Introduction

Overview

More information	
Homepage, see www.siemens.com/sirius	Conversion tool, see www.siemens.com/conversion-tool
SiePortal, see www.siemens.com/product?3RH_3TH	

The advantages at a glance




Size	**S00**	**S00**	**--**	**--**
Type	3RH21	3RH22	3TH42	3TH43

		Article No.	Page
SIRIUS 3RH2 contactor relays			
4-pole	• Screw or spring-loaded terminals	**3RH21**	5/10, 5/11
8-pole		**3RH22**	5/10, 5/11
4-pole, latched		**3RH24**	5/10, 5/11
Coupling contactor relays	• Coils for control by the PLC	**3RH21**	5/12, 5/13
Contactor relays for railway applications	• Coils with extended voltage range	**3RH21**	4/65
3TH4 contactor relays			
8-pole	• Screw terminals	**3TH42**	5/17
10-pole		**3TH43**	5/18
Contactor relays for railway applications	• Coils with extended voltage range	**3TH42**	4/67
Accessories for SIRIUS 3RH2 contactor relays			
Auxiliary switches	• On the front	**3RH2911, 3RA2813 ... 3RA2815**	from 3/80 onwards, 3/97
	• Lateral	**3RH2921**	3/92
Function modules (direct-on-line starting, star-delta (wye-delta) starting)	• On the front	**3RA2811, 3RA2812, 3RA2816, 3RA2831, 3RA2832**	3/101
Surge suppressors	• On the front	**3RT2916**	3/98, 3/99
Additional load modules	• On the front	**3RT2916**	3/117

Note:

Safety characteristics for contactors, see Standards and approvals, page 16/9.

More information

Homepage, see www.siemens.com/sirius-coupling-relays
SiePortal, see www.siemens.com/product?3RQ_3RS_LZ
TIA Selection Tool Cloud (TST Cloud), see www.siemens.com/tstcloud/?node=SIRIUSRelais
Conversion tool, see www.siemens.com/conversion-tool

Video: Overview of SIRIUS coupling relays

The advantages at a glance

Type	3RQ1	3RQ2	3RQ3	LZS/LZX

		Article No.	Page
SIRIUS 3RQ1 force-guided coupling relays, fail-safe up to SIL 3/PL e			
Coupling relays with force-guided contacts	• Widths 17.5 and 22.5 mm • Safety certification according to functional safety SIL 3/PL e • Can be used as output extension for SIRIUS 3SK safety relays via device connectors • Device versions with protective coating on printed circuit board	**3RQ1**	5/26
SIRIUS 3RQ2 coupling relays with industrial enclosure			
Coupling relays with relay output	• 1, 2 or 3 changeover contacts with wide voltage range • Also available with hard gold-plated contacts	**3RQ2**	5/31
SIRIUS 3RQ3 coupling relays, narrow design			
Coupling relays with relay output (not plug-in)	• Width 6.2 mm, 1 CO, versions with hard gold-plated contacts optionally available - Output coupling links - Input coupling links • Device versions with protective coating on printed circuit board	**3RQ301** **3RQ303**	5/39 5/39
Coupling relays with plug-in relays	• Width 6.2 mm, 1 CO, versions with hard gold-plated contacts optionally available - Output coupling links	**3RQ311**	5/39
Coupling relays with semiconductor output (not plug-in)	• Width 6.2 mm, output 1 semiconductor, triac or transistor - Output coupling links - Input coupling links	**3RQ305, 3RQ306** **3RQ307**	5/40 5/40
LZS coupling relays with plug-in relays			
Coupling relays with plug-in relays with 2, 3 and 4 changeover contacts	• Switching capacity 12 A/10 A/6 A • Width 27 mm • Base with or without logical separation	**LZS:PT, LZX:PT**	5/45 ... 5/47
Coupling relays with plug-in relays with 1 or 2 changeover contacts	• Switching capacity 16 A/8 A • Width 15.5 mm • Base with or without logical separation	**LZS:RT, LZX:RT**	5/48 ... 5/50

Introduction

Connection methods

The contactor relays and the relays are available with screw terminals (box terminals) or with spring-loaded terminals.

The 3RQ and LZS/LZX coupling relays are supplied with screw terminals or spring-loaded terminals (push-in).

	Screw terminals
	Spring-loaded terminals, spring-loaded terminals (push-in)
	Flat connectors
	The connection method is indicated in the corresponding tables by the symbols shown on orange backgrounds.

3RQ coupling relays: Spring-loaded terminals (push-in) with TOP wiring

Push-in terminals are a form of spring-loaded terminals allowing fast wiring without tools for rigid conductors or conductors equipped with end sleeves.

As with other spring-loaded terminals, a screwdriver (with 3.0 x 0.5 mm blade) is required to disconnect the conductor. The same tool can also be used to wire finely-stranded or stranded conductors with no end sleeve.

The advantages of the push-in terminals are found, as with all spring-loaded terminals, in speed of assembly and disassembly and vibration-proof connection. There is no need for the checking and tightening required with screw terminals.

With the TOP wiring method, the wire inlet and terminals can be reached from the front. This helps to speed up the wiring process and eliminate wiring errors.

Video: SIRIUS spring-loaded terminals – Strong, flexible, safe, fast

Ordering notes for multi-unit packaging

On request, 3RQ1 and 3RQ2 coupling relays can also be ordered in practical and environmentally friendly multi-unit packaging.

Multi-unit packaging with order code X90

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

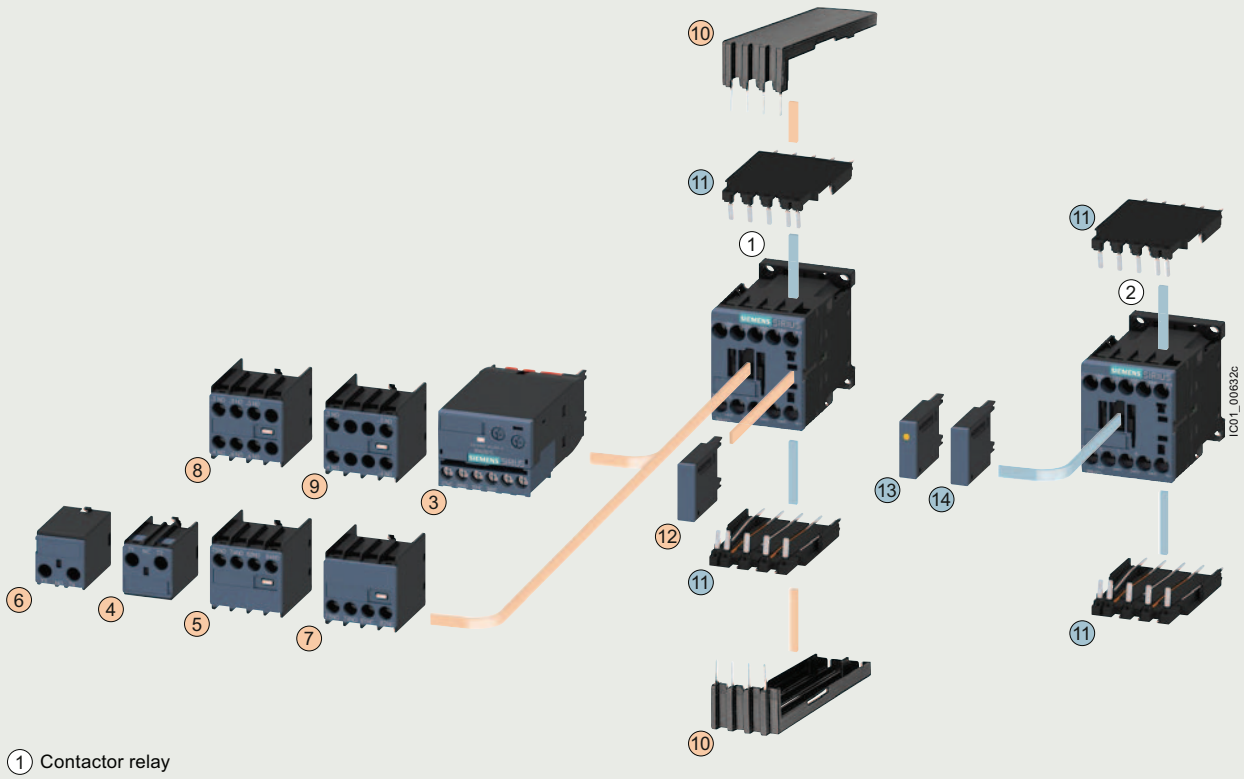
Ordering examples:

- 3RQ10 coupling relays with a width of 17.5 mm
  3RQ1000-1EB00-Z X90;
  Order quantity 16 units → Delivered in one package containing 16 units
- 3RQ20 coupling relays with a width of 22.5 mm
  3RQ2000-1AW00-Z X90;
  Order quantity 12 units → Delivered in one package containing 12 units

For more information, see page 16/7.

Overview

Contactor relays,
size S00, with accessories



(1) Contactor relay
(2) Coupling contactor relay for auxiliary circuits

(3) 3RA28 function module
(4) 1-pole auxiliary switch, cable entry from the top
(5) 2-pole auxiliary switch, cable entry from the top
(6) 1-pole auxiliary switch, cable entry from the bottom
(7) 2-pole auxiliary switch, cable entry from the bottom
(8) 4-pole auxiliary switch
(terminal designations according to EN 50011 or EN 50005)
(9) 2-pole auxiliary switch, solid-state compatible version
(terminal designations according to EN 50005)

(10) Solder pin adapter for contactor relays with 4-pole auxiliary switch
(11) Solder pin adapter
(12) Additional load module for increasing the permissible residual current
(13) Surge suppressor with LED
(14) Surge suppressor without LED

For contactor relays
For contactor relays and coupling contactor relays

Accessories, see page 3/69 onwards.

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

Standards

IEC 60947-1, IEC 60947-4-1, IEC 60947-5-1

The 3RH2 contactor relays are available with screw or spring-loaded terminals. The basic unit contains four contacts with terminal designations according to EN 50011.

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

Contact reliability of auxiliary contacts

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

Protecting connections against overvoltage

Protection against overvoltage at the control supply voltage connection

RC elements, varistors, diodes or diode assemblies (combination of a diode and a Zener diode) can be plugged onto all 3RH2 contactor relays from the front for damping switching overvoltages in the coil. The plug-in direction is determined by a coding device.

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

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

Note:

The break times of the contactor, the opening delay times of the NO contacts and the closing delay times of the NC contacts increase with damping.

For more information on how damping influences the time response, see Equipment Manual.

Accessories

The accessories for the 3RT2 contactors in size S00 can also be used for the 3RH2 contactor relays (see page 3/69 onwards).

Mounting of additional auxiliary switches

Expansion possibilities

All 3RH21 contactor relays (except for coupling contactor relays) can be expanded using auxiliary switches; the permissible configuration must be observed.

For detailed information about fitting of auxiliary switches, see pages 3/80 to 3/87.

The auxiliary switch can easily be snapped onto the front of the contactor relays. The auxiliary switch has a centrally positioned release lever for disassembly.

The conventional front auxiliary contacts fulfill the characteristics of force-guided operation and are therefore suitable for safety applications.

Contactor relays in safety-related applications

Contactor relays are a significant part of safety-related applications. They are generally the actuators that perform the switching operation leading to the safe disconnection of the corresponding application or system.

Contactor relays with force-guided operation according to IEC 60947-5-1 are generally required for use in safety-related applications. Most of our contactors meet this requirement; a corresponding note can be found in the technical product data sheet.

Contactor relays with increased tamper protection

Increased tamper protection is ensured either by using our contactor relay versions with factory-installed, permanently mounted auxiliary switches (e.g. 3RH22 contactor relays), or by using the 3RT2916-4MA10 sealable cover as an accessory (see page 3/115).

Article number scheme

Product versions		Article number
SIRIUS contactor relays		**3RH2 □ □ □ – □ □ □ □ 0 – □ □ □ □**
Device type	e.g. 1 = 4-pole contactor relay	□
Number of NO contacts	e.g. 2 = 2 NO	□
Number of NC contacts	e.g. 2 = 2 NC	□
Type of electrical connection	Screw terminals	1
	Spring-loaded terminals	2
Operating range/solenoid coil circuit	e.g. A = AC standard/without coil circuit	□
Rated control supply voltage	e.g. P0 = 50/60 Hz 230 V AC	□ □
Special version		□ □ □ □
Example		**3RH2 1 2 2 – 1 A P 0 0**

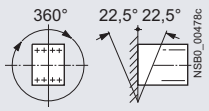
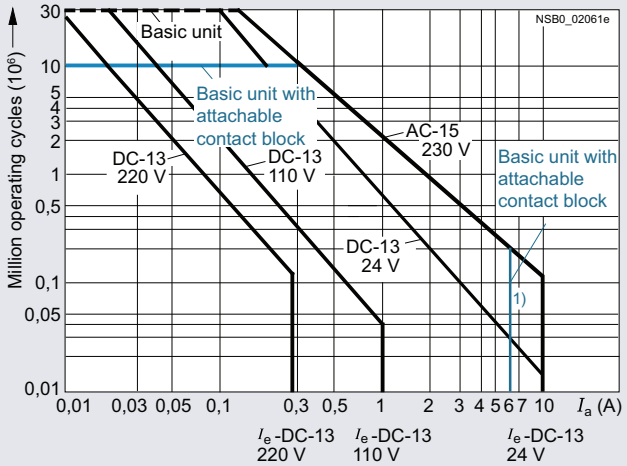
Note:

The article number scheme shows an overview of product versions for better understanding of the logic behind the article numbers.

For your orders, please use the article numbers quoted in the selection and ordering data.

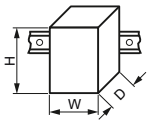
Technical specifications

More information	
Technical specifications, see https://support.industry.siemens.com/cs/ww/en/ps/16188/td FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/16188/faq	Manuals, see https://support.industry.siemens.com/cs/ww/en/ps/16188/man

	Contactor relays
Type	3RH2
Size	S00
Permissible mounting position	
The contactor relays are designed for operation on a vertical mounting surface.	
Upright mounting position	 Special version required
Force-guided operation of contacts in contactor relays	
3RH2: **Yes,** in the basic unit and the auxiliary switch as well as between the basic unit and the mounted auxiliary switch **(removable)** according to: • ZH1/457 • IEC 60947-5-1, Annex L **3RH22:** **Yes,** in the basic unit and the auxiliary switch as well as between the basic unit and the mounted auxiliary switch **(permanently mounted)** according to: • ZH1/457 • IEC 60947-5-1, Annex L Note: 3RH2911-.NF. solid-state-compatible auxiliary switches have no force-guided contacts.	Explanations: There is force-guided operation if it is ensured that the NC and NO contacts cannot be closed at the same time. **ZH1/457** Safety Rules for Controls on Power-Operated Metalworking Presses. **IEC 60947-5-1, Annex L** Standard for low-voltage switchgear and controlgear; "Special requirements for mechanically linked (force-guided) contact elements"
Contact reliability	
Contact reliability at 17 V, 1 mA according to IEC 60947-5-4	Frequency of contact faults $<10^{-8}$, i.e. < 1 fault per 100 million operating cycles
Contact endurance for AC-15 and DC-13 utilization categories	
The contact endurance is mainly dependent on the breaking current. It is assumed that the operating mechanisms are switched arbitrarily and not synchronously with the phase angle of the supply system switching operating mechanism. If magnetic circuits other than the contactor operating mechanisms or solenoid valves are present, e.g. magnetic brakes, protective measures for the load circuits are necessary, e.g. in the form of RC elements and freewheeling diodes. The characteristic curves apply to • 3RH21/3RH22 contactor relays[1)] • 3RH24 latched contactor relays • 3RH2911 auxiliary switches[1)] • Auxiliary switches for snapping onto the front, max. 4-pole and for mounting on the side in size S00	 Diagram legend: I_a = Breaking current I_e = Rated operational current

[1)] 3RH22, 3RH2911: I_e = 6 A for AC-15 and DC-13.

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

Type			Contactor relays 3RH21	3RH22	3RH24
Size			S00		
General data					
Dimensions (W x H x D)					
• Basic unit					
- Screw terminal		mm	45 x 58 x 73	--	90 x 58 x 73
- Spring-loaded terminal		mm	45 x 70 x 73	--	
• Basic unit with mounted auxiliary switch					
- Screw terminal		mm	45 x 58 x 117		--
- Spring-loaded terminal		mm	45 x 70 x 121		--
• Basic unit with mounted function module or solid-state time-delay auxiliary switch					
- Screw terminal		mm	45 x 58 x 147	--	
- Spring-loaded terminal		mm	45 x 70 x 147	--	
Mechanical endurance					
• Basic units		Operating cycles	30 million		5 million
• Basic unit with mounted auxiliary switch		Operating cycles	10 million		5 million
• Solid-state-compatible auxiliary switch		Operating cycles	5 million		
Rated insulation voltage U_i (pollution degree 3)		V	690		
Rated impulse withstand voltage U_{imp}		kV	6		
Protective separation between coil and contacts in the basic unit, according to IEC 60947-1, Annex N		V	400		
Permissible ambient temperature					
• During operation		°C	-25 ... +60		
• During storage		°C	-55 ... +80		
Short-circuit protection					
• Short-circuit test					
- With fuse links of operational class gG: DIAZED, type 5SB; NEOZED, type 5SE with short-circuit current I_k = 1 kA according to IEC 60947-5-1		A	10		
- With miniature circuit breakers with C characteristic with short-circuit current I_k = 400 A according to IEC 60947-5-1		A	6		

Type			Contactor relays 3RH21	3RH22	3RH24
Size			S00		
Conductor cross-sections					
Auxiliary conductors and coil terminals (1 or 2 conductors can be connected)			**Screw terminals**		
• Solid or stranded		mm^2	2 x (0.5 ... 1.5)[1]; 2 x (0.75 ... 2.5)[1], max. 2 x 4		
• Finely stranded with end sleeve		mm^2	2 x (0.5 ... 1.5)[1]; 2 x (0.75 ... 2.5)[1]		
• AWG cables, solid or stranded		AWG	2 x (20 ... 16)[1], 2 x (18 ... 14)[1]		
• Terminal screw			M3 (for Pozidriv size 2, ∅ 5 ... 6 mm)		
- Tightening torque		Nm	0.8 ... 1.2 (7 ... 10.3 lb.in)		
Auxiliary conductors and coil terminals[2] (1 or 2 conductors can be connected)			**Spring-loaded terminals**		
• Operating tool		mm	3.0 x 0.5; 3.5 x 0.5		
• Solid or stranded		mm^2	2 x (0.5 ... 4)		
• Finely stranded with end sleeve		mm^2	2 x (0.5 ... 2.5)		
• Finely stranded without end sleeve		mm^2	2 x (0.5 ... 2.5)		
• AWG cables, solid or stranded		AWG	2 x (20 ... 12)		
Auxiliary conductors for front and laterally mounted auxiliary switches[2]					
• Operating tool		mm	3.0 x 0.5; 3.5 x 0.5		
• Solid or stranded		mm^2	2 x (0.5 ... 2.5)		
• Finely stranded with end sleeve		mm^2	2 x (0.5 ... 1.5)		
• Finely stranded without end sleeve		mm^2	2 x (0.5 ... 2.5)		
• AWG cables, solid or stranded		AWG	2 x (20 ... 14)		

1) If two different conductor cross-sections are connected to one clamping point, both cross-sections must lie in one of the ranges specified.

2) Max. outer diameter of the conductor insulation: 3.6 mm.
On spring-loaded terminals with conductor cross-sections ≤ 1 mm^2 an insulation stop is recommended, see page 3/118.

			Contactor relays
Type			**3RH2**
Size			**S00**
Control			
Solenoid coil operating range			
• AC operation	at 50 Hz at 60 Hz		0.8 ... 1.1 x U_s 0.85 ... 1.1 x U_s
• DC operation	at +50 °C at +60 °C		0.8 ... 1.1 x U_s 0.85 ... 1.1 x U_s
Power consumption of the solenoid coil (for cold coil and 1.0 x U_s)			
• AC operation, 50 Hz			
- Closing power		VA/p.f.	37/0.8
- Holding power		VA/p.f.	5.7/0.25
• AC operation, 60 Hz			
- Closing power		VA/p.f.	33/0.75
- Holding power		VA/p.f.	4.4/0.25
• DC operation Closing power = holding power		W	4.0
Permissible residual current of the electronics (with 0 signal)			
• For AC operation[1]			< 4 mA x (230 V/U_s)
• For DC operation			< 10 mA x (24 V/U_s)

[1] The 3RT2916-1GA00 additional load module is recommended for higher residual currents, see page 3/117.

			Coupling contactor relays						
Type			**3RH21..**						
			-.HB40	**-.JB40**	**-.KB40**	**-.MB40-0KT0**	**-.VB40**	**-.SB40**	
Size			**S00**						
Control									
Solenoid coil operating range			0.7 ... 1.25 x U_s			0.85 ... 1.85 x U_s			
Power consumption of the solenoid coil (for cold coil and 1.0 x U_s) Closing power = holding power at U_s = 24 V		W	2.8			1.6			
Permissible residual current of the electronics with 0 signal			<10 mA x (24 V/U_s)			< 8 mA x (24 V/U_s)			
Overvoltage configuration of the solenoid coil			No overvoltage damping	Inte-grated diode	Integrated suppressor diode	No overvoltage damping	Inte-grated diode	Integrated suppressor diode	

			Contactor relays
Type			**3RH2**
Size			**S00**
Rated data of the auxiliary contacts			
Load rating with AC			
Rated operational currents I_e			
AC-12		A	10
AC-15 at rated operational voltage U_e			
	up to 230 V	A	10[1]
	400 V	A	3
	500 V	A	2
	690 V	A	1
cULus rated data			
Basic units and auxiliary switches			
• Rated control supply voltage		V AC	max. 600
• Rated voltage		V AC	600
• Switching capacity			A 600, Q 600
• Uninterrupted current at 240 V AC		A	10

[1] 3RH22, 3RH29: I_e = 6 A for AC-15 and DC-13.

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

Selection and ordering data

AC operation

PU (UNIT, SET, M) = 1
PS* = 1 unit
PG = 41A


3RH2122-1A..0


3RH2122-2A..0


3RH2244-1A..0


3RH2244-2A..0


3RH2422-1A..0

Rated operational current I_e/AC-15 at **230 V**	Contacts Ident. No.	Version		Rated control supply voltage U_s at 50/60 Hz[1]	Screw terminals Article No.	Price per PU	Spring-loaded terminals Article No.	Price per PU
A		NO	NC	V AC				
For screw and snap-on mounting on TH 35 DIN rail								
Size S00								
10	**40E**	4	--	24	**3RH2140-1AB00**		**3RH2140-2AB00**	
				110	**3RH2140-1AF00**		**3RH2140-2AF00**	
				230	**3RH2140-1AP00**		**3RH2140-2AP00**	
	31E	3	1	24	**3RH2131-1AB00**		**3RH2131-2AB00**	
				110	**3RH2131-1AF00**		**3RH2131-2AF00**	
				230	**3RH2131-1AP00**		**3RH2131-2AP00**	
	22E	2	2	24	**3RH2122-1AB00**		**3RH2122-2AB00**	
				110	**3RH2122-1AF00**		**3RH2122-2AF00**	
				230	**3RH2122-1AP00**		**3RH2122-2AP00**	
With permanently mounted auxiliary switch								
6	**44E**	4	4	230	**3RH2244-1AP00**		**3RH2244-2AP00**	
	62E	6	2	230	**3RH2262-1AP00**		**3RH2262-2AP00**	
Latched								
No lateral auxiliary switches can be mounted								
10	**40 E**	4	--	24	**3RH2440-1AB00**		**--**	
				110	**3RH2440-1AF00**		**--**	
				230	**3RH2440-1AP00**		**--**	
	31 E	3	1	24	**3RH2431-1AB00**		**--**	
				110	**3RH2431-1AF00**		**--**	
				230	**3RH2431-1AP00**		**--**	
	22 E	2	2	24	**3RH2422-1AB00**		**--**	
				110	**3RH2422-1AF00**		**--**	
				230	**3RH2422-1AP00**		**--**	

[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.

Other voltages according to page 3/67 on request.
Accessories, see page 3/69 onwards.

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

DC operation

PU (UNIT, SET, M) = 1
PS* = 1 unit
PG = 41A


3RH2122-1B..0


3RH2122-2B..0


3RH2244-1B..0


3RH2244-2B..0


3RH2422-1B.40

Rated operational current I_e/AC-15 at **230 V**	Contacts Ident. No.	Version		Rated control supply voltage U_s	**Screw terminals**		**Spring-loaded terminals**	
					Article No.	Price per PU	Article No.	Price per PU
A		NO	NC	V DC				
For screw and snap-on mounting on TH 35 DIN rail								
Size S00								
10	**40E**	4	--	24	**3RH2140-1BB40**		**3RH2140-2BB40**	
				110	**3RH2140-1BF40**		**3RH2140-2BF40**	
				220	**3RH2140-1BM40**		**3RH2140-2BM40**	
	31E	3	1	24	**3RH2131-1BB40**		**3RH2131-2BB40**	
				110	**3RH2131-1BF40**		**3RH2131-2BF40**	
				220	**3RH2131-1BM40**		**3RH2131-2BM40**	
	22E	2	2	24	**3RH2122-1BB40**		**3RH2122-2BB40**	
				110	**3RH2122-1BF40**		**3RH2122-2BF40**	
				220	**3RH2122-1BM40**		**3RH2122-2BM40**	
With integrated coil circuit (diode integrated at factory)								
10	**40E**	4	--	24	**3RH2140-1FB40**		**3RH2140-2FB40**	
	31E	3	1	24	**3RH2131-1FB40**		**3RH2131-2FB40**	
	22E	2	2	24	**3RH2122-1FB40**		**3RH2122-2FB40**	
With permanently mounted auxiliary switch								
6	**44E**	4	4	24	**3RH2244-1BB40**		**3RH2244-2BB40**	
	62E	6	2	24	**3RH2262-1BB40**		**3RH2262-2BB40**	
Latched								
No lateral auxiliary switches can be mounted								
10	**40E**	4	--	24	**3RH2440-1BB40**		**--**	
				110	**3RH2440-1BF40**		**--**	
				220	**3RH2440-1BM40**		**--**	
	31E	3	1	24	**3RH2431-1BB40**		**--**	
				110	**3RH2431-1BF40**		**--**	
				220	**3RH2431-1BM40**		**--**	
	22E	2	2	24	**3RH2422-1BB40**		**--**	
				110	**3RH2422-1BF40**		**--**	
				220	**3RH2422-1BM40**		**--**	

Other voltages according to page 3/67 on request.

Accessories, see page 3/69 onwards.

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

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

DC operation for direct control by PLC ⎓

- Coupling contactor relays with adapted power consumption
- Suitable for solid-state PLC outputs
- Cannot be expanded with auxiliary switches

PU (UNIT, SET, M) = 1
PS* = 1 unit
PG = 41A

3RH21..-1.B40

3RH21..-2.B40

Rated operational current I_e/AC-15 at **230 V**	Auxiliary contacts		Rated control supply voltage U_S	**Screw terminals**		**Spring-loaded terminals**	
	Ident. No. according to EN 50011	Version		Article No.	Price per PU	Article No.	Price per PU
A	NO	NC	V DC				
For screw and snap-on mounting on TH 35 DIN rail							
Size S00							
Cannot be expanded with auxiliary switches							
Operating range **0.7 to 1.25 x U_S**, power consumption of the solenoid coils **2.8 W** at 24 V							
10	**40E**	4	--	24	**3RH2140-1HB40**		**3RH2140-2HB40**	
	31E	3	1	24	**3RH2131-1HB40**		**3RH2131-2HB40**	
	22E	2	2	24	**3RH2122-1HB40**		**3RH2122-2HB40**	
Operating range **0.85 to 1.85 x U_S**, power consumption of the solenoid coils **1.6 W** at 24 V							
10	**40E**	4	--	24	**3RH2140-1MB40-0KT0**		**3RH2140-2MB40-0KT0**	
	31E	3	1	24	**3RH2131-1MB40-0KT0**		**3RH2131-2MB40-0KT0**	
	22E	2	2	24	**3RH2122-1MB40-0KT0**		**3RH2122-2MB40-0KT0**	

Other voltages according to page 3/67 on request.

Accessories, see page 3/69 onwards.

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

DC operation for direct control by PLC

- Coupling contactor relays with adapted power consumption
- Suitable for solid-state PLC outputs
- Cannot be expanded with auxiliary switches

PU (UNIT, SET, M) = 1
PS* = 1 unit
PG = 41A

3RH21..-1.B40

3RH21..-2.B40

Rated operational current I_e/AC-15 at **230 V**	Auxiliary contacts			Rated control supply voltage U_s	**Screw terminals**	**Spring-loaded terminals**
	Ident. No. according to EN 50011	Version			Article No.	Article No.
		NO	NC	V DC		
A						
For screw and snap-on mounting on TH 35 DIN rail						
Size S00						
With integrated coil circuit (diode integrated at factory)						
Cannot be expanded with auxiliary switches						
Operating range **0.7 to 1.25 x U_s** Power consumption of the solenoid coils **2.8 W** at 24 V						
10	**40E**	4	--	24	**3RH2140-1JB40**	**3RH2140-2JB40**
	31E	3	1	24	**3RH2131-1JB40**	**3RH2131-2JB40**
	22E	2	2	24	**3RH2122-1JB40**	**3RH2122-2JB40**
Operating range **0.85 to 1.85 x U_s** Power consumption of the solenoid coils **1.6 W** at 24 V						
10	**40E**	4	--	24	**3RH2140-1VB40**	**3RH2140-2VB40**
	31E	3	1	24	**3RH2131-1VB40**	**3RH2131-2VB40**
	22E	2	2	24	**3RH2122-1VB40**	**3RH2122-2VB40**
With integrated coil circuit (suppressor diode integrated at factory)						
Cannot be expanded with auxiliary switches						
Operating range **0.7 to 1.25 x U_s** Power consumption of the solenoid coils **2.8 W** at 24 V						
10	**40E**	4	--	24	**3RH2140-1KB40**	**3RH2140-2KB40**
	31E	3	1	24	**3RH2131-1KB40**	**3RH2131-2KB40**
	22E	2	2	24	**3RH2122-1KB40**	**3RH2122-2KB40**
Operating range **0.85 to 1.85 x U_s** Power consumption of the solenoid coils **1.6 W** at 24 V						
10	**40E**	4	--	24	**3RH2140-1SB40**	**3RH2140-2SB40**
	31E	3	1	24	**3RH2131-1SB40**	**3RH2131-2SB40**
	22E	2	2	24	**3RH2122-1SB40**	**3RH2122-2SB40**

Other voltages according to page 3/67 on request.

Accessories, see page 3/69 onwards.

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

3TH4 contactor relays, 8- and 10-pole

Overview

Standards

IEC 60947-1, IEC 60947-5-1

Note:

The 3TH42 and 3TH43 contactor relays feature force-guided operation according to IEC 60947-5-1, Ed. 3.1.

Terminal designations according to EN 50011

In terms of their terminal designations, identification numbers and identification letters, the 3TH42 and 3TH43 contactor relays conform to the standard EN 50011 for "Particular Contactor Relays".

Contact reliability of auxiliary contacts

High contact reliability at low voltages and currents as a result of double-break contacts, suitable for solid-state circuits with currents ≥ 1 mA at a voltage of ≥ 17 V.

Protecting connections against overvoltage

Protection against overvoltage at the control supply voltage connection

The 3TH42 and 3TH43 contactor relays can be equipped with RC elements, varistors, diodes or diode assemblies (combination of a diode and a Zener diode) for damping switching overvoltages. The surge suppressors can be mounted directly on the coil, see page 5/20.

Note:

The break times of the contactor, the opening delay times of the NO contacts and the closing delay times of the NC contacts increase with damping.

For more information on how damping influences the time response, see Equipment Manual.

Mounting

Note:

With 3TH4 contactor relays with AC operation, an overvoltage of 1.1 x U_S, an ambient temperature ≥ 45 °C and 100% ON period of all contactors, a minimum clearance of 5 mm between the contactors shall be observed in the case of side-by-side mounting.

Technical specifications

More information	
Technical specifications, see https://support.industry.siemens.com/cs/ww/en/ps/16176/td FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/16176/faq	Manuals, see https://support.industry.siemens.com/cs/ww/en/ps/16176/man

Type	3TH42, 3TH43
Contact endurance for AC-15 and DC-13 utilization categories	

The contact endurance is mainly dependent on the breaking current. It is assumed that the operating mechanisms are switched arbitrarily and not synchronously with the phase angle of the supply system switching operating mechanism.

If magnetic circuits other than the contactor operating mechanisms or solenoid valves are present, e.g. magnetic brakes, protective measures for the load circuits are necessary.

RC elements or freewheeling diodes are suitable as protective measures for the circuits.

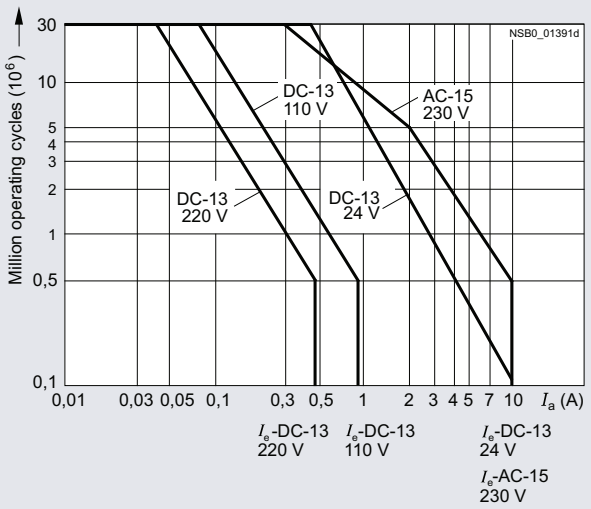
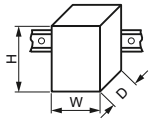
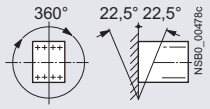
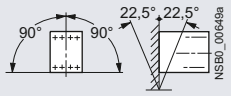


Diagram legend:
I_a = Breaking current
I_e = Rated operational current

Type			3TH42	3TH43
General data				
Dimensions (W x H x D)				
• AC operation		mm	45 x 78 x 97	55 x 78 x 97
• DC operation		mm	45 x 78 x 130	55 x 78 x 130
Permissible mounting position				
The contactor relays are designed for operation on a vertical mounting surface.				
• AC operation				
• DC operation				
Upright mounting position AC and DC operation			 Special version required	
Mechanical endurance	Basic units	Operating cycles	30 million	
Rated insulation voltage U_i (pollution degree 3)		V	690	
Rated impulse withstand voltage U_{imp}		kV	8	
Protective separation between the coil and the main contacts according to IEC 60947-1, Annex N		V	Up to 500	
Permissible ambient temperature				
• During operation		°C	-25 ... +55	
• During storage		°C	-55 ... +80	
Short-circuit protection				
Short-circuit test				
• With fuse links of operational class gG With short-circuit current I_k = 1 kA according to IEC 60947-5-1				
- LV HRC, type 3NA		A	16	
- DIAZED, type 5SB		A	16	
- NEOZED, type 5SE, quick		A	20	
• With miniature circuit breakers With short-circuit current I_k = 400 A according to IEC 60947-5-1				
- C characteristic		A	16	
- B characteristic		A	16	
cULus rated data				
Basic units				
Rated control supply voltage U_s			Max. 600 V AC, 230 V DC (according to UL 240 V DC)	
Rated voltage			600 V AC, 600 V DC	
Switching capacity			A 600, P 600	
Conductor cross-sections				
Auxiliary conductors and coil terminals (1 or 2 conductors can be connected)			**Screw terminals**	
• Solid or stranded		mm^2	2 x (0.5 ... 1)[1]; 2 x (1 ... 2.5)[1]; 1 x 4	
• Finely stranded with end sleeve		mm^2	2 x (0.75 ... 2.5)	
• Terminal screw			M3.5	

[1] If two different conductor cross-sections are connected to one clamping point, both cross-sections must lie in one of the ranges specified.

3TH4 contactor relays, 8- and 10-pole

Type			3TH42, 3TH43
Control			
Solenoid coil operating range			
• AC operation			0.8 ... 1.1 x U_s [1]
• DC operation (except 24 V)			0.8 ... 1.1 x U_s
- At 24 V DC			0.8 ... 1.2 x U_s
Power consumption of the solenoid coil (for cold coil and 1.0 x U_s)			
• AC operation, 50 Hz, standard version			
- Closing power		VA/p.f.	68/0.82
- Holding power		VA/p.f.	10/0.29
• AC operation, 50/60 Hz, standard version			
- Closing power, 50 Hz		VA/p.f.	77/0.81
- Holding power, 50 Hz		VA/p.f.	11/0.28
- Closing power, 60 Hz		VA/p.f.	71/0.75
- Holding power, 60 Hz		VA/p.f.	9/0.27
• AC operation, 50 Hz, USA/Canada			
- Closing power		VA/p.f.	68/0.82
- Holding power		VA/p.f.	10/0.29
• AC operation, 60 Hz, USA/Canada			
- Closing power		VA/p.f.	75/0.76
- Holding power		VA/p.f.	9.4/0.29 ... 0.3
• AC operation, 50 Hz, Japan			
- Closing power		VA/p.f.	80/0.8
- Holding power		VA/p.f.	10.7/0.29
• AC operation, 60 Hz, Japan			
- Closing power		VA/p.f.	75 ... 90/0.73
- Holding power		VA/p.f.	8.5 ... 10.7/0.29 ... 0.3
• DC operation up to 250 V Closing power = holding power		W	6.2
Permissible residual current of the electronics (with 0 signal)			
• For AC operation			≤ 8 mA x (220 V/U_s)
• For DC operation			≤ 1.25 mA x (220 V/U_s)
Rated data of the auxiliary contacts			
Load rating with AC			
Rated operational currents I_e			
• AC-12		A	16
• AC-15, at rated operational voltage U_e	230 V	A	10
	400 V	A	6
	500 V	A	4
	690 V	A	2
Rated power of three-phase motors according to utilization categories AC-3 and AC-3e, 50 Hz	230/220 V	kW	2.4
	400/380 V	kW	4
	500 V	kW	4
	690/660 V	kW	4

[1] Coils for USA, Canada and Japan: 0.85 to 1.1 x U_s at 60 Hz.

Selection and ordering data

8-pole contactor relays
AC operation ~ or DC operation ⎓


3TH4280-0AP0


3TH4244-0BB4

Contacts	Rated operational current I_e/AC-15 at				Contacts					Screw terminals ⊕	PU (UNIT, SET, M)	PS*	PG
	230/ 220 V	400/ 380 V	500 V	690/ 660 V	Ident. No. according to EN 50011	Version				Article No.	Price per PU		
						NO	NC	NO	NC				
Number	**A**	A	A	A									
For screw and snap-on mounting on TH 35 DIN rail													
AC operation, rated control supply voltage U_s = 50 Hz 230/220 V AC[1]													
8	**10**	6	4	2	**80E**	8	--	--	--	**3TH4280-0AP0**	1	1 unit	41A
					71E	7	1	--	--	**3TH4271-0AP0**	1	1 unit	41A
					62E	6	2	--	--	**3TH4262-0AP0**	1	1 unit	41A
					53E	5	3	--	--	**3TH4253-0AP0**	1	1 unit	41A
					44E	4	4	--	--	**3TH4244-0AP0**	1	1 unit	41A
					44E, U	3	3	1	1	**3TH4293-0AP0**	1	1 unit	41A
DC operation, rated control supply voltage U_s = 24 V DC													
8	**10**	6	4	2	**80E**	8	--	--	--	**3TH4280-0BB4**	1	1 unit	41A
					71E	7	1	--	--	**3TH4271-0BB4**	1	1 unit	41A
					62E	6	2	--	--	**3TH4262-0BB4**	1	1 unit	41A
					53E	5	3	--	--	**3TH4253-0BB4**	1	1 unit	41A
					44E	4	4	--	--	**3TH4244-0BB4**	1	1 unit	41A
					44E, U	3	3	1	1	**3TH4293-0BB4**	1	1 unit	41A

[1] Operating range at 220 V: 0.85 to 1.1 × U_s; lower operating range limit according to IEC 60947.

Other voltages according to page 5/19 on request.

Accessories, see page 5/20.

Note:

The solenoid coils of the 3TH42 contactor relays are available in various voltages as spare parts (on request).

- AC operation 3TY7403-0A..
- DC operation 3TY4803-0B..

The contacts cannot be replaced on 3TH42 contactor relays.

3TH4 contactor relays, 8- and 10-pole

10-pole contactor relays
AC operation ~ or DC operation ⎓


3TH43..-0AP0


3TH43..-0BB4

Contacts	Rated operational current I_e/AC-15 at				Contacts					Screw terminals		PU (UNIT, SET, M)	PS*	PG
	230 V	400 V	500 V	690 V	Ident. No. according to EN 50011	Version				Article No.	Price per PU			
Number	**A**	A	A	A		NO	NC	NO	NC					
For screw and snap-on mounting on TH 35 DIN rail														
AC operation, rated control supply voltage U_s = 50 Hz 230/220 V AC[1]														
10	**10**	6	4	2	**100E**	10	--	--	--	**3TH4310-0AP0**		1	1 unit	41A
					91E	9	1	--	--	**3TH4391-0AP0**		1	1 unit	41A
					82E	8	2	--	--	**3TH4382-0AP0**		1	1 unit	41A
					73E	7	3	--	--	**3TH4373-0AP0**		1	1 unit	41A
					73E, U	6	2	1	1	**3TH4346-0AP0**		1	1 unit	41A
					64E	6	4	--	--	**3TH4364-0AP0**		1	1 unit	41A
					55E	5	5	--	--	**3TH4355-0AP0**		1	1 unit	41A
					55E, U	4	4	1	1	**3TH4394-0AP0**		1	1 unit	41A
DC operation, rated control supply voltage U_s = 24 V DC														
10	**10**	6	4	2	**100E**	10	--	--	--	**3TH4310-0BB4**		1	1 unit	41A
					91E	9	1	--	--	**3TH4391-0BB4**		1	1 unit	41A
					82E	8	2	--	--	**3TH4382-0BB4**		1	1 unit	41A
					73E	7	3	--	--	**3TH4373-0BB4**		1	1 unit	41A
					73E, U	6	2	1	1	**3TH4346-0BB4**		1	1 unit	41A
					64E	6	4	--	--	**3TH4364-0BB4**		1	1 unit	41A
					55E	5	5	--	--	**3TH4355-0BB4**		1	1 unit	41A
					55E, U	4	4	1	1	**3TH4394-0BB4**		1	1 unit	41A

[1] Operating range at 220 V: 0.85 to 1.1 × U_s;
lower operating range limit according to IEC 60947.

Other voltages according to page 5/19 on request.

Accessories, see page 5/20.

Note:

The solenoid coils of the 3TH43 contactor relays are available in various voltages as spare parts (on request).

- AC operation 3TY7403-0A..
- DC operation 3TY4803-0B..

The contacts cannot be replaced on 3TH43 contactor relays.

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

Options

Rated control supply voltages, possible on request (change of the 10th and 11th digits of the article number)

Delivery time on request

Rated control supply voltage U_s	Contactor type: Control supply voltage at	3TH42/3TH43
AC operation		
Solenoid coils for 50 Hz and 60 Hz AC		
50 Hz	**60 Hz**	
24 V AC	29 V AC	B0
42 V AC	50 V AC	D0
48 V AC	58 V AC	H0
110 V AC	132 V AC	F0
125/127 V AC	150/152 V AC	L0
230/220 V AC	276 V AC	P0[1]
50/60 Hz		
24 V AC		C2
42 V AC		D2
110 V AC		G2
220 V AC		N2
230 V AC		L2
240 V AC		P2
For USA and Canada		
50 Hz	**60 Hz**	
110 V AC	120 V AC	K6[2]
220 V AC	240 V AC	P6[2]

Rated control supply voltage U_s	Contactor type: 3TH42/3TH43
DC operation	
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
240 V DC	Q4

[1] Operating range at 220 V or 380 V: 0.85 to 1.1 x U_s.

[2] Operating range at 60 Hz: 0.85 to 1.1 x U_s.

Selection and ordering data

Version	Rated control supply voltage Us AC V	Rated control supply voltage Us DC V	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Surge suppressors for 3TH4 contactor relays							
 3TX7402-3.							
Interference suppression diode With line spacer, for mounting on the coil terminal	--	24 ... 250	**3TX7402-3A**		1	1 unit	41B
Diode assembly (diode and Zener diode) With line spacer, DC operation, for mounting on the coil terminal	--	24 ... 250	**3TX7402-3D**		1	1 unit	41B
Varistors[1)] With line spacer, for mounting on the coil terminal	24 ... 48	24 ... 70	**3TX7402-3G**		1	1 unit	41B
	48 ... 127	70 ... 150	**3TX7402-3H**		1	1 unit	41B
	127 ... 240	150 ... 250	**3TX7402-3J**		1	1 unit	41B
	240 ... 400	--	**3TX7402-3K**		1	1 unit	41B
	400 ... 600	--	**3TX7402-3L**		1	1 unit	41B
RC elements With line spacer, for mounting on the coil terminal	24 ... 48	24 ... 70	**3TX7402-3R**		1	1 unit	41B
	48 ... 127	70 ... 150	**3TX7402-3S**		1	1 unit	41B
	127 ... 240	150 ... 250	**3TX7402-3T**		1	1 unit	41B
	240 ... 400	--	**3TX7402-3U**		1	1 unit	41B
	400 ... 600	--	**3TX7402-3V**		1	1 unit	41B

1) Includes the peak value of the superimposed alternating voltage on the DC side.

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

Overview

Picture on left: 3RQ1000-1EW00 coupling relay,
1 NO contact + 1 NC contact, screw terminal
Picture on right: 3RQ1000-2LW00 coupling relay,
4 NO contacts + 1 NC contact, spring-loaded terminal (push-in)

3RQ1 coupling relay in the 3SK system

More information

Homepage, see www.siemens.com/sirius-coupling-relays

SiePortal, see www.siemens.com/product?3RQ1

Technical specifications, see https://support.industry.siemens.com/cs/ww/en/ps/26008/td

Manuals, see https://support.industry.siemens.com/cs/ww/en/ps/26008/man

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

SIRIUS 3SK safety relays, see https://mall.industry.siemens.com/mall/en/ww/Catalog/Products/10143262?tree=CatalogTree

Video: SIRIUS 3RQ1 coupling relays

The SIRIUS 3RQ1 force-guided coupling relays in a modern titanium gray industrial enclosure are available in widths of 17.5 mm and 22.5 mm, and each with a supply voltage of 24 V DC (120 mm mounting depth) and 24 to 240 V AC/DC (90 mm mounting depth).

They are used for safe coupling up to SIL 3/PL e of control signals to and from a control system or as an output expansion for the SIRIUS 3SK safety relays (see page 11/13 onwards).

Further fields of application are based on the force-guided operation of relays according to IEC 60947-5-1 and EN 61810-3 for reading back relay states, for reliable diagnostics or signaling, or for the use of antivalent signals. Typical fields of application here are railways, signaling technology and elevators.

The series consists of devices with up to five outputs and can be supplied with screw or spring-loaded (push-in) terminals.

International standards and certifications including CE, UL/CSA, EAC and railway approvals ensure international usability and exportability.

Versions with protective coating on the printed circuit board according to IPC-A-610 are available for use in harsh ambient conditions (other device versions are available on request).

An extensive range of accessories is also available, such as device connectors for easy and safe connection of the 3RQ1 devices, replacement terminals, push-in lugs for wall mounting and coding pins, see page 5/27 onwards.

SIRIUS 3RQ1 force-guided coupling relays, fail-safe up to SIL 3/PL e

Article number scheme

Product versions		Article number																				
Coupling relays with force-guided contacts		**3RQ1**	**□**	**0**	**0**	**–**	**□**	**□**	**□**	**0**	**0**	**–**	**□**	**□**	**□**	**□**					
Version	Performance Level (SIL): c (SIL 2)		**0**																		
	Performance Level (SIL): e (SIL 3)		**2**																		
Connection methods	Screw terminals						**1**														
	Spring-loaded terminals (push-in)						**2**														
Outputs	1 NO + 1 NC							**E**													Width 17.5 mm
	2 NO + 1 NC							**G**													Width 17.5 mm
	2 NO + 2 NC							**H**													Width 22.5 mm
	4 NO + 1 NC							**L**													Width 22.5 mm
Rated control supply voltage	24 V DC								**B**												Depth 120 mm
	24 to 240 V AC/DC								**W**												Depth 90 mm
Versions	with protective coating on printed circuit board														**0**	**A**	**X**	**0**			
Example		**3RQ1**	**0**	**0**	**0**	**–**	**1**	**E**	**W**	**0**	**0**										

Note:

The article number scheme shows an overview of product versions for better understanding of the logic behind the article numbers.

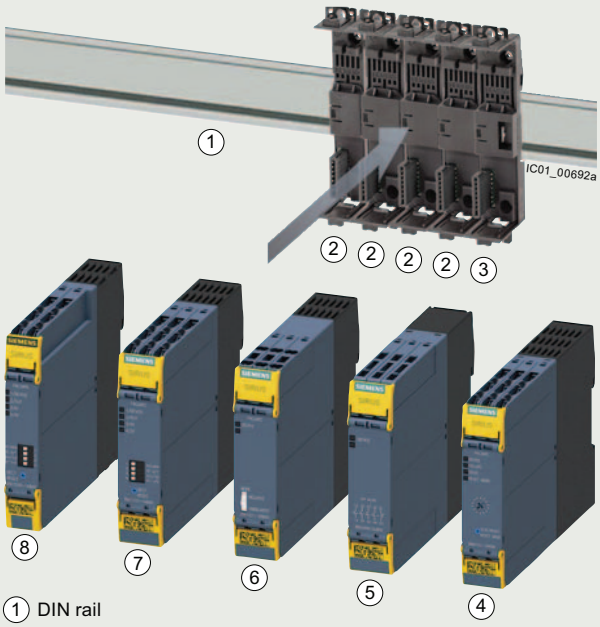
For your orders, please use the article numbers quoted in the selection and ordering data.

Benefits

- Wide-range voltage versions from 24 to 240 V AC/DC available with a mounting depth of 90 mm for all versions
- Permanent wiring by means of removable terminals with screw terminals or spring-loaded terminals (push-in)
- Replacement of individual terminals minimizes wiring effort
- Can be used as output extension for SIRIUS 3SK safety relays via device connectors
- All versions with real load contacts, also in the NC circuit
- Safety certification according to functional safety SIL 3/PL e
- Device versions with protective coating on printed circuit board
- International standards and certifications including CE, UL/CSA, EAC, railway approvals, and more

SIRIUS 3RQ1 force-guided coupling relays, fail-safe up to SIL 3/PL e

Application



1 DIN rail
2 Device connector
3 Device termination connector
4 SIRIUS 3RM1 motor starter
5 3RQ1 force-guided coupling relay as output expansion up to SIL 3/PL e
6 SIRIUS 3SK1211 output expansion
7 SIRIUS 3SK1121 Advanced basic unit
8 SIRIUS 3SK1220 sensor expansion

System configuration example with SIRIUS 3SK safety relays

- Safe coupling up to SIL 3/PL e of control signals from and to a control system
- Output expansion for 3SK safety relays
- Use of force-guided contacts for reading back relay states
- For reliable diagnostics or signaling or for antivalent switching of loads
- Safe coupling:
  - Electrical separation between the input and output circuit
  - Adjustment of different signal levels
  - Signal amplification
  - Contact multiplication

3RQ1 output expansion (up to SIL 3/PL e) for the 3SK system

The 3RQ1 force-guided coupling relays with a mounting depth of 120 mm can be used as an output expansion up to SIL 3/PL e and can be connected by wiring to all 3SK basic units and by using the 3ZY12 device connector to all 3SK1 and 3SK2 Advanced basic units.

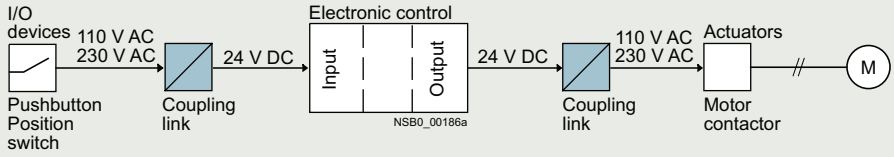
They have a switching capacity of AC-15 5/3 A (like 3SK1211) at a switching voltage of 230 V and are available in widths of 17.5 mm and 22.5 mm. Furthermore, they have NC contacts with a switching capacity of AC-15 2/1.5 A for direct switching of loads (anti-parallel switching, signaling, etc.).

Suitable for use in harsh ambient conditions

Versions with protective coating on the printed circuit board according to IPC-A-610 are available for use in environments that are exposed to dust, condensation, rapid temperature changes and corrosion. These are intended for applications in rail systems, agriculture, mining, woodworking, etc.

Note:

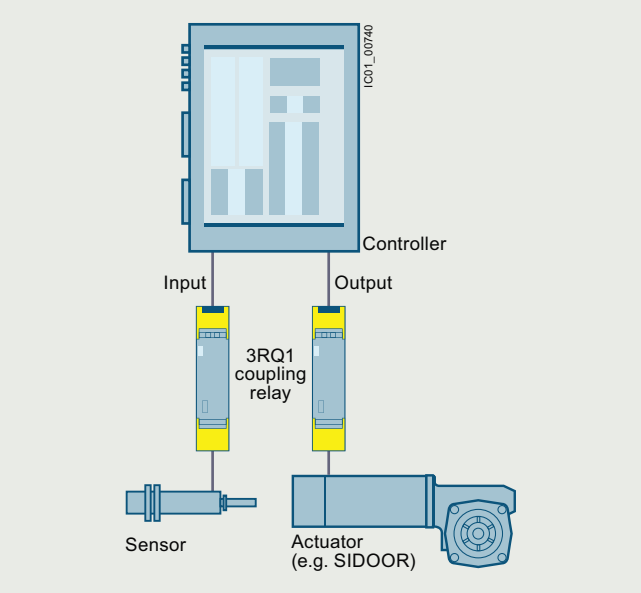
Other device versions with protective coating on the printed circuit board are available on request.



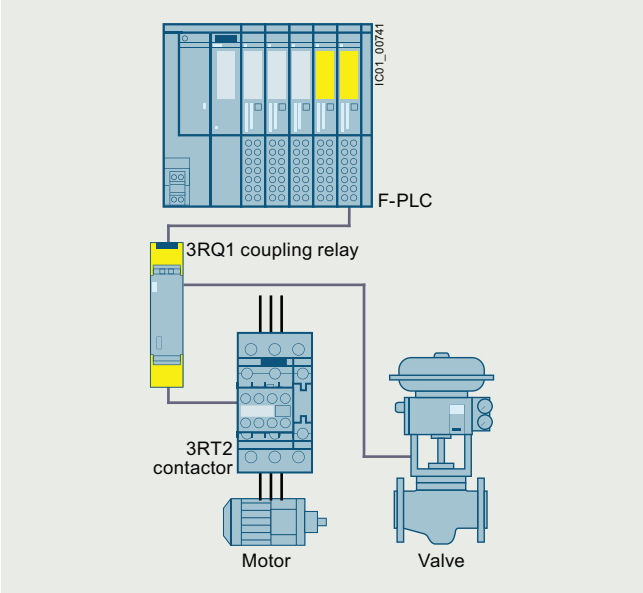
Typical application with a fail-safe control system

SIRIUS 3RQ1 force-guided coupling relays, fail-safe up to SIL 3/PL e

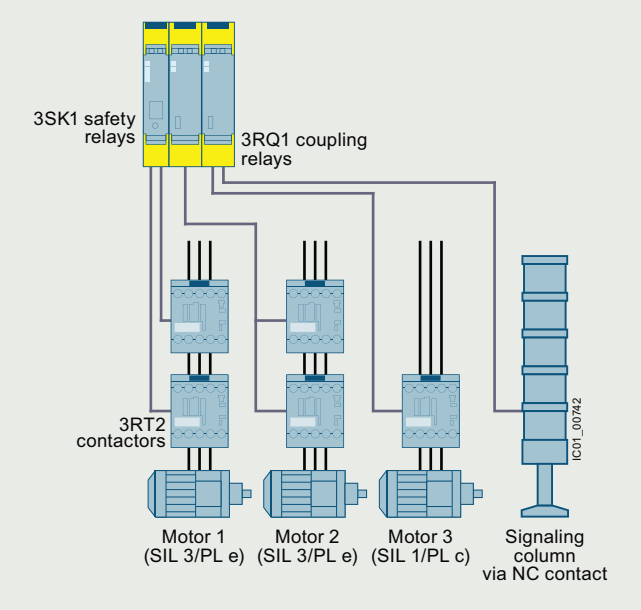
Applications



Application based on force-guided operation



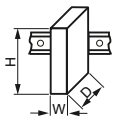
3RQ1 as coupling link for signals, e.g. for a fail-safe control system



3RQ1 as output expansion (SIL 1 to 3) for 3SK with direct control of actuators and signaling elements

Technical specifications

More information	
Technical specifications, see https://support.industry.siemens.com/cs/ww/en/ps/26008/td	Manuals, see https://support.industry.siemens.com/cs/ww/en/ps/26008/man Equipment Manual 3SK1/3RQ1, see https://support.industry.siemens.com/cs/ww/en/view/67585885

Article number		3RQ1000-.EB00, .GB00	3RQ1200-.EB00	3RQ1000-.EW00, .GW00	3RQ1200-.EW00	3RQ1000-.HB00, .LB00	.HW00, .LW00	2HW00-0AX0
General data								
Dimensions (W x H x D) 	mm	17.5 x 100 x 120		17.5 x 100 x 90		22.5 x 100 x 120	22.5 x 100 x 90	
Safety Integrity Level (SIL) according to IEC 62061		2	3	2	3	2		
Performance Level (PL) according to ISO 13849-1		c	e	c	e	c		
Certificate of suitability								
• UL approval		Yes						
• TÜV approval		Yes						
Insulation voltage for overvoltage category III according to IEC 60664 for pollution degree 3	V	300						
Protective coating on printed circuit board		No; --						Yes, according to IPC-A-610
Ambient temperature								
• During operation	°C	-25 ... +60						
• During storage	°C	-40 ... +80						
Degree of protection IP		IP20						
Control circuit								
Control supply voltage								
• At AC								
- At 50 Hz	V	--		24 ... 240		--	24 ... 240	
- At 60 Hz	V	--		24 ... 240		--	24 ... 240	
• At DC	V	24 ... 24		24 ... 240		24 ... 24	24 ... 240	
Operating range factor of the control supply voltage, rated value at DC		0.8 ... 1.2		0.7 ... 1.1		0.8 ... 1.2	0.7 ... 1.1	
Load circuit								
Thermal current of the non-solid-state contact blocks, maximum	A	5						
Mechanical endurance (operating cycles) typical		10 000 000						

Article number		3RQ1000-1., 3RQ1200-1.	3RQ1000-2., 3RQ1200-2.
Type of electrical connection		**Screw terminals**	**Spring-loaded terminals (push-in)**
Type of connectable conductor cross-sections			
• Solid		1x (0.5 ... 4 mm²), 2x (0.5 ... 2.5 mm²)	1x (0.5 ... 4 mm²)
• Finely stranded with end sleeve		1x (0.5 ... 4 mm²), 2x (0.5 ... 1.5 mm²)	1x (0.5 ... 2.5 mm²)
• Solid for AWG cables		1x (20 ... 12), 2x (20 ... 14)	1x (20 ... 12)
Tightening torque	Nm	0.6 ... 0.8	--

SIRIUS 3RQ1 force-guided coupling relays, fail-safe up to SIL 3/PL e

Selection and ordering data

PU (UNIT, SET, M) = 1
PS* = 1 unit
PG = 41H

Multi-unit packaging, see page 16/7.

Control supply voltage at AC at 50/60 Hz	Control supply voltage at DC	Number of auxiliary contacts NO	Number of auxiliary contacts NC	Depth	Suitable for use with 3ZY12 device connector	Protective coating on printed circuit board	Screw terminals Article No.	Screw terminals Price per PU	Spring-loaded terminals (push-in) Article No.	Spring-loaded terminals (push-in) Price per PU
V	V			mm						
Width 17.5 mm										
 3RQ1000-1EW00  3RQ1000-2EW00										
Fail-safe up to SIL 2/PL c										
--	24 ... 24	1	1	120	Yes	No	**3RQ1000-1EB00**		**3RQ1000-2EB00**	
--	24 ... 24	2	1	120	Yes	No	**3RQ1000-1GB00**		**3RQ1000-2GB00**	
24 ... 240	24 ... 240	1	1	90	No	No	**3RQ1000-1EW00**		**3RQ1000-2EW00**	
24 ... 240	24 ... 240	2	1	90	No	No	**3RQ1000-1GW00**		**3RQ1000-2GW00**	
Fail-safe up to SIL 3/PL e										
--	24 ... 24	1	--[1]	120	Yes	No	**3RQ1200-1EB00**		**3RQ1200-2EB00**	
24 ... 240	24 ... 240	1	1	90	No	No	**3RQ1200-1EW00**		**3RQ1200-2EW00**	
Width 22.5 mm										
 3RQ1000-1LW00  3RQ1000-2LW00										
Fail-safe up to SIL 2/PL c										
--	24 ... 24	2	2	120	Yes	No	**3RQ1000-1HB00**		**3RQ1000-2HB00**	
--	24 ... 24	4	1	120	Yes	No	**3RQ1000-1LB00**		**3RQ1000-2LB00**	
24 ... 240	24 ... 240	2	2	90	No	No	**3RQ1000-1HW00**		**3RQ1000-2HW00**	
24 ... 240	24 ... 240	2	2	90	No	Yes	**--**		**3RQ1000-2HW00-0AX0**	
24 ... 240	24 ... 240	4	1	90	No	No	**3RQ1000-1LW00**		**3RQ1000-2LW00**	

[1] NC contact designed to act as feedback contact.

Notes:

All 3RQ1 force-guided coupling relays have Safety certification up to SIL 2/PL c or SIL 3/PL e according to IEC 62061/ISO 13849-1.

To achieve SIL 3/PL e, two 3RQ10 devices can also be wired in series, see Equipment Manual.

In addition, the 3SK1211 devices (output expansions for 3SK) provide force-guided coupling relays with 4 NO contacts and 1 NC contact up to SIL 3/PL e with 24 V AC, 24 V DC, and 110 to 240 V AC/DC.

For applications with high currents up to a switching capacity of 10 A AC-15, the 3SK1213 output expansions are also available with 24 V AC, 24 V DC and 110 to 240 V AC/DC.

These devices can be used in the same way as the 3RQ1 coupling relays for coupling to and from safe control systems, they feature 4 NO contacts and 1 NC contact, and are available as versions with 24 V AC, 24 V DC and 110 to 240 V AC/DC (see page 11/28).

Other device versions with protective coating on the printed circuit board are available on request.

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

Accessories

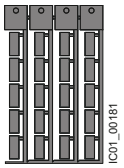
More information

Manuals, see
https://support.industry.siemens.com/cs/ww/en/ps/26008/man

Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Device connectors for the electrical connection of SIRIUS devices in the industrial DIN-rail enclosure					
 3ZY1212-1BA00  3ZY1212-2BA00	**Device connectors**				
	• Width 17.5 mm (for 3RQ1000-.EB00/-.GB00, 3RQ1200-.EB00)	**3ZY1212-1BA00**	1	1 unit	41L
	• Width 22.5 mm (for 3RQ1000-.HB00/-.LB00)	**3ZY1212-2BA00**	1	1 unit	41L
 3ZY1212-2DA00	**Device termination connectors**				
	• Width 17.5 mm (for 3RQ1000-.EB00/-.GB00, 3RQ1200-.EB00)	**3ZY1212-1DA00**	1	1 unit	41L
	• Width 22.5 mm (for 3RQ1000-.HB00/-.LB00)	**3ZY1212-2DA00**	1	1 unit	41L
	Note: Observe positions of the slide switch for width 22.5 mm, see Equipment Manual.				
	Device daisy chain connector 24 V DC, 22.5 mm, for implementation of distances between devices according to the installation guidelines	**3ZY1212-2AB00**	1	1 unit	41L
	Device connector For height adjustment for device arrangements without electrical connection via device connector, with a width of 22.5 mm or greater	**3ZY1210-2AA00**	1	1 unit	41L
Terminals for SIRIUS devices in the industrial DIN-rail enclosure					
 3ZY1122-1BA00  3ZY1122-2BA00	**Removable terminals, without labeling**	**Screw terminals**			
	• 2-pole, up to 1 x 4 mm^2 or 2 x 2.5 mm^2	**3ZY1122-1BA00**	1	6 units	41L
		Spring-loaded terminals (push-in)			
	• 2-pole, up to 1 x 4 mm^2 or 2 x 1.5 mm^2 (in shared end sleeve)	**3ZY1122-2BA00**	1	6 units	41L

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

SIRIUS 3RQ1 force-guided coupling relays, fail-safe up to SIL 3/PL e

	Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Accessories for enclosures						
 3ZY1321-2AA00	**Sealing covers**					
	• 17.5 mm	**3ZY1321-1AA00**		1	5 units	41L
	• 22.5 mm	**3ZY1321-2AA00**		1	5 units	41L
 3ZY1311-0AA00	**Push-in lugs for wall mounting** (two lugs are required per device)	**3ZY1311-0AA00**		1	10 units	41L
 3ZY1440-1AA00	**Coding pins** For removable terminals of SIRIUS devices in the industrial DIN-rail enclosure; they enable the mechanical coding of terminals, see Equipment Manual.	**3ZY1440-1AA00**		1	12 units	41L
 3ZY1450-1BA00 3ZY1450-1BB00	**Hinged covers** Replacement cover, without terminal labeling, yellow					
	• 17.5 mm wide	**3ZY1450-1BA00**		1	5 units	41L
	• 22.5 mm wide	**3ZY1450-1BB00**		1	5 units	41L
Blank labels						
 3RT2900-1SB20	**Unit labeling plates**[1] For SIRIUS devices					
	• 17.5 mm: 10 mm x 7 mm, titanium gray	**3RT2900-1SB10**		100	816 units	41B
	• 22.5 mm: 20 mm x 7 mm, titanium gray	**3RT2900-1SB20**		100	340 units	41B
Tools for opening spring-loaded terminals						
 3RA2908-1A	**Screwdriver** For all SIRIUS devices with spring-loaded terminals 3.0 mm x 0.5 mm, length approx. 200 mm, titanium gray/black, partially insulated	**Spring-loaded terminals (push-in)** **3RA2908-1A**		1	1 unit	41B

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

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

Overview

SIRIUS 3RQ2 coupling relay, screw terminals, 3 changeover contacts

More information

Homepage, see www.siemens.com/sirius-coupling-relays
SiePortal, see www.siemens.com/product?3RQ2
TIA Selection Tool Cloud (TST Cloud), see www.siemens.com/tstcloud/?node=SIRIUSRelais
Conversion tool, see www.siemens.com/conversion-tool

3RQ2 coupling relays in their 22.5 mm industrial enclosure serve to couple control signals to and from a controller and replace the 3RS18 coupling relays. The 3RQ2 has an impressively high-quality industrial enclosure finished in modern titanium gray so that it fits in visually with the SIRIUS series of relays.

The series consists of devices with up to three changeover contacts with screw or spring-loaded terminals (push-in) and, with its wide voltage range from 24 to 240 V AC/DC, is a genuine highlight in the coupling relay market.

Replacement terminals, hinged covers, push-in lugs for wall mounting, and coding pins are available as accessories, see page 5/31.

Note:

Device versions with protective coating on the printed circuit board are available on request. Comparable device versions are already available for 3RQ1 (see page 5/21 onwards) and 3RQ3 (see page 5/33 onwards) coupling relays.

Article number scheme

Product versions		Article number					
Coupling relays, standard		**3RQ2000 –**	☐	☐	☐	**0**	☐
Connection methods	Screw terminals		**1**				
	Spring-loaded terminals (push-in)		**2**				
Outputs	1 CO contact			**A**			
	2 CO contacts			**B**			
	3 CO contacts			**C**			
Rated control supply voltage	24 ... 240 V AC/DC				**W**		
Material of switching contacts	0 = AgSnO2						**0**
	1 = AgNi + Au						**1**
Example		**3RQ2000 –**	**1**	**C**	**W**	**0**	**1**

Note:

The article number scheme shows an overview of product versions for better understanding of the logic behind the article numbers.

For your orders, please use the article numbers quoted in the selection and ordering data.

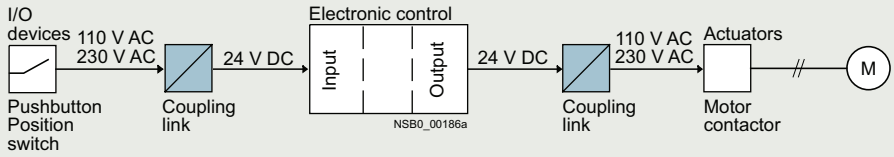
Benefits

- Permanent wiring by means of removable terminals with screw terminals or spring-loaded terminals (push-in)
- Replacement of individual terminals minimizes wiring effort
- A product for all voltages from 24 to 240 V AC/DC
- Reduced costs thanks to fewer versions
- Especially high contact reliability even at low currents thanks to versions with hard gold-plated contacts
- International standards and certifications including CE, UL/CSA, EAC, railway approvals, and more

SIRIUS 3RQ2 coupling relays with industrial enclosure

Application

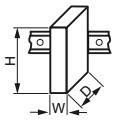
- Electrical separation between the input and output circuit
- Adjustment of different signal levels
- Signal amplification
- Contact multiplication



Application example motor controller

Technical specifications

More information	
Technical specifications, see https://support.industry.siemens.com/cs/ww/en/ps/25158/td	Operating Instructions, see https://support.industry.siemens.com/cs/ww/en/ps/25158/man

Article number		3RQ2000-.AW00 3RQ2000-.BW00 3RQ2000-.CW00	3RQ2000-.CW01
General data			
Width x height x depth 	mm	22.5 x 100 x 90	
Insulation voltage for overvoltage category III according to IEC 60664 for pollution degree 3	V	300	
Max. permissible voltage for protective separation between control circuit and auxiliary circuit according to IEC 60947-1	V	300	
Ambient temperature			
• During operation	°C	-40 ... +60	
• During storage	°C	-40 ... +80	
Degree of protection IP		IP20	
Control circuit			
Control supply voltage	V	24 ... 240 AC/DC; 50/60 Hz	
Operating range factor of the control supply voltage, rated value at AC			
• At 50 Hz		0.7 ... 1.1	
• At 60 Hz		0.7 ... 1.1	
Load circuit			
Thermal current of the non-solid-state contact blocks, maximum	A	5	
Current-carrying capacity of the output relay			
• At AC-15 at 250 V at 50/60 Hz	A	3	
• At DC-13			
- At 24 V	A	1	
- At 125 V	A	0.2	
- At 250 V	A	0.1	
Mechanical endurance (operating cycles) typical		10 000 000	
Electrical endurance (operating cycles) for AC-15 at 230 V, typical		100 000	
Material of switching contacts		AgSnO2	AgNi + Au

Article number		3RQ2000-1.	3RQ2000-2.
Type of electrical connection		**Screw terminals**	**Spring-loaded terminals (push-in)**
Type of connectable conductor cross-sections			
• Solid		1x (0.5 ... 4 mm^2), 2x (0.5 ... 2.5 mm^2)	1x (0.5 ... 4 mm^2)
• Finely stranded with end sleeve		1x (0.5 ... 4 mm^2), 2x (0.5 ... 1.5 mm^2)	1x (0.5 ... 2.5 mm^2)
• Solid for AWG cables		1x (20 ... 12), 2x (20 ... 14)	1x (20 ... 12)
Tightening torque	Nm	0.6 ... 0.8	--

SIRIUS 3RQ2 coupling relays with industrial enclosure

Selection and ordering data

PU (UNIT, SET, M) = 1
PS* = 1 unit
PG = 41H

Multi-unit packaging, see page 16/7.

Control supply voltage at AC at 50/60 Hz	Control supply voltage at DC	Number of CO contacts for auxiliary contacts	Material of switching contacts	Screw terminals Article No.	Screw terminals Price per PU	Spring-loaded terminals (push-in) Article No.	Spring-loaded terminals (push-in) Price per PU
V	V						
Coupling relays with industrial enclosure, 22.5 mm							
24 ... 240	24 ... 240	1	AgSnO2	**3RQ2000-1AW00**		**3RQ2000-2AW00**	
		2	AgSnO2	**3RQ2000-1BW00**		**3RQ2000-2BW00**	
		3	AgSnO2	**3RQ2000-1CW00**		**3RQ2000-2CW00**	
			AgNi + Au	**3RQ2000-1CW01**		**3RQ2000-2CW01**	


3RQ2000-1CW00


3RQ2000-2CW00

Accessories

More information

Operating Instructions, see https://support.industry.siemens.com/cs/ww/en/ps/25158/man

Conversion tool, see www.siemens.com/conversion-tool

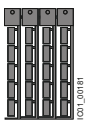
Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Terminals for SIRIUS devices in the industrial DIN-rail enclosure					
Removable terminals, without labeling	**Screw terminals**				
• 2-pole, up to 1 x 4 mm² or 2 x 2.5 mm²	**3ZY1122-1BA00**		1	6 units	41L
	Spring-loaded terminals (push-in)				
• 2-pole, up to 1 x 4 mm² or 2 x 1.5 mm² (in shared end sleeve)	**3ZY1122-2BA00**		1	6 units	41L
Accessories for enclosures					
Hinged covers Replacement cover, without terminal labeling, titanium gray, 22.5 mm wide	**3ZY1450-1AB00**		1	5 units	41L
Push-in lugs for wall mounting (two lugs are required per device)	**3ZY1311-0AA00**		1	10 units	41L
Coding pins For removable terminals of SIRIUS devices in the industrial DIN-rail enclosure; they enable the mechanical coding of terminals	**3ZY1440-1AA00**		1	12 units	41L
Blank labels					
Unit labeling plates For SIRIUS devices 20 mm x 7 mm, titanium gray[1)]	**3RT2900-1SB20**		100	340 units	41B
Tools for opening spring-loaded terminals					
Screwdriver For all SIRIUS devices with spring-loaded terminals	**Spring-loaded terminals (push-in)**				
3.0 mm x 0.5 mm, length approx. 200 mm, titanium gray/black, partially insulated	**3RA2908-1A**		1	1 unit	41B


3ZY1122-1BA00


3ZY1450-1AB00


3ZY1311-0AA00


3ZY1440-1AA00


3RT2900-1SB20


3RA2908-1A

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

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

SIRIUS 3RQ2 coupling relays with industrial enclosure

More information

Code conversion table

SIRIUS 3RS18 coupling relays				Comparison type SIRIUS 3RQ2 coupling relays			
Screw terminals	Spring-loaded terminals	Version	Contacts	Screw terminals	Spring-loaded terminals (push-in)	Version	Contacts
3RS1800-1AQ00	3RS1800-2AQ00	24 V AC/DC; 110 ... 120 V AC	1 CO contact	3RQ2000-1AW00	3RQ2000-2AW00	24 ... 240 V AC/DC	1 CO contact
3RS1800-1AP00	3RS1800-2AP00	24 V AC/DC; 220 ... 240 V AC					
3RS1800-1BW00	3RS1800-2BW00	24 ... 240 V AC/DC	2 CO contacts	3RQ2000-1BW00	3RQ2000-2BW00	24 ... 240 V AC/DC	2 CO contacts
3RS1800-1BQ00	3RS1800-2BQ00	24 V AC/DC; 110 ... 120 V AC					
3RS1800-1BP00	3RS1800-2BP00	24 V AC/DC; 220 ... 240 V AC					
3RS1800-1HW00	3RS1800-2HW00	24 ... 240 V AC/DC	3 CO contacts	3RQ2000-1CW00	3RQ2000-2CW00	24 ... 240 V AC/DC	3 CO contacts
3RS1800-1HQ00	3RS1800-2HQ00	24 V AC/DC; 110 ... 120 V AC					
3RS1800-1HP00	3RS1800-2HP00	24 V AC/DC; 220 ... 240 V AC					
3RS1800-1HW01	3RS1800-2HW01	24 ... 240 V AC/DC	3 CO contacts, hard gold-plated	3RQ2000-1CW01	3RQ2000-2CW01	24 ... 240 V AC/DC	3 CO contacts, hard gold-plated
3RS1800-1HQ01	3RS1800-2HQ01	24 V AC/DC; 110 ... 120 V AC					
3RS1800-1HP01	3RS1800-2HP01	24 V AC/DC; 220 ... 240 V AC					

Overview

SIRIUS 3RQ3 coupling relays

More information

Homepage, see www.siemens.com/sirius-coupling-relays

SiePortal, see www.siemens.com/product?3RQ3

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

Conversion tool, see www.siemens.com/conversion-tool

SIRIUS 3RQ3 coupling relays in narrow design are used for coupling control signals from and to a controller, and they are available in different versions:

- Coupling relays with relay output (not plug-in)
- Coupling relays with plug-in relays
- Coupling relays with semiconductor output (not plug-in)

Versions with protective coating on the printed circuit board according to IPC-A-610 are available for use in harsh ambient conditions (other device versions are available on request).

Coupling relays with relay output (not plug-in)

AC and DC operation

IEC 60947-5-1

The input and output coupling relays differ with regard to the positioning of the terminals and the LEDs.

Coupling relays with plug-in relays

AC and DC operation

IEC 60947-1

The coupling relays are plug-in, so the relay can be replaced quickly at the end of its service life without detaching the wiring.

Coupling relays with semiconductor output (not plug-in)

AC and DC operation

IEC 60947-1, EN 60664-1 and EN 50005;
coupling relays with semiconductor output: EN 60747-5;
programmable logic controllers: IEC 61131-2

The input and output coupling relays differ with regard to the positioning of the terminals and the LEDs.

The coupling relays with semiconductor output have extremely high contact reliability, so they are especially suitable for solid-state systems.

For test purposes, versions are available with manual-OFF-automatic switches.

SIRIUS 3RQ3 coupling relays, narrow design

Article number schemes

Product versions		Article number
Coupling relays with relay output (not plug-in)		**3RQ30 ☐ 8 – ☐ A ☐ 0 ☐**
Design and type of output	Output coupler, without manual-OFF-automatic switch	**1**
	Input coupler	**3**
Type of electrical connection	Screw terminals	**1**
	Spring-loaded terminals (push-in)	**2**
Control supply voltage	24 V AC/DC	**B**
	115 V AC/DC	**E**
	230 V AC/DC	**F**
Material of switching contacts	e.g.	
	0 = AgSnO2	☐
	1 = AgSnO2 hard gold-plated	☐
Example		**3RQ30 1 8 – 1 A B 0 1**

Product versions		Article number
Coupling relays with relay output (not plug-in)		**3RQ30 1 8 – 2 A ☐ 0 8 – 0 A ☐ 0**
Railway version with extended operating range 0.7 ... 1.2 x U_s		
Control supply voltage	24 V DC	**M**
	110 V DC	**N**
Standard printed circuit board		**A**
Versions	with protective coating on printed circuit board	**X**
Example		**3RQ30 1 8 – 2 A M 0 8 – 0 A A 0**

Product versions		Article number
Coupling relays with plug-in relays		**3RQ31 1 8 – ☐ A ☐ 0 ☐**
Type of electrical connection	Screw terminals	**1**
	Spring-loaded terminals (push-in)	**2**
Control supply voltage	24 V AC/DC	**B**
	115 V AC/DC	**E**
	230 V AC/DC	**F**
	24 V DC	**M**
Material of switching contacts	AgSnO2	**0**
	AgSnO2 hard gold-plated	**1**
Example		**3RQ31 1 8 – 1 A B 0 1**

Product versions		Article number		
Coupling relays with semiconductor output (not plug-in)		**3RQ30 ☐ ☐ – ☐ S ☐ ☐ 0**		
	Current-carrying capacity of the semiconductor output		Control supply voltage	Switching voltage of the semiconductor output
Output coupler				
• Without manual-OFF-automatic switch	1 mA ... 0.5 A	**5 0 ☐ M 5**	11 ... 30 V DC	10 ... 60 V DC
	5 mA ... 2 A	**5 2 ☐ M 3**	11 ... 30 V DC	10 ... 30 V DC
	1 mA ... 2 A	**5 2 ☐ M 4**	11 ... 30 V DC	10 ... 60 V DC
	5 mA ... 2 A	**5 2 ☐ M 5**	11 ... 30 V DC	20 ... 264 V AC
	1 mA ... 3 A	**5 3 ☐ G 3**	110 ... 230 V AC/DC	10 ... 30 V DC
	5 mA ... 5 A	**5 5 ☐ M 3**	11 ... 30 V DC	10 ... 30 V DC
• With manual-OFF-automatic switch	5 mA ... 5 A	**6 5 ☐ M 3**	11 ... 30 V DC	10 ... 30 V DC
Input coupler	10 mA ... 0.5 A	**7 0 ☐ B 3**	11 ... 30 V AC/DC	10 ... 30 V DC
		7 0 ☐ G 3	110 ... 230 V AC/DC	10 ... 30 V DC
Type of electrical connection	Screw terminals	**1**		
	Spring-loaded terminals (push-in)	**2**		
Example		**3RQ30 7 0 – 1 S B 3 0**		

Note:

These article number schemes show an overview of product versions for better understanding of the logic behind the article numbers.

For your orders, please use the article numbers quoted in the selection and ordering data.

Benefits

General

- All versions with screw terminals or spring-loaded terminals (push-in technology)
- TOP wiring with spring-loaded terminals (push-in) for quick and reliable wiring
- Low space requirements in the control cabinet thanks to a consistent width of 6.2 mm
- Reduced stock-keeping due to fewer variants
- Clearly visible functional state of the coupling relay by green LED
- Integrated reverse polarity protection and EMC suppressor diode
- Standardized accessories across the entire 3RQ3 series
- Universal bridging option using connecting combs for all terminals
- Galvanic isolation plate for isolating different voltages for neighboring units
- Device versions with protective coating on printed circuit board
- Clip-on labels available as set for individual labeling

Coupling relays with relay output (not plug-in)

- Relays fixed in enclosure for increased contact reliability
- Device versions with hard gold-plated contacts, hence high contact reliability at low currents

Coupling relays with plug-in relays

- Fast replacement of the relays with existing wiring
- Shorter installation times thanks to certified complete units
- Individual relays available as spare parts
- Device versions with hard gold-plated contacts, hence high contact reliability at low currents

Coupling relays with semiconductor output (not plug-in)

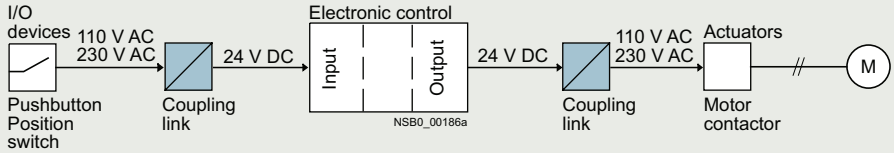
- Long service life since there is no mechanical wear
- High switching frequency thanks to short make-break times
- Vibration-resistant
- No contact bounce
- Extremely high contact reliability
- Noise-free switching
- Low control power required
- Switching of DC and capacitive loads

Note:

With semiconductors, the switching current is not dependent on the inductance of the load, i.e. the switching current for an inductive DC-13 load is the same as that for a DC-12 load. This means that coupling links with a semiconductor output are particularly suitable for inductive loads such as solenoid valves. It is not relevant to specify the number of operating cycles, because this does not affect the endurance of the semiconductor, provided it is not overheated.

Application

- Electrical separation between the input and output circuit
- Adjustment of different signal levels
- Signal amplification



Application example motor controller

Suitable for use in harsh ambient conditions

Versions with protective coating on the printed circuit board according to IPC-A-610 are available for use in environments that are exposed to dust, condensation, rapid temperature changes and corrosion. These are intended for applications in rail systems, agriculture, mining, woodworking, etc.

Note:

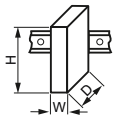
Other device versions with protective coating on the printed circuit board are available on request.

SIRIUS 3RQ3 coupling relays, narrow design

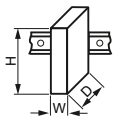
Technical specifications

More information	
Technical specifications, see https://support.industry.siemens.com/cs/ww/en/ps/16198/td	Operating Instructions, see https://support.industry.siemens.com/cs/ww/en/ps/16198/man FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/16198/faq

Coupling relays with relay output (not plug-in)

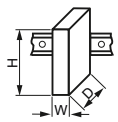
Article number		3RQ30.8- .AB00	.AB01	.AE00	.AE01	AF00	.AF01	3RQ3018- 2AM08-0AA0	2AM08-0AX0	2AN08-0AA0	2AN08-0AX0
General technical specifications											
Width x height x depth 	mm	6.2 x 93 x 72.5									
Insulation voltage for overvoltage category III according to IEC 60664 for pollution degree 3	V	300									
Max. permissible voltage for protective separation between control circuit and auxiliary circuit	V	300									
Protective coating on printed circuit board		No; --							Yes, according to IPC-A-610	No; --	Yes, according to IPC-A-610
Ambient temperature											
• During operation	°C	-25 ... +60						-40 ... +70			
• During storage	°C	-40 ... +85									
Degree of protection IP		IP20									
Version of the fuse link required for short-circuit protection of the auxiliary switch		Fuse gG: 4 A									
Operational current of the auxiliary contacts											
• At AC-15											
- At 24 V	A	3									
- At 250 V	A	3									
• At DC-13											
- At 24 V	A	1									
- At 125 V	A	0.2									
- At 250 V	A	0.1									
Contact reliability of the auxiliary contacts (one contact failure per 100 million)		17 V, 5 mA	5 V, 1 mA	17 V, 5 mA	5 V, 1 mA	17 V, 5 mA	5 V, 1 mA	17 V, 5 mA			
Mechanical endurance (operating cycles) typical		10 000 000									
Electrical endurance (operating cycles) for AC-15 at 250 V typical		100 000									
Operating range factor of the control supply voltage, rated value											
• At AC											
- At 50 Hz		0.8 ... 1.25		0.8 ... 1.1				--			
- At 60 Hz		0.8 ... 1.25		0.8 ... 1.1				--			
• At DC		0.8 ... 1.25		0.8 ... 1.1				0.7 ... 1.25			
Active power input	W	0.3		0.5		1		0.3		0.6	
Thermal current	A	6; --						6; Derating, see characteristic curves			

Coupling relays with plug-in relays

Article number		3RQ3118- .AB00	.AB01	.AE00	.AE01	.AF00	.AF01	.AM00	.AM01
General technical specifications									
Width x height x depth 	mm	6.2 x 93 x 76							
Insulation voltage for overvoltage category III according to IEC 60664 for pollution degree 3	V	300							
Max. permissible voltage for protective separation between control circuit and auxiliary circuit	V	300							
Ambient temperature									
• During operation	°C	-25 ... +60							
• During storage	°C	-40 ... +85							
Degree of protection IP		IP20							
Version of the fuse link required for short-circuit protection of the auxiliary switch		Fuse gG: 4 A							
Operational current of the auxiliary contacts									
• At AC-15									
- At 24 V	A	3							
- At 250 V	A	3							
• At DC-13									
- At 24 V	A	1							
- At 125 V	A	0.2							
- At 250 V	A	0.1							
Contact reliability of the auxiliary contacts (one contact failure per 100 million)		17 V, 5 mA	5 V, 1 mA	17 V, 5 mA	5 V, 1 mA	17 V, 5 mA	5 V, 1 mA	17 V, 5 mA	5 V, 1 mA
Mechanical endurance (operating cycles) typical		10 000 000							
Electrical endurance (operating cycles) for AC-15 at 250 V typical		100 000							
Operating range factor of the control supply voltage, rated value									
• At AC									
- At 50 Hz		0.8 ... 1.25		0.8 ... 1.1				--	
- At 60 Hz		0.8 ... 1.25		0.8 ... 1.1				--	
• At DC		0.8 ... 1.25		0.8 ... 1.1				0.8 ... 1.25	
Active power input	W	0.3		0.5		1		0.3	
Thermal current	A	6							

SIRIUS 3RQ3 coupling relays, narrow design

Coupling relays with semiconductor output (not plug-in)

Article number		3RQ3050-.SM50	3RQ3052-.SM30	.SM40	.SM50	3RQ3053-.SG30	3RQ3055-.SM30	3RQ3065-.SM30	3RQ3070-.SB30	.SG30
General technical specifications										
Width x height x depth 	mm	6.2 x 93 x 72.5						6.2 x 93 x 75	6.2 x 93 x 72.5	
Insulation voltage for overvoltage category III according to IEC 60664 for pollution degree 3	V	50			300		50			--
Ambient temperature										
• During operation	°C	-25 ... +60								
• During storage	°C	-40 ... +85								
Degree of protection IP		IP20								
Switching voltage of the semiconductor output										
• At AC	V	--			20 ... 264	--				
• At DC	V	10 ... 60	10 ... 30	10 ... 60	--	10 ... 30				
Current-carrying capacity of the semiconductor output										
• At AC	A	--			0.005 ... 2	--				
• At DC	A	0.001 ... 0.5	0.005 ... 2	0.001 ... 2	--	0.001 ... 3	0.005 ... 5		0.01 ... 0.5	
Operating range factor of the control supply voltage, rated value										
• At AC										
- At 50 Hz		--				0.7 ... 1.1	--		1 ... 1	0.7 ... 1.1
- At 60 Hz		--				0.7 ... 1.1	--		1 ... 1	0.7 ... 1.1
• At DC		1 ... 1				0.7 ... 1.1	1 ... 1			0.7 ... 1.1
Active power input	W	0.3			0.25	0.3			0.5	
Thermal current	A	0.5	2			3	5		0.5	

Coupling relays

Article number	3RQ3...-1....	3RQ3...-2....
Type of electrical connection for auxiliary and control circuits	**Screw terminals**	**Spring-loaded terminals (push-in)**
Type of connectable conductor cross-sections		
• Solid	1x (0.25 ... 2.5 mm^2)	
• Finely stranded		
- Without end sleeves	--	1x (0.25 ... 2.5 mm^2)
- With end sleeves	1x (0.25 ... 1.5 mm^2)	
• Solid for AWG cables	1x (20 ... 14)	

Selection and ordering data

PU (UNIT, SET, M) = 1
PS* = 5 units
PG = 41H

3RQ3018-1A...

3RQ3118-2A...

Type of voltage	Control supply voltage at AC at 50 Hz	at 60 Hz	at DC	Number of CO contacts for auxiliary contacts	Material of switching contacts	Protective coating on printed circuit board	Screw terminals Article No.	Price per PU	Spring-loaded terminals (push-in) Article No.	Price per PU
	V	V	V							
Coupling relays with relay output (not plug-in)										
Output coupling links										
AC/DC	24	24	24	1	AgSnO2	No	**3RQ3018-1AB00**		**3RQ3018-2AB00**	
					AgSnO2 hard gold-plated	No	**3RQ3018-1AB01**		**3RQ3018-2AB01**	
	115	115	115	1	AgSnO2	No	**3RQ3018-1AE00**		**3RQ3018-2AE00**	
	230	230	230	1	AgSnO2	No	**3RQ3018-1AF00**		**3RQ3018-2AF00**	
DC	--	--	24	1	AgSnO2	No	**--**		**3RQ3018-2AM08-0AA0**	
					AgSnO2	Yes	**--**		**3RQ3018-2AM08-0AX0**	
			110	1	AgSnO2	No	**--**		**3RQ3018-2AN08-0AA0**	
					AgSnO2	Yes	**--**		**3RQ3018-2AN08-0AX0**	
Input coupling links										
AC/DC	24	24	24	1	AgSnO2	No	**3RQ3038-1AB00**		**3RQ3038-2AB00**	
					AgSnO2 hard gold-plated	No	**3RQ3038-1AB01**		**3RQ3038-2AB01**	
	115	115	115	1	AgSnO2	No	**3RQ3038-1AE00**		**3RQ3038-2AE00**	
					AgSnO2 hard gold-plated	No	**3RQ3038-1AE01**		**3RQ3038-2AE01**	
	230	230	230	1	AgSnO2	No	**3RQ3038-1AF00**		**3RQ3038-2AF00**	
					AgSnO2 hard gold-plated	No	**3RQ3038-1AF01**		**3RQ3038-2AF01**	
Coupling relays with plug-in relays										
Output coupling links										
AC/DC	24	24	24	1	AgSnO2	No	**3RQ3118-1AB00**		**3RQ3118-2AB00**	
					AgSnO2 hard gold-plated	No	**3RQ3118-1AB01**		**3RQ3118-2AB01**	
	115	115	115	1	AgSnO2	No	**3RQ3118-1AE00**		**3RQ3118-2AE00**	
					AgSnO2 hard gold-plated	No	**3RQ3118-1AE01**		**3RQ3118-2AE01**	
	230	230	230	1	AgSnO2	No	**3RQ3118-1AF00**		**3RQ3118-2AF00**	
					AgSnO2 hard gold-plated	No	**3RQ3118-1AF01**		**3RQ3118-2AF01**	
DC	--	--	24	1	AgSnO2	No	**3RQ3118-1AM00**		**3RQ3118-2AM00**	
					AgSnO2 hard gold-plated	No	**3RQ3118-1AM01**		**3RQ3118-2AM01**	

Note:

Other device versions with protective coating on the printed circuit board are available on request.

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

SIRIUS 3RQ3 coupling relays, narrow design

PU (UNIT, SET, M) = 1
PS* = 5 units
PG = 41H

3RQ3050-1SM50

3RQ3050-2SM50

Type of voltage	Control supply voltage			Current-carrying capacity of the semiconductor output		Operating mode selectable via switch position	**Screw terminals**		**Spring-loaded terminals (push-in)**	
	at AC		at DC	at AC	at DC		Article No.	Price per PU	Article No.	Price per PU
	at 50 Hz	at 60 Hz								
Coupling relays with semiconductor output (not plug-in)										
Output coupling links										
DC	--	--	11 ... 30 V	--	1 mA ... 0.5 A	--	**3RQ3050-1SM50**		**3RQ3050-2SM50**	
					5 mA ... 2 A	--	**3RQ3052-1SM30**		**3RQ3052-2SM30**	
					1 mA ... 2 A	--	**3RQ3052-1SM40**		**3RQ3052-2SM40**	
				5 mA ... 2 A	--	--	**3RQ3052-1SM50**		**3RQ3052-2SM50**	
				--	5 mA ... 5 A	--	**3RQ3055-1SM30**		**3RQ3055-2SM30**	
						Manual/ Off/ Automatic	**3RQ3065-1SM30**		**3RQ3065-2SM30**	
AC/DC	110 ... 230 V	110 ... 230 V	110 ... 230 V	--	1 mA ... 3 A	--	**3RQ3053-1SG30**		**3RQ3053-2SG30**	
Input coupling links										
AC/DC	11 ... 30 V	11 ... 30 V	11 ... 30 V	--	10 mA ... 0.5 A	--	**3RQ3070-1SB30**		**3RQ3070-2SB30**	
	110 ... 230 V	110 ... 230 V	110 ... 230 V	--	10 mA ... 0.5 A	--	**3RQ3070-1SG30**		**3RQ3070-2SG30**	

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

Accessories

Version	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Galvanic isolation plates					
 3RQ3900-0A For electrical separation of different potentials when devices of different types are installed side by side	**3RQ3900-0A**		1	10 units	41H
Connecting combs					
 3RQ3901-0B For linking the same potentials, current carrying capacity for infeed max. 6 A					
• 2-pole	**3RQ3901-0A**		1	10 units	41H
• 4-pole	**3RQ3901-0B**		1	10 units	41H
• 8-pole	**3RQ3901-0C**		1	10 units	41H
• 16-pole	**3RQ3901-0D**		1	10 units	41H
Clip-on labels[1]					
 3RQ3902-0A For terminal and equipment labeling, white					
• 5 x 5 mm	**3RQ3902-0A**		100	2000 units	41H
• 6 x 12 mm (for 3RQ31 only)	**3RQ3902-0B**		100	1200 units	41H
Tools for opening spring-loaded terminals					
 3RA2908-1A **Screwdriver** For all SIRIUS devices with spring-loaded terminals 3.0 mm x 0.5 mm, length approx. 200 mm, titanium gray/black, partially insulated	**Spring-loaded terminals (push-in)**				
	3RA2908-1A		1	1 unit	41B

[1] PC labeling system for individual inscription of unit labeling plates available from:
Conta-Clip Verbindungstechnik GmbH
(see page 16/18).

Coupling relays with plug-in relays	Control supply voltage	Material of switching contacts	Number of CO contacts for auxiliary contacts	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Type	V							
Replacement modules for 3RQ3118 coupling relays with plug-in relays								
3RQ3118-.AM00	24 DC	AgSnO2	1	**3TX7014-7BM00**		1	15 units	41H
3RQ3118-.AM01		AgSnO2 hard gold-plated		**3TX7014-7BM02**		1	15 units	41H
3RQ3118-.AB00	24 AC/DC	AgSnO2	1	**3TX7014-7BM00**		1	15 units	41H
3RQ3118-.AB01		AgSnO2 hard gold-plated		**3TX7014-7BM02**		1	15 units	41H
3RQ3118-.AE00	115 AC/DC	AgSnO2	1	**3TX7014-7BP00**		1	20 units	41H
3RQ3118-.AF00	230 AC/DC	AgSnO2						
3RQ3118-.AE01	115 AC/DC	AgSnO2 hard gold-plated	1	**3TX7014-7BP02**		1	20 units	41H
3RQ3118-.AF01	230 AC/DC	AgSnO2 hard gold-plated						

LZS coupling relays with plug-in relays

Overview

More information
Homepage, see www.siemens.com/sirius-coupling-relays
SiePortal, see www.siemens.com/product?3RQ_3RS_LZ
TIA Selection Tool Cloud (TST Cloud), see www.siemens.com/tstcloud/?node=SIRIUSRelais

LZS coupling relays with plug-in relays can be ordered as complete units or as single modules for customer assembly.

Function

The coupling relays with semiconductor output have low power consumption and are therefore particularly well-suited to solid-state systems. In the versions equipped with LEDs, these indicate the switching state. The LZS:PT coupling relays have a test button. This can be used to force the relays into the switching state and to lock it without electrical control. This is indicated by a raised petrol-colored lever.

Control with solid-state output

In the case of solid-state outputs (e.g. proximity switch) with overload and short-circuit protection, you must make allowance during configuration for the temporarily flowing capacitor charging currents! This is possible, for example, by using a suitable LZS coupling relay with plug-in relay.

Surge suppression

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

Mounting

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

For the RT and PT series, a combined fixing/ejection bracket is available which can be used to disassemble the relay where access is difficult, for example, in side-by-side design.

They can be mounted as required.

Logical separation

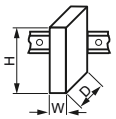
The terminals for the contacts and the terminals for the coil are arranged on separate levels, e.g. above for contacts and below for coil. Logical separation is not necessarily protective separation.

Protective separation

For protective separation, transfer of the voltage of one circuit to another circuit is prevented to a suitable degree of safety (requirements and tests are described in IEC 60947-1 in Annex N).

Technical specifications

More information	
Technical specifications, see https://support.industry.siemens.com/cs/ww/en/ps/16204/td	Manuals, see https://support.industry.siemens.com/cs/ww/en/ps/16204/man

Relay type			LZX:RT print relay, 8-pole, (12.7 mm) 1 CO/2 CO				LZX:PT industrial relay, 8-, 11- and 14-pole, (22.5 mm) 2 CO/3 CO/4 CO			
General data										
Dimensions (W x H x D)										
• LZS:RT.A4/LZS:PT.A5		mm	15.5 x 78 x 71				28 x 74 x 72			
• LZS:RT.B4/LZS:PT.B5		mm	15.5 x 77 x 71				28 x 77 x 79			
• LZS:RT.D4/LZS:PT.D5		mm	15.5 x 98 x 71				28 x 98 x 79			
Rated control supply voltage U_s [1]		V	24 DC	24 AC	115 AC	230 AC	24 DC	24 AC	115 AC	230 AC
Rated insulation voltage U_i (pollution degree 3)		V	250							
Overvoltage category according to IEC 60664-1			III							
Protective separation between coil and contacts according to IEC 60947-1, Annex N			Up to 250 V (with plug-in socket LZS:RT78726) No (for complete units with standard socket)				No			
Degree of protection										
• Relays			IP67				IP50			
• Bases			IP20							
Permissible ambient temperature										
• During operation		°C	-40 ... +70							
• During storage		°C	-40 ... +80							
Conductor cross-sections										
Connection type			**Screw terminals**							
• Solid		mm^2	2 x 2.5							
• Finely stranded with end sleeve		mm^2	2 x 1.5							
• Corresponding opening tool			Screwdriver, size 3.0 ... 3.5 mm x 0.5 mm (3RA2908-1A)							
Connection type			**Spring-loaded terminals (push-in)**							
• Solid		mm^2	1 x (0.75 ... 1.5), 2 x (0.75 ... 1.0), 2 x 1.5							
• Finely stranded without end sleeve		mm^2	1 x (0.75 ... 1.5), 2 x (0.75 ... 1.0), 2 x 1.5							
• Finely stranded with end sleeve		mm^2	1 x (0.75 ... 1.0), 2 x 0.75, 1 x 1.5							

[1] AC voltages, 50 Hz; for 60 Hz operation, the lower response value must be increased by 10%; the power loss will decrease slightly.

LZS coupling relays with plug-in relays

Relay type		LZX:RT print relay, 8-pole, (12.7 mm) 1 CO/2 CO				LZX:PT industrial relay, 8-, 11- and 14-pole, (22.5 mm) 2 CO/3 CO/4 CO			
Rated control supply voltage U_s [1]	V	24 DC	24 AC	115 AC	230 AC	24 DC	24 AC	115 AC	230 AC
Control side									
Operating range factor		0.9 ... 1.4	0.9 ... 1.1			0.9 ... 1.4	0.9 ... 1.1		
Power consumption at U_s									
• AC	VA	--	0.75			--	1		
• DC	W	0.4	--			0.75	--		
Release voltage	V	2.4	3.6	17.3	34.5	2.4	7.2	34.5	69
Protective circuit		Freewheeling diode for complete unit	--			Freewheeling diode in LED module	--		
Load side									
Switching voltage AC/DC	V	24 ... 250							
Rated currents [2]									
• Conventional thermal current I_{th}									
- 1 CO contact	A	16				--			
- 2 CO contacts	A	8				12			
- 3 CO contacts	A	--				10			
- 4 CO contacts	A	--				6			
• Rated operational current I_e AC-15 according to utilization categories (IEC 60947-5-1)									
- 1 CO contact	A	6	3			4	2		
- 2 CO contacts	A	3				4	2		
- 3 CO contacts	A	--				4	2		
- 4 CO contacts	A	--				4	2		
• Rated operational current I_e DC-13 with suppressor diode according to utilization categories (IEC 60947-5-1)	A	2 at 24 V, 0.27 at 230 V				PT2, PT3, PT5: 4 at 24 V, 0.5 at 230 V			
Short-circuit protection									
Short-circuit test with fuse links of operational class gG with short-circuit current I_k = 1 kA according to IEC 60947-5-1									
• DIAZED, type 5SB	A	10				6			
Min. contact load (reliability: 1 ppm)		Standard 17 V, 10 mA; hard gold-plated 17 V/0.1 mA				Standard 17 V, 10 mA; hard gold-plated 20 V/1 mA			
Mechanical endurance									
• 1 CO contact	Operating cycles	30×10^6	10×10^6	1×10^5	7×10^4	30×10^6	20×10^6		
• 2 CO contacts	Operating cycles	30×10^6	5×10^6	1×10^5	8×10^4	30×10^6	20×10^6		
• 3 CO contacts	Operating cycles	--				30×10^6	20×10^6		
• 4 CO contacts	Operating cycles	--				30×10^6	20×10^6		
Electrical endurance (resistive load at 250 V AC)									
• 1 CO contact	Operating cycles	1×10^5	7×10^4			--			
• 2 CO contacts	Operating cycles	1×10^5	8×10^4			180×10^3			
• 3 CO contacts	Operating cycles	--				180×10^3			
• 4 CO contacts	Operating cycles	--				250×10^3			

[1] AC voltages, 50 Hz; for 60 Hz operation, the lower response value must be increased by 10%; the power loss will decrease slightly.

[2] Capacitive loads can result in micro-welding on the contacts.

Selection and ordering data

Version	Rated control supply voltage U_S at 50/60 Hz AC	Contacts, number of CO contacts	Width	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	V		mm					
Complete units, 11- and 14-pole, PT series								
 LZS:PT3A5L24, LZS:PT3A5L24A	**Complete units with plug-in socket** For snap-on mounting on TH 35 DIN rail Comprising: • Coupling relay with plug-in relay • Standard plug-in socket with screw terminals • Fixing/ejection bracket • Labeling plate			**Screw terminals**				
	LED modules, red							
	(24 V DC version: LED module with freewheeling diode)							
	3 CO contacts	24 DC	3	28	**LZS:PT3A5L24**	1	5 units	41H
		24 AC			**LZS:PT3A5R24**	1	5 units	41H
		115 AC			**LZS:PT3A5S15**	1	5 units	41H
		230 AC			**LZS:PT3A5T30**	1	5 units	41H
	4 CO contacts	24 DC	4	28	**LZS:PT5A5L24**	1	5 units	41H
		24 AC			**LZS:PT5A5R24**	1	5 units	41H
		115 AC			**LZS:PT5A5S15**	1	5 units	41H
		230 AC			**LZS:PT5A5T30**	1	5 units	41H
	LED modules, green, with freewheeling diode NEW							
	3 CO contacts	24 DC	3	28	**LZS:PT3A5L24A**	1	5 units	41H
	4 CO contacts	24 DC	4	28	**LZS:PT5A5L24A**	1	5 units	41H
 LZS:PT5B5L24, LZS:PT5B5L24A	**Complete units with plug-in socket** **With logical separation** For snap-on mounting on TH 35 DIN rail Comprising: • Coupling relay with plug-in relay • Plug-in socket with logical separation and screw terminals • Fixing/ejection bracket • Labeling plate							
	LED modules, red							
	(24 V DC version: LED module with freewheeling diode)							
	4 CO contacts	24 DC	4	28	**LZS:PT5B5L24**	1	5 units	41H
		24 AC			**LZS:PT5B5R24**	1	5 units	41H
		115 AC			**LZS:PT5B5S15**	1	5 units	41H
		230 AC			**LZS:PT5B5T30**	1	5 units	41H
	LED modules, green, with freewheeling diode NEW							
	4 CO contacts	24 DC	4	28	**LZS:PT5B5L24A**	1	5 units	41H
Complete units, 8- and 14-pole, PT series								
 LZS:PT2D5L24, LZS:PT2D5L24A	**Complete units with plug-in socket** **With logical separation** For snap-on mounting on TH 35 DIN rail Comprising: • Coupling relay with plug-in relay • Plug-in socket with logical separation and spring-loaded terminals (push-in) • Fixing/ejection bracket • Labeling plate			**Spring-loaded terminals (push-in)**				
	LED modules, red							
	(24 V DC version: LED module with freewheeling diode)							
	2 CO contacts	24 DC	2	28	**LZS:PT2D5L24**	1	5 units	41H
		230 AC			**LZS:PT2D5T30**	1	5 units	41H
	4 CO contacts	24 DC	4	28	**LZS:PT5D5L24**	1	5 units	41H
		24 AC			**LZS:PT5D5R24**	1	5 units	41H
		115 AC			**LZS:PT5D5S15**	1	5 units	41H
		230 AC			**LZS:PT5D5T30**	1	5 units	41H
	LED modules, green, with freewheeling diode NEW							
	2 CO contacts	24 DC	2	28	**LZS:PT2D5L24A**	1	5 units	41H
	4 CO contacts	24 DC	4	28	**LZS:PT5D5L24A**	1	5 units	41H

Note:

Logical separation: The terminals for the contacts and the terminals for the coil are arranged on separate levels, e.g. above for contacts and below for the coil. Logical separation is not necessarily protective separation.

Protective separation: Protective separation prevents voltage of one circuit affecting another circuit with sufficient protection (IEC 61140).

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

LZS coupling relays with plug-in relays

Version	Rated control supply voltage U_S at 50/60 Hz AC	Contacts, number of CO contacts	Width	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	V		mm					
Single modules for customer assembly, PT series								
Industrial relays, 8-, 11-, and 14-pole								
Mini industrial relays								
• With test bracket and mechanical switch position indicator, without LED[1]								
	24 DC	2	22.5	**LZX:PT270024**		1	1 unit	41H
		3		**LZX:PT370024**		1	1 unit	41H
		4		**LZX:PT570024**		1	1 unit	41H
	24 AC	2	22.5	**LZX:PT270524**		1	1 unit	41H
		3		**LZX:PT370524**		1	1 unit	41H
		4		**LZX:PT570524**		1	1 unit	41H
	115 AC	2	22.5	**LZX:PT270615**		1	1 unit	41H
		3		**LZX:PT370615**		1	1 unit	41H
		4		**LZX:PT570615**		1	1 unit	41H
	230 AC	2	22.5	**LZX:PT270730**		1	1 unit	41H
		3		**LZX:PT370730**		1	1 unit	41H
		4		**LZX:PT570730**		1	1 unit	41H
• With hard gold-plating								
	24 DC 230 AC	4	22.5	**LZX:PT580024** **LZX:PT580730**		1 1	1 unit 1 unit	41H 41H
• Without test bracket								
	24 DC 230 AC	4	22.5	**LZX:PT520024** **LZX:PT520730**		1 1	1 unit 1 unit	41H 41H
Plug-in sockets for PT relays								
Standard plug-in sockets For mounting on TH 35 DIN rail				**Screw terminals**				
	--	2	28	**LZS:PT78720**		1	1 unit	41H
		3		**LZS:PT78730**		1	1 unit	41H
		4		**LZS:PT78740**		1	1 unit	41H
Plug-in sockets with logical separation For mounting on TH 35 DIN rail								
	--	2	28	**LZS:PT78722**		1	1 unit	41H
		4		**LZS:PT78742**		1	1 unit	41H
Plug-in sockets with logical separation For mounting on TH 35 DIN rail				**Spring-loaded terminals (push-in)**				
	--	2	28	**LZS:PT7872P**		1	1 unit	41H
		4		**LZS:PT7874P**		1	1 unit	41H


LZX:PT270024


LZS:PT78720


LZS:PT78742


LZS:PT7874P

[1] The test bracket is designed to be non-latching. If the test bracket is pressed further until 90° has been reached, two small lugs break off and the test bracket can be latched in position.

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

	Version	Rated control supply voltage U_s at 50/60 Hz AC	Width	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		V	mm					
Single modules for customer assembly, PT series (continued)								
	More single modules							
 LZS:PTML0024	**LED modules**							
	• Red							
	- With freewheeling diode	24 DC	11.4	**LZS:PTML0024**		1	1 unit	41H
	- Without freewheeling diode	24 AC/DC		**LZS:PTML0524**		1	1 unit	41H
		110 … 230 AC		**LZS:PTML0730**		1	1 unit	41H
	• Green							
	- With freewheeling diode	24 DC	11.4	**LZS:PTMG0024**		1	1 unit	41H
	- Without freewheeling diode	24 AC/DC		**LZS:PTMG0524**		1	1 unit	41H
		110 … 230 AC		**LZS:PTMG0730**		1	1 unit	41H
 LZS:PT17021	**Fixing/ejection brackets for PT base** **With logical separation**							
	Screw terminals and spring-loaded terminals	--	27	**LZS:PT17021**		100	10 units	41H
 LZS:PT17024	**Fixing/ejection brackets for standard plug-in socket** **Without logical separation**							
	Screw terminals	--	27	**LZS:PT17024**		100	10 units	41H
LZS:PT17040	**Labeling plates for PT relays**							
		--	26.5	**LZS:PT17040**		100	10 units	41H
 LZS:PTMU0730	**RC elements**							
		24 ... 48 AC	11.4	**LZS:PTMU0524**		1	1 unit	41H
		110 … 230 AC		**LZS:PTMU0730**		1	1 unit	41H
	Freewheeling diode with connection to A1							
		6 … 230 DC	11.4	**LZS:PTMT00A0**		1	1 unit	41H
 LZS:PT170R6	**Connecting combs for PT screw base**							
	6-pole, 10 A current-carrying capacity, natural-colored	--	103.6	**LZS:PT170R6**		1	10 units	41H
 LZS:PT170P1	**Connecting brackets for PT push-in base**							
	2-pole, 10 A current-carrying capacity, natural-colored	--	28	**LZS:PT170P1**		1	10 units	41H

Note:

SITOP DC power supplies such as 6EP1331-5BA00 or 6EP1331-5BA10 can be used for unavailable coil voltages; see page 15/1 or Catalog KT 10.1.

LZS coupling relays with plug-in relays

Version	Rated control supply voltage U_s at 50/60 Hz AC	Contacts, number of CO contacts	Width	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	V		mm					
Complete units, 8-pole, 5 mm pinning, RT series								
 LZS:RT.A4L24, LZS:RT.A4L24A	**Complete units with standard plug-in socket** For snap-on mounting on TH 35 DIN rail Comprising: • Coupling relay with plug-in relay • Standard plug-in socket with screw terminals • Fixing/ejection bracket • Labeling plate			**Screw terminals**				
	LED modules, red							
	(24 V DC version: LED module with freewheeling diode)							
	1 CO contact	24 DC	1	15.5	**LZS:RT3A4L24**	1	5 units	41H
		24 AC			**LZS:RT3A4R24**	1	5 units	41H
		115 AC			**LZS:RT3A4S15**	1	5 units	41H
		230 AC			**LZS:RT3A4T30**	1	5 units	41H
	2 CO contacts	24 DC	2	15.5	**LZS:RT4A4L24**	1	5 units	41H
		24 AC			**LZS:RT4A4R24**	1	5 units	41H
		115 AC			**LZS:RT4A4S15**	1	5 units	41H
		230 AC			**LZS:RT4A4T30**	1	5 units	41H
	LED modules, green, with freewheeling diode NEW							
	1 CO contact	24 DC	1	15.5	**LZS:RT3A4L24A**	1	5 units	41H
	2 CO contacts	24 DC	2	15.5	**LZS:RT4A4L24A**	1	5 units	41H
 LZS:RT.B4L24, LZS:RT.B4L24A	**Complete units with plug-in socket** **With logical separation** For snap-on mounting on TH 35 DIN rail Comprising: • Coupling relay with plug-in relay • Plug-in socket with logical separation and screw terminals • Fixing/ejection bracket • Labeling plate							
	LED modules, red							
	(24 V DC version: LED module with freewheeling diode)							
	1 CO contact	24 DC	1	15.5	**LZS:RT3B4L24**	1	5 units	41H
		24 AC			**LZS:RT3B4R24**	1	5 units	41H
		115 AC			**LZS:RT3B4S15**	1	5 units	41H
		230 AC			**LZS:RT3B4T30**	1	5 units	41H
	2 CO contacts	24 DC	2	15.5	**LZS:RT4B4L24**	1	5 units	41H
		24 AC			**LZS:RT4B4R24**	1	5 units	41H
		115 AC			**LZS:RT4B4S15**	1	5 units	41H
		230 AC			**LZS:RT4B4T30**	1	5 units	41H
	LED modules, green, with freewheeling diode NEW							
	1 CO contact	24 DC	1	15.5	**LZS:RT3B4L24A**	1	5 units	41H
	2 CO contacts	24 DC	2	15.5	**LZS:RT4B4L24A**	1	5 units	41H
 LZS:RT.D4L24, LZS:RT.D4L24A	**Complete units with plug-in socket** **With logical separation** For snap-on mounting on TH 35 DIN rail Comprising: • Coupling relay with plug-in relay • Plug-in socket with logical separation and spring-loaded terminals (push-in) • Fixing/ejection bracket • Labeling plate			**Spring-loaded terminals (push-in)**				
	LED modules, red							
	(24 V DC version: LED module with freewheeling diode)							
	1 CO contact	24 DC	1	15.5	**LZS:RT3D4L24**	1	5 units	41H
		24 AC			**LZS:RT3D4R24**	1	5 units	41H
		115 AC			**LZS:RT3D4S15**	1	5 units	41H
		230 AC			**LZS:RT3D4T30**	1	5 units	41H
	2 CO contacts	24 DC	2	15.5	**LZS:RT4D4L24**	1	5 units	41H
		24 AC			**LZS:RT4D4R24**	1	5 units	41H
		115 AC			**LZS:RT4D4S15**	1	5 units	41H
		230 AC			**LZS:RT4D4T30**	1	5 units	41H
	LED modules, green, with freewheeling diode NEW							
	1 CO contact	24 DC	1	15.5	**LZS:RT3D4L24A**	1	5 units	41H
	2 CO contacts	24 DC	2	15.5	**LZS:RT4D4L24A**	1	5 units	41H

Note:

Logical separation: The terminals for the contacts and the terminals for the coil are arranged on separate levels, e.g. above for contacts and below for the coil. Logical separation is not necessarily protective separation.

Protective separation: Protective separation prevents voltage of one circuit affecting another circuit with sufficient protection (IEC 61140).

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

	Version	Rated control supply voltage U_s at 50/60 Hz AC	Contacts, number of CO contacts	Width	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		V		mm					
Single modules for customer assembly, RT series									
	Print relays, 8-pole, 5 mm pinning								
LZX:RT31...., LZX:RT424...	**Print relays** With hard gold-plating • Version with 1 CO contact								
		24 DC	1	12.7	**LZX:RT315024**		1	1 unit	41H
		230 AC			**LZX:RT315730**		1	1 unit	41H
	Print relays • Version with 1 CO contact								
		24 DC	1	12.7	**LZX:RT314024**		1	1 unit	41H
		24 AC			**LZX:RT314524**		1	1 unit	41H
		115 AC			**LZX:RT314615**		1	1 unit	41H
		230 AC			**LZX:RT314730**		1	1 unit	41H
	• Version with 2 CO contacts								
		12 DC	2	12.7	**LZX:RT424012**		1	1 unit	41H
		24 DC			**LZX:RT424024**		1	1 unit	41H
		24 AC			**LZX:RT424524**		1	1 unit	41H
		115 AC			**LZX:RT424615**		1	1 unit	41H
		230 AC			**LZX:RT424730**		1	1 unit	41H
	Plug-in sockets for RT relays								
 LZS:RT78725	**Standard plug-in socket** For mounting on TH 35 DIN rail				**Screw terminals**				
		--	--	15.5	**LZS:RT78725**		1	1 unit	41H
 LZS:RT78726	**Plug-in socket with logical separation** For mounting on TH 35 DIN rail								
		--	--	15.5	**LZS:RT78726**		1	1 unit	41H
 LZS:RT7872P	**Plug-in socket with logical separation** For mounting on TH 35 DIN rail				**Spring-loaded terminals (push-in)**				
		--	--	15.5	**LZS:RT7872P**		1	1 unit	41H

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

LZS coupling relays with plug-in relays

Single modules for customer assembly, RT series (continued)

	Version	Rated control supply voltage U_s at 50/60 Hz AC	Contacts, number of CO contacts	Width	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		V		mm					
	More single modules								
	LED modules								
	• Red								
 LZS:PTML0024	- With freewheeling diode	24 DC	--	11.4	**LZS:PTML0024**		1	1 unit	41H
	- Without freewheeling diode	24 AC/DC	--		**LZS:PTML0524**		1	1 unit	41H
		110 ... 230 AC	--		**LZS:PTML0730**		1	1 unit	41H
	• Green								
	- With freewheeling diode	24 DC	--	11.4	**LZS:PTMG0024**		1	1 unit	41H
	- Without freewheeling diode	24 AC/DC	--		**LZS:PTMG0524**		1	1 unit	41H
		110 ... 230 AC	--		**LZS:PTMG0730**		1	1 unit	41H
 LZS:RT17016	**Fixing/ejection bracket for RT base**								
		--	--	15.5	**LZS:RT17016**		100	10 units	41H
LZS:RT17040	**Labeling plates for RT relays**								
		--	--	15	**LZS:RT17040**		100	10 units	41H
 LZS:PTMU0730	**RC elements**								
		24 ... 48 AC	--	11.4	**LZS:PTMU0524**		1	1 unit	41H
		110 ... 230 AC			**LZS:PTMU0730**		1	1 unit	41H
	Freewheeling diode with connection to A1								
		6 … 230 DC	--	11.4	**LZS:PTMT00A0**		1	1 unit	41H
 LZS:RT170R8	**Connecting combs for RT screw base**								
	8-pole, 10 A current-carrying capacity, natural-colored	--	--	118.8	**LZS:RT170R8**		1	10 units	41H
 LZS:RT170P1	**Connecting brackets for RT push-in base**								
	2-pole, 10 A current-carrying capacity, natural-colored	--	--	15.5	**LZS:RT170P1**		100	10 units	41H

Note:

SITOP DC power supplies such as 6EP1331-5BA00 or 6EP1331-5BA10 can be used for unavailable coil voltages; see page 15/1 or Catalog KT 10.1.

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