3SB35 01-1RA21** **3SB35 01-1RA01** **3SB35 01-1RA31** **3SB35 01-1RA41** **3SB35 01-1RA51** **3SB35 01-1RA71**	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit

[1] Also available without holder. Supplement Order No. with **"–Z"** and quote order code **"B01"**. Price reduction.

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3SB3 Pushbuttons and Indicator Lights, 22 mm

Actuators and Indicators, Metal, Round, 22 mm

Actuators and indicators

Version	Version Illumination	Color of handle	DT	Order No.	PS*
Selector switches with holders					
Selector switches with 2 switch positions					
 Selector switch, 2 switch positions, standard version					
Switching sequence O-I, 50° operating angle, latching 	**Non-illuminated, standard version**[1]	Black	►	**3SB35 00-2KA11**	1 unit
		Red		**3SB35 00-2KA21**	1 unit
		Green		**3SB35 00-2KA41**	1 unit
		White		**3SB35 00-2KA61**	1 unit
	Non-illuminated, with solvent-resistant knob[1]	Black		**3SB35 00-2KA11-0PA0**	1 unit
		Red		**3SB35 00-2KA21-0PA0**	1 unit
		Green		**3SB35 00-2KA41-0PA0**	1 unit
	Illuminated, standard version[1] (incl. holder for 3 elements)	Amber		**3SB35 01-2KA01**	1 unit
		Red		**3SB35 01-2KA21**	1 unit
		Yellow		**3SB35 01-2KA31**	1 unit
		Green		**3SB35 01-2KA41**	1 unit
		Blue		**3SB35 01-2KA51**	1 unit
		Clear		**3SB35 01-2KA71**	1 unit
	Illuminated, with solvent-resistant knob[1] (incl. holder for 3 elements)	Red		**3SB35 01-2KA21-0PA0**	1 unit
		Green		**3SB35 01-2KA41-0PA0**	1 unit
		Blue		**3SB35 01-2KA51-0PA0**	1 unit
		Clear		**3SB35 01-2KA71-0PA0**	1 unit
Switching sequence O-I, 50° operating angle, momentary contact type 	**Non-illuminated, standard version**[1]	Black	►	**3SB35 00-2LA11**	1 unit
		Red		**3SB35 00-2LA21**	1 unit
		Green		**3SB35 00-2LA41**	1 unit
		White		**3SB35 00-2LA61**	1 unit
	Non-illuminated, with solvent-resistant knob[1]	Black		**3SB35 00-2LA11-0PA0**	1 unit
		Red		**3SB35 00-2LA21-0PA0**	1 unit
		Green		**3SB35 00-2LA41-0PA0**	1 unit
	Illuminated, standard version[1] (incl. holder for 3 elements)	Amber		**3SB35 01-2LA01**	1 unit
		Red		**3SB35 01-2LA21**	1 unit
		Yellow		**3SB35 01-2LA31**	1 unit
		Green		**3SB35 01-2LA41**	1 unit
		Blue		**3SB35 01-2LA51**	1 unit
		Clear		**3SB35 01-2LA71**	1 unit
	Illuminated, with solvent-resistant knob[1] (incl. holder for 3 elements)	Red		**3SB35 01-2LA21-0PA0**	1 unit
		Green		**3SB35 01-2LA41-0PA0**	1 unit
		Blue		**3SB35 01-2LA51-0PA0**	1 unit
		Clear		**3SB35 01-2LA71-0PA0**	1 unit
Selector switches with 3 switch positions					
 Selector switch, 3 switch positions, standard version					
Switching sequence I-O-II, 2 x 50° operating angle, latching 	**Non-illuminated, standard version**[1]	Black	►	**3SB35 00-2DA11**	1 unit
		Red		**3SB35 00-2DA21**	1 unit
		Green		**3SB35 00-2DA41**	1 unit
		White		**3SB35 00-2DA61**	1 unit
	Non-illuminated, with solvent-resistant knob[1]	Black		**3SB35 00-2DA11-0PA0**	1 unit
		Red		**3SB35 00-2DA21-0PA0**	1 unit
		Green		**3SB35 00-2DA41-0PA0**	1 unit
	Illuminated, standard version[1] (incl. holder for 3 elements)	Amber		**3SB35 01-2DA01**	1 unit
		Red		**3SB35 01-2DA21**	1 unit
		Yellow		**3SB35 01-2DA31**	1 unit
		Green		**3SB35 01-2DA41**	1 unit
		Blue		**3SB35 01-2DA51**	1 unit
		Clear		**3SB35 01-2DA71**	1 unit
	Illuminated, with solvent-resistant knob[1] (incl. holder for 3 elements)	Red		**3SB35 01-2DA21-0PA0**	1 unit
		Green		**3SB35 01-2DA41-0PA0**	1 unit
		Blue		**3SB35 01-2DA51-0PA0**	1 unit
		Clear		**3SB35 01-2DA71-0PA0**	1 unit
Switching sequence I-O-II, 2 x 50° operating angle, momentary contact type 	**Non-illuminated, standard version**[1]	Black	►	**3SB35 00-2EA11**	1 unit
		Red		**3SB35 00-2EA21**	1 unit
		Green		**3SB35 00-2EA41**	1 unit
		White		**3SB35 00-2EA61**	1 unit
	Non-illuminated, with solvent-resistant knob[1]	Black		**3SB35 00-2EA11-0PA0**	1 unit
		Red		**3SB35 00-2EA21-0PA0**	1 unit
		Green		**3SB35 00-2EA41-0PA0**	1 unit
	Illuminated, standard version[1] (incl. holder for 3 elements)	Amber		**3SB35 01-2EA01**	1 unit
		Red		**3SB35 01-2EA21**	1 unit
		Yellow		**3SB35 01-2EA31**	1 unit
		Green		**3SB35 01-2EA41**	1 unit
		Blue		**3SB35 01-2EA51**	1 unit
		Clear		**3SB35 01-2EA71**	1 unit
	Illuminated, with solvent-resistant knob[1] (incl. holder for 3 elements)	Red		**3SB35 01-2EA21-0PA0**	1 unit
		Green		**3SB35 01-2EA41-0PA0**	1 unit
		Blue		**3SB35 01-2EA51-0PA0**	1 unit
		Clear		**3SB35 01-2EA71-0PA0**	1 unit

[1] Also available without holder. Supplement Order No. with **"–Z"** and quote order code **"B01"**. Price reduction.

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

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Version	Lock version Type	Lock No./ color	Key removal position	DT	Order No.	PS*
Key-operated switches with holder[1]						
Key-operated switches with 2 keys, 2 switch positions						
 RONIS key-operated switch Switching sequence O-I, 50° operating angle, latching 	RONIS	SB 30	O+I O I	▶ ▶	**3SB35 00-4AD11** **3SB35 00-4AD01** **3SB35 00-4AD21**	1 unit 1 unit 1 unit
	CES	SSG 10	O+I O I	▶ ▶	**3SB35 00-4LD11** **3SB35 00-4LD01** **3SB35 00-4LD21**	1 unit 1 unit 1 unit
		LSG 1	O+I O		**3SB35 00-4LF01** **3SB35 00-4LF11**	1 unit 1 unit
 CES key-operated switch Switching sequence O-I, 50° operating angle, momentary contact type 	RONIS	SB 30	O	▶	**3SB35 00-4BD01**	1 unit
	CES	SSG 10	O	▶	**3SB35 00-4MD01**	1 unit
		LSG 1	O		**3SB35 00-4MF11**	1 unit
Key-operated switches with 2 keys, 3 switch positions						
Switching sequence I-O-II, 2 x 50° operating angle, latching 	RONIS	SB 30	I+O+II O I+II I II O+I		**3SB35 00-4DD11** **3SB35 00-4DD01** **3SB35 00-4DD41** **3SB35 00-4DD21** **3SB35 00-4DD31** **3SB35 00-4DD51**	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit
	CES	SSG 10	O+I+II O I+II I II		**3SB35 00-4PD11** **3SB35 00-4PD01** **3SB35 00-4PD41** **3SB35 00-4PD21** **3SB35 00-4PD31**	1 unit 1 unit 1 unit 1 unit 1 unit
Switching sequence I-O-II, 2 x 50° operating angle, momentary contact type 	RONIS	SB 30	O		**3SB35 00-4ED01**	1 unit
	CES	SSG 10	O		**3SB35 00-4QD01**	1 unit

[1] Also available without holder. Supplement Order No. with **"–Z"** and quote order code **"B01"**. Price reduction.

Version	Color of lens	DT	Order No.	PS*
Signaling elements with holder[1]				
 Indicator light with smooth lens **Indicator lights with lens with concentric rings**[2]	Amber		**3SB35 01-6BA00**	1 unit
	Red	▶	**3SB35 01-6BA20**	1 unit
	Yellow		**3SB35 01-6BA30**	1 unit
	Green	▶	**3SB35 01-6BA40**	1 unit
	Blue		**3SB35 01-6BA50**	1 unit
	White		**3SB35 01-6BA60**	1 unit
	Clear	▶	**3SB35 01-6BA70**	1 unit
Indicator lights with smooth lens[2]	Amber		**3SB35 01-6AA00**	1 unit
	Red		**3SB35 01-6AA20**	1 unit
	Yellow		**3SB35 01-6AA30**	1 unit
	Green		**3SB35 01-6AA40**	1 unit
	Blue		**3SB35 01-6AA50**	1 unit
	White	▶	**3SB35 01-6AA60**	1 unit
	Clear		**3SB35 01-6AA70**	1 unit
Indicator lights with smooth solvent-resistant lens[2][3]	Red		**3SB35 01-6AA20-0PA0**	1 unit
	Yellow		**3SB35 01-6AA30-0PA0**	1 unit
	Green		**3SB35 01-6AA40-0PA0**	1 unit
	Blue		**3SB35 01-6AA50-0PA0**	1 unit
	White		**3SB35 01-6AA60-0PA0**	1 unit
	Clear		**3SB35 01-6AA70-0PA0**	1 unit

[1] Also available without holder. Supplement Order No. with **"–Z"** and quote order code **"B01"**. Price reduction.

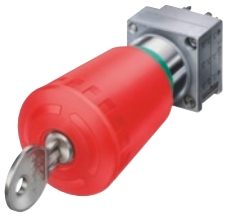
[2] Inscription by inserting a label is not possible.

[3] Not suitable for laser inscription.

10

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Actuators and indicators

	Version	Color of handle	Approval	DT	Order No.	PS*
	EMERGENCY-STOP devices according to ISO 13850 and IEC 60947-5-5 with holder[1)2)]. Can also be used with 3TK28 safety relays.					
 Mushroom diameter 32 mm	**EMERGENCY-STOP mushroom pushbuttons, Ø 32 mm,** with positive latching according to ISO 13850, with rotate-to-unlatch mechanism	Red				
	• Standard version				**3SB35 00-1FA20**	1 unit
	• Solvent-resistant[3)]				**3SB35 00-1FA20-0PA0**	1 unit
 Mushroom diameter 40 mm, with rotate-to-unlatch mechanism, with switch position indication	**EMERGENCY-STOP mushroom pushbuttons, Ø 40 mm,** with positive latching according to ISO 13850, with rotate-to-unlatch mechanism	Red				
	• Without switch position indicator			►	**3SB35 00-1HA20**	1 unit
	• Without switch position indicator, solvent-resistant[3)]				**3SB35 00-1HA20-0PA0**	1 unit
	• With mechanical switch position indication				**3SB35 00-1HA26**	1 unit
 Mushroom diameter 40 mm, pull-to-unlatch mechanism	**EMERGENCY-STOP mushroom pushbuttons, Ø 40 mm,** with positive latching acc. to ISO 13850, with pull-to-unlatch mechanism	Red			**3SB35 00-1TA20**	1 unit
 Mushroom diameter 60 mm	**EMERGENCY-STOP mushroom pushbuttons, Ø 60 mm,** with positive latching according to ISO 13850, with rotate-to-unlatch mechanism	Red			**3SB35 00-1AA20**	1 unit
 Mushroom diameter 40 mm, with CES key-operated switch	**EMERGENCY-STOP mushroom pushbuttons, Ø 40 mm, with RONIS key-operated switch,** (with 2 keys), lock No. SB 30, with positive latching according to ISO 13850, unlocking only possible using key	Red			**3SB35 00-1BA20**	1 unit
	EMERGENCY-STOP mushroom pushbuttons, Ø 40 mm, with CES key-operated switch, (with 2 keys), lock No. SSG 10, with positive latching according to ISO 13850, unlocking only possible using key	Red			**3SB35 00-1KA20**	1 unit

1) Also available without holder. Supplement Order No. with **"–Z"** and quote order code **"B01"**. Price reduction.

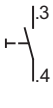
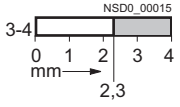
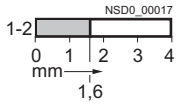
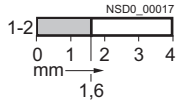
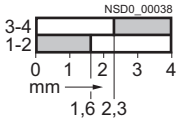
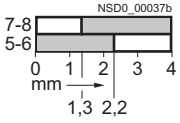
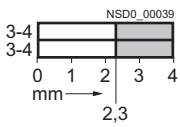
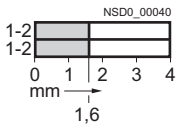
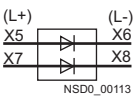
2) The yellow backing plates must be ordered separately, see Accessories on page 10/32.

3) Not suitable for laser inscription.

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

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Selection and ordering data

Version	Diagram	Operating travel Contact closed Contact open	DT	Screw terminals Order No.	PS*	DT	Spring-type terminals Order No.	PS*
Contact blocks for front plate mounting								
Contact blocks with one contact[1] • Mounting depth: 50 mm								
1 NO				**3SB34 00-0B**	1 unit		**3SB34 03-0B**	1 unit
1 NO with gold-plated contacts				**3SB34 00-0BA**	1 unit		**3SB34 03-0BA**	1 unit
1 NC				**3SB34 00-0C**	1 unit		**3SB34 03-0C**	1 unit
1 NC with gold-plated contacts				**3SB34 00-0CA**	1 unit		**3SB34 03-0CA**	1 unit
• With mounting monitoring contact[2], mounting depth 63 mm								
1 NC				**3SB34 00-0M**	1 unit		**3SB34 03-0M**	1 unit
Contact blocks with 2 contacts[1] Mounting depth 63 mm (including unit labeling plate)								
1 NO + 1 NC				**3SB34 00-0A**	1 unit		**3SB34 03-0A**	1 unit
1 NO + 1 NC with gold-plated contacts				**3SB34 00-0AA**	1 unit		**3SB34 03-0AA**	1 unit
1 NO + 1 NC with dust protection[3]				**3SB34 00-0N**	1 unit		--	
1 NO leading + 1 NC lagging				**3SB34 00-0H**	1 unit		**3SB34 03-0H**	1 unit
1 NO leading + 1 NC lagging with gold-plated contacts				**3SB34 00-0HA**	1 unit		**3SB34 03-0HA**	1 unit
2 NO				**3SB34 00-0D**	1 unit		**3SB34 03-0D**	1 unit
2 NO with gold-plated contacts				**3SB34 00-0DA**	1 unit		**3SB34 03-0DA**	1 unit
2 NO with dust protection[3]				**3SB34 00-0P**	1 unit		--	
2 NC				**3SB34 00-0E**	1 unit		**3SB34 03-0E**	1 unit
2 NC with gold-plated contacts				**3SB34 00-0EA**	1 unit		**3SB34 03-0EA**	1 unit
2 NC with dust protection[3]				**3SB34 00-0Q**	1 unit		--	
Blocks with 2 diodes type 1N 4007 Mounting depth: 63 mm U_{RMS} = max. 250 V I_{FAV} = 0.8 A at T_u = 60 °C				**3SB34 00-2A**	1 unit		--	

3SB34 00-0B



3SB34 00-0M



3SB34 00-0A



3SB34 03-0A



3SB34 00-2A

[1] NC contact with positive opening according to IEC 60947-5-1, Appendix K, in conjunction with EMERGENCY-STOP mushroom pushbuttons. Identification by the symbol ⊖.

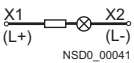
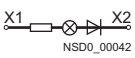
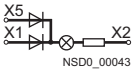
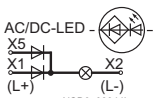
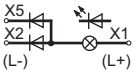
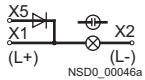
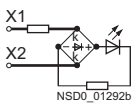
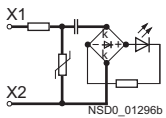
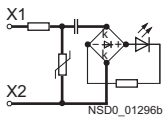
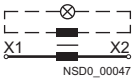
[2] The NC contact opens automatically upon disconnection of the actuator. On delivery, the contact is open (= safe state). Activation (= NC contacts on the non-actuated control device are closed) takes place upon first-time actuation after the contact block is snapped onto the actuator. Unsuitable for mounting in 3SB38 enclosures.

[3] With 3SB30 01-0CH dust protection shield

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

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Contact blocks and lampholders

Version	Diagram	Rated voltage of lamp	DT	Screw terminals	PS*	DT	Spring-type terminals	PS*
		V		Order No.			Order No.	
Contact blocks for front plate mounting								
 3SB34 00-1A								
BA 9s lampholders, mounting depth 50 mm								
Without lamp	 NSD0_00003	Acc. to lamp	▶	**3SB34 00-1A**	1 unit		**3SB34 03-1A**	1 unit
With 24 V incandescent lamp (3SX1 344)		24 AC/DC		**3SB34 00-1D**	1 unit		--	
BA 9s lampholders, mounting depth 50 mm								
With built-in resistor for longer endurance and with 130 V lamp (3SX1 731)[1]	 NSD0_00041	110/130 AC/DC		**3SB34 00-1B**	1 unit		--	
 3SB34 03-1A								
With integrated voltage reducer and with 130 V lamp (3SX1 731)[1]	 NSD0_00042	230 / 240 AC		**3SB34 00-1C**	1 unit		**3SB34 03-1C**	1 unit
BA 9s lampholders with separate lamp test function[2)3)]								
With integrated voltage reducer and with 130 V lamp (3SX1 731)[1]	 NSD0_00043	230 / 240 AC		**3SB34 00-1F**	1 unit		--	
 3SB34 00-1F								
Without lamp For incandescent lamp, max. 2,6 W; for LED lamp, 24/48/230 V AC/DC[4]	 NSD0_00044b	Acc. to lamp		**3SB34 00-1G**	1 unit		--	
Without lamp For incandescent lamp, max. 2.6 W; for LED lamp, AC or DC[5]	 NSD0_00045	Acc. to lamp		**3SB34 00-1L**	1 unit		--	
Without lamp For incandescent lamp, max. 2.6 W; for glow lamp, AC	 NSD0_00046a	Acc. to lamp		**3SB34 00-1H**	1 unit		--	
Lampholders with integrated LED Mounting depth: 50 mm								
Yellow Red Green Blue White	 NSD0_01292b	24 AC/DC	 ▶ ▶ ▶	**3SB34 00-1PA** **3SB34 00-1PB** **3SB34 00-1PC** **3SB34 00-1PD** **3SB34 00-1PE**	1 unit 1 unit 1 unit 1 unit 1 unit		**3SB34 03-1PA** **3SB34 03-1PB** **3SB34 03-1PC** **3SB34 03-1PD** **3SB34 03-1PE**	1 unit 1 unit 1 unit 1 unit 1 unit
 3SB34 00-1PA								
Yellow Red Green Blue White	 NSD0_01296b	110 AC		**3SB34 00-1QA** **3SB34 00-1QB** **3SB34 00-1QC** **3SB34 00-1QD** **3SB34 00-1QE**	1 unit 1 unit 1 unit 1 unit 1 unit		**3SB34 03-1QA** **3SB34 03-1QB** **3SB34 03-1QC** **3SB34 03-1QD** **3SB34 03-1QE**	1 unit 1 unit 1 unit 1 unit 1 unit
Yellow Red Green Blue White	 NSD0_01296b	230 AC	 ▶ ▶ ▶	**3SB34 00-1RA** **3SB34 00-1RB** **3SB34 00-1RC** **3SB34 00-1RD** **3SB34 00-1RE**	1 unit 1 unit 1 unit 1 unit 1 unit		**3SB34 03-1RA** **3SB34 03-1RB** **3SB34 03-1RC** **3SB34 03-1RD** **3SB34 03-1RE**	1 unit 1 unit 1 unit 1 unit 1 unit
Transformers For snapping onto 3SB34 00-1A lampholder For incandescent lamp AC, max. 2 W Mounting depth: 97 mm	 NSD0_00047	127 / 24 240 / 24 260 / 24 400 / 24 127 / 6 240 / 6 400 / 6 480 / 6 600 / 6		**3SB34 00-3A** **3SB34 00-3C** **3SB34 00-3E** **3SB34 00-3F** **3SB34 00-3M** **3SB34 00-3P** **3SB34 00-3S** **3SB34 00-3U** **3SB34 00-3W**	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit 1 unit 1 unit 1 unit		-- -- -- -- -- -- -- -- --	
 3SB34 00-3.								

1) Use for these lamps only.

2) The lampholder with separate lamp test function can not be installed in an enclosure.

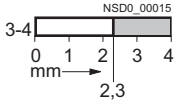
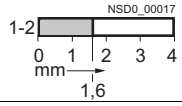
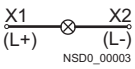
3) For circuit examples see note on Technical Information on page 3/1.

4) Not suitable for LEDs which are suitable only for AC or DC.

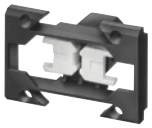
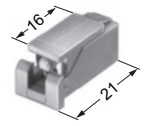
5) Not suitable for LED for 24/48/230 V AC/DC.
For connecting to DC, X5 must be connected to L–.

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

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	Version	Diagram	Operating travel Contact closed Contact open	DT	Solder pin connections Order No.	PS*
Contact blocks for use on printed circuit boards						
 3SB34 11-0B	**Contact blocks with one contact**[1] Mounting depth 44 mm					
	1 NO				**3SB34 11-0B**	1 unit
	1 NC ➔				**3SB34 11-0C**	1 unit
 3SB34 11-1A	**Wedge base lampholders** W2 x 4.6 d Mounting depth: 44 mm					
	Without lamp				**3SB34 11-1A**	1 unit

[1] NC contact with positive opening according to IEC 60947-5-1, Appendix K, in conjunction with EMERGENCY-STOP mushroom pushbuttons. Identification by the symbol ➔.

	Version	DT	Order No.	PS*
Holders for 3 contact blocks, for front panel mounting				
 3SB39 01-0AB	**Holders for pushbuttons and switches**[1] For snapping on 3 blocks (for illuminated pushbuttons and illuminated selector switches the holder is included in the scope of supply)	►	**3SB39 01-0AB**	20 units
 3SB39 01-0AC	**Holders for selector switches, key-operated switches and twin pushbuttons** With pressure plate for actuating the central contact block of 3 contact blocks	►	**3SB39 01-0AC**	10 units
Pressure plates for use on printed circuit boards				
 3SB39 01-0AW	**Pressure plates for selector switches and key-operated switches** For actuating the central contact block of 3 contact blocks Also for contact blocks with floor mounting For installation in enclosure		**3SB39 01-0AW**	10 units
Accessories for printed circuit boards				
 3SB39 01-0AA	**Holders for printed circuit boards** For mounting the command devices on the printed circuit board (screw is included in the scope of supply)		**3SB39 01-0AA**	10 units

[1] Holder also for mushroom pushbutton and push-pull button.

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AS-Interface F adapters for EMERGENCY-STOP devices

Overview



EMERGENCY-STOP mushroom pushbutton with F adapter for bus connection

The AS-Interface F adapter is used to connect an EMERGENCY-STOP device according to ISO 13850 from the 3SB3 series to the AS-Interface bus system. The F adapter is suitable for control devices with mounting on front plates.

The F adapter has a safe AS-Interface 2E slave and is snapped from behind onto the EMERGENCY-STOP device (actuator). In the 2E/1A expanded version, an output is also available for actuating an indicator light with LED.

Depending on the version, screw terminals or spring-type terminals or the insulation piercing method are used for connecting to the AS-Interface bus cable. Addressing is performed using the AS-Interface connection or the integrated addressing socket.

Safety category 4 (SIL 3) is achieved with the adapter.

Selection and ordering data

Version	DT	Screw terminals Order No.	PS*
AS-Interface F adapters for 3SB3 EMERGENCY-STOP actuator For mounting on front plate			
• 2I	►	**3SF5 402-1AA03**	1 unit
• 2I/1O, with output for LED control	►	**3SF5 402-1AB03**	1 unit



3SF5 402-1AA03

Version	DT	Spring-type terminals Order No.	PS*
AS-Interface F adapters for 3SB3 EMERGENCY-STOP actuator For mounting on front plate			
• 2I	►	**3SF5 402-1AA04**	1 unit
• 2I/1O, with output for LED control	►	**3SF5 402-1AB04**	1 unit



3SF5 402-1AA04

Version	DT	Insulation piercing method Order No.	PS*
AS-Interface F adapters for 3SB3 EMERGENCY-STOP actuator For mounting on front plate			
• 2I		**3SF5 402-1AA05**	1 unit
• 2I/1O, with output for LED control		**3SF5 402-1AB05**	1 unit



3SF5 402-1AA05

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

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Overview

Inscription of actuators and indicators

Actuators and indicators of plastic as well as metal version can be optionally inscribed with a laser.



Pushbutton (metal) with laser inscription

The actuators of the pushbuttons, illuminated pushbuttons, mushroom pushbuttons and illuminated mushroom pushbuttons can be inscribed as well as the lenses of the indicator lights.

Selector switches can be inscribed only if they are made of plastic (only one text line on the front ring).



Pushbutton and selector switch (plastic) with laser inscription

Version

A letter height of 4 mm is used as standard for text inscriptions:

The typeface used is Arial. Other letter heights and typefaces are possible, but must be specified when ordering.

For round buttons and lenses, the possible number of characters per line is:

- 10 characters for one line of text
- 8 characters for 2 lines of text
- 6 characters for 3 lines of text, but 10 characters in the middle line

On square buttons and lenses, 10 characters are possible per line.

Ordering notes

When ordering, supplement the Order No. of the actuator or the indicator light with **"–Z"** and an order code:

- Text line in upper/lower case, always upper case for beginning of line (e.g. "Lift out"): **Y10**
- Text in upper case (e.g. "LIFT OUT"): **Y11**
- Text in lower case (e.g. "lift out"): **Y12**
- Text in upper/lower case, all words begin with capital letters (e.g. "Lift Out"): **Y15**
- Symbol with number according to ISO 7000 or IEC 60417: **Y13**
- Any inscription or symbol according to order form supplement: **Y19**

Additional price per unit for Y10 to Y19.

When ordering, specify the required inscription in plain text in addition to the order number and order code. In the case of special inscriptions with words in languages other than German, give the exact spelling and specify the language (see ordering example 1).

In the case of multi-line inscriptions, the text must be assigned to the respective line, e.g. "Z1 = Lift, Z2 =Lower". For long words you can also specify the end-of-line division.

Symbols can also be ordered with numbers according to ISO 7000 or IEC 60417 (see ordering example 2 and 3).

For special symbols (order code Y19), a CAD drawing in DXF format can be submitted.

Ordering example 1

A round pushbutton with the inscription "Reset" is required:

3SB30 00–0AA41–Z
Y10
Z = Reset (English)

Ordering example 2

A square pushbutton inscribed with symbol No. 5389 according to IEC 60417 is required:

3SB31 10–0AA31–Z
Y13
Z = 5389 IEC

Ordering example 3

A round pushbutton inscribed with symbol No. 1118 according to ISO 7000 is required:

3SB30 00–0AA41–Z
Y13
Z = 1118 ISO

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Inscriptions

Insert labels
Name plates

Overview

The insert labels can be inserted in pushbuttons (clear) and illuminated pushbuttons with a flat button, but not in indicator lights.

These insert labels are made of clear, transparent plastic with black inscription; they can be fitted in any 90° angle.

Inscriptions

The inscriptions have upper case initial letters. Graphic symbols, including those not listed in the catalog, are according to ISO 7000 or IEC 60417 (see page 10/30).

The insert labels without inscription are suitable for user marking with permanent pen.

Selection and ordering data

Inscription/Symbol	Symbol No.	DT	Round range Order No.	PS*
Insert labels				
For self-inscription				
Blank			**3SB19 01-4AS**	10 units
With inscription[1]				
Ein			**3SB19 01-4AB**	10 units
On			**3SB19 01-4EB**	10 units
Aus			**3SB19 01-4AC**	10 units
Off			**3SB19 01-4EC**	10 units
Auf			**3SB19 01-4AD**	10 units
Up			**3SB19 01-4ED**	10 units
Ab			**3SB19 01-4AE**	10 units
Down			**3SB19 01-4EE**	10 units
With customized inscription				
For inscriptions or symbols see "Options"			**3SB19 01-4AZ**	1 unit
• Text line(s) or symbol with No.			**K0Y, K1Y, K2Y, K3Y** or **K5Y**	
• Any inscription or symbol			**K9Y**	

[1] For other labeling plates with inscription or symbols see Catalog IC 10 · 2011 or the Industry Mall.

Overview

The name plates consist of a black plastic label holder and an inscription label (black with white print or silver-colored with black print) for sticking or snapping in place. They are not suitable for EMERGENCY-STOP pushbuttons.

Inscriptions

The inscriptions have upper case initial letters. The typeface is Arial. Graphic symbols, including those not listed in the tables, are according to ISO 7000 or IEC 60417 (see page 10/30).

Selection and ordering data

Inscriptions	DT	Black Order No.	PS*	DT	Silver-colored Order No.	PS*
Inscription labels, self-adhesive, 12.5 mm × 27 mm						
For self-inscription						
Blank	►	**3SB39 02-1AA**	10 units		**3SB19 01-2AA**	10 units
With inscription[1]						
Ein		**3SB39 02-1AB**	10 units		**3SB19 01-2AB**	10 units
On		**3SB39 02-1EB**	10 units		**3SB19 01-2EB**	10 units
Aus		**3SB39 02-1AC**	10 units		**3SB19 01-2AC**	10 units
Off		**3SB39 02-1EC**	10 units		**3SB19 01-2EC**	10 units
Auf		**3SB39 02-1AD**	10 units		**3SB19 01-2AD**	10 units
Up		**3SB39 02-1ED**	10 units		**3SB19 01-2ED**	10 units
Ab		**3SB39 02-1AE**	10 units		**3SB19 01-2AE**	10 units
Down		**3SB39 02-1EE**	10 units		**3SB19 01-2EE**	10 units
With customized inscription						
For inscriptions or symbols see "Options"		**3SB39 02-1XZ**	1 unit		**3SB19 01-2XZ**	1 unit
• Text line(s)		**K0Y**			**K0Y**	
• Text line(s) or symbol with No.		**K1Y, K2Y, K3Y** or **K5Y**			**K1Y, K2Y, K3Y** or **K5Y**	
• Any inscription or symbol		**K9Y**			**K9Y**	

[1] For other labeling plates with inscription or symbols see Catalog IC 10 · 2011 or the Industry Mall.

For label holders see page 10/29.

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Inscriptions	DT	Black Order No.	PS*	DT	Silver-colored Order No.	PS*
Inscription labels, self-adhesive, 27 mm × 27 mm						
For self-inscription						
Blank		**3SB39 03-1AA**	10 units		**3SB19 06-2AA**	10 units
With inscription[1]						
Ein		**3SB39 03-1AB**	10 units		**--**	
On		**3SB39 03-1EB**	10 units		**--**	
Aus		**3SB39 03-1AC**	10 units		**--**	
Off		**3SB39 03-1EC**	10 units		**--**	
Auf		**3SB39 03-1AD**	10 units		**--**	
Ab		**3SB39 03-1AE**	10 units		**--**	
With customized inscription						
For inscriptions or symbols see "Options"		**3SB39 03-1XZ**	1 unit		**3SB19 06-2XZ**	1 unit
• Text line(s)		**K0Y**			**K0Y**	
• Text line(s) or symbol with No.		**K1Y, K2Y, K3Y** or **K5Y**			**K1Y, K2Y, K3Y** or **K5Y**	
• Any inscription or symbol		**K9Y**			**K9Y**	
Inscription labels for snapping on, 17.5 mm × 28 mm						
For self-inscription						
Blank		**3SB39 05-1AA**	10 units		**3SB19 04-2AA**	10 units
With inscription[1]						
Ein		**3SB39 05-1AB**	10 units		**3SB19 04-2AB**	10 units
On		**3SB39 05-1EB**	10 units		**3SB19 04-2EB**	10 units
Aus		**3SB39 05-1AC**	10 units		**3SB19 04-2AC**	10 units
Off		**3SB39 05-1EC**	10 units		**3SB19 04-2EC**	10 units
Auf		**3SB39 05-1AD**	10 units		**3SB19 04-2AD**	10 units
Up		**3SB39 05-1ED**	10 units		**--**	
Ab		**3SB39 05-1AE**	10 units		**3SB19 04-2AE**	10 units
Down		**3SB39 05-1EE**	10 units		**--**	
With customized inscription						
For inscriptions or symbols see "Options"		**3SB39 05-1XZ**	1 unit		**3SB19 04-2XZ**	1 unit
• Text line(s)		**K0Y**			**K0Y**	
• Text line(s) or symbol with No.		**K1Y, K2Y, K3Y** or **K5Y**			**K1Y, K2Y, K3Y** or **K5Y**	
• Any inscription or symbol		**K9Y**			**K9Y**	

Version	DT	Black Order No.	PS*
Label holders for inscription labels			
For 12.5 mm × 27 mm			
For round range, flat		**3SB39 22-0AV**	10 units
For potentiometer drives 3SB10 00-7CH07[2]		**3SB39 22-0AS**	1 unit
For 27 mm × 27 mm			
For round range, flat		**3SB39 23-0AV**	10 units
For round range, raised		**3SB39 23-0AX**	10 units
For potentiometer drives 3SB10 00-7CH07[2]		**3SB39 23-0AS**	1 unit
For 17.5 mm × 28 mm			
For round design	►	**3SB39 25-0AV**	10 units

3SB39 22-0AV

3SB39 25-0AV

[1] For other labeling plates with inscription or symbols see Catalog IC 10 · 2011 or the Industry Mall.

[2] This label holder can also be used for pushbuttons with dust covers if the front panel thickness of 3 mm is not exceeded.

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Inscriptions

Insert labels
Name plates

Options

Customized inscriptions

The labels can be inscribed with text and symbols not listed in the ordering data.

The following letter heights are used as standard for text inscriptions:

- Insert labels: maximum 3 lines with letter height 4 mm (1-line) or 3 mm (2 or 3-line)
- Label size 12,5 mm × 27 mm: maximum 3 lines with letter height 4 mm (1-line), 3.5 mm (2-line) or 2.5 mm (3-line)
- Label size 27 mm × 27 mm: maximum 5 lines with letter height 4 mm (1- to 5-line)
- Label size 17.5 mm × 28 mm: maximum 3 lines with letter height 4 mm (1- and 2-line) or 3 mm (3-line)

For round insert labels, the maximum possible number of characters per line is:

- 10 characters for one line of text
- 8 characters for 2 lines of text
- 6 characters for 3 lines of text, but 10 characters in the middle line

For name plates a maximum of 11 characters per line are possible.

The typeface used is Arial. Other letter heights and typefaces are possible, but must be specified when ordering.

Examples for customized inscription



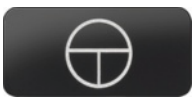
Two-line inscription in upper/lower case lettering (K0Y)



Single-line inscription in upper case lettering (K1Y)



Three-line inscription in lower case letters (K2Y)



Symbol number 5011 according to IEC 60417 (K3Y)



Any symbol according to order form supplement (K9Y)

Ordering notes

Append the following codes to the Order No.:

- Text line(s) in upper/lower case, upper case always for beginning of line (e.g. "Lift out"): **K0Y**
- Text line(s) in upper case (e.g. "LIFT OUT"): **K1Y**
- Text line(s) in lower case (e.g. "lift out"): **K2Y**
- Text line(s) in upper/lower case, all words begin with upper case letters (e.g. "Lift Out"): **K5Y**
- Symbol with number according to ISO 7000 or IEC 60417: **K3Y**
- Any inscription or symbol according to order form supplement: **K9Y**

When ordering, specify the required inscription in plain text in addition to the order number and order code. In the case of special inscriptions with words in languages other than German, give the exact spelling and specify the language.

In the case of multi-line inscriptions, the text must be assigned to the respective line, e.g. "Z1 = Lift, Z2 =Lower". For long words you can also specify the end-of-line division (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

A label with 2 lines of text is required:

3SB39 02–1XZ
K1Y
Z1 = LIFT
Z2 = LOWER

Ordering example 2

A label inscribed with symbol No. 5011 according to IEC 60417 is required:

3SB39 02–1XZ
K3Y
Z = 5011 IEC

Ordering example 3

A label inscribed with symbol No. 1118 according to ISO 7000 is required:

3SB39 02–1XZ
K3Y
Z = 1118 ISO

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Selection and ordering data

	Version	Rated voltage V	Color	DT	Order No.	PS*
Lamps, BA 9s bases[1]						
 3SX1 344	**Incandescent lamps 2 W,** length up to 28 mm, max. bulb diameter 10 mm	6 AC/DC	Clear		**3SX1 342**	10 units
		12 AC/DC			**3SX1 343**	10 units
		24 AC/DC			**3SX1 344**	10 units
		30 AC/DC			**3SB19 02-2AF**	10 units
		48 AC/DC			**3SB19 02-1AP**	10 units
		60 AC/DC			**3SR94 24**	10 units
	Incandescent lamps 2.6 W, length 28 mm, bulb diameter 10 mm	110 ... 130 AC/DC[2]	Clear	►	**3SX1 731**	10 units
 3SB39 01-1PA	**LED lamps, super-bright** Length up to 28 mm, max. bulb diameter 10 mm, max. operational current 15 mA	24 AC/DC	Red	►	**3SB39 01-1CA**	10 units
			Yellow		**3SB39 01-1BA**	10 units
			Green	►	**3SB39 01-1DA**	10 units
			Blue		**3SB39 01-1PA**	10 units
			White	►	**3SB39 01-1QA**	10 units
		48 AC/DC	Red		**3SB39 01-1CC**	10 units
			Yellow		**3SB39 01-1BC**	10 units
			Green		**3SB39 01-1DC**	10 units
			Blue		**3SB39 01-1PC**	10 units
			White		**3SB39 01-1QC**	10 units
		130 AC, 70 ... 90 DC, if X1 at "+"	Red		**3SB39 01-1CD**	10 units
			Yellow		**3SB39 01-1BD**	10 units
			Green		**3SB39 01-1DD**	10 units
			Blue		**3SB39 01-1PD**	10 units
			White		**3SB39 01-1QD**	10 units
		230 AC, 110 ... 160 DC, if X1 at "+"	Red		**3SB39 01-1CF**	10 units
			Yellow		**3SB39 01-1BF**	10 units
			Green		**3SB39 01-1DF**	10 units
			Blue		**3SB39 01-1PF**	10 units
			White		**3SB39 01-1QF**	10 units
		230 AC/DC	Red		**3SB39 01-1CG**	10 units
			Yellow		**3SB39 01-1BG**	10 units
			Green		**3SB39 01-1DG**	10 units
			Blue		**3SB39 01-1PG**	10 units
			White		**3SB39 01-1QG**	10 units
 3SB19 02-2AD	**Lamp extractors** For lamps with BA 9s base			►	**3SB19 02-2AD**	1 unit
Acoustic signal transformers, BA 9s base						
 3SB19 02-2BN	**Acoustic signal transformers** for acoustic signaling devices[3] operational current 25 mA, 0.6 W, sound pressure 80 dB/10 cm	24 ... 28 DC			**3SB19 02-2BN**	1 unit

1) Essential accessories when using lampholders with BA 9s base and delivery without lamp.

2) Also for 230 V when used with a 3SB34 00-1C voltage reducer.

3) For increased protection, the IP65 acoustic signaling device (complete unit) can be used.

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Protective covers

Selection and ordering data

	Version	Use	Color / inscription	DT	Order No.	PS*
Protective caps[1], degree of protection IP67						
	Material: elastolan					
 3SB39 21-0AJ	**Protective caps** For round version	Flat button (plastic)	Clear		**3SB39 21-0AJ**	1 unit
		Flat button (metal), raised button (plastic)	Clear		**3SB39 21-0AM**	1 unit
	• PVC	Raised button (metal)	Clear		**3SB19 02-2AN**	1 unit
	Material: silicone					
 3SB39 21-0AH	**Protective caps** For round version	Flat button (plastic)	Clear		**3SB39 21-0AH**	1 unit
		Flat button (metal), raised button (plastic)	Clear		**3SB19 02-0AK**	1 unit
		Raised button (metal)	Clear		**3SB19 02-0AN**	1 unit
 3SB39 21-0BA	**Protective caps** For round version	Selector switch (plastic and metal, normal handle)	Clear		**3SB39 21-0BA**	1 unit
	Protective caps For round version	Mushroom push-pull buttons, Ø 40 mm (plastic and metal)	Clear		**3SB19 02-2BH**	1 unit
		EMERGENCY-STOP mushroom pushbuttons, Ø 40 mm (plastic and metal)	Clear		**3SB39 21-0BU**	1 unit
Other protective caps[1]						
 3SB19 02-0AL	**Sealable caps** For round version	Flat button (plastic)	Black		**3SB19 02-0AL**	1 unit
		Flat button (metal), raised button (plastic)	Clear		**3SB19 02-2AR**	1 unit
 3SB39 21-0BT	**Dust covers** For use in dusty environments	BKS, CES, O.M.R. key-operated switches	Clear		**3SB39 21-0BT**	1 unit
Protective collars for front plates						
 3SB39 21-0AX	**Protective collars for EMERGENCY-STOP[2]** For round version	EMERGENCY-STOP mushroom pushbutton without lock	Yellow	▶	**3SB39 21-0AK**	1 unit
			Gray		**3SB39 21-0AP**	1 unit
		EMERGENCY-STOP mushroom pushbutton with key-operated switch	Yellow		**3SB39 21-0AX**	1 unit
	Protective collars for EMERGENCY-STOP for 5 padlocks[2] for round version	3SB3...-1AA20 EMERGENCY-STOP mushroom pushbutton	Yellow	▶	**3SB39 21-0CG**	1 unit
 3SB39 21-0AS	**Sun collars** For round version	Illuminated pushbuttons	Black		**3SB39 21-0AS**	1 unit
Yellow name plates for EMERGENCY-STOP						
	Name plates, round, self-adhesive, for use on front plates					
 3SB39 21-0BW	• External diameter 80 mm, internal diameter 23 mm	EMERGENCY-STOP mushroom pushbutton (round version)	Without inscription[3]		**3SB39 21-0AB**	1 unit
			4 languages, de[4], en, it, es		**3SB39 21-0BW**	1 unit
			NOT-HALT		**3SB39 21-0AC**	1 unit
			NOT-AUS		**3SB39 21-0CK**	1 unit
			EMERGENCY STOP		**3SB39 21-0AD**	1 unit
			ARRET D'URGENCE		**3SB39 21-0AG**	1 unit
			EMERGENZA		**3SB39 21-0AN**	1 unit
 3SB39 21-0DA	• External diameter 60 mm, internal diameter 23 mm, illuminated, with plug-in connection for 24 V AC/DC	EMERGENCY-STOP mushroom pushbutton (round version)[5] Suitable as signaling device for EMERGENCY-STOP[6]	Without inscription[3]		**3SB39 21-0DA**	1 unit
			NOT-HALT		**3SB39 21-0DK**	1 unit
			NOT-AUS		**3SB39 21-0DC**	1 unit
			EMERGENCY STOP		**3SB39 21-0DD**	1 unit

1) Not for mounting in 3SB38 enclosure with 3SB34 20 or 3SB34 23 contact blocks and lampholders for floor mounting. Not to be used with label holder.

2) The protective collar must only be used to protect against inadvertent actuating and must be fitted to allow unimpeded actuation of the EMERGENCY-STOP mushroom pushbutton.

3) Also available with inscription in other languages.

4) With German inscription "NOT-HALT"

5) For front panel thickness of up to 4 mm.

6) The illuminated label can also be operated through the AS-Interface F adapter (see page 10/26).

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Overview

Enclosures with standard fittings are available with:

- 1 to 3 command points
- 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 blocks and lampholders for floor mounting (are snapped into the enclosure base).

The actuators/indicators are fixed with an enclosure nut. If required it can be disassembled with a 27 mm socket wrench or with a 3SX17 07 ring nut wrench.

Color of enclosure cover:

- Gray, RAL 7035, or
- Yellow, RAL 1004

Color of enclosure base:

- Black, RAL 9005

Selection and ordering data

Equipment	Contact block function[1]	Number of command points	DT	Screw terminals Plastic enclosures Order No.	PS*	DT	Spring-type terminals Metal enclosures Order No.	PS*
Enclosures with standard fittings								
Cable entry top and bottom each 1 x M20								
 3SB38 01-0DA3								
A = Pushbutton green, label "I"	1 NO	1		**3SB38 01-0DA3**	1 unit		**3SB38 01-2DA3**	1 unit
A = Pushbutton red, label "O"	1 NC	1		**3SB38 01-0DB3**	1 unit		**3SB38 01-2DB3**	1 unit
A = EMERGENCY-STOP mushroom pushbuttons, Ø 40 mm, with positive latching according to ISO 13850 and rotate-to-unlatch mechanism								
 3SB38 01-0.F3								
• With yellow top part, without protective collar	1 NC ⊖	1		**3SB38 01-0DG3**	1 unit		**3SB38 01-2DG3**	1 unit
	2 NC ⊖	1		**3SB38 01-0EG3**	1 unit		**3SB38 01-2EG3**	1 unit
• With yellow top part, with protective collar[2]	1 NC ⊖	1		**3SB38 01-0DF3**	1 unit		**3SB38 01-2DF3**	1 unit
	2 NC	1		**3SB38 01-0EF3**	1 unit		**3SB38 01-2EF3**	1 unit
 3SB38 02-0DA3								
B = Pushbutton green, label "I" A = Pushbutton red, label "O"	1 NO, 1 NC	2		**3SB38 02-0DA3**	1 unit		**3SB38 02-2DA3**	1 unit
B = Pushbutton white, label "I" A = Pushbutton black, label "O"	1 NO, 1 NC	2		**3SB38 02-0DB3**	1 unit		**3SB38 02-2DB3**	1 unit

[1] NC contact with positive opening according to IEC 60947-5-1, Appendix K, identification by the symbol ⊖.

[2] The protective collar must only be used to protect against inadvertent actuating and must be fitted to allow unimpeded access to the EMERGENCY-STOP mushroom pushbutton.

Version	Number of command points	DT	Plastic enclosures Order No.	PS*	DT	Metal enclosures Order No.	PS*
Empty enclosures, plastic							
Cable entry top and bottom each 1 x M20 for 1 to 3 command points, each 1 x M25 for 4 and 6 command points							
 3SB38 02-0AA3							
For contact blocks, lampholders and accessories with snap-on floor mounting, also single-pole front plate blocks can be used (switching state is maintained upon opening) • With gray top section	1 2 3 4 6		**3SB38 01-0AA3** **3SB38 02-0AA3** **3SB38 03-0AA3** **3SB38 04-0AA3** **3SB38 06-0AA3**	1 unit 1 unit 1 unit 1 unit 1 unit		**3SB38 01-2AA3** **3SB38 02-2AA3** **3SB38 03-2AA3** **3SB38 04-2AA3** **3SB38 06-2AA3**	1 unit 1 unit 1 unit 1 unit 1 unit
 3SB38 01-2AD3							
For EMERGENCY-STOP, for contact blocks, lampholders and accessories with snap-on floor mounting, also single-pole front plate blocks can be used (switching state is maintained upon opening)							
• With yellow top part, without protective collar	1		**3SB38 01-0AB3**	1 unit		**3SB38 01-2AB3**	1 unit
• With yellow top part, with protective collar[1]	1		**3SB38 01-0AD3**	1 unit		**3SB38 01-2AD3**	1 unit

[1] The protective collar must only be used to protect against inadvertent actuating and must be fitted to allow unimpeded access to the EMERGENCY-STOP mushroom pushbutton.

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Customer-specific enclosures

Overview

Customized enclosures are available with:

- 1 to 6 command points
- Operational voltage up to 400 V.

One command point comprises:

- 1 actuator or indicator
- Up to 3 contact blocks or up to 2 contact blocks + 1 lampholder
- 1 inscription label

For plastic enclosures the command points are equipped as standard with plastic actuators and indicators, for metal enclosures they are equipped with metal actuators and indicators.

For routing the cable in, one hole for M20 (for 1 to 3 command points) or for M25 (for 4 or 6 command points) is provided at the top and bottom.

Ordering notes (selection by configurator)

To order customized enclosures with the 3SB3 control devices, use the 3SB configurator to select the blocks for equipping. An electronic order form will be generated for the additional options. The configurator is available in the electronic catalog CA 01 on DVD or in the online catalog (Mall) on the Internet:

www.siemens.com/industrymall

Supplement the Order No. with the order code **"K0Y"** (as already listed in the selection table).

The list price of the complete enclosure is generated in the configurator for the customized equipment.

Please send the resulting electronic order form along with your order by e-mail to our Competence Center at

sirius-attach.aud@siemens.com

If you are unable to access either catalog, please contact our Technical Assistance.

Selection and ordering data

Version[1]	Number of command points	DT	Order No.	PS*
Plastic enclosures				
 3SB38 03-.AZ				
With contact blocks and lampholders for floor mounting	1		**3SB38 01-0AZK0Y**	1 unit
	2		**3SB38 02-0AZK0Y**	1 unit
	3		**3SB38 03-0AZK0Y**	1 unit
	4		**3SB38 04-0AZK0Y**	1 unit
	6		**3SB38 06-0AZK0Y**	1 unit
With single-pole contact blocks and lampholders for front plate mounting	1		**3SB38 01-1AZK0Y**	1 unit
	2		**3SB38 02-1AZK0Y**	1 unit
	3		**3SB38 03-1AZK0Y**	1 unit
	4		**3SB38 04-1AZK0Y**	1 unit
	6		**3SB38 06-1AZK0Y**	1 unit
Metal enclosures				
 3SB38 03-.AZ				
With contact blocks and lampholders for floor mounting	1		**3SB38 01-2AZK0Y**	1 unit
	2		**3SB38 02-2AZK0Y**	1 unit
	3		**3SB38 03-2AZK0Y**	1 unit
	4		**3SB38 04-2AZK0Y**	1 unit
	6		**3SB38 06-2AZK0Y**	1 unit
With single-pole contact blocks and lampholders for front plate mounting	1		**3SB38 01-3AZK0Y**	1 unit
	2		**3SB38 02-3AZK0Y**	1 unit
	3		**3SB38 03-3AZK0Y**	1 unit
	4		**3SB38 04-3AZK0Y**	1 unit
	6		**3SB38 06-3AZK0Y**	1 unit
				
Suspended pushbuttons with holding plate and handle, customized equipment	max. 6		**3SB38 87-1AZK0Y**	1 unit

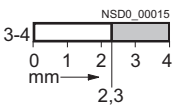
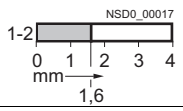
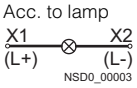
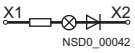
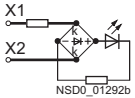
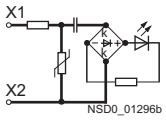
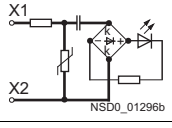
[1] Prices in accordance with the equipment selected in the configurator.

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

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Selection and ordering data

For self-equipping of the enclosures

Version	Rated voltage/ Diagram	Operating travel/color Contact closed Contact open	DT	Screw terminals Order No.	PS*	DT	Spring-type terminals Order No.	PS*
Contact blocks for floor mounting								
 3SB34 20-0B	**Contact blocks with one contact**[1]							
1 NO			▶	**3SB34 20-0B**	1 unit		**3SB34 23-0B**	1 unit
1 NO with gold-plated contacts				**3SB34 20-0BA**	1 unit		**3SB34 23-0BA**	1 unit
1 NC ➔ 1 NC with gold-plated contacts ➔			▶	**3SB34 20-0C** **3SB34 20-0CA**	1 unit 1 unit		**3SB34 23-0C** **3SB34 23-0CA**	1 unit 1 unit
 3SB34 23-0B	**BA 9s lampholders**							
Without lamp	Acc. to lamp 		▶	**3SB34 20-1A**	1 unit		**--**	
With integrated voltage reducer and with 130 V lamp (3SX1 731)[2]	230/240 V AC 	Clear		**3SB34 20-1C**	1 unit		**--**	
 3SB34 20-1A	**Lampholders with integrated LED**	24 V AC/DC 	Yellow Red ▶ Green ▶ Blue White ▶	**3SB34 20-1PA** **3SB34 20-1PB** **3SB34 20-1PC** **3SB34 20-1PD** **3SB34 20-1PE**	1 unit 1 unit 1 unit 1 unit 1 unit		**3SB34 23-1PA** **3SB34 23-1PB** **3SB34 23-1PC** **3SB34 23-1PD** **3SB34 23-1PE**	1 unit 1 unit 1 unit 1 unit 1 unit
		110 V AC 	Yellow Red Green Blue White	**3SB34 20-1QA** **3SB34 20-1QB** **3SB34 20-1QC** **3SB34 20-1QD** **3SB34 20-1QE**	1 unit 1 unit 1 unit 1 unit 1 unit		**3SB34 23-1QA** **3SB34 23-1QB** **3SB34 23-1QC** **3SB34 23-1QD** **3SB34 23-1QE**	1 unit 1 unit 1 unit 1 unit 1 unit
 3SB34 20-1PE		230 V AC 	Yellow Red Green Blue White	**3SB34 20-1RA** **3SB34 20-1RB** **3SB34 20-1RC** **3SB34 20-1RD** **3SB34 20-1RE**	1 unit 1 unit 1 unit 1 unit 1 unit		**3SB34 23-1RA** **3SB34 23-1RB** **3SB34 23-1RC** **3SB34 23-1RD** **3SB34 23-1RE**	1 unit 1 unit 1 unit 1 unit 1 unit
 3SB39 01-0AH	**Fixpoint terminals**		Black Blue Green/Yellow	**3SB39 01-0AG** **3SB39 01-0AH** **3SB39 01-0AJ**	1 unit 1 unit 1 unit		**3SB34 23-2F** **3SB34 23-2G** **3SB34 23-2H**	1 unit 1 unit 1 unit

[1] NC contact with positive opening according to IEC 60947-5-1, Appendix K, in conjunction with EMERGENCY-STOP mushroom pushbuttons. Identification by the symbol ➔.

[2] Only use with this lamp.

Version	DT	Order No.	PS*
Accessories			
 3SB39 01-0AW **Pressure plates for selector switches and key-operated switches** For actuating a central contact block of 3 contact blocks, for floor mounting		**3SB39 01-0AW**	10 units

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

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Overview

Black labels

The inscription labels (black with white inscription or silver-colored with black print) have an adhesive layer on the back. The size of the labels is 22 mm × 22 mm.

Inscriptions

The inscriptions have upper case initial letters. The typeface is Arial. Graphic symbols, including those not listed in the catalog, are according to ISO 7000 or IEC 60417 (see page 10/36).

Selection and ordering data

Inscriptions	DT	Black Order No.	PS*	DT	Silver-colored Order No.	PS*
Inscription labels, self-adhesive, 22 mm × 22 mm						
						
For self-inscription						
Blank	►	**3SB39 06-1AA**	10 units		**3SB19 01-3AA**	10 units
With inscription[1]						
Ein		**3SB39 06-1AB**	10 units		**3SB19 01-3AB**	10 units
On		**3SB39 06-1EB**	10 units		**3SB19 01-3EB**	10 units
Aus		**3SB39 06-1AC**	10 units		**3SB19 01-3AC**	10 units
Off		**3SB39 06-1EC**	10 units		**3SB19 01-3EC**	10 units
Auf		**3SB39 06-1AD**	10 units		**3SB19 01-3AD**	10 units
Up		**3SB39 06-1ED**	10 units		**3SB19 01-3ED**	10 units
Ab		**3SB39 06-1AE**	10 units		**3SB19 01-3AE**	10 units
Down		**3SB39 06-1EE**	10 units		**3SB19 01-3EE**	10 units
Inscription labels, self-adhesive, 22 mm × 22 mm						
						
With customized inscription						
For inscriptions or symbols see "Options"		**3SB39 06-0XZ**	1 unit		**3SB19 01-3XZ**	1 unit
• Text line(s)		**K0Y**			**K0Y**	
• Text line(s) or symbol with No.		**K1Y, K2Y, K3Y** or **K5Y**			**K1Y, K2Y, K3Y** or **K5Y**	
• Any inscription or symbol		**K9Y**			**K9Y**	

[1] For other labeling plates with inscription or symbols see Catalog IC 10 · 2011 or the Industry Mall.

Options

Customized inscriptions

The labels can be inscribed with text and symbols not listed in the ordering data.

A letter height of 4 mm is used as standard for text inscriptions (1 to 3 lines).

Up to 11 characters per line are possible. The typeface used is Arial. Other letter heights and typefaces are possible, but must be specified when ordering.

For ordering notes see page 10/30.

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Accessories

Version	Color/ inscription	DT	Order No.	PS*
Accessories for enclosures				
 3SB19 02-1AQ				
Yellow name plates As backing plate for EMERGENCY-STOP, self-adhesive	Without inscription		**3SB19 02-1AQ**	1 unit
	With inscription			
	• NOT-HALT		**3SB19 02-2AQ**	1 unit
	• NOT-AUS		**3SB39 21-0CJ**	1 unit
	With recess for inscription label		**3SB39 21-0BV**	1 unit
 3SB39 01-0CK				
M20 cable gland incl. hexagonal nut			**3SB39 01-0CK**	1 unit
M25 cable gland incl. hexagonal nut			**3SB39 01-0CM**	1 unit
 3SB39 01-0CL				
M20 hexagonal nuts For cable glands			**3SB39 01-0CL**	10 units
M25 hexagonal nuts For cable glands			**3SB39 01-0CN**	10 units

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

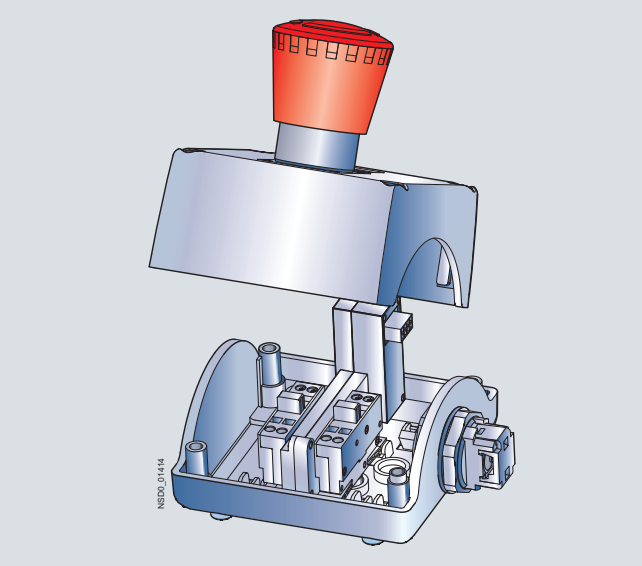
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Overview



AS-Interface enclosures with customized equipment

Distributed command devices of the 3SB3 series can be quickly connected to the AS-Interface using AS-Interface enclosures. Using suitable components you can make your own enclosures with integrated AS-Interface or flexibly modify existing enclosures.



EMERGENCY-STOP enclosures

Enclosures

Color of enclosure cover:

- Gray, RAL 7035, or
- Yellow, RAL 1004, for EMERGENCY-STOP.

Color of enclosure base:

- Black, RAL 9005

Installation of AS-Interface slaves

The following slave types are available for connecting the command points:

- Slave in A/B technology with 4 inputs and 3 outputs
- Slave with 4 inputs and 4 outputs
- F slave with 2 safe inputs for EMERGENCY-STOP

The following table shows the maximum number of equippable slaves:

Enclosures for	Number of slaves for enclosures without EMERGENCY-STOP	Number of slaves for enclosures with EMERGENCY-STOP
1 command point	Not available	1 x F slave
2 command points	1 x slave 4I/4O or 4I/3O	Not available
3 command points	1 x slave 4I/4O or 4I/3O	1 x slave 4I/4O or 4I/3O + 1 x F slave
4 command points	2 x slave 4I/4O or 4I/3O[1)]	2 × slave 4I/4O or 4I/3O + 1 × F slave[1)]
6 command points	2 x slave 4I/4O or 4I/3O	2 x slave 4I/4O or 4I/3O + 1 x F slave

[1)] For metal enclosures with 4 command points, only 1 x slave 4I/4O or 4I/3O is possible.

Connection

One set of links is required in each case to connect a slave to contact blocks, to lampholders and to the connection element.

The connection elements are mounted in the front-end cable glands and are used for connection of the AS-Interface or for bringing unused inputs or outputs out of the enclosure.

For connection to the AS-Interface bus there is a choice of the following options:

- Connecting terminal for shaped AS-Interface cable. The cable is contacted by the insulation piercing 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 command 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.

Customized enclosures (selection by configurator)

To order customized 3SF58 AS-Interface enclosures with the 3SB3 control devices, use the 3SB/3SF configurator to select the blocks for equipping. An electronic order form will be generated for the additional options.

For ordering notes see page 10/34.

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AS-Interface enclosures with standard fittings

Overview

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 actuators/indicators are fixed with an enclosure nut. If required it can be disassembled with a 27 mm socket wrench or with a 3SX17 07 ring nut wrench.

The enclosures without EMERGENCY-STOP each have one user module with 4I/3O; the enclosures with EMERGENCY-STOP have a safe AS-Interface slave integrated in the enclosure.

EMERGENCY-STOP enclosures are fitted with two NC contact blocks, which are wired to the safe slave. The contact blocks and lampholders (with spring-type terminals) of the control device, and the AS-Interface slaves, are mounted in the base of the enclosure and are cable-connected.

The plastic versions of the enclosures have a connection for the AS-Interface flat cable (the cable is routed past the enclosure on the outside); in the case of the metal versions the AS-Interface cable is routed into the enclosure.

The EMERGENCY-STOP enclosures can also be supplied with an M12 connector in place of the gland.

Selection and ordering data

Equipping options (A, B, C = identification letters of the command points)	Number of command points	DT	Order No.	PS*
AS-Interface enclosures, plastic				
 3SF5 811-0AA08				
With M12 top connector				
A = EMERGENCY-STOP mushroom pushbuttons, with rotate-to-unlatch mechanism, 1 NC, 1 NC, yellow enclosure top	1		**3SF5 811-0AA10**	1 unit
With terminal for insulation piercing method at top				
A = EMERGENCY-STOP mushroom pushbuttons, with rotate-to-unlatch mechanism, 1 NC, 1 NC				
• Yellow enclosure top	1		**3SF5 811-0AA08**	1 unit
• Yellow enclosure top, with protective collar	1		**3SF5 811-0AB08**	1 unit
 3SF5 812-0DA00				
B = Pushbutton green, label "I", 1 NO A = Pushbutton red, label "O", 1 NO	2		**3SF5 812-0DA00**	1 unit
B = Pushbutton white, label "I", 1 NO A = Pushbutton black, label "O", 1 NO	2		**3SF5 812-0DB00**	1 unit
C = Indicator lights clear, label without inscription B = Pushbutton green, label "I", 1 NO A = Pushbutton red, label "O", 1 NO	3		**3SF5 813-0DA00**	1 unit
C = Indicator lights clear, label without inscription B = Pushbutton white, label "I", 1 NO A = Pushbutton black, label "O", 1 NO	3		**3SF5 813-0DC00**	1 unit
C = Pushbutton black, label "II", 1 NO B = Pushbutton black, label "I", 1 NO A = Pushbutton red, label "O", 1 NO	3		**3SF5 813-0DB00**	1 unit
AS-Interface enclosures, metal				
 3SF5 811-2AB08				
With M12 top connector				
A = EMERGENCY-STOP mushroom pushbuttons, with rotate-to-unlatch mechanism, 1 NC, 1 NC				
• Yellow enclosure top	1		**3SF58 11-2AA10**	1 unit
• Yellow enclosure top, with protective collar	1		**3SF58 11-2AB10**	1 unit
With cable gland at top				
A = EMERGENCY-STOP mushroom pushbuttons, with rotate-to-unlatch mechanism, 1 NC, 1 NC				
• Yellow enclosure top	1		**3SF5 811-2AA08**	1 unit
• Yellow enclosure top, with protective collar	1		**3SF5 811-2AB08**	1 unit
 3SF5 813-2DA00				
B = Pushbutton green, label "I", 1 NO A = Pushbutton red, label "O", 1 NO	2		**3SF5 812-2DA00**	1 unit
B = Pushbutton white, label "I", 1 NO A = Pushbutton black, label "O", 1 NO	2		**3SF5 812-2DB00**	1 unit
C = Indicator lights clear, label without inscription B = Pushbutton green, label "I", 1 NO A = Pushbutton red, label "O", 1 NO	3		**3SF5 813-2DA00**	1 unit
C = Indicator lights clear, label without inscription B = Pushbutton white, label "I", 1 NO A = Pushbutton black, label "O", 1 NO	3		**3SF5 813-2DC00**	1 unit
C = Pushbutton black, label "II", 1 NO B = Pushbutton black, label "I", 1 NO A = Pushbutton red, label "O", 1 NO	3		**3SF5 813-2DB00**	1 unit

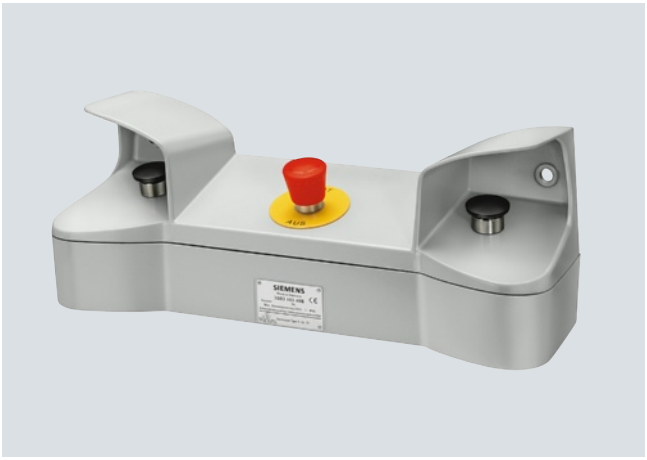
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Illustrations are approximate

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Plastic and metal enclosures

Overview



Two-hand operation console with metal enclosure

Equipment

The two-hand operation consoles are pre-equipped with 3SB3 command devices. In the case of plastic enclosures the command points are equipped as standard with actuators and indicators made of plastic, 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, Order No. 3SB30 00-1GA11 or 3SB35 00-1GA11
- 1 red EMERGENCY-STOP mushroom pushbutton according to ISO 13850, Ø 40 mm, with positive latching, 2 NC, Order No. 3SB30 00-1HA20 or 3SB35 00-1HA20.

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.

Operator panels 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, suitable evaluation units are used, e.g. 3TK28 3 safety relays (see Safety Relays in chapter 8).

Standards

The two-hand operation consoles comply with the requirements of EN 574.

Selection and ordering data

	Version	DT	Order No.	PS*
Metal enclosures, degree of protection IP65				
 3SB38 63-4BB	**Two-hand operation consoles, metal enclosure**			
	• With standard fittings		**3SB38 63-4BB**	1 unit
	• With standard fittings and 4 additional holes for 22.5 mm command devices[1)]		**3SB38 63-4BA**	1 unit
	• Empty enclosure, unequipped		**3SB38 63-4BC**	1 unit
Plastic enclosures, degree of protection IP65				
 3SB38 63-1BB3	**Two-hand operation consoles, plastic enclosure** • With standard fittings and premachined breaking points for 8 additional 22.5 mm command devices[1)]; with holes for metric cable glands		**3SB38 63-1BB3**	1 unit
Accessories				
 3SB39 01-0AQ	**Stands for two-hand operation consoles** With holes for metric cable glands		**3SB39 01-0AQ3**	1 unit

[1)] See 3SB3 Pushbuttons and Indicator Lights.

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Illustrations are approximate

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3SE7 metal enclosures

Overview



Cable-operated switches

The cable-operated switches are used for monitoring or for EMERGENCY-STOP devices on particularly endangered system sections.

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 wire lengths up to 50 m are supplied with 1 NO + 1 NC or 2 NC contacts and those up to 75 m with 1 NO + 3 NC contacts. The switches for wire lengths from 2 × 75 m and the conveyor belt unbalance protection device are supplied with 2 NO + 2 NC contacts.

The NC contacts of the cable-break or cable-pull signaling are positive opening. The NO contact can be used, for example, for signaling purposes.

Free position and indication

Cable-operated switches with one-side operation are held in free position by the pre-tension on the turnbuckle.

On switches with interlocking, with a pretensioned 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 positive latching and positive NC contacts and are thus suitable for operation in EMERGENCY-STOP devices according to EN ISO 13850.

Selection and ordering data

Version	Wire length	Contacts[1]	DT	Order No.	PS*
	m				
Cable-operated switches					
 3SE7 120-1BH00					
Metal enclosures, IP65 (cover made of molded plastic)	10				
• Without latching, only cable pull monitoring		1 NO + 1 NC	⊖	**3SE7 120-2DD01**	1 unit
• With latching and button reset		2 NC	⊖	**3SE7 120-1BF00**	1 unit
- With yellow lid		1 NO + 2 NC	⊖	**3SE7 120-1BH00**	1 unit
 3SE7 150-1BD00 3SE7 150-1BH00					
Metal enclosures, IP65 (cover made of molded plastic), with dust protection and alignment window	25				
• Without latching		1 NO + 1 NC	⊖	**3SE7 150-2DD00**	1 unit
• With latching and button reset		1 NO + 1 NC	⊖	**3SE7 150-1BD00**	1 unit
		2 NC	⊖	**3SE7 150-1BF00**	1 unit
- With yellow lid		1 NO + 2 NC	⊖	**3SE7 150-1BH00**	1 unit
• With latching and key unlatching		1 NO + 1 NC	⊖	**3SE7 150-1CD00**	1 unit

[1] NC contact with positive opening according to IEC 60947-5-1, Appendix K, identification by the symbol ⊖.

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Illustrations are approximate

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3SE7 metal enclosures

	Version	Wire length	Contacts[1]	DT	Order No.	PS*
		m				
Cable-operated switches						
 3SE7 150-1BD04	**Metal enclosures, IP65** (cover made of molded plastic), with dust protection and alignment window, with LED, red, 24 V DC	25				
	• Without latching		1 NO + 1 NC	➔	**3SE7 150-2DD04**	1 unit
	• With latching and button reset		1 NO + 1 NC	➔	**3SE7 150-1BD04**	1 unit
 3SE7 140-1B.00	**Metal enclosures, IP65** (cover made of molded plastic), with dust protection	50				
	• With latching and button reset		1 NO + 1 NC	➔	**3SE7 140-1BD00**	1 unit
			2 NC	➔	**3SE7 140-1BF00**	1 unit
	• In addition with LED, red, 24 V DC		1 NO + 1 NC	➔	**3SE7 140-1BD04**	1 unit
	• With latching and key unlatching		1 NO + 1 NC	➔	**3SE7 140-1CD00**	1 unit
 3SE7 141-1EG10	**Metal enclosures, IP67** (cover made of molded plastic), with EMERGENCY-STOP mushroom, rotate-to-unlatch mechanism	75	1 NO + 3 NC	➔	**3SE7 141-1EG10**	1 unit
 3SE7 160-1AE00	**Metal enclosures, IP65** with actuation on both sides	2 × 75				
	• With latching and button reset		2 NO + 2 NC	➔	**3SE7 160-1AE00**	1 unit
			1 NO + 1 NC	➔	**3SE7 160-1BD00**	1 unit
	• In addition with LED, red, 24 V DC		2 NO + 2 NC	➔	**3SE7 160-1AE04**	1 unit
Conveyor belt unbalance trackers						
 3SE7 310-1AE00	**Metal enclosures, IP65**					
	• With latching and button reset		2 NO + 2 NC	➔	**3SE7 310-1AE00**	1 unit
	• In addition with LED, red, 24 V DC		2 NO + 2 NC	➔	**3SE7 310-1AE04**	1 unit

[1] NC contact with positive opening according to IEC 60947-5-1, Appendix K, identification by the symbol ➔.

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3SE7 metal enclosures

	Version	Wire length/ diameter	DT	Order No.	PS*
Trip-wire with fixing					
	**Steel wires**, with red plastic sheath, Ø 4 mm[1)]	10 m		**3SE7 910-3AA**	1 unit
		15 m		**3SE7 910-3AB**	1 unit
		20 m		**3SE7 910-3AC**	1 unit
		50 m		**3SE7 910-3AH**	1 unit
	**Wire clamps**, galvanized white				
	• Oval	2 × Ø 4 mm		**3SE7 941-1AC**	1 unit
	• Simplex (1 set = 4 units)	2 × Ø 4 mm		**3SE7 943-1AC**	4 units
	• Duplex (1 set = 4 units)	2 × Ø 4 mm		**3SE7 944-1AC**	4 units
	• Single (1 set = 4 units)	2 × Ø 4 mm		**3SE7 942-1AA**	4 units
	**Tension springs** (zinc-plated) To maintain the counter tension				
	• 13 N			**3SE7 931-1AB**	1 unit
	• 35 N, for bowden wires up to 50 m			**3SE7 931-1AD**	1 unit
	• > 35 N, for bowden wires up to 2 × 75 m			**3SE7 931-1AE**	1 unit
	**Wire rollers** for changing the direction of the wire, rotatable	Ø 4 mm		**3SE7 921-1AC**	1 unit
	**Fixtures for the wire rollers** (incl. fixing nuts)			**3SE7 921-1AA**	1 unit
	**Wire eyes** for changes in wire direction and improved power transmission at the fixing points (1 set = 4 units)	Ø 4 mm		**3SE7 930-1AD**	4 units
	**Eyebolts** for fixing the wire				
	• Including M8 nut			**3SE7 920-1AB**	1 unit
	• Including M10 nut			**3SE7 920-1AC**	1 unit
	**Turnbuckles** for precise adjustment of the pretension				
	• M6 x 60			**3SE7 950-1AB**	1 unit
	• M6 x 110			**3SE7 950-1AD**	1 unit
Spare parts					
	**LED lamps,** red 24 V DC 25 mm diameter; for M20 x 1.5 connection			**3SX3 235**	1 unit

[1)] Diameter including casing; the diameter of the steel wire is 3.2 mm.

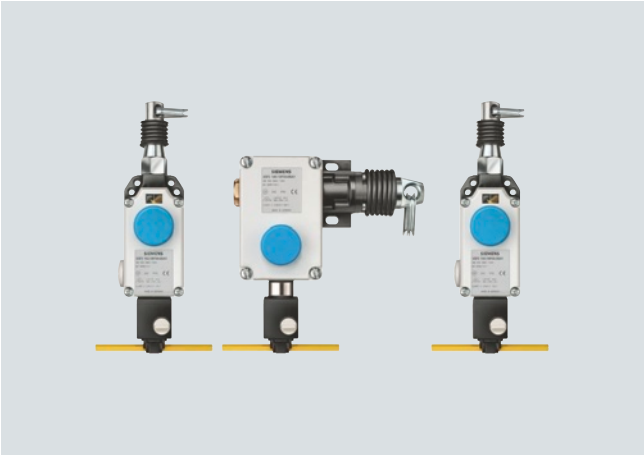
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*** You can order this quantity or a multiple thereof.**
Illustrations are approximate

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3SF2 cable-operated switches for AS-Interface

Overview



Cable-operated switch with AS-Interface adapter

AS-Interface cable-operated switches can now be directly connected via the standard AS-Interface with safety-oriented communication. The safety functions no longer have to be conventionally wired up.

SIRIUS cable-operated switches are used for monitoring or for EMERGENCY-STOP devices on particularly endangered system sections.

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.

Standards

The switches with positive latching are suitable for operation in EMERGENCY-STOP devices according to EN ISO 13850. They can achieve up to category 4 according to EN ISO 13849-1 (EN 954-1) or SIL 3 according to IEC 61508.

Selection and ordering data

	Version	Basic switch[1]	DT	Order No.	PS*
	ASIsafe cable-operated switches				
	Metal enclosures, IP65 (cover made of molded plastic), with dust protection, latching acc. to ISO 13850, 2 NC contacts, with button reset				
 3SF2 120-1BF00-0BA1	• For wire lengths up to 10 m, with alignment window	*3SE7 120-1BF00*	➔	**3SF2 120-1BF00-0BA1**	1 unit
 3SF2 150-1BF00-0BA1	• For wire lengths up to 25 m, with alignment window	*3SE7 150-1BF00*	➔	**3SF2 150-1BF00-0BA1**	1 unit
 3SF2 140-1BF00-0BA1	• For wire lengths up to 50 m	*3SE7 140-1BF00*	➔	**3SF2 140-1BF00-0BA1**	1 unit

[1] NC contact with positive opening according to IEC 60947-5-1, Appendix K, identification by the symbol ➔.

10

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Illustrations are approximate

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Plastic and metal enclosures

Overview

Standard switches

The 3SE2 9 and 3SE3 9 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 in latching or momentary-contact versions. The momentary-contact pedal switch in the plastic enclosure has one microswitch (changeover contact) per actuating pedal.

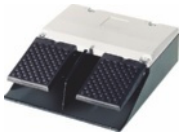
Safety foot switches

The 3SE2 924-3AA20 single-pedal safety foot switches are used on machines and plants as OK switches when operation by hand is not possible and the EMERGENCY-STOP function must be available if a hazardous status arises. The switches are interlocked according to EN ISO 13850 and bear the CE mark in accordance with the machinery directive.

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 for easy connection of a single-phase motor.

For details of operation see Catalog IC 10 · 2011 or the Industry Mall.

Selection and ordering data

Version	Slow-action contacts per pedal[1]	DT	Order No.	PS*
Metal enclosures, degree of protection IP65				
 3SE2 90.-.AA20 3SE2 91.-.AA20				
Momentary-contact foot switches, single pedal M20 x 1.5 cable entry				
• Without hood	1 NO + 1 NC	⊖	**3SE2 902-0AB20**	1 unit
	2 NO + 2 NC	⊖	**3SE2 903-1AB20**	1 unit
• With hood	1 NO + 1 NC	⊖	**3SE2 902-0AA20**	1 unit
	2 NO + 2 NC	⊖	**3SE2 903-1AA20**	1 unit
 3SE2 932-.AB20				
Momentary-contact foot switches, single pedal M20 x 1.5 cable entry				
• Without hood	1 NO + 1 NC	⊖	**3SE2 912-2AB20**	1 unit
• With hood	1 NO + 1 NC	⊖	**3SE2 912-2AA20**	1 unit
 3SE2 932-.AA20				
Momentary-contact foot switches, two pedals M25 x 1.5 cable entry				
• Without hood	1 NO + 1 NC	⊖	**3SE2 932-0AB20**	1 unit
	2 NO + 2 NC	⊖	**3SE2 932-1AB20**	1 unit
• With hood	1 NO + 1 NC	⊖	**3SE2 932-0AA20**	1 unit
	2 NO + 2 NC	⊖	**3SE2 932-1AA20**	1 unit
 3SE2 924-3AA20				
Safety foot switches, single pedal, M20 x 1.5 cable entry With hood With interlock according to ISO 13850, NO closes as momentary contact type, NC opens with latching	2 NO + 2 NC	⊖	**3SE2 924-3AA20**	1 unit
Plastic enclosures, degree of protection IP65				
 3SE3 902-4CA20				
Momentary-contact pedal switches, 3 m cable	Microswitch			
• Single pedal				
- Without hood	1 CO contacts		**3SE3 902-4CB20**	1 unit
- With hood	1 CO contacts		**3SE3 902-4CA20**	1 unit
• Two pedals, without hood	2 × 1 CO contact		**3SE3 934-5CB20**	1 unit
 3SE3 934-5CB20				

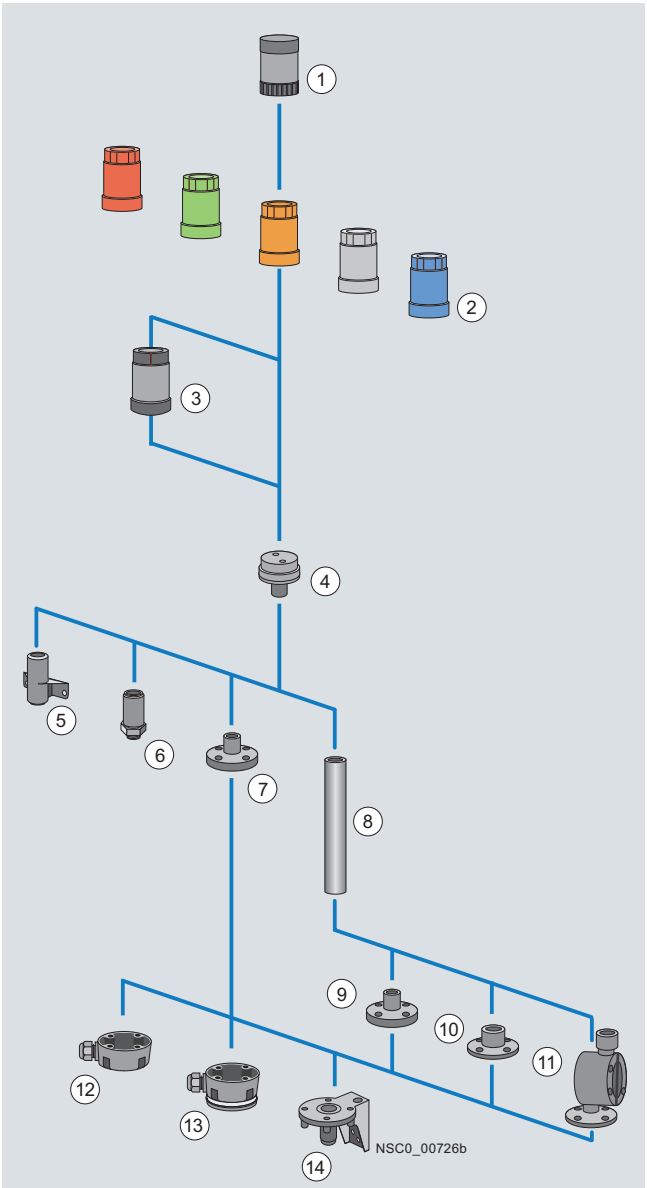
[1] NC contact with positive opening according to IEC 60947-5-1, Appendix K, identification by the symbol ⊖.

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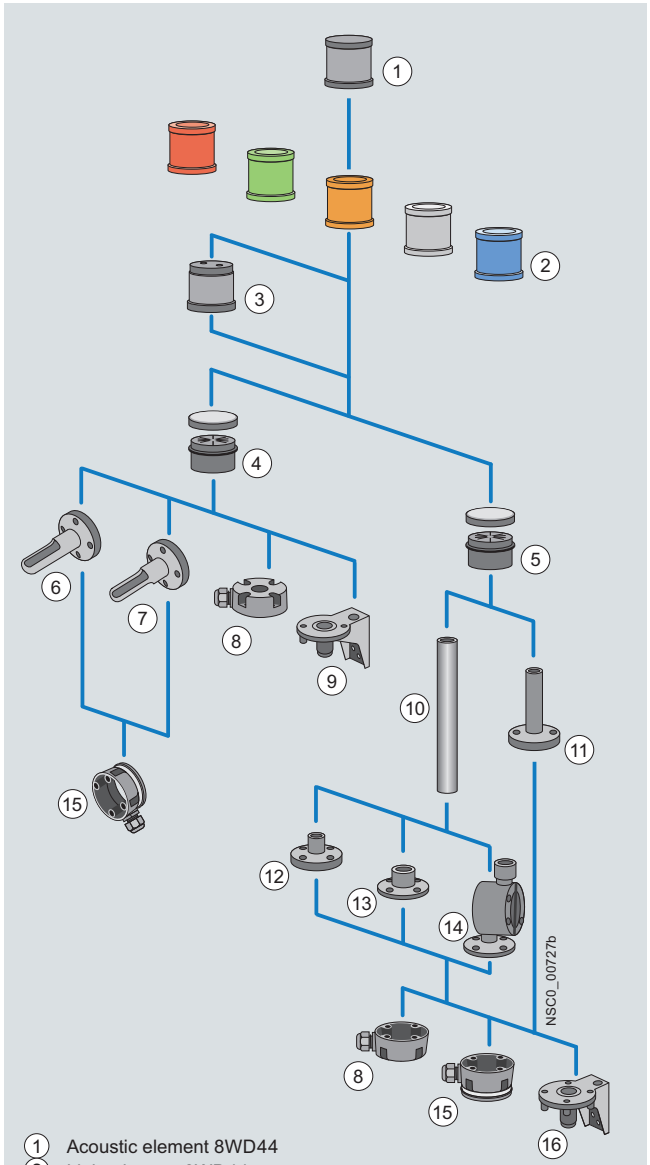
Overview

The 8WD4 signaling columns are flexible in design and versatile in use.



1 Acoustic element 8WD42 .0-0FA
2 Light element 8WD42
3 AS-Interface adapter element 8WD42 28-0BB
4 Connection element 8WD42 08-0AA
5 Bracket for wall mounting 8WD42 08-0CD
6 Adapter for single-hole mounting 8WD42 08-0EH
7 Foot for mounting 8WD42 08-0DE
8 Pipe 8WD42 08-0EF/8WD43 08-0E.
9 Foot for mounting with pipe 8WD43 08-0DB
10 Foot for mounting with pipe (> 400 mm) 8WD43 08-0DC
11 Adjustable-angle foot for mounting on pipes 8WD44 08-0DF
12 Socket 8WD43 08-0DD
13 Socket (magnetic fixing) 8WD43 08-0DE
14 Bracket for mounting with foot 8WD44 08-0CC

8WD42 signaling columns (width 50 mm) with up to 4 elements



1 Acoustic element 8WD44
2 Light element 8WD44
3 AS-Interface adapter element 8WD44 28-0BD/8WD44 28-0BE
4 Connection element for mounting on bracket, base and floor 8WD44 08-0AB/8WD44 08-0AE
5 Connection element for mounting on pipe 8WD44 08-0AA/8WD44 08-0AD
6 Bracket for wall mounting 8WD43 08-0CA
7 Bracket for wall mounting (two-sided) 8WD43 08-0CB
8 Socket 8WD43 08-0DD
9 Bracket for base mounting 8WD44 08-0CD
10 Pipe 8WD42 08-0EF/8WD43 08-0E.
11 Foot with pipe 8WD43 08-0DA
12 Foot for mounting with pipe 8WD43 08-0DB
13 Foot for mounting with pipe (> 400 mm) 8WD43 08-0DC
14 Adjustable-angle foot for mounting on pipes 8WD44 08-0DF
15 Socket (magnetic fixing) 8WD43 08-0DE
16 Bracket for mounting with foot 8WD44 08-0CC

8WD44 signaling columns (width 70 mm) with up to 5 elements

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8WD42 signaling columns, 50 mm diameter
8WD44 signaling columns, 70 mm diameter

Overview

Features of the 8WD42
- Thermoplast enclosure, diameter 50 mm
- Degree of protection IP54
- Up to 4 elements can be mounted on connection element

Features of the 8WD44
- Thermoplast enclosure, diameter 70 mm
- Design with significantly improved illumination
- Fast and flexible connection using spring-type terminals
- Integrated degree of protection IP65
- Up to 5 elements can be mounted on connection element

Selection and ordering data

	Version	Rated voltage	Color	DT	Diameter 50 mm	PS*	DT	Diameter 70 mm	PS*
		V			Order No.			Order No.	
Acoustic elements[1]									
	**Buzzer elements** 8WD42: 80 dB; 8WD44: 85 dB pulsating or continuous tone, adjustable by means of a wire jumper	24 AC/DC	Black		**8WD42 20-0FA**	1 unit		**8WD44 20-0FA**	1 unit
		230 AC			**8WD42 50-0FA**	1 unit		**8WD44 50-0FA**	1 unit
	Siren elements, 100 dB, multi-tone, 8 tones and volume are adjustable	24 AC/DC	Black		--			**8WD44 20-0EA2**	1 unit
		230 AC			--			**8WD44 50-0EA2**	1 unit
	Siren elements, 108 dB, IP40	24 DC	Black		--			**8WD44 20-0EA**	1 unit
Light elements for incandescent lamps/LEDs, BA 15d bases[2]									
	**Continuous light elements**	8WD42: 24 ... 230 AC/DC 8WD44: 12 ... 230 AC/DC	Red		**8WD42 00-1AB**	1 unit		**8WD44 00-1AB**	1 unit
			Green		**8WD42 00-1AC**	1 unit		**8WD44 00-1AC**	1 unit
			Yellow		**8WD42 00-1AD**	1 unit		**8WD44 00-1AD**	1 unit
			Clear		**8WD42 00-1AE**	1 unit		**8WD44 00-1AE**	1 unit
			Blue		**8WD42 00-1AF**	1 unit		**8WD44 00-1AF**	1 unit
	**Blinklight elements**	24 AC/DC[3]	Red		--			**8WD44 20-1BB**	1 unit
			Green		--			**8WD44 20-1BC**	1 unit
			Yellow		--			**8WD44 20-1BD**	1 unit
			Clear		--			**8WD44 20-1BE**	1 unit
			Blue		--			**8WD44 20-1BF**	1 unit
Light elements with integrated flash lamps[4]									
	**Flashlight elements** with integrated electronic flash	24 DC[3]	Red		--			**8WD44 20-0CB**	1 unit
			Green		--			**8WD44 20-0CC**	1 unit
			Yellow		--			**8WD44 20-0CD**	1 unit
			Clear		--			**8WD44 20-0CE**	1 unit
			Blue		--			**8WD44 20-0CF**	1 unit
Light elements with integrated LED									
	**Continuous light elements**	24 AC/DC	Red		**8WD42 20-5AB**	1 unit		**8WD44 20-5AB**	1 unit
			Green		**8WD42 20-5AC**	1 unit		**8WD44 20-5AC**	1 unit
			Yellow		**8WD42 20-5AD**	1 unit		**8WD44 20-5AD**	1 unit
			Clear		--			**8WD44 20-5AE**	1 unit
			Blue		--			**8WD44 20-5AF**	1 unit
	**Blinklight elements**	24 AC/DC	Red		**8WD42 20-5BB**	1 unit		**8WD44 20-5BB**	1 unit
			Green		**8WD42 20-5BC**	1 unit		**8WD44 20-5BC**	1 unit
			Yellow		**8WD42 20-5BD**	1 unit		**8WD44 20-5BD**	1 unit
			Clear		**8WD42 20-5BE**	1 unit		--	
			Blue		**8WD42 20-5BF**	1 unit		--	
	Rotating light elements	24 AC/DC	Red		--			**8WD44 20-5DB**	1 unit
			Green		--			**8WD44 20-5DC**	1 unit
			Yellow		--			**8WD44 20-5DD**	1 unit
Connection elements									
	**Connection elements with cover**		Black						
	Screw terminals								
	• For mounting on pipes, floors and brackets				**8WD42 08-0AA**	1 unit		--	
	• For mounting on pipes				--			**8WD44 08-0AA**	1 unit
	• For mounting on brackets and floors				--			**8WD44 08-0AB**	1 unit
	Spring-type terminals								
	• For mounting on pipes				--			**8WD44 08-0AD**	1 unit
	• For mounting on brackets and floors				--			**8WD44 08-0AE**	1 unit
	Cover (replacement)				--			**8WD44 08-0XA**	1 unit

1) 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.

3) Version 230 V AC: 8WD44 50-1B. or 8WD44 50-0C.

4) The lamp is included in the scope of supply.

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

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8WD42 signaling columns, 50 mm diameter
8WD44 signaling columns, 70 mm diameter

	Version	Rated voltage	Color	DT	Diameter 50 mm	PS*	DT	Diameter 70 mm	PS*
		V			Order No.			Order No.	
Lamps, BA 15d bases									
	**Incandescent lamps, 5 W**	24 AC/DC			**8WD43 28-1XX**	10 units		**8WD43 28-1XX**	10 units
		115 AC			**8WD43 48-1XX**	10 units		**8WD43 48-1XX**	10 units
		230 AC			**8WD43 58-1XX**	10 units		**8WD43 58-1XX**	10 units
	**LEDs**	24 AC/DC	Red		**8WD44 28-6XB**	1 unit		**8WD44 28-6XB**	1 unit
			Green		**8WD44 28-6XC**	1 unit		**8WD44 28-6XC**	1 unit
			Yellow		**8WD44 28-6XD**	1 unit		**8WD44 28-6XD**	1 unit
			Clear		**8WD44 28-6XE**	1 unit		**8WD44 28-6XE**	1 unit
			Blue		**8WD44 28-6XF**	1 unit		**8WD44 28-6XF**	1 unit
		230 AC	Red		**8WD44 58-6XB**	1 unit		**8WD44 58-6XB**	1 unit
			Green		**8WD44 58-6XC**	1 unit		**8WD44 58-6XC**	1 unit
			Yellow		**8WD44 58-6XD**	1 unit		**8WD44 58-6XD**	1 unit
			Clear		**8WD44 58-6XE**	1 unit		**8WD44 58-6XE**	1 unit
			Blue		**8WD44 58-6XF**	1 unit		**8WD44 58-6XF**	1 unit
Mounting									
	**Feet, single**								
	• Plastic, for mounting on pipes				**8WD43 08-0DB**	1 unit		**8WD43 08-0DB**	1 unit
	• Metal, for pipe lengths > 400 mm				**8WD43 08-0DC**	1 unit		**8WD43 08-0DC**	1 unit
	• Plastic, for floor mounting (without pipe)				**8WD42 08-0DE**	1 unit		**--**	
	Feet with pipe Pipe length 100 mm				**--**			**8WD43 08-0DA**	1 unit
	**Adjustable-angle feet** for positioning in 7.5° increments[1] Plastic, for mounting on pipes, incl. rubber seal				**8WD44 08-0DF**	1 unit		**8WD44 08-0DF**	1 unit
	**Pipes, single**								
	• Length 100 mm				**8WD42 08-0EF**	1 unit		**8WD42 08-0EF**	1 unit
	• Length 150 mm				**8WD43 08-0EE**	1 unit		**8WD43 08-0EE**	1 unit
	• Length 250 mm				**8WD43 08-0EA**	1 unit		**8WD43 08-0EA**	1 unit
	• Length 400 mm				**8WD43 08-0EB**	1 unit		**8WD43 08-0EB**	1 unit
	• Length 1000 mm				**8WD43 08-0ED**	1 unit		**8WD43 08-0ED**	1 unit
	**Sockets for feet**								
	• Side cable outlet				**8WD43 08-0DD**	1 unit		**8WD43 08-0DD**	1 unit
	• Side cable outlet, with magnetic fixing[2]				**8WD43 08-0DE**	1 unit		**8WD43 08-0DE**	1 unit
	**Brackets for mounting with foot**				**8WD44 08-0CC**	1 unit		**8WD44 08-0CC**	1 unit
	Brackets for base mounting				**--**			**8WD44 08-0CD**	1 unit
	**Brackets for wall mounting** Mounting without feet and pipe								
	• For single-sided mounting				**8WD42 08-0CD**	1 unit		**--**	
	• For single-sided mounting				**--**			**8WD43 08-0CA**	1 unit
	• For double-sided mounting				**--**			**8WD43 08-0CB**	1 unit
	**Adapters for single-hole mounting** Mounting without feet and pipe, with M18 thread and fixing nut				**8WD42 08-0EH**	1 unit		**8WD42 08-0EH**	1 unit
Adapter elements for AS-Interface									
	**AS-Interface adapter elements**		Black						
	• With external auxiliary voltage	For 4 signaling elements 24 V DC			**8WD42 28-0BB**	1 unit		**--**	
	• A/B technology, with/without external auxiliary voltage, switchable	For 3 signaling elements 24 V DC			**--**			**8WD44 28-0BD**	1 unit
	• Standard AS-Interface, with external auxiliary voltage	For 4 signaling elements 24 V DC			**--**			**8WD44 28-0BE**	1 unit

[1] Markings for 30°, 45°, 60° and 90°.

[2] For horizontal mounting, only 1 element is recommended.

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

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8WD53 integrated signal lamps, 70 mm diameter

Overview



Integrated signal lamps

Design

Features:

- Thermoplast enclosures, 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 single-flash lights are available in five colors.

The LED versions of the integrated signal lamps offer a considerably longer endurance than the incandescent lamp versions.

All integrated signal lamps have a high degree of protection IP65 and are made of a material highly resistant to impact.

Mounting

8WD53 integrated signal lamps can be mounted directly 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.

Selection and ordering data

	Version	Rated voltage	Color	DT	Order No.	PS*
Lights for incandescent lamps/LED, BA 15d base						
	**Continuous lights**[1]	24 ... 230 AC/DC	Red		**8WD53 00-1AB**	1 unit
			Green		**8WD53 00-1AC**	1 unit
			Yellow		**8WD53 00-1AD**	1 unit
			Clear		**8WD53 00-1AE**	1 unit
			Blue		**8WD53 00-1AF**	1 unit
Lights with integrated flash lamp						
	**Single-flash lights** with integrated electronic flash	24 AC/DC	Red		**8WD53 20-0CB**	1 unit
			Green		**8WD53 20-0CC**	1 unit
			Yellow		**8WD53 20-0CD**	1 unit
			Clear		**8WD53 20-0CE**	1 unit
			Blue		**8WD53 20-0CF**	1 unit
		115 AC	Red		**8WD53 40-0CB**	1 unit
			Green		**8WD53 40-0CC**	1 unit
			Yellow		**8WD53 40-0CD**	1 unit
			Clear		**8WD53 40-0CE**	1 unit
			Blue		**8WD53 40-0CF**	1 unit
		230 AC	Red		**8WD53 50-0CB**	1 unit
			Green		**8WD53 50-0CC**	1 unit
			Yellow		**8WD53 50-0CD**	1 unit
			Clear		**8WD53 50-0CE**	1 unit
			Blue		**8WD53 50-0CF**	1 unit
Lights with integrated LED						
	**Continuous light**	24 AC/DC	Red		**8WD53 20-5AB**	1 unit
			Green		**8WD53 20-5AC**	1 unit
			Yellow		**8WD53 20-5AD**	1 unit
	Blinklight lamps	24 AC/DC	Red		**8WD53 20-5BB**	1 unit
			Green		**8WD53 20-5BC**	1 unit
			Yellow		**8WD53 20-5BD**	1 unit
	Rotating lights	24 AC/DC	Red		**8WD53 20-5DB**	1 unit
			Green		**8WD53 20-5DC**	1 unit
			Yellow		**8WD53 20-5DD**	1 unit

[1] Lamp not included in scope of supply. Please order separately;
see Accessories for Signaling Columns on page 10/47.

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

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Transformers and Power Supplies



11/2 **Introduction**

Single-phase transformers

Safety, Isolating, Control and Mains Transformers

11/4 SIRIUS 4AM safety, mains and control transformers

11/5 SIRIUS 4AM isolating, control and mains transformers

Three-Phase Transformers

Safety, Isolating, Control and Mains Transformers

11/6 SIRIUS 4AP, 4AU isolating, control and mains transformers

4AV Non-Stabilized Power Supplies

Filtered for Supply of Electronic Controls

11/7 SIRIUS 4AV2, 4AV4 power supplies, filtered, single-phase

11/9 SIRIUS 4AV3, 4AV5 power supplies, filtered, three-phase

More technical information

can be found at
www.siemens.com/industrial-controls/support

under Product List:
- Technical specifications

under Entry List:
- Updates
- Downloads
- FAQ
- Manuals
- Characteristic curves
- Certificates

and at
www.siemens.com/industrial-controls/configurators
- Configurators

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Introduction

Overview

Single-phase transformers



4AM

Version	Rated power kVA	Rated input voltage V AC	Rated output voltage V AC	Safety class	Page
Safety, isolating, control and mains transformers					
SIRIUS 4AM safety, mains and control transformers					
With one input voltage	0.025 ... 1.0	230 ± 5 %; 400 ± 5 %	24; 42	I	11/4
For European voltages	0.063 ... 1.0	400/230 ± 15 V	24	I	11/4
In multi-voltage version	0.063 ... 1.0	550 ... 208	24	I	11/4
SIRIUS 4AM isolating, control and mains transformers					
With one input voltage	0.025 ... 2.5	230 ± 5 %; 400 ± 5 %	110; 230	I	11/5
For European voltages	0.063 ... 2.5	400/230 ± 15 V	2 × 115	I	11/5
In multi-voltage version	0.063 ... 2.5	550 ... 208	2 × 115	I	11/5

For other products see Catalog IC 10 · 2011 (on the attached CD-ROM), the Industry Mall or www.mdexx.com .

Three-phase transformers



4AP20



4AU

Version	Rated power kVA	Rated input voltage 3 V AC	Rated output voltage 3 V AC	Safety class	Page
Safety, isolating, control and mains transformers					
SIRIUS 4AP, 4AU isolating, control and mains transformers					
4AP and 4AU in two-voltage version	0.63 ... 16	Y 500-400 /Δ 289-230	Y 400/Δ 230	I	11/6
4AP and 4AU in multi-voltage version	0.63 ... 16	Y 520 ... 360 /Δ 300 ... 208	Y 400/Δ 230	I	11/6

For other products see Catalog IC 10 · 2011 (on the attached CD-ROM), the Industry Mall or www.mdexx.com .

4AV Non-Stabilized Power Supplies











		4AV21/23	4AV20/22/24/26	4AV4	4AV3	4AV5
Filtered for supply of electronic controls						
Ripple		< 5 %	< 5 %	< 5 %	< 5 %	< 5 %
Phase		1	1	1	3	3
Rated input voltage	V AC	115 ... 415	115 ... 415	230 ... 415	200 ... 600	400 ... 415
Rated output voltage according to EN 61131-2 suitable for SIMATIC systems	V DC	24	24	24	24	24
Rated output current	A	1 ... 4.2	2.5 ... 18	1.5 ... 10	15 ... 180	25, 35
Connection		Screw terminals/ flat connectors	Screw terminals/ flat connectors	Screw terminals/ flat connectors	Screw terminals/ flat connectors	Screw terminals/ flat connectors
Mounting		Standard rail mounting	Screw and/or standard rail mounting	Screw and/or standard rail mounting	Screw mounting	Screw mounting
cULus approval at 60 °C		Yes	Yes	No	4AV30 ... 4AV35: Yes; 4AV36, 4AV38: No	No
Page		11/7	11/8	11/8	11/9	11/9

For other products see Catalog IC 10 · 2011 (on the attached CD-ROM), the Industry Mall or www.mdexx.com .

Connection methods

The 4AM single-phase transformers, the three-phase 4AP, 4AU transformers and the unregulated 4AV power supplies are available with screw terminals/flat connectors.

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Introduction



Screw terminals



Flat connectors

The terminals are indicated in the corresponding tables by the symbols shown on orange backgrounds.

Options

Delivery time class DT

The delivery time classes are specified in the selection tables in front of the order numbers.

The standard transport time for Germany is 1 day (see "Ordering notes" on page 3).

The quoted delivery time class for the 4AM, 4AP, 4AU transformers and the 4AV power supplies is applicable to an order quantity of up to 5 units.

▶ Preferred type

This delivery time class applies with the degree of protection IP00, i.e. these units can be supplied immediately from stock[1)] and will be dispatched within 24 hours. The transport times depend on the destination and the mode of delivery.

Delivery time class B is applicable to an order quantity of 6 units and more.

Orders for transformers and non-stabilized power supplies in customized versions or with special applications are handled exclusively by mdexx GmbH

For customized transformers and non-stabilized power supplies not listed in our Catalog IC 90 please send your enquiries to mdexx GmbH:

trafo@mdexx.com

or by fax to +49 (0)421/5125 333.

mdexx GmbH will reply with all the data needed for you to place an order.

[1)] This is based on standard commercial orders – normal order!

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Single-Phase Transformers

Safety, Isolating, Control and Mains Transformers

SIRIUS 4AM
safety, mains and control transformers

Overview

- 4AM2: according to EN 61558-2-6, -2-1;
  4AM3 to 4AM5: according to EN 61558-2-6, -2-1, -2-2
- cULus
- t_a = 40 °C/B
- 50/60 Hz AC
- Degree of protection IP00 (IP23 and IP54 on request)
- 4AM2: , ;
  4AM3 to 4AM5: , ,
- For other products see Catalog IC 10 · 2011 (on the attached CD-ROM), the Industry Mall or www.mdexx.com .

Selection and ordering data

With one input voltage

4AM2: cULus, , ; 4AM3 to 4AM5: cULus, , ,

Rated power P_n	Short-time rating $P_{shortt.}$ [1]	DT [2]	Rated input voltage U_{1N} • 230 V ± 5 % Screw terminals/ flat connectors Order No.	PS*	Cu weight per PU approx. kg	DT [2]	Rated input voltage U_{1N} • 400 V ± 5 % Screw terminals/ flat connectors Order No.	PS*	Cu weight per PU approx. kg
kVA	kVA								
Rated output voltage U_{2N}: 24 V			Standard version [3]				Standard version [3]		
0.025	--[4]	▶	**4AM23 42-4TN00-0EA0**	1 unit	0.110	▶	**4AM23 42-5AN00-0EA0**	1 unit	0.110
0.04	--[4]	▶	**4AM26 42-4TN00-0EA0**	1 unit	0.150	▶	**4AM26 42-5AN00-0EA0**	1 unit	0.150
0.063	0.19	▶	**4AM32 42-4TN00-0EA0**	1 unit	0.240	▶	**4AM32 42-5AN00-0EA0**	1 unit	0.240
0.1	0.31	▶	**4AM34 42-4TN00-0EA0**	1 unit	0.260	▶	**4AM34 42-5AN00-0EA0**	1 unit	0.260
0.16	0.49	▶	**4AM38 42-4TN00-0EA0**	1 unit	0.320	▶	**4AM38 42-5AN00-0EA0**	1 unit	0.320
0.25	0.85	▶	**4AM40 42-4TN00-0EA0**	1 unit	0.590	▶	**4AM40 42-5AN00-0EA0**	1 unit	0.590
0.315	1.12	▶	**4AM43 42-4TN00-0EA0**	1 unit	0.670	▶	**4AM43 42-5AN00-0EA0**	1 unit	0.670
0.4	1.44	▶	**4AM46 42-4TN00-0EA0**	1 unit	1.100	▶	**4AM46 42-5AN00-0EA0**	1 unit	1.100
0.5	2	▶	**4AM48 42-4TN00-0EA0**	1 unit	1.100	▶	**4AM48 42-5AN00-0EA0**	1 unit	1.100
0.63	2.35	▶	**4AM52 42-4TN00-0EA0**	1 unit	1.700	▶	**4AM52 42-5AN00-0EA0**	1 unit	1.700
0.8	3.4	▶	**4AM55 42-4TN00-0EA0**	1 unit	1.900	▶	**4AM55 42-5AN00-0EA0**	1 unit	1.900
1	5	▶	**4AM57 42-4TN00-0EA0**	1 unit	2.000	▶	**4AM57 42-5AN00-0EA0**	1 unit	2.000
Rated output voltage U_{2N}: 42 V			Standard version [3]				Standard version [3]		
0.025	--[4]		**4AM23 42-4TV00-0EA0**	1 unit	0.110		**4AM23 42-5AV00-0EA0**	1 unit	0.110
0.04	--[4]		**4AM26 42-4TV00-0EA0**	1 unit	0.150		**4AM26 42-5AV00-0EA0**	1 unit	0.150
0.057	0.19	▶	**4AM32 42-4TV00-0EA0**	1 unit	0.240	▶	**4AM32 42-5AV00-0EA0**	1 unit	0.240
0.09	0.31	▶	**4AM34 42-4TV00-0EA0**	1 unit	0.260	▶	**4AM34 42-5AV00-0EA0**	1 unit	0.260
0.145	0.49	▶	**4AM38 42-4TV00-0EA0**	1 unit	0.320	▶	**4AM38 42-5AV00-0EA0**	1 unit	0.320
0.225	0.85	▶	**4AM40 42-4TV00-0EA0**	1 unit	0.590	▶	**4AM40 42-5AV00-0EA0**	1 unit	0.590
0.268	1.12		**4AM43 42-4TV00-0EA0**	1 unit	0.670		**4AM43 42-5AV00-0EA0**	1 unit	0.670
0.34	1.44		**4AM46 42-4TV00-0EA0**	1 unit	1.100		**4AM46 42-5AV00-0EA0**	1 unit	1.100
0.425	2		**4AM48 42-4TV00-0EA0**	1 unit	1.100		**4AM48 42-5AV00-0EA0**	1 unit	1.100
0.535	2.35		**4AM52 42-4TV00-0EA0**	1 unit	1.700		**4AM52 42-5AV00-0EA0**	1 unit	1.700
0.68	3.4		**4AM55 42-4TV00-0EA0**	1 unit	1.900		**4AM55 42-5AV00-0EA0**	1 unit	1.900
0.85	5		**4AM57 42-4TV00-0EA0**	1 unit	2.000		**4AM57 42-5AV00-0EA0**	1 unit	2.000



4AM40



4AM40

1) For p.f. = 0.5 and $U_2 = 0.95 \times U_{2N}$.

2) The delivery time class depends on the quantity, see page 11/3 "Options".

3) For types 4AM32 to 4AM40, standard rail mounting is integrated in the standard version. Types 4AM23, 4AM26 and 4AM43 to 4AM48 can also be supplied with standard rail mounting.

4) Available only as safety and mains transformer; not possible as control transformer.

In European voltage version or multi-voltage version

cULus, , ,

Rated power P_n	Short-time rating $P_{shortt.}$ [1]	DT [2]	Rated input voltage U_{1N} • 400/230 V ± 15 V Screw terminals/ flat connectors Order No.	PS*	Cu weight per PU approx. kg	DT [2]	Rated input voltage U_{1N} • 550-525-500-480-460-440-415-400-380-230-208 V Screw terminals/ flat connectors Order No.	PS*	Cu weight per PU approx. kg
kVA	kVA								
Rated output voltage U_{2N}: 24 V			Standard version [3]				Standard version [3]		
0.063	0.19	▶	**4AM32 42-8JN00-0EA0**	1 unit	0.340	▶	**4AM32 42-8DN00-0EA0**	1 unit	0.340
0.1	0.31	▶	**4AM34 42-8JN00-0EA0**	1 unit	0.360	▶	**4AM34 42-8DN00-0EA0**	1 unit	0.360
0.16	0.49	▶	**4AM38 42-8JN00-0EA0**	1 unit	0.450	▶	**4AM38 42-8DN00-0EA0**	1 unit	0.450
0.25	0.85	▶	**4AM40 42-8JN00-0EA0**	1 unit	0.820	▶	**4AM40 42-8DN00-0EA0**	1 unit	0.820
0.315	1.12		**4AM43 42-8JN00-0EA0**	1 unit	1.000	▶	**4AM43 42-8DN00-0EA0**	1 unit	1.000
0.4	1.44		**4AM46 42-8JN00-0EA0**	1 unit	1.500	▶	**4AM46 42-8DN00-0EA0**	1 unit	1.500
0.5	2		**4AM48 42-8JN00-0EA0**	1 unit	1.500	▶	**4AM48 42-8DN00-0EA0**	1 unit	1.500
0.63	2.35		**4AM52 42-8JN00-0EA0**	1 unit	2.400	▶	**4AM52 42-8DN00-0EA0**	1 unit	2.400
0.8	3.4		**4AM55 42-8JN00-0EA0**	1 unit	2.600		**4AM55 42-8DN00-0EA0**	1 unit	2.600
1	5		**4AM57 42-8JN00-0EA0**	1 unit	2.800		**4AM57 42-8DN00-0EA0**	1 unit	2.800



4AM40

1) For p.f. = 0.5 and $U_2 = 0.95 \times U_{2N}$.

2) The delivery time class depends on the quantity, see page 11/3 "Options".

3) For types 4AM32 to 4AM40, standard rail mounting is integrated in the standard version.

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

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Overview

- According to EN 61558-2-4, -2-2, -2-1
- cULus[1]
- t_a = 40 °C/B
- 50/60 Hz AC
- Degree of protection IP00 (IP23 and IP54 on request)
- ⊖, ⚠, ⊖
- For other products see Catalog IC 10 · 2011 (on the attached CD-ROM), the Industry Mall or www.mdexx.com .

[1] cULus approvals for voltages ≤ 600 V (excluding tappings).

Selection and ordering data

With one input voltage

cULus, ⊖, ⚠, ⊖

	Rated power P_n	Short-time rating $P_{shortt.}$ [1]	DT[2]	Rated input voltage U_{1N} • 230 V ± 5 % **Screw terminals/ flat connectors**	PS*	Cu weight per PU approx.	DT[2]	Rated input voltage U_{1N} • 400 V ± 5 % **Screw terminals/ flat connectors**	PS*	Cu weight per PU approx.
	kVA	kVA		Order No.		kg		Order No.		kg
Rated output voltage U_{2N}: 110 V				Standard version[3]				Standard version[3]		
 4AM40	0.063	0.19	▶	**4AM32 42-4TJ10-0FA0**	1 unit	0.240	▶	**4AM32 42-5AJ10-0FA0**	1 unit	0.240
	0.1	0.31	▶	**4AM34 42-4TJ10-0FA0**	1 unit	0.260	▶	**4AM34 42-5AJ10-0FA0**	1 unit	0.260
	0.16	0.49	▶	**4AM38 42-4TJ10-0FA0**	1 unit	0.320	▶	**4AM38 42-5AJ10-0FA0**	1 unit	0.320
	0.25	0.85	▶	**4AM40 42-4TJ10-0FA0**	1 unit	0.590	▶	**4AM40 42-5AJ10-0FA0**	1 unit	0.590
	0.315	1.12	▶	**4AM43 42-4TJ10-0FA0**	1 unit	0.670	▶	**4AM43 42-5AJ10-0FA0**	1 unit	0.670
	0.4	1.44	▶	**4AM46 42-4TJ10-0FA0**	1 unit	1.100	▶	**4AM46 42-5AJ10-0FA0**	1 unit	1.100
	0.5	2	▶	**4AM48 42-4TJ10-0FA0**	1 unit	1.100	▶	**4AM48 42-5AJ10-0FA0**	1 unit	1.100
	0.63	2.35	▶	**4AM52 42-4TJ10-0FA0**	1 unit	1.700	▶	**4AM52 42-5AJ10-0FA0**	1 unit	1.700
	0.8	3.4	▶	**4AM55 42-4TJ10-0FA0**	1 unit	1.900	▶	**4AM55 42-5AJ10-0FA0**	1 unit	1.900
	1	5	▶	**4AM57 42-4TJ10-0FA0**	1 unit	2.000	▶	**4AM57 42-5AJ10-0FA0**	1 unit	2.000
	1.6	7.3		**4AM61 42-4TJ10-0FA0**	1 unit	4.100	▶	**4AM61 42-5AJ10-0FA0**	1 unit	4.100
	2	9.7		**4AM64 42-4TJ10-0FA0**	1 unit	4.700		**4AM64 42-5AJ10-0FA0**	1 unit	4.700
	2.5	13.3		**4AM65 42-4TJ10-0FA0**	1 unit	6.400	▶	**4AM65 42-5AJ10-0FA0**	1 unit	6.400
Rated output voltage U_{2N}: 230 V				Standard version[3]				Standard version[3]		
 4AM40	0.063	0.19	▶	**4AM32 42-4TT10-0FA0**	1 unit	0.240	▶	**4AM32 42-5AT10-0FA0**	1 unit	0.240
	0.1	0.31	▶	**4AM34 42-4TT10-0FA0**	1 unit	0.260	▶	**4AM34 42-5AT10-0FA0**	1 unit	0.260
	0.16	0.49	▶	**4AM38 42-4TT10-0FA0**	1 unit	0.320	▶	**4AM38 42-5AT10-0FA0**	1 unit	0.320
	0.25	0.85	▶	**4AM40 42-4TT10-0FA0**	1 unit	0.590	▶	**4AM40 42-5AT10-0FA0**	1 unit	0.590
	0.315	1.12	▶	**4AM43 42-4TT10-0FA0**	1 unit	0.670	▶	**4AM43 42-5AT10-0FA0**	1 unit	0.670
	0.4	1.44	▶	**4AM46 42-4TT10-0FA0**	1 unit	1.100	▶	**4AM46 42-5AT10-0FA0**	1 unit	1.100
	0.5	2	▶	**4AM48 42-4TT10-0FA0**	1 unit	1.100	▶	**4AM48 42-5AT10-0FA0**	1 unit	1.100
	0.63	2.35	▶	**4AM52 42-4TT10-0FA0**	1 unit	1.700	▶	**4AM52 42-5AT10-0FA0**	1 unit	1.700
	0.8	3.4	▶	**4AM55 42-4TT10-0FA0**	1 unit	1.900	▶	**4AM55 42-5AT10-0FA0**	1 unit	1.900
	1	5	▶	**4AM57 42-4TT10-0FA0**	1 unit	2.000	▶	**4AM57 42-5AT10-0FA0**	1 unit	2.000
	1.6	7.3	▶	**4AM61 42-4TT10-0FA0**	1 unit	4.100	▶	**4AM61 42-5AT10-0FA0**	1 unit	4.100
	2	9.7	▶	**4AM64 42-4TT10-0FA0**	1 unit	4.700	▶	**4AM64 42-5AT10-0FA0**	1 unit	4.700
	2.5	13.3	▶	**4AM65 42-4TT10-0FA0**	1 unit	6.400	▶	**4AM65 42-5AT10-0FA0**	1 unit	6.400

[1] For p.f. = 0.5 and $U_2 = 0.95 \times U_{2N}$.

[2] The delivery time class depends on the quantity, see page 11/3 "Options".

[3] For types 4AM32 to 4AM40, standard rail mounting is integrated in the standard version.

In European voltage version or multi-voltage version

cULus, ⊖, ⚠, ⊖

	Rated power P_n	Short-time rating $P_{shortt.}$ [1]	DT[2]	Rated input voltage U_{1N} • 400/230 V ± 15 V **Screw terminals/ flat connectors**	PS*	Cu weight per PU approx.	DT[2]	Rated input voltage U_{1N} • 550-525-500-480-460-440-415-400-380-240-230-208 V **Screw terminals/ flat connectors**	PS*	Cu weight per PU approx.
	kVA	kVA		Order No.		kg		Order No.		kg
Rated output voltage U_{2N}: 2 x 115 V				Standard version[3]				Standard version[3]		
 4AM40	0.063	0.19	▶	**4AM32 42-8JD40-0FA0**	1 unit	0.340	▶	**4AM32 42-8DD40-0FA0**	1 unit	0.340
	0.1	0.31	▶	**4AM34 42-8JD40-0FA0**	1 unit	0.360	▶	**4AM34 42-8DD40-0FA0**	1 unit	0.360
	0.16	0.49	▶	**4AM38 42-8JD40-0FA0**	1 unit	0.450	▶	**4AM38 42-8DD40-0FA0**	1 unit	0.450
	0.25	0.85	▶	**4AM40 42-8JD40-0FA0**	1 unit	0.820	▶	**4AM40 42-8DD40-0FA0**	1 unit	0.820
	0.315	1.12	▶	**4AM43 42-8JD40-0FA0**	1 unit	1.000	▶	**4AM43 42-8DD40-0FA0**	1 unit	1.000
	0.4	1.44	▶	**4AM46 42-8JD40-0FA0**	1 unit	1.500	▶	**4AM46 42-8DD40-0FA0**	1 unit	1.500
	0.5	2	▶	**4AM48 42-8JD40-0FA0**	1 unit	1.500	▶	**4AM48 42-8DD40-0FA0**	1 unit	1.500
	0.63	2.35	▶	**4AM52 42-8JD40-0FA0**	1 unit	2.400	▶	**4AM52 42-8DD40-0FA0**	1 unit	2.400
	0.8	3.4	▶	**4AM55 42-8JD40-0FA0**	1 unit	2.600	▶	**4AM55 42-8DD40-0FA0**	1 unit	2.600
	1	5	▶	**4AM57 42-8JD40-0FA0**	1 unit	2.800	▶	**4AM57 42-8DD40-0FA0**	1 unit	2.800
	1.6	7.3	▶	**4AM61 42-8JD40-0FA0**	1 unit	5.700	▶	**4AM61 42-8DD40-0FA0**	1 unit	5.700
	2	9.7	▶	**4AM64 42-8JD40-0FA0**	1 unit	6.500	▶	**4AM64 42-8DD40-0FA0**	1 unit	6.500
	2.5	13.3	▶	**4AM65 42-8JD40-0FA0**	1 unit	8.900	▶	**4AM65 42-8DD40-0FA0**	1 unit	8.900

[1] For p.f. = 0.5 and $U_2 = 0.95 \times U_{2N}$.

[2] The delivery time class depends on the quantity, see page 11/3 "Options".

[3] For types 4AM32 to 4AM40, standard rail mounting is integrated in the standard version.

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

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SIRIUS 4AP, 4AU isolating, control and mains transformers

Overview

- According to EN 61558-2-4, -2-2, -2-1
- cULus
- 4AP: t_a = 40 °C/B, 4AU: t_a = 55 °C/H
- 50/60 Hz AC
- Degree of protection IP00 (IP23 and IP54 on request)
- ⊖, ⚠, ⊖
- For other products see Catalog IC 10 · 2011 (on the attached CD-ROM), the Industry Mall or www.mdexx.com .



SIRIUS 4AP20 three-phase transformer (left) and SIRIUS 4AU three-phase transformer (right)

Selection and ordering data

In a two-voltage or multi-voltage version — cULus, ⊖, ⚠, ⊖

Rated power P_n	Short-time rating $P_{shortt.}$ [1]	DT [2]	Rated input voltage U_{1N} • 3 AC Y 500-400 V/Δ 289-230 V **Screw terminals [3]/ flat connectors [3]** Order No.	PS*	Cu weight per PU approx.	DT [2]	Rated input voltage U_{1N} • 3 AC Y 520-500-480-460-440-420-400-380-360 V/ Δ 300-289-277-266-254-240-230-220-208 V **Screw terminals [3]/ flat connectors [3]** Order No.	PS*	Cu weight per PU approx.
kVA	kVA				kg				kg
Rated output voltage U_{2N}: 3 AC Y 400 V/Δ 230 V									
0.63	1.8	▶	**4AP20 42-8BC40-0HA0**	1 unit	2.700		**4AP20 42-8CC40-0HA0**	1 unit	2.800
1	3.5	▶	**4AP21 42-8BC40-0HA0**	1 unit	3.300		**4AP21 42-8CC40-0HA0**	1 unit	2.900
1.6	6.9		**4AP25 42-8BC40-0HA0**	1 unit	4.100		**4AP25 42-8CC40-0HA0**	1 unit	4.800
2.5	11	▶	**4AP27 42-8BC40-0HA0**	1 unit	4.800		**4AP27 42-8CC40-0HA0**	1 unit	5.200
4	20		**4AP30 42-8BC40-0HA0**	1 unit	9.200		**4AP30 42-8CC40-0HA0**	1 unit	9.400
6.3	28		**4AU30 32-8BC40-0HA0**	1 unit	13.500		**4AU30 32-8CC40-0HA0**	1 unit	16.000
8	32		**4AU36 12-8BC40-0HA0**	1 unit	12.900		**4AU36 12-8CC40-0HA0**	1 unit	13.000
10	39		**4AU36 32-8BC40-0HA0**	1 unit	16.300		**4AU36 32-8CC40-0HA0**	1 unit	21.000
12.5	49		**4AU39 12-8BC40-0HA0**	1 unit	18.000		**4AU39 12-8CC40-0HA0**	1 unit	24.000
16	55		**4AU39 32-8BC40-0HA0**	1 unit	32.800		**4AU39 32-8CC40-0HA0**	1 unit	43.000

1) For p.f. = 0.5 and $U_2 = 0.95 \times U_{2N}$.

2) The delivery time class depends on the quantity, see page 11/3 "Options".

3) The 4AU transformers are only supplied with screw terminals.

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

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Overview

- Rated output voltage U_{2N} 24 V DC according to EN 61131-2[1] and SIMATIC for input voltage +6 % to –10 % and load 0 % to 100 %
- Safety transformers according to EN 61558-2-6
- 4AV21, 4AV23: cULus at 60 °C, ;
  4AV20, 4AV22, 4AV24, 4AV26: cULus at 60 °C, ;
  4AV41:
- 4AV2: t_a = max. 60 °C/B,
  4AV41: t_a = 40 °C/B
- Varistor suppressor circuit
- Status LED
- EMC according to EN 62041
  - 4AV2:
    Suitable for connection to the public supply (residential environments) and industrial networks (industrial environments)
  - 4AV4:
    Suitable for connection to industrial networks (industrial area)
- Ripple < 5 %
- For other products see Catalog IC 10 · 2011 (on the attached CD-ROM), the Industry Mall or www.mdexx.com .



SIRIUS 4AV21, 4AV23 (left) and 4AV20, 4AV22 to 4AV24 (right) power supplies

[1] EN 61131-2: equipment specification for power supply and interface for programmable controllers. For limit values for 24 V DC see note on Technical Information on page 11/1.

Selection and ordering data

Rated input voltage U_{1N}[1] 230 (240)-115 (120) V, rated output voltage U_{2N} 24 V DC

cULus,

Rated output current I_d 60 °C/B EN 61558 cULus	Rated output current I_d 40 °C/B EN 61558	DT[2]	Screw terminals/ flat connectors Order No.	PS*	Cu weight per PU approx.
A DC	A DC				kg
Integrated standard rail mounting					
1	1.2	▶	**4AV21 02-2EB00-0A**	1 unit	0.600
3.5	4.2	▶	**4AV23 02-2EB00-0A**	1 unit	0.900

[1] During operation at the mains voltages listed in brackets, the upper limit for 24 V DC according to EN 61131-2 at +6 % mains voltage is met for a basic load of 10 %. Under no-load operation, 30.6V can be achieved.

[2] The delivery time class depends on the quantity, see page 11/3 "Options".

Rated input voltage U_{1N}[1] 400 (415) V, rated output voltage U_{2N} 24 V DC

cULus,

Rated output current I_d 60 °C/B EN 61558 cULus	Rated output current I_d 40 °C/B EN 61558	DT[2]	Screw terminals/ flat connectors Order No.	PS*	Cu weight per PU approx.
A DC	A DC				kg
Integrated standard rail mounting					
1	1.2	▶	**4AV21 06-2EB00-0A**	1 unit	0.600
3.5	4.2	▶	**4AV23 06-2EB00-0A**	1 unit	0.900

[1] During operation at the mains voltages listed in brackets, the upper limit for 24 V DC according to EN 61131-2 at +6 % mains voltage is met for a basic load of 10 %. Under no-load operation, 30.6V can be achieved.

[2] The delivery time class depends on the quantity, see page 11/3 "Options".

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

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4AV Non-Stabilized Power Supplies

Filtered for Supply of Electronic Controls

SIRIUS 4AV2, 4AV4 power supplies, filtered, single-phase

Rated input voltage U_{1N}[1] 400 (415)-230 (240) V with tapping ±15 V, rated output voltage U_{2N} 24 V DC

***4AV2: cULus, ; 4AV41: ***

Rated output current I_d 60 °C/B EN 61558 cULus	40 °C/B EN 61558	DT[2]	Screw terminals/ flat connectors	PS*	Cu weight per PU approx.
A DC	A DC		Order No.		kg
Screw mounting[3]					
2.5	3	▶	**4AV20 00-2EB00-0A**	1 unit	0.620
5	6	▶	**4AV22 00-2EB00-0A**	1 unit	0.600
10	12	▶	**4AV24 00-2EB00-0A**	1 unit	0.900
15	18	▶	**4AV26 00-2EB00-0A**	1 unit	2.300
--	1.5		**4AV41 01-2EB00-0A**	1 unit	0.300
--	3	▶	**4AV41 03-2EB00-0A**	1 unit	0.310
--	6	▶	**4AV41 06-2EB00-0A**	1 unit	0.510
--	10	▶	**4AV41 10-2EB00-0A**	1 unit	1.100
Standard rail mounting					
2.5	3	▶	**4AV20 00-2EB00-0A**	1 unit	0.620
5	6		**4AV22 00-2EB00-0B**	1 unit	0.600
10	12		**4AV24 00-2EB00-0B**	1 unit	0.900
--	1.5		**4AV41 01-2EB00-0B**	1 unit	0.300
--	3	▶	**4AV41 03-2EB00-0A**	1 unit	0.310
--	6	▶	**4AV41 06-2EB00-0A**	1 unit	0.510
--	10		**4AV41 10-2EB00-0B**	1 unit	1.100

1) During operation at the mains voltages listed in brackets, the upper limit for 24 V DC according to EN 61131-2 at +6 % mains voltage is met for a basic load of 10 %. Under no-load operation with types 4AV4, 31.4 V can be achieved.

2) The delivery time class depends on the quantity, see page 11/3 "Options".

3) Types 4AV20, 4AV41 03 and 4AV41 06 are equipped with an integrated standard rail mounting as standard.

Rated input voltage U_{1N} 400 (415)-230 (240)-115 (120) V, rated output voltage U_{2N} 24 V DC

cULus,

Rated output current I_d 60 °C/B EN 61558 cULus	40 °C/B EN 61558	DT[1]	Screw terminals/ flat connectors	PS*	Cu weight per PU approx.
A DC	A DC		Order No.		kg
Screw mounting[2]					
2.5	3	▶	**4AV20 01-2EB00-0A**	1 unit	0.620
5	6	▶	**4AV22 01-2EB00-0A**	1 unit	0.600
10	12	▶	**4AV24 01-2EB00-0A**	1 unit	0.900
15	18	▶	**4AV26 01-2EB00-0A**	1 unit	2.300
Standard rail mounting					
2.5	3	▶	**4AV20 01-2EB00-0A**	1 unit	0.620
5	6		**4AV22 01-2EB00-0B**	1 unit	0.600
10	12		**4AV24 01-2EB00-0B**	1 unit	0.900

1) The delivery time class depends on the quantity, see page 11/3 "Options".

2) Types 4AV20 are equipped with an integrated standard rail mounting as standard.

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

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Overview

- Rated output voltage U_{2N} 24 V DC according to EN 61131-2[1] and SIMATIC for input voltage +6 % to –10 % and load 0 % to 100 %
- Safety transformers according to EN 61558-2-6
- 4AV30 to 4AV35: cULus at 60 °C, ;
  4AV36, 4AV38, 4AV51:
- 4AV3: t_a = max. 60 °C/B,
  4AV51: t_a = 40 °C/B
- Varistor suppressor circuit
- Status LED
- EMC according to EN 62041
  - 4AV3:
    Suitable for connection to the public supply (residential environments) and industrial networks (industrial environments)
  - 4AV5:
    Suitable for connection to industrial networks (industrial area)
- Ripple < 5 %
- For other products see Catalog IC 10 · 2011 (on the attached CD-ROM), the Industry Mall or www.mdexx.com .



SIRIUS 4AV30 to 4AV33 (left) and 4AV38 (right) power supplies

[1] EN 61131-2: equipment specification for power supply and interface for programmable controllers. For limit values for 24 V DC see note on Technical Information on page 11/1.

Selection and ordering data

Rated input voltage U_{1N} Y 400 (415) V with tapping ±20 V, Δ 230 V with tapping ±10 V, rated output voltage U_{2N} 24 V DC

cULus,

Rated output current I_d 60 °C/B EN 61558 cULus	Rated output current I_d 40 °C/B EN 61558	Additional capacitance	Ripple	Buffer time for $U_1 = U_{1N} - 10$ %	DT[1]	Screw terminals/ flat connectors Order No.	PS*	Cu weight per PU approx.
A DC	A DC	µF	%	ms				kg
Standard version								
10	12	--	< 5	--	▶	**4AV30 00-2EB00-0A**	1 unit	1.600
15	18	--	< 5	--	▶	**4AV31 00-2EB00-0A**	1 unit	1.600
20	24	--	< 5	--	▶	**4AV32 00-2EB00-0A**	1 unit	2.400
30	36	--	< 5	--	▶	**4AV33 00-2EB00-0A**	1 unit	2.600
40	48	--	< 5	--	▶	**4AV34 00-2FB00-0A**	1 unit	4.900
50	60	--	< 5	--	▶	**4AV35 00-2FB00-0A**	1 unit	4.100
Additional capacitors (aluminum electrolyte)								
10	12	10000	2	1		**4AV30 00-2EB00-0C**	1 unit	1.600
15	18	10000	3	0.6		**4AV31 00-2EB00-0C**	1 unit	1.600
20	24	10000	3	0.4		**4AV32 00-2EB00-0C**	1 unit	2.400
30	36	10000	4	0.7		**4AV33 00-2EB00-0C**	1 unit	2.600
40	48	10000	3	0.7		**4AV34 00-2FB00-0C**	1 unit	4.900
50	60	10000	4	0.3		**4AV35 00-2FB00-0C**	1 unit	4.100

[1] The delivery time class depends on the quantity, see page 11/3 "Options".

Rated input voltage U_{1N} 400 (415) V with tapping ±20 V, rated output voltage U_{2N} 24 V DC

Rated output current I_d 60 °C/B EN 61558	Rated output current I_d 40 °C/B EN 61558	Ripple	DT[1]	Screw terminals/ flat connectors Order No.	PS*	Cu weight per PU approx.
A DC	A DC	%				kg
Standard version						
--	25	< 5	▶	**4AV51 25-2EB00-0A**	1 unit	2.000
--	35	< 5	▶	**4AV51 35-2EB00-0A**	1 unit	3.400

[1] The delivery time class depends on the quantity, see page 11/3 "Options".

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

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SIRIUS 4AV3, 4AV5 power supplies, filtered, three-phase

Rated input voltage U_{1N} 500-400 (415) V, rated output voltage U_{2N} 24 V DC

cULus,

Rated output current I_d 60 °C/B EN 61558 cULus	Rated output current I_d 40 °C/B EN 61558	Additional capacitance	Ripple	Buffer time for $U_1 = U_{1N} - 10$ %	DT[1]	Screw terminals/ flat connectors Order No.	PS*	Cu weight per PU approx.
A DC	A DC	µF	%	ms				kg
Standard version								
15	18	--	< 5	--	▶	**4AV31 01-2EB00-0A**	1 unit	1.600
30	36	--	< 5	--	▶	**4AV33 01-2EB00-0A**	1 unit	2.600
50	60	--	< 5	--	▶	**4AV35 01-2FB00-0A**	1 unit	4.100
Additional capacitors (aluminum electrolyte)								
15	18	10000	3	0.6		**4AV31 01-2EB00-0C**	1 unit	1.600
30	36	10000	4	0.7		**4AV33 01-2EB00-0C**	1 unit	2.600
50	60	10000	4	0.3		**4AV35 01-2FB00-0C**	1 unit	4.100

[1] The delivery time class depends on the quantity, see page 11/3 "Options".

Rated input voltage U_{1N} 500-400 (415) V, rated output voltage U_{2N} 24 V DC

Rated output current I_d 60 °C/B EN 61558	Rated output current I_d 40 °C/B EN 61558	Additional capacitance	Ripple	Buffer time for $U_1 = U_{1N} - 10$ %	DT[1]	Screw terminals/ flat connectors Order No.	PS*	Cu weight per PU approx.
A DC	A DC	µF	%	ms				kg
Standard versions (unfiltered)								
80	96	--	< 5	--	▶	**4AV36 01-2EB00-0A**	1 unit	8.600
150	180	--	< 5	--		**4AV38 01-2EB00-0A**	1 unit	14.400
Additional capacitors (aluminum electrolyte)								
80	96	2 × 10000	4	0.2		**4AV36 01-2EB00-0C**	1 unit	8.600
150	180	3 × 10000	4	0.2		**4AV38 01-2EB00-0C**	1 unit	14.400

[1] The delivery time class depends on the quantity, see page 11/3 "Options".

Rated input voltage U_{1N} 575 (600)-500-460 (480)-400 (415)-230 (240)-200 V, rated output voltage U_{2N} 24 V DC

cULus,

Rated output current I_d 60 °C/B EN 61558 cULus	Rated output current I_d 40 °C/B EN 61558	Additional capacitance	Ripple	Back-up time for $U_1 = U_{1N} - 10$ %	DT[1]	Screw terminals/ flat connectors Order No.	PS*	Cu weight per PU approx.
A DC	A DC	µF	%	ms				kg
Standard version								
9	11	--	< 5	--	▶	**4AV30 02-2EB00-0A**	1 unit	1.600
13.5	16	--	< 5	--	▶	**4AV31 02-2EB00-0A**	1 unit	1.600
18	21.5	--	< 5	--	▶	**4AV32 02-2EB00-0A**	1 unit	2.400
27	32.5	--	< 5	--	▶	**4AV33 02-2EB00-0A**	1 unit	2.600
36	43	--	< 5	--	▶	**4AV34 02-2FB00-0A**	1 unit	4.900
45	54	--	< 5	--	▶	**4AV35 02-2FB00-0A**	1 unit	4.100
Additional capacitors (aluminum electrolyte)								
9	11	10000	2	1		**4AV30 02-2EB00-0C**	1 unit	1.600
13.5	16	10000	3	0.6		**4AV31 02-2EB00-0C**	1 unit	1.600
18	21.5	10000	3	0.4		**4AV32 02-2EB00-0C**	1 unit	2.400
27	32.5	10000	4	0.7		**4AV33 02-2EB00-0C**	1 unit	2.600
36	43	10000	3	0.7		**4AV34 02-2FB00-0C**	1 unit	4.900
45	54	10000	4	0.3		**4AV35 02-2FB00-0C**	1 unit	4.100

[1] The delivery time class depends on the quantity, see page 11/3 "Options".

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

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Parametrization, Configuration and Visualization with SIRIUS

12



12/2 **Introduction**

12/4 **Soft Starter ES**

12/5 **Motor Starter ES**

12/7 **SIMOCODE ES**

12/8 **Modular Safety System ES**

12/10 **ECOFAST ES**

More technical information

can be found at
www.siemens.com/industrial-controls/support

under Product List:
- Technical specifications

under Entry List:
- Updates
- Downloads
- FAQ
- Manuals
- Characteristic curves
- Certificates

and at
www.siemens.com/industrial-controls/configurators
- Configurators

Note:

For detailed descriptions of the SIRIUS software and the block libraries for SIMATIC PCS 7 see Catalog IC 10 · 2011 (on the attached CD-ROM) or in the Industry Mall.

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Introduction

Overview

Engineering software



SIRIUS ES engineering software (E-SW)

The programs of the SIRIUS ES software family enable:

- Clearly arranged configuring of device functions and their parameters – online and offline
- Efficient diagnostics functions and display of the most important measured values
- Time savings through shorter startup times.

The SIRIUS ES programs, e.g. Motor Starter ES, Soft Starter ES and SIMOCODE ES, are available in three versions which differ in their user-friendliness, scope of functions and price (for details see the description of each product).

SIRIUS ES	Basic	Standard	Premium
Local interface on the device (system interface)	✓	✓	✓
Basic functions for parameterizing the devices			
• Parameter assignment	✓	✓	✓
• Operating	✓	✓	✓
• Diagnostics	✓	✓	✓
• Test	✓	✓	✓
Standard functionality			
• Parameterizing with the integrated graphics editor[1)]	--	✓	✓
• Creating typicals	--	✓	✓
• Exporting parameters	--	✓	✓
Complete functionality			
• Group functions	--	--	✓
• S7 Routing	--	--	✓
• Teleservice through MPI	--	--	✓
• STEP 7 object manager	--	--	✓
• PROFIBUS interface	--	--	✓

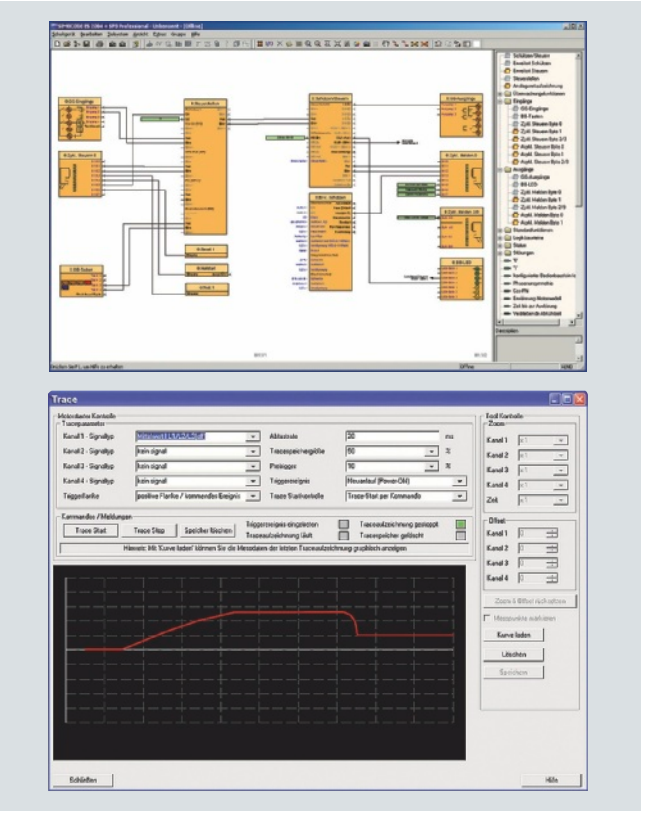
✓ Function available

-- Function not available

1) Depending on SIRIUS ES program.

In addition to device-specific parameterization, the programs of the SIRIUS ES software family also offer the following functionalities in a uniform look and feel. These functions are available without difference in many SIRIUS ES programs.

- Standard-conform printouts
  The programs of the SIRIUS ES software family make machine documentation far easier. They enable parameterization printouts according to EN ISO 7200. The elements to be printed are easy to select and group as required.
- Easy creation of typicals
  Typicals can be created for devices and applications with only minimum differences in their parameters. These typicals 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 startup engineer.
- Group function
  For the user-friendly parameterization of numerous devices or applications of the same type, the programs of the SIRIUS ES software family offer a group function which enables the parameterization of several devices to be read out or written through PROFIBUS. In conjunction with typicals it is even possible to selectively adapt the same parameters in any number of parameterizations.
- Teleservice through MPI
  The Premium versions of the SIRIUS ES software families support 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.



Efficient engineering and startup with graphic interfaces and diagnostics options

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Types of delivery and license

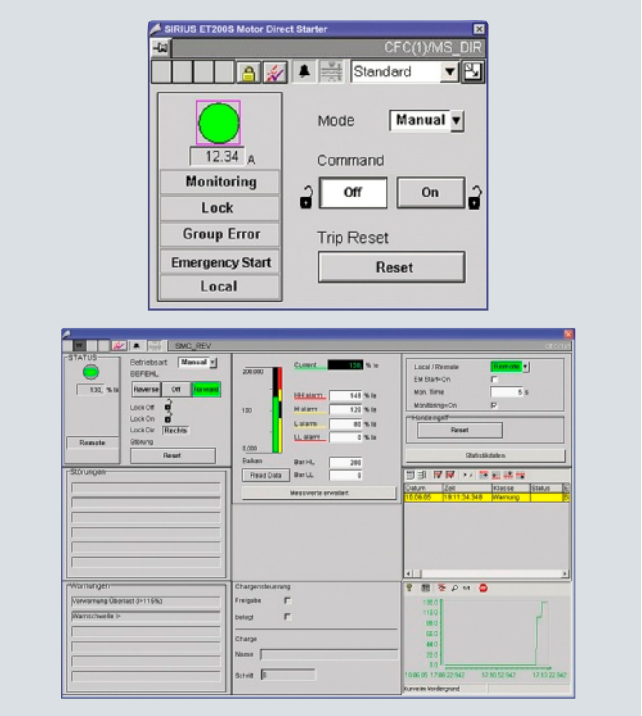
The programs of the SIRIUS ES software family are available as follows:

- Floating license – the license for any one user at any one time
  - 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
  - Trial license (free use of all program functions for 14 days for test and evaluation purposes, included on every product CD, available in the download file of the SIRIUS ES program in the Service&Support portal)

Following delivery versions are available in addition for the programs of the SIRIUS ES software family:

- Upgrade
  Switching from an old to a new version with expanded functions, e.g. upgrade from Motor Starter ES 2006 to Motor Starter ES 2007
- Powerpack
  Special pack for switching within the same software version to a more powerful version with more functionality, e.g. Powerpack Motor Starter ES 2007 for switching from Standard to Premium
- Software Update Service
  To keep you up to date at all times, we offer a special service which supplies you automatically with all service packs and upgrades.

Block Libraries for SIMATIC PCS 7



Motor block faceplate and SIMOCODE pro Block Library for SIMATIC PCS 7

The PCS 7 block libraries for SIMOCODE, motor starters, soft starters and AS-Interface can be used for simple and easy integration of the corresponding units into the SIMATIC PCS 7 process control system. 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 license

The PCS 7 block libraries supplied on CD-ROM allow the user to run the required engineering software on the engineering station (single license) including the runtime software for executing the AS modules in an automation system (single license). If the AS modules are to be used in additional automation systems, the corresponding number of runtime licenses are required which are supplied without a data carrier.

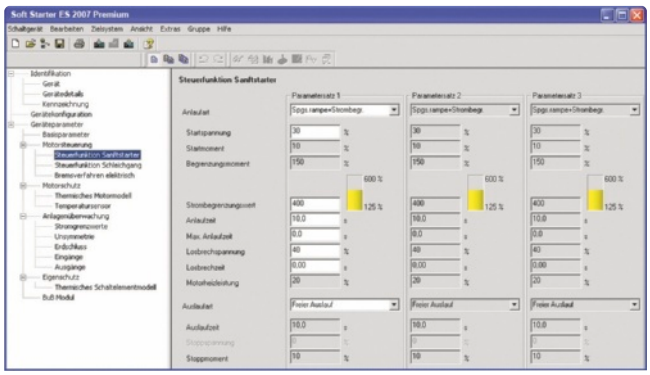
Note:

For detailed descriptions of the block libraries for SIMATIC PCS 7 see Catalog IC 10 · 2011 (on the CD-ROM) or in the Industry Mall.

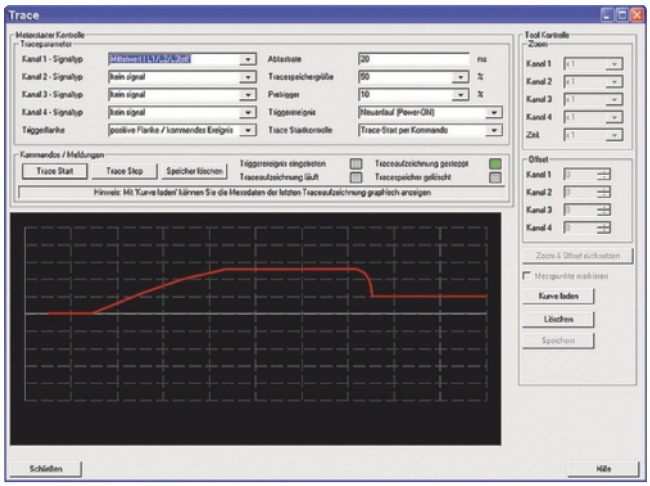
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Soft Starter ES

Overview



Easy and clearly arranged parameter setting of the 3RW44 soft starter with Soft Starter ES 2007



Graphic presentation of measured values with the trace function (oscilloscope function) of Soft Starter ES 2007 Standard and Premium

The Soft Starter ES software permits the quick and easy parameterization, monitoring and diagnostics of SIRIUS 3RW44 High-Feature 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 interface.

Soft Starter ES provides the following advantages:

- Clearly arranged configuring of 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 Soft Starter ES Standard and Premium versions).

Efficient engineering with three program versions

The Soft Starter ES software program is available in three versions which differ in their user-friendliness, scope of functions and price.

Soft Starter ES	Basic	Standard	Premium
Access through the local interface on the device	✓	✓	✓
Parameter assignment	✓	✓	✓
Operating	✓	✓	✓
Diagnostics	✓	✓	✓
Creating typicals	--	✓[1)]	✓
Exporting parameters	--	✓	✓
Comparison functions	--	✓	✓
Standards-conform printout according to EN ISO 7200	--	✓	✓
Service data (slave pointer, statistics data)	--	✓	✓
Access through PROFIBUS	--	--	✓
Group functions	--	--	✓
Teleservice through MPI	--	--	✓
S7 Routing	--	--	✓
STEP7 Object Manager	--	--	✓

✓ Function available

-- Function not available

1) Typicals with Service Pack 1 and higher.

Selection and ordering data

Soft Starter ES parameterization and service software for SIRIUS 3RW44 soft starters

- Can be run under WIN XP PROF/ Windows Vista Ultimate 32/Business 32
- Without PC cable

Version	DT	Order No.	PS*
Soft Starter ES 2007 Standard			
Floating license for one user			
E-SW, software and documentation on CD, 3 languages (German/English/French), communication through system interface			
• License key on USB stick, Class A, including CD		**3ZS1 313-5CC10-0YA5**	1 unit
Soft Starter ES 2007 Premium			
Floating license for one user			
E-SW, software and documentation on CD, 3 languages (German/English/French), communication through system interface or PROFIBUS			
• License key on USB stick, Class A, including CD		**3ZS1 313-6CC10-0YA5**	1 unit

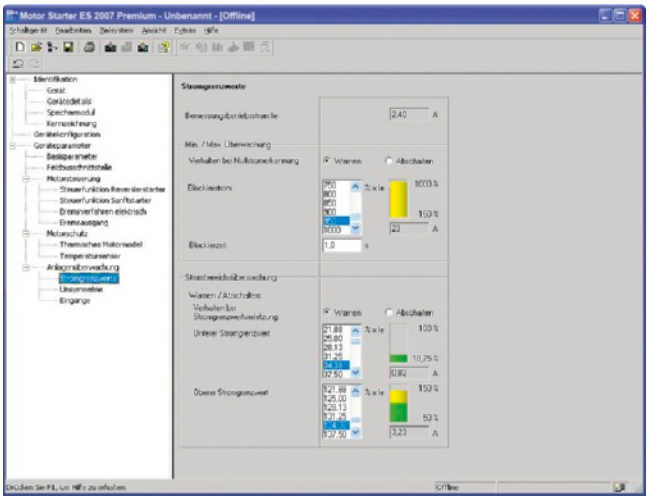
Note:

For other versions of the SIRIUS software see Catalog IC 10 · 2011 (on the attached CD-ROM) or in the Industry Mall.

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

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Overview



Motor Starter ES for parameterization, monitoring, diagnostics and testing of motor starters

Motor Starter ES is used for start-up, parameterization, diagnostics, documentation and the preventative maintenance of the motor starters in the SIMATIC ET 200S, ET 200pro, ECOFAST and M200D product families.

Interfacing is performed

- Through the local interface on the device
- With PROFIBUS DP V1 capable motor starters from any point in PROFIBUS or in PROFINET (applies for ET 200pro/ ECOFAST/M200D)
- With PROFIBUS-capable motor starters from any point in PROFINET or PROFIBUS (applies for M200D).

Using Motor Starter ES, the communication-capable motor starters are easily parameterized during start-up, monitored during normal operation and successfully diagnosed for service purposes. Preventative 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 provides the following advantages:

- Clearly arranged configuring of 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).

Motor Starter ES can either be used as a stand-alone program or it can be integrated into STEP 7 via an object manager.

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
Access through the local interface on the device	✓	✓	✓
Parameter assignment	✓	✓	✓
Operating	✓	✓	✓
Diagnostics	--	✓	✓
Creating typicals	--	✓[1]	✓[1]
Comparison functions	--	✓	✓
Standard-conform printout according to EN ISO 7200	--	✓	✓
Service data (slave pointer, statistics data)	--	✓	✓
Access through PROFIBUS	--	--	✓
Access through PROFINET	--	--	✓[2]
S7 Routing	--	--	✓
Teleservice through MPI	--	--	✓
STEP 7 object manager	--	--	✓
Trace function	--	✓[2]	✓[2]

✓ Function available -- Function not available

[1] Typicals with Service Pack 1 and higher.

[2] Trace function and access through PROFINET Service Pack 2 and higher.

Motor Starter ES	Basic	Standard	Premium
ET 200S High Feature PROFIBUS IM	✓	✓	--
ET 200S High Feature PROFINET IM	✓	✓	--
ECOFAST AS-Interface High Feature	✓	✓	--
ECOFAST PROFIBUS	✓	✓	✓
ET 200pro PROFIBUS IM	✓	✓	✓
ET 200pro PROFINET IM	✓	✓	✓
M200D AS-Interface Standard	✓[1]	✓[1][2]	--
M200D PROFIBUS	✓[1]	✓[1]	✓[1]
M200D PROFINET	✓[1]	✓[1]	✓[1]

✓ Function available -- Function not available

[1] With Service Pack 2 and higher.

[2] Trace function is not supported.

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Motor Starter ES

Selection and ordering data

Motor Starter ES 2007 parameterization, start-up and diagnostics software

For ECOFAST Motor Starter, SIMATIC ET 200S High-Feature Starter, SIMATIC ET 200pro Starter and M200D (AS-I Standard, PROFIBUS, PROFINET)

- Can be run under WIN XP PROF/ Windows Vista Ultimate 32/Business 32
- Without PC cable

Version	DT	Order No.	PS*
Motor Starter ES 2007 Standard			
Floating license for one user E-SW, software and documentation on CD, 3 languages (German/English/French), communication through system interface			
• License key on USB stick, Class A, including CD		**3ZS1 310-5CC10-0YA5**	1 unit
Motor Starter ES 2007 Premium			
Floating license for one user E-SW, software and documentation on CD, 3 languages (German/English/French), communication through system interface or PROFIBUS			
• License key on USB stick, Class A, including CD		**3ZS1 310-6CC10-0YA5**	1 unit

Note:

For other versions of the SIRIUS software see Catalog IC 10 · 2011 (on the attached CD-ROM) or in the Industry Mall.

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Overview

SIMOCODE ES is the central software SIMOCODE pro start-up, operation and diagnostics. Unnecessary plant downtimes can be consistently prevented, for example by changing parameters online during operation. Control functions, protection functions and the wiring of the control circuit are implemented in SIMOCODE pro by predefined control functions and can be readily configured using SIMOCODE ES.

Thee program versions

The user can choose between three different versions of SIMOCODE ES: SIMOCODE ES Basic, SIMOCODE ES Standard and SIMOCODE ES Premium. While SIMOCODE ES Basic is a powerful tool for startup or maintenance personnel, SIMOCODE ES Standard and Premium are the perfect tools for engineers or configurers on account of their larger scope of functions and integrated graphics editor. Unlike the Standard version, SIMOCODE ES Premium also permits parameterization and diagnostics through PROFIBUS.

Object manager for SIMATIC S7

The object manager is a component of SIMOCODE ES Premium. Thanks to this software tool, SIMOCODE ES is totally integrated in SIMATIC S7. If the two software packages are installed on the PG/PC with which the SIMATIC S7 hardware configuration is performed, then SIMOCODE ES can be called up directly from STEP 7.

Integrated graphics editor

The graphics editor is a part of SIMOCODE ES Standard and SIMOCODE ES Premium. It adds to the parameterizing interface a powerful tool which enables the easy parameterization of devices by Drag&Drop. The 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.

Trend display of measured values

With this online function, SIMOCODE ES Standard or Premium can present the trend of up to five different measured values. It is thus possible for example to record and evaluate the start-up characteristic of a motor or its behavior in different load conditions.

Efficient engineering with three program versions

The SIMOCODE ES software program is available in three versions which differ in their user-friendliness, scope of functions and price.

SIMOCODE ES	Basic	Standard	Premium
Access through the local interface	✓	✓	✓
Parameter assignment	✓	✓	✓
Operating	✓	✓	✓
Diagnostics	✓	✓	✓
Test	✓	✓	✓
Service data	✓	✓	✓
Parameterizing using graphics editor	--	✓	✓
Creation of templates	--	✓	✓
Exporting parameters	--	✓	✓
Comparison functions	--	✓	✓
Trend display of measured values	--	✓	✓
Parameter comparison	--	✓	✓
Analog value recording[1)]	--	✓	✓
Standard-conform printout according to EN ISO 7200	--	✓	✓
Group functions	--	--	✓
Access through PROFIBUS	--	--	✓
Teleservice through MPI	--	--	✓
S7 Routing	--	--	✓
STEP7 Object Manager	--	--	✓

✓ Function available

-- Function not available

1) For SIMOCODE pro V.

Selection and ordering data

Parameterization and service software for SIMOCODE pro 3UF7

- Can be run under WIN XP PROF/ Windows Vista Ultimate 32/Business 32
- Without PC cable

Version	DT	Order No.	PS*
SIMOCODE ES 2007 Basic			
Floating license for one user			
E-SW, software and documentation on CD, 3 languages (German/English/French), communication through system interface			
• License key on USB stick, Class A, including CD	►	**3ZS1 312-4CC10-0YA5**	1 unit
SIMOCODE ES 2007 Standard			
Floating license for one user			
E-SW, software and documentation on CD, 3 languages (German/English/French), communication through system interface, integrated graphics editor			
• License key on USB stick, Class A, including CD	►	**3ZS1 312-5CC10-0YA5**	1 unit
SIMOCODE ES 2007 Premium			
Floating license for one user			
E-SW, software and documentation on CD, 3 languages (German/English/French), communication through system interface or PROFIBUS, integrated graphics editor, STEP 7 Object Manager			
• License key on USB stick, Class A, including CD	►	**3ZS1 312-6CC10-0YA5**	1 unit

Note:

For other versions of the SIRIUS software see Catalog IC 10 · 2011 (on the attached CD-ROM) or in the Industry Mall.

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

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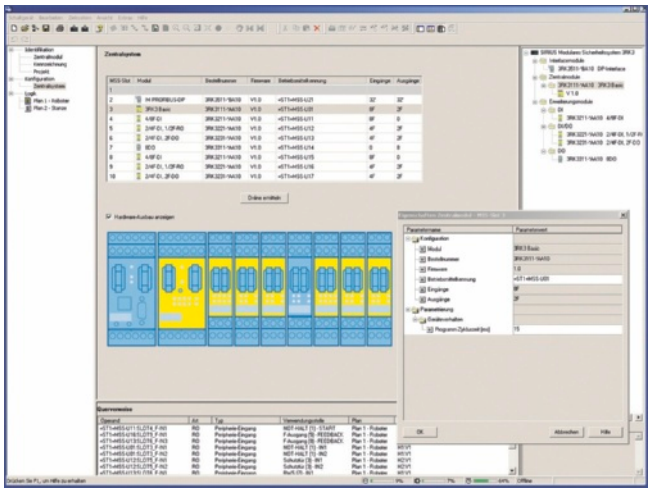
Modular Safety System ES

Overview

Modular Safety System ES is the engineering software for the configuration, start-up and diagnostics of the 3RK3 modular safety system. The software combines the configuring of the hardware, the programming of the safety functions, and the testing and diagnostics of the safety system.

Hardware configuration

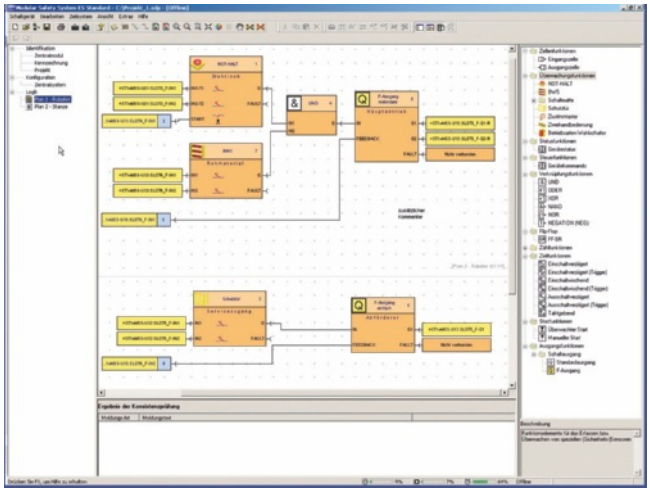
The configuration defines the system's hardware layout. It lays down which modules are used in the system: A central module as a safe control system including onboard peripherals, expansion modules with inputs and outputs, an interface module for connecting to PROFIBUS. For better clarity the layout is shown in a graphic presentation. For each module, it is optionally possible to issue an equipment ID which is shown in the logic diagram for identification of the inputs and outputs.



Definition of the hardware layout

The safety logic can be divided into several diagrams in order to enable structured processing of the entire plant. The user can freely position the functions on a quasi infinitely large drawing board, whereby the connecting lines are drawn automatically. If there is not enough space, more pages are automatically added to the diagram in horizontal or vertical direction. Connecting lines extending over several pages are automatically issued with cross-references during print-out. If required in the interest of clarity, the user can divide a connecting line manually into two segments, whereby the mutual reference is marked by reference arrows. For further documentation, freely compilable comment texts can be placed at any point in the diagram. Every point in the logic diagram can be processed with ease by dragging and zooming.

Every project can be saved as a file and be password-protected from unauthorized access.



Processing the safety functions with the graphics editor

Graphic parameterizing of the safety logic by Drag & Drop

The functionality of the safety logic is laid down with a graphics editor designed for intuitive operation. Safe monitoring functions (EMERGENCY-STOP, non-contact protective devices/light arrays, protective doors, etc.), output functions and logic functions (AND/OR operations, counting function, time functions, etc.), non-safety-orientated input/output functions, device status functions and control functions can be dragged from the extensive functions catalog onto the work interface by Drag&Drop. Depending on the version, each function has several input and output connecting points through which the functions can be interconnected by simple mouse clicks. Double-clicking on a function symbol opens the related features dialog window in which all the parameters can be displayed and configured: Scope of the function's inputs and outputs, configuring the channel type (one-channel/two-channel, NC contact/NO contact), activating the crossover monitoring, defining start options, assigning the hardware inputs and outputs, etc. Of course each function can be issued with an individual name so that e.g. the position of a safety switch in the plant can be documented.

User prompting during start-up and maintenance

To start up the 3RK3 modular safety system, the created project file is loaded into the device. This requires the serial interface (COM) of the PC to be connected with a special connection cable to the device. Access to the device can be password-protected.

After the project is loaded, the user switches the device by means of the software from configuring mode to test mode in which the safety functions are tested.

Activating the diagnostics shows the status of the individual functions in the graphic logic diagram by means of different colors and symbols. In addition, the signal status of each input and output can be manually overwritten ("forcing").

If the test is completed successfully, the user releases the configuration and switches the device to protection mode, in which case "forcing" is automatically deactivated.

Service personnel can activate the graphic diagnostics in protection mode as well. The I&M (Identification & Maintenance) data saved in the device facilitate maintenance.

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Modular Safety System ES

Efficient engineering with two program versions

The Modular Safety System ES software program is available in two versions which differ in their user-friendliness, scope of functions and price.

Modular Safety System ES	Basic	Standard
Access through the local interface on the device	✓	✓
Parameter assignment	✓	✓
Operating	✓	✓
Diagnostics	✓	✓
Test	✓	✓
Integrated graphics editor	✓	✓
Importing/exporting parameters	--	✓
Comparison functions	--	✓
Comfort functions	--	✓
Terminal designator	--	✓
Work on sub-diagrams	--	✓
Standard-conform printout according to EN ISO 7200	✓	✓

✓ Function available

-- Function not available

Selection and ordering data

Parameterization, start-up and diagnostics software for the 3RK3 modular safety system

- Runs under WIN XP PROF/ Windows Vista: Ultimate 32/Business 32
- Without PC cable

Version	DT	Order No.	PS*
Modular Safety System ES 2008 Basic			
Floating license for one user			
E-SW, software and documentation on CD, 3 languages (German/English/French), communication through system interface			
• License key on USB stick, Class A, including CD	►	**3ZS1 314-4CC10-0YA5**	1 unit
Modular Safety System ES 2008 Standard			
Floating license for one user			
E-SW, software and documentation on CD, 3 languages (German/English/French), communication through system interface			
• License key on USB stick, Class A, including CD		**3ZS1 314-5CC10-0YA5**	1 unit

Note:

For other versions of the SIRIUS software see Catalog IC 10 · 2011 (on the attached CD-ROM) or in the Industry Mall.

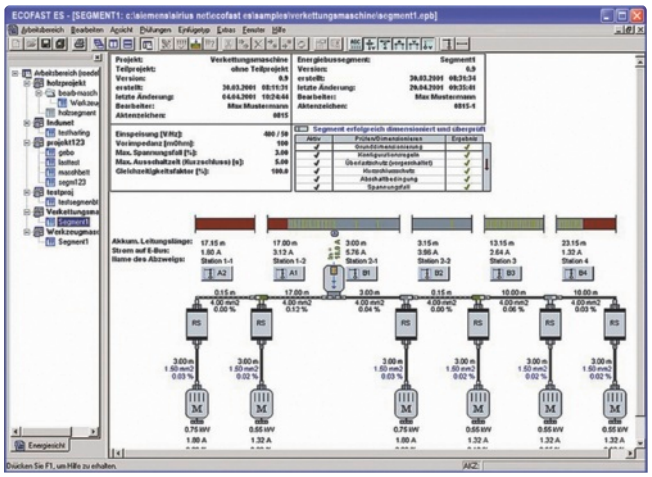
12

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

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ECOFAST ES

Overview



ECOFAST ES for configuring, calculating and documenting of applications.

The ECOFAST system is an open and innovative system solution for distributed applications and sets new standards in equipping machines and plants for automation, low-voltage controlgear and drives. The system therefore offers a high degree of safety and availability during operation in addition to high time and cost savings during planning and commissioning/installation.

The convenient ECOFAST ES configuring software reduces configuring times even further and enables reliable configuring right from the start. ECOFAST ES reduces errors and effort during configuring, calculating and documenting of applications.

ECOFAST ES provides the following advantages:

- Graphic user interface for selecting and interconnecting stations on the power bus
- The components are identified down to the unique order number and entered in parts/quantity lists
- Automatic interface and function testing by means of logic rules (e.g. motor brakes, selectivity, etc.)
- Cable characteristics and laying specifications are taken into account in the calculation
- Plug-in connections are adapted automatically
- Division of projects into levels of hierarchy is possible
- The software finally calculates and checks the configuration according to currently valid standards and state of the art
- If necessary, an error list with hints for possible solutions (on-line help) can be output
- The configuration can be optimized automatically
- Choice of German, English and French as operating language

Selection and ordering data

Version	DT	Order No.	PS*
ECOFAST ES			
ECOFAST ES, basic package V 1.4 Graphic configuring tool for SIRIUS drive solutions • Operator prompting for selecting products • Configuring the supply system according to standards • Documentation, parts lists, quantity lists • Operating languages: German, English, French • Type of delivery: CD, single license		**3ZS1 200-0CC14-0YA0**	1 unit

Note:

For other versions of the SIRIUS software see Catalog IC 10 · 2011 (on the attached CD-ROM) or in the Industry Mall.

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13 Appendix



Ordering Notes
13/2 Logistics
13/4 Orders for special versions
13/4 Small orders

13/5 **Further Documentation**

13/6 **Quality Management**

13/7 **Siemens Contacts**

13/8 **Online Services: Information and Ordering on the Internet and DVD**

13/9 **Service & Support: The Unmatched Complete Service for the Entire Life Cycle**

13/11 **Software Licenses**

13/12 **Subject Index**

13/16 **Order Number Index including Export Markings**

13/30 **Conditions of Sale and Delivery, Export Regulations**

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Ordering notes

Logistics

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.

We are proud of our personal consulting service, on-time deliveries and 1-day transport within Germany.

To achieve this, we supply ► the preferred types marked with ex warehouse.

We regard the EN 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 (e.g. crumpled paper for protection during transport in packages up to 32 kg) 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. 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 packaging 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, the open arrow recycling symbol, and product description information in English and German. In addition to the Order No. (MLFB) and the number of items in the packaging, the Instr. Order No. is also specified for the operating instructions. It can be obtained from your local Siemens representative (you will find a list of your local Siemens representatives at www.siemens.com/automation/partner).

The device Order No. of most devices can also be acquired through the EAN barcode to simplify ordering and storage logistics.

The Order Nos. are assigned electronically to the EAN code in the master data of low-voltage controls.

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Ordering notes

Multi-unit and reusable packagings

The devices listed in the table on page 13/4 can be ordered in multi-unit or reusable packagings (further versions on request).

If ordering multi-unit or reusable packagings for the first time, please first consult your local Siemens representative with regard to pack type, quantity, delivery time and the precise order designation. For transport reasons, the use of reusable packaging is recommended only for Germany and EU countries.

Multi-unit and reusable packagings are 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 Order No.) 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 packagings.

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 (1 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).

When ordering products in multi-unit packagings, the Order No. of the product concerned must be supplemented with **"–Z"** and, in addition, the order code **X90**, or for products from the SIRIUS range, the order code **W9.**.

Example:
3RT20 24–1AB00–Z W96
+ quantity: 24

Reusable packaging (uniform type)



Standard reusable packagings contain uniform-type, non-packed individual products (1 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. The reusable packagings (ENK) plus foam inserts are returned by the customer (free of charge) to the supply base.

For products packed in reusable packaging, the Order No. must be supplemented with **"–Z"** and the order code **X95**.

Example:
3RT20 24–1AB00–Z X95
+ quantity: 48

Please contact your Siemens representative (you will find Siemens representatives at www.siemens.com/automation/partner) to clarify the delivery details or conditions for delivery in reusable packagings. 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 unpacked devices in standard Euro boxes.

Please contact your Siemens representative (you will find Siemens representatives at www.siemens.com/automation/partner) to clarify the delivery details or conditions for set supply or delivery in reusable packagings. Suitable arrangements will then be agreed with you.

Packaging dimensions

Packing material	Length mm	Height mm	Width mm
ENK	598	220	396
W95	576	192	380
W96	380	187	290
W97	290	187	190
W98	290	98	190

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Ordering notes

Multi-unit and reusable packaging, quantity in units, supplied in indivisible pack quantities

Devices	Size	Reusable	Multi-unit			
		X95 (1/1 ENK)	**W95** (1/1 ENK)	**W96** (1/2 ENK)	**W97** (1/4 ENK)	**W98** (1/8 ENK)
Contactors						
3RT20 1.–1A..1/2	S00	144	On req.	72	40	--
3RT20 1.–1B..1/3	S00	72	On req.	72	40	--
3RT20 1.–2 A/B…	S00	120	On req.	60	32	--
3RT20 2.–1A/B ..0	S0	48	On req.	24	12	--
3RT20 2.–2A/B ..0	S0	40	On req.	18	8	--
3RT10 3.–.A..0/4	S2	30	30	15	--	--
3RT10 3.–.B..0	S2	24	24	15	--	--
3RT10 3.–.B..4	S2	24	24	15	--	--
Snap-on auxiliary switch blocks						
3RH29 11–1F./GA/HA ..	S00	351	On req.	240	120	60
Contactor relays						
3RH21 ..–1A ..0	S00	144	On req.	72	40	--
3RH21 ..–2A/B ..0	S00	120	On req.	60	32	--
Motor starter protectors						
3RV20 1 1–…1/0/5	S00	43	On req.	24	12	--
3RV20 1 1–…2/0/5	S00	34	On req.	16	8	--
3RV20 2 1–…1/0/5	S0	43	On req.	24	12	--
3RV20 2 1–…2/0/5	S0	34	On req.	16	8	--
3RV10 31–... 0/5	S2	24/24	24/--	12/12	5/--	2/--
Thermally delayed overload relays						
3RU21 16–..B0	S00	64	On req.	32	16	--
3RU21 16–..C0	S00	56	On req.	24	12	--
3RU21 26–..B0	S0	56	On req.	32	16	--
3RU21 26–..C0	S0	48	On req.	24	12	--
3RU11 36–..B0	S2	36	36	18	9	5
Solid-state timing relays						
3RP15 05–...30	--	137	--	--	27	16
3RP15 1/2.–.A.30	--	192	--	96	48	24
3RP15 2.–.B.30	--	137	--	--	--	16
3RP15 4.–.B.31	--	137	--	--	--	--
3RP15 74 –.N.30	--	192	--	--	48	--

Devices	Reusable	Multi-unit		
	X95	**X90**	**W95**	**W96**
3SB pushbuttons and indicator lights				
Complete units and actuators (except EMERGENCY-STOP, mushroom pushbuttons and key-operated switches)	--	50	--	--
Complete units and actuators (EMERGENCY-STOP, mushroom pushbuttons and key-operated switches)	--	20	--	--
Contact blocks	--	150	--	--
Holder	--	100	--	--
Supports, blanking plugs	--	50	--	--
3TK28 safety relays	116	--	116	60

Ordering special versions

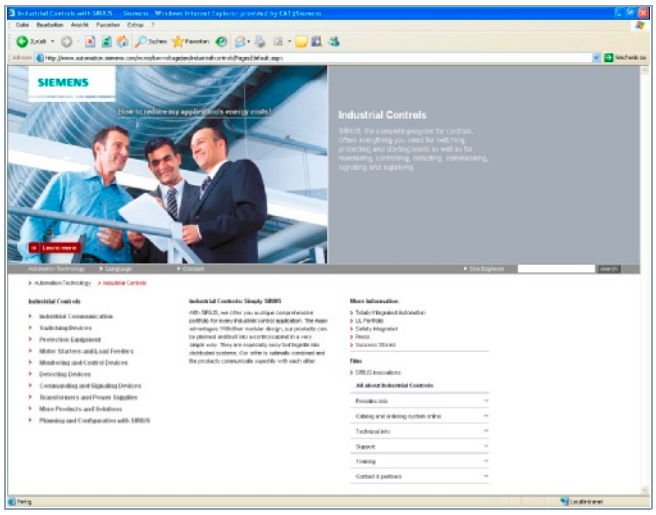
For ordering products that differ from the versions listed in the catalog, the order number specified in the catalog must be supplemented with **"–Z"**; the required features must be specified by means of the alphanumeric order codes or in plain text.

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.-- to cover our costs for order processing and invoicing for all orders with a net goods value of less than € 250.--.

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Overview



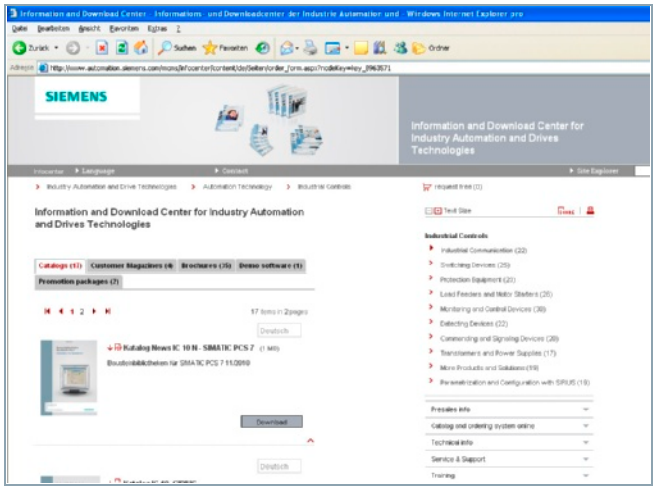
We regard product support as just as important as the products and systems themselves.

Visit our site on the Internet for a comprehensive range of material on SIRIUS Industrial Controls, such as

- Operating instructions and manuals for direct download
- Online registration for seminars and events
- Up-to-date answers to your queries and problems
- Software upgrades and updates for fast download
- Telephone assistance in more than 190 countries
- Photos and graphics for external use

and much, much more – all conveniently and easily accessible at:

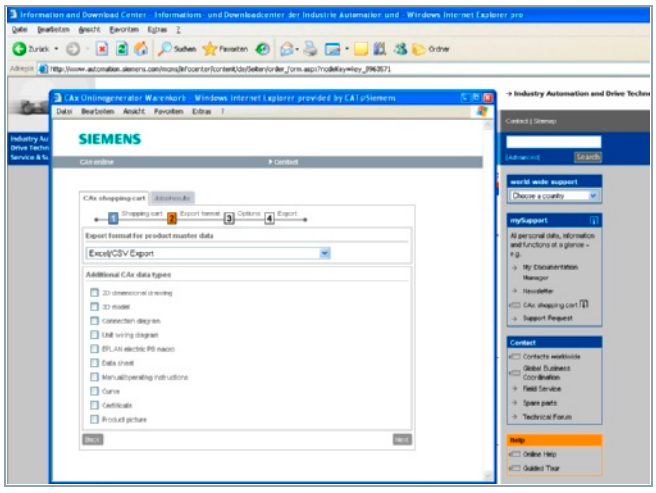
www.siemens.com/industrial-controls



You will find information material such as catalogs, customer magazines, brochures and trial versions of software for Industrial Controls on the Internet at:

www.siemens.com/industrial-controls/infomaterial

Here you can order your copy of the available documentation or download it in common file formats (PDF, ZIP).



The Cax Online Generator and the "Technical Product Data for CAx Applications" DVD (Edition 2011) provide maximum support with planning and configuration.

For further processing in CAE/CAD systems, the CAx DVD includes the following data types according to the Industrial Controls product spectrum:

- Technical product master data in CSV and Excel format
- Graphic product data
  - 2D dimensional drawings, 3D models, internal circuit diagrams
  - EPLAN electric P 8 macros, product photos
- Documentation in the form of PDF files
  - Product data sheets, manuals, operating instructions
  - Characteristic curves, certificates, approvals
- Texts for tenders in GAEB and Text format

The CAx DVD can be ordered in the Siemens Industry Mall.

The CAx Generator provides not only the contents of the CAx DVD but also access to documentation in up to 10 languages and interfaces for direct imports into your CAE system. Make use of this permanent access to the latest information on products from the entire Siemens Industry Automation range and enjoy the possibility of defining the compilation of CAx data yourself. You can open and use the CAx shopping basket under MySupport on the Service&Support portal: www.siemens.com/cax.

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Quality management

Quality management

The quality management system of our Industry Automation division complies with the international standard EN ISO 9001.

The products and systems described in this catalog are sold under application of a quality management system certified by DQS according to ISO 9001. The certificates are recognized in all IQ Net countries.

DQS Registered Certificate No.:

Siemens AG
Industry Sector, Industry Automation Division

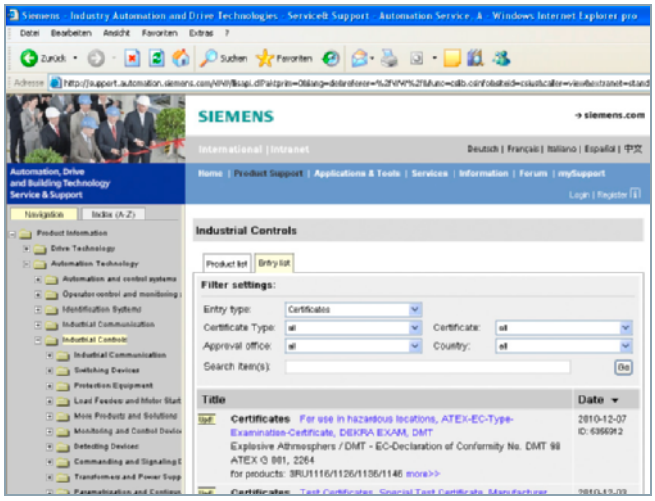
- Control Components and Systems Engineering
  Registered Certificate No.: 001108 QM08

Certificates

Information on the certificates available (CE, UL, CSA, FM, shipping authorizations) for low-voltage control products can be found on the Internet at:

www.siemens.com/industrial-controls/support

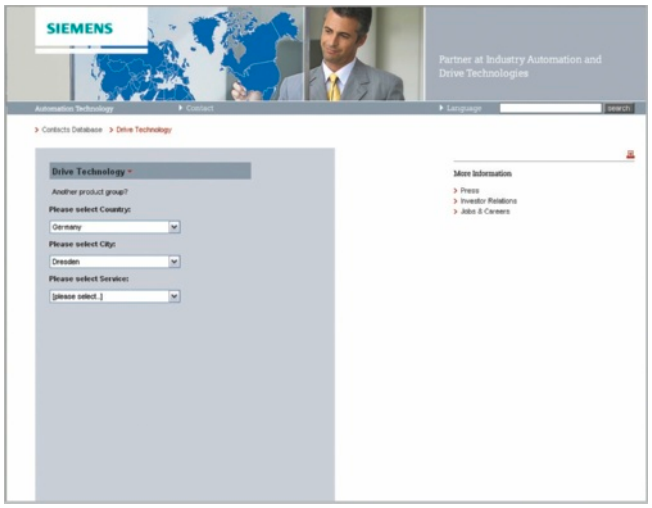
In the Entry List you can use the certificate type (general product approval, explosion protection, test certificates, shipbuilding, ...) as a filter criterion.

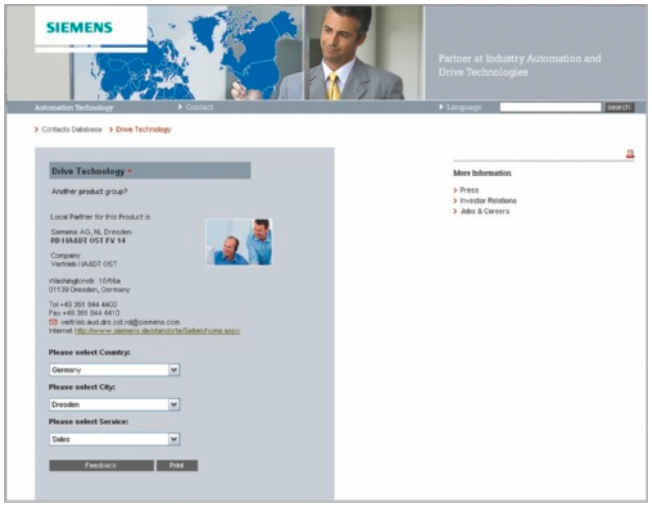


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Partner at Industry Automation and Drive Technologies







At Siemens Industry Automation and Drive Technologies, more than 85 000 people are resolutely pursuing the same goal: long-term improvement of your competitive ability. We are committed to this goal. Thanks to our commitment, we continue to set new standards in automation and drive technology. In all industries – worldwide.

At your service locally, around the globe for consulting, sales, training, service, support, spare parts ... on the entire Industry Automation and Drive Technologies range.

Your personal contact can be found in our Contacts Database at: www.siemens.com/automation/partner

You start by selecting a

- Product group,
- Country,
- City,
- Service.

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Online Services: Information and ordering on the Internet and DVD

Siemens Industry Automation and Drive Technologies in the WWW



A detailed knowledge of the range of products and services available is essential when planning and configuring automation systems. It goes without saying that this information must always be fully up-to-date.

Siemens Industry Automation and Drive Technologies has therefore built up a comprehensive range of information in the World Wide Web, which offers quick and easy access to all data required.

Under the address

www.siemens.com/industry

you will find everything you need to know about products, systems and services.

Product Selection Using the Offline Mall of Industry



Detailed information together with convenient interactive functions:
The Offline Mall CA 01 covers more than 80 000 products and thus provides a full summary of the Siemens Industry Automation and Drive Technologies product base.

Here you will find everything that you need to solve tasks in the fields of automation, switchgear, installation and drives.
All information is linked into a user interface which is easy to work with and intuitive.

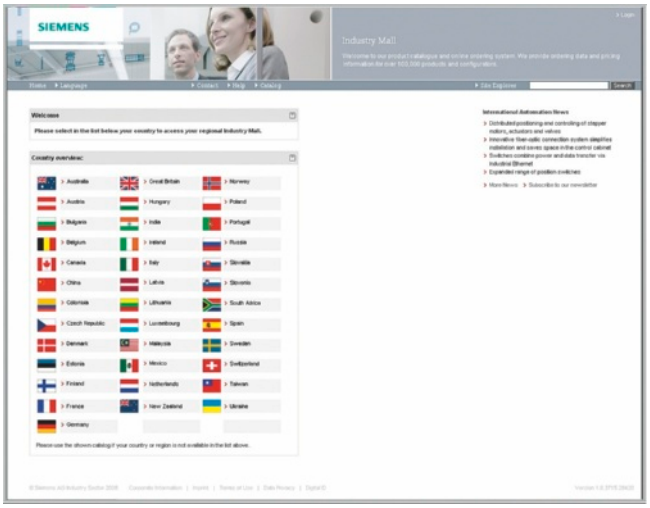
After selecting the product of your choice you can order at the press of a button, by fax or by online link.

Information on the Offline Mall CA 01 can be found in the Internet under

www.siemens.com/automation/ca01

or on DVD.

Easy Shopping with the Industry Mall



The Industry Mall is the virtual department store of Siemens AG in the Internet. Here you have access to a huge range of products presented in electronic catalogs in an informative and attractive way.

Data transfer via EDIFACT allows the whole procedure from selection through ordering to tracking of the order to be carried out online via the Internet.

Numerous functions are available to support you.

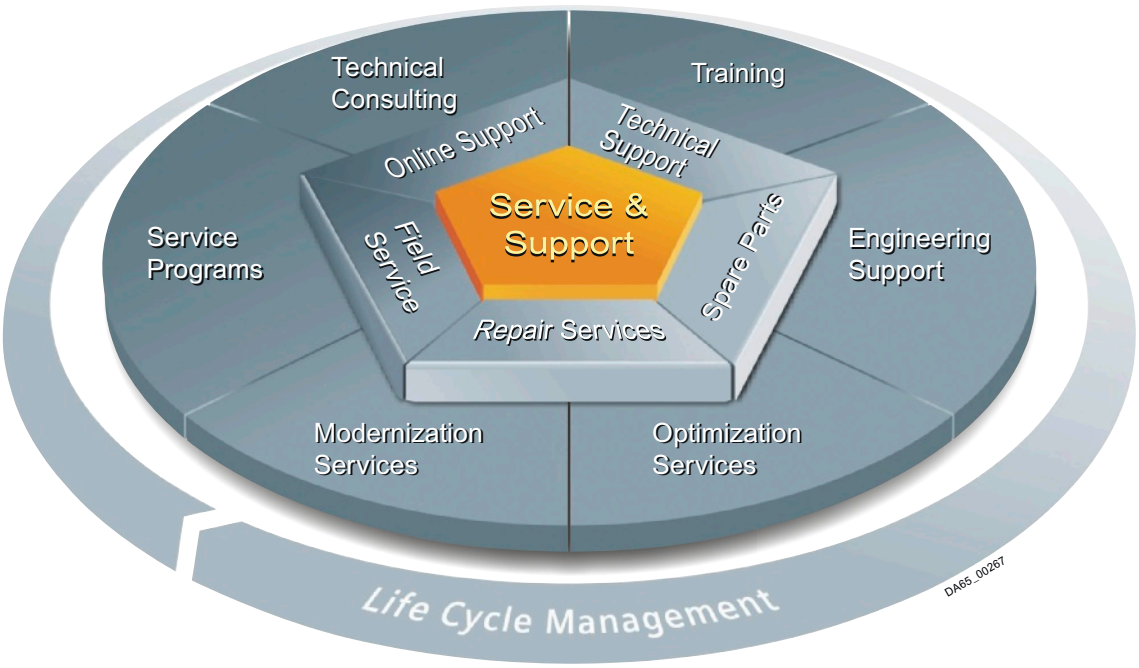
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Please visit the Industry Mall on the Internet under:

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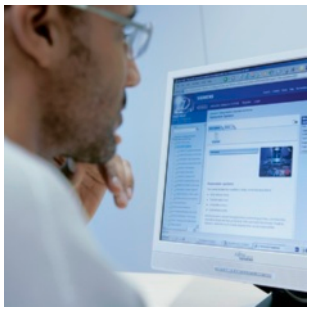
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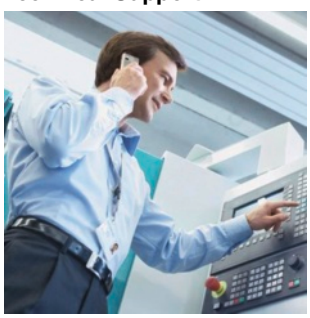
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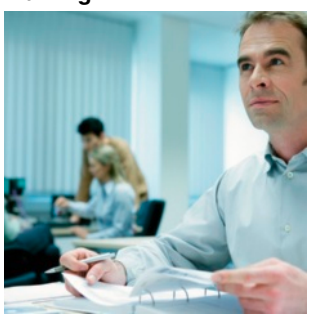
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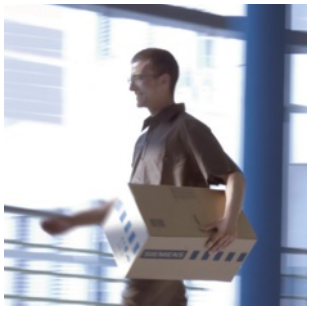
Support during project engineering and development with services fine-tuned to your requirements, from configuration through to implementation of an automation project.

Field Service



Our Field Service offers you services for commissioning and maintenance - to ensure that your machines and plants are always available.

Spare parts



In every sector worldwide, plants and systems are required to operate with constantly increasing reliability. We will provide you with the support you need to prevent a standstill from occurring in the first place: with a worldwide network and optimum logistics chains.

Repairs



Downtimes cause problems in the plant as well as unnecessary costs. We can help you to reduce both to a minimum - with our worldwide repair facilities.

Optimization



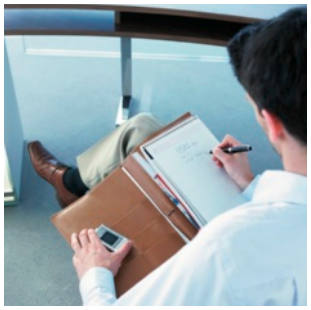
During the service life of machines and plants, there is often a great potential for increasing productivity or reducing costs. To help you achieve this potential, we are offering a complete range of optimization services.

Modernization



You can also rely on our support when it comes to modernization - with comprehensive services from the planning phase all the way to commissioning.

Service programs



Our service programs are selected service packages for an automation and drives system or product group. The individual services are coordinated with each over to ensure smooth coverage of the entire life cycle and support optimum use of your products and systems.

The services of a Service Program can be flexibly adapted at any time and used separately.

Examples of service programs:

- Service contracts
- Plant IT Security Services
- Life Cycle Services for Drive Engineering
- SIMATIC PCS 7 Life Cycle Services
- SINUMERIK Manufacturing Excellence
- SIMATIC Remote Support Servicess

Advantages at a glance:

- Reduced downtimes for increased productivity
- Optimized maintenance costs due to a tailored scope of services
- Costs that can be calculated and therefore planned
- Service reliability due to guaranteed response times and spare part delivery times
- Customer service personnel will be supported and relieved of additional tasks
- Comprehensive service from a single source, fewer interfaces and greater expertise

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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 delivery can be found in the readme file supplied with the relevant product(s).

License types

Siemens Industry Automation & Drive Technologies offers various types of software license:

- Floating license
- Single license
- Rental license
- Trial 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.

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 device, 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 number of hours (the operating hours do not have to be consecutive).
One license is required for each installation of the software.

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.

Factory license

With the Factory License the user has the right to install and use the software at one permanent establishment only. The permanent establishment is defined by one address only.The number of hardware devices on which the software may be installed results from the order data or the Certificate of License (CoL).

Certificate of license

The Certificate of License (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

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.

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 Industry Automation & Drive Technologies 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).

Detailed explanations concerning license conditions can be found in the "Terms and Conditions of Siemens AG" or under
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(Industry Mall Online-Help System)

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