

SIEMENS



SIRIUS

Industrial Controls

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[siemens.com/sirius](https://www.siemens.com/sirius)

**Price groups**

PG 41A, 41B, 41H, 41L

5/2

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4- and 8-pole
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Coupling relays

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**3TG10 power relays/miniature
contactors**

Switching Devices – Contactors and Contactor Assemblies – Contactor Relays and Relays

Introduction

Overview

More information

Homepage, see www.siemens.com/sirius

Industry Mall, see www.siemens.com/product?3RH_3TH

Conversion tool for article numbers, see www.siemens.com/sirius/conversion-tool

The advantages at a glance



Size
Type

S00
3RH21

S00
3RH22

3TH42

3TH43

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SIRIUS 3RH2 contactor relays

4-pole	• Screw or spring-loaded terminals	3RH21	5/12, 5/13
8-pole		3RH22	5/12, 5/13
4-pole, latched		3RH24	5/12, 5/13
Coupling contactor relays	• Coils for control by PLC	3RH21	5/14, 5/15
Contactor relays for railway applications	• Coils with extended voltage range	3RH21	4/58

3TH4 contactor relays

8-pole	• Screw terminals	3TH42	5/20
10-pole		3TH43	5/21
Contactor relays for railway applications	• Coils with extended voltage range	3TH42	4/60

Accessories for SIRIUS 3RH2 contactor relays

Auxiliary switches	• On front	3RH29, 3RA281.	from 3/87, 3/100
	• Lateral	3RH29	3/97
Function modules (direct-on-line starting, star-delta (wye-delta) starting)	• On front	3RA281., 3RA283.	3/105
Surge suppressors	• On front	3RT2916	3/102, 3/103
Additional load modules	• On front	3RT2916	3/119

Note:

Safety characteristics for contactors, see "Standards and approvals", page 16/6.

More information

Homepage, see www.siemens.com/relaysIndustry Mall, see www.siemens.com/product?3RQ_3RS_LZConversion tool for article numbers, see www.siemens.com/sirius/conversion-tool

The advantages at a glance



3RQ2



3RQ3



LZS/LZX

Type

Article No. Page

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 5/26

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

3RQ301 5/34
3RQ303 5/34

Coupling relays with plug-in relays

- Width 6.2 mm, 1 CO, versions with hard gold-plated contacts optionally available
- Output coupling links

3RQ311 5/34

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 5/34
3RQ307 5/34

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 5/40 ... 5/42

Coupling relays with plug-in relays with 3 changeover contacts and circular base

- Switching capacity 10 A
- 11-pole circular base
- Width 38 mm

LZS:MT, LZX:MT 5/42

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 5/43

Connection methods

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

The 3RQ coupling relays are supplied with screw terminals and spring-loaded (push-in) terminals. The plug-in bases for LZS/LZX coupling relays are also available with plug-in (push-in) terminals.



Screw terminals

Spring-loaded terminals,
spring-loaded terminals (push-in)

Flat connectors



Plug-in terminals (push-in)

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

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

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

As with other spring-loaded terminals, a screwdriver (with 3.0 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 finishing.

The advantages of the push-in terminals are found, as with all spring-loaded terminals, in speed of assembly and disassembly and vibration-proof connection. There is no need for the checking and tightening required with screw terminals, see video "SIRIUS spring-loaded terminals – strong, flexible, safe and fast!"

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.

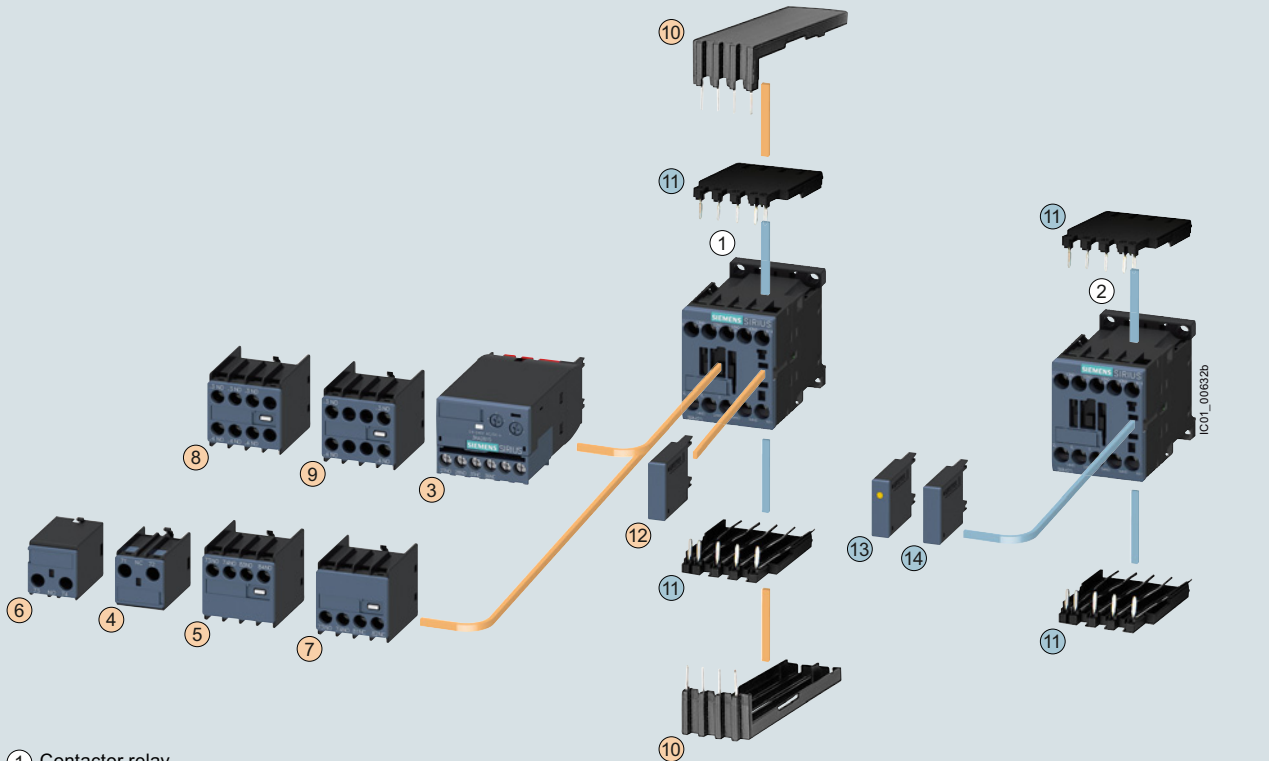
Switching Devices – Contactors and Contactor Assemblies – Contactor Relays and Relays

Contactor Relays

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

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 block

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 increasing the permissible residual current

Switching Devices – Contactors and Contactor Assemblies – Contactor Relays and Relays

Contactor Relays

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

Standards

IEC/EN 60947-1, IEC/EN 60947-4-1, IEC/EN 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 3RH2 contactor relays are suitable for use in any climate. They are finger-safe according to IEC 60529.

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

Contact reliability

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

Surge suppression

RC elements, varistors, diodes or diode assemblies (combination of a diode and a Zener diode) can be plugged onto all 3RH2 contactor relays from the front for damping opening surges in the coil. 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.

Accessories

The accessories for the 3RT2 contactors in size S00 can also be used for the 3RH2 contactor relays (see page 3/75 onwards).

Article No. 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 No. scheme shows an overview of product versions for better understanding of the logic behind the article numbers.

Auxiliary switches

The 3RH21 contactor relays (with the exception of coupling contactor relays) can be expanded by up to four contacts by the addition of mounted auxiliary switches.

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

Contactor relays with increased tamper protection

Increased tamper protection is ensured either by using our contactor relay versions with permanently mounted auxiliary switches installed in the factory (e.g. 3RH22 contactor relays), or by using the 3RT2916-4MA10 sealable cover as an accessory (see page 3/117).

Switching Devices – Contactors and Contactor Assemblies – Contactor Relays and Relays

Contactor Relays

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

Technical specifications

More information

Technical specifications, see <https://support.industry.siemens.com/cs/ww/en/ps/16188/td>
 FAQs, see <https://support.industry.siemens.com/cs/ww/en/ps/16188/faq>

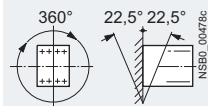
Manuals, see <https://support.industry.siemens.com/cs/ww/en/ps/16188/man>

Type
Size

Contactor relays
3RH2
S00

Permissible mounting position

The contactor relays are designed for operation on a vertical mounting surface.



Upright mounting position



Special version required

(in the case of coupling contactor relays and contactor relays with extended operating range 3RH2122-2K.40 on request)

Positively driven 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**) acc. to:

- ZH1/457
- IEC 60947-5-1, Appendix 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**) acc. to:

- ZH1/457
- IEC 60947-5-1, Appendix L

Note:

3RH2911-.NF. solid-state compatible auxiliary switches have no positively driven contacts.

Explanations:

There is positively driven 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, Appendix L

Standard for low-voltage switchgear and controlgear; special requirements for positively driven contacts

Contact reliability

Contact reliability at 17 V, 1 mA acc. to IEC 60947-5-4

Frequency of contact faults $< 10^{-8}$, i.e. < 1 fault per 100 million operating cycles

Contact endurance for AC-15/AC-14 and DC-13 utilization categories

The contact endurance is mainly dependent on the breaking current. It is assumed that the operating mechanisms are switched randomly, i.e. not synchronized with the phase angle of the supply system.

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 freewheel diodes.

The characteristic curves apply to

- 3RH21/3RH22 contactor relays¹⁾
- 3RH24 latched contactor relays
- 3RH2911 auxiliary switch¹⁾
- Auxiliary switches for snapping onto the front, max. 4-pole and for mounting onto the side in size S00

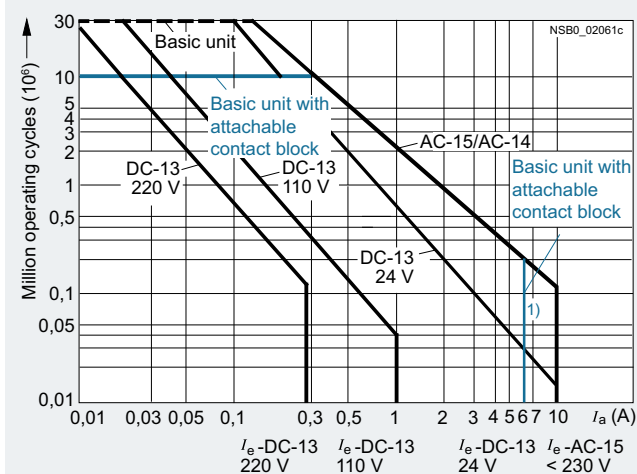


Diagram legend:

I_a = Breaking current

I_e = Rated operational current

¹⁾ 3RH22, 3RH2911: $I_e = 6$ A for AC-15/AC-14 and DC-13.

Switching Devices – Contactors and Contactor Assemblies – Contactor Relays and Relays

Contactor Relays



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

Type Size	Contactor relays				
	3RH21 S00	3RH22	3RH24		
General data					
Dimensions (W x H x D)					
<ul style="list-style-type: none"> Basic units <ul style="list-style-type: none"> Screw terminals Spring-loaded terminals Basic unit with mounted auxiliary switch <ul style="list-style-type: none"> Screw terminals Spring-loaded terminals Basic unit with mounted function module or solid-state time-delay auxiliary switch <ul style="list-style-type: none"> Screw terminals Spring-loaded terminals 		mm	45 x 58 x 73	--	90 x 58 x 73
		mm	45 x 70 x 73	--	
		mm	45 x 58 x 117	--	
		mm	45 x 70 x 121	--	
		mm	45 x 58 x 147	--	
		mm	45 x 70 x 147	--	
		Mechanical endurance			
		Operating cycles	30 million		5 million
		Operating cycles	10 million		5 million
		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, acc. to IEC 60947-1, Appendix N					
V	400				
Permissible ambient temperature					
During operation	°C	-25 ... +60			
During storage	°C	-55 ... +80			
Degree of protection acc. to IEC 60529					
On front		IP20 (screw terminals and spring-loaded terminals)			
Connecting terminal		IP20 (screw terminals and spring-loaded terminals)			
Touch protection acc. to IEC 60529					
		Finger-safe (screw terminals and spring-loaded terminals)			
Shock resistance					
Rectangular pulse	g/ms	7.3/5 and 4.7/10			
		10/5 and 5/10			
Sine pulse	g/ms	11.4/5 and 7.3/10			
		15/5 and 8/10			
Short-circuit protection					
Short-circuit test	A	10			
	A	6			

Switching Devices – Contactors and Contactor Assemblies – Contactor Relays and Relays

Contactor Relays

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

Type Size	Contactor relays		
	3RH21 S00	3RH22	3RH24
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, Ø 5 ... 6 mm)	
- Tightening torque	Nm	0.8 ... 1.2 (7 ... 10.3 lb.in)	
Auxiliary conductors and coil terminals²⁾ (1 or 2 conductors can be connected)		 Spring-loaded terminals	
• Operating device	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 switches²⁾			
• Operating device	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. external diameter of the conductor insulation: 3.6 mm.
On spring-loaded terminals with conductor cross-sections ≤ 1 mm² an insulation stop is recommended, see page 3/120.

Switching Devices – Contactors and Contactor Assemblies – Contactor Relays and Relays

Contactor Relays

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

Type	Contactor relays	
Size	3RH2	
Control	S00	
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	VA/p.f.	37/0.8
- Closed	VA/p.f.	5.7/0.25
• AC operation, 60 Hz		
- Closing	VA/p.f.	33/0.75
- Closed	VA/p.f.	4.4/0.25
• DC operation	W	4.0
Closing = Closed		
Permissible residual current of the electronics (with 0 signal)		
• AC operation ¹⁾		< 4 mA x (230 V/ U_s)
• For DC operation		< 10 mA x (24 V/ U_s)
Operating times for 1.0 x U_s²⁾ Total break time = OFF-delay + Arcing time Values apply with coil in cold state and at operating temperature for operating range		
<u>AC operation</u>		
• Closing		
- ON-delay of NO contact	ms	9 ... 22
3RH24 minimum operating time	ms	≥ 35
- OFF-delay of NC contact	ms	6.5 ... 19
• Opening		
- OFF-delay of NO contact	ms	4.5 ... 15
3RH24 minimum operating time	ms	≥ 30
- ON-delay of NC contact	ms	5 ... 15
<u>DC operation</u>		
• Closing		
- ON-delay of NO contact	ms	35 ... 50
3RH24 minimum operating time	ms	≥ 100
- OFF-delay of NC contact	ms	30 ... 45
• Opening		
- OFF-delay of NO contact	ms	7 ... 12
3RH24 minimum operating time	ms	≥ 30
- ON-delay of NC contact	ms	13 ... 18
• Arcing time	ms	10 ... 15




¹⁾ The 3RT2916-1GA00 additional load module is recommended for higher residual currents, see page 3/119.




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

Switching Devices – Contactors and Contactor Assemblies – Contactor Relays and Relays

Contactor Relays

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

		Coupling contactor relays		
Type		3RH21...-HB40	3RH21...-JB40	3RH21...-KB40
Size		S00		
Control				
Solenoid coil operating range		0.7 ... 1.25 x U_s		
Power consumption of the solenoid coil (for cold coil and 1.0 x U_s) Closing = Closed at $U_s = 24$ V		W	2.8	
Permissible residual current of the electronics with 0 signal		< 10 mA x (24 V/ U_s)		
Overvoltage configuration of the solenoid coil		No overvoltage damping 	Integrated diode 	Integrated suppressor diode 
Operating times at 1.0 x U_s				
• Closing delay	ON-delay NO	ms	35 ... 60	
	OFF-delay NC	ms	25 ... 40	
• Opening delay	OFF-delay NO	ms	7 ... 20	38 ... 65
	ON-delay NO	ms	10 ... 30	30 ... 90
Upright mounting position		On request		

		Coupling contactor relays		
Type		3RH21...-MB40-0KT0	3RH21...-VB40	3RH21...-SB40
Size		S00		
Control				
Solenoid coil operating range		0.85 ... 1.85 x U_s		
Power consumption of the solenoid coil (for cold coil and 1.0 x U_s) Closing = Closed at $U_s = 24$ V		W	1.6	
Permissible residual current of the electronics with 0 signal		< 8 mA x (24 V/ U_s)		
Overvoltage configuration of the solenoid coil		No overvoltage damping 	Integrated diode 	Integrated suppressor diode 
Operating times at 1.0 x U_s				
• Closing delay	ON-delay NO	ms	25 ... 90	
	OFF-delay NC	ms	15 ... 80	
• Opening delay	ON-delay NO	ms	5 ... 20	20 ... 80
	OFF-delay NC	ms	10 ... 30	30 ... 90
Upright mounting position		On request		

Switching Devices – Contactors and Contactor Assemblies – Contactor Relays and Relays

Contactor Relays

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

		Contactor relays	
Type		3RH2	S00
Size			
Rated data of the auxiliary contacts			
Load rating with AC			
Rated operational currents I_e			
AC-12	A		10
AC-15/AC-14, 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
Load rating with DC			
Rated operational currents I_e			
DC-12, at rated operational voltage U_e			
• 1 conducting path	24 V A		10
	60 V A		6
	110 V A		3
	220 V A		1
	440 V A		0.3
	600 V A		0.15
• 2 conducting paths in series	24 V A		10
	60 V A		10
	110 V A		4
	220 V A		2
	440 V A		1.3
	600 V A		0.65
• 3 conducting paths in series	24 V A		10
	60 V A		10
	110 V A		10
	220 V A		3.6
	440 V A		2.5
	600 V A		1.8
DC-13, at rated operational voltage U_e			
• 1 conducting path	24 V A		10 ¹⁾
	60 V A		2
	110 V A		1
	220 V A		0.3
	440 V A		0.14
	600 V A		0.1
• 2 conducting paths in series	24 V A		10
	60 V A		3.5
	110 V A		1.3
	220 V A		0.9
	440 V A		0.2
	600 V A		0.1
• 3 conducting paths in series	24 V A		10
	60 V A		4.7
	110 V A		3
	220 V A		1.2
	440 V A		0.5
	600 V A		0.26
Switching frequency			
Switching frequency z in operating cycles/hour			
• Rated operation for utilization category	AC-12/DC-12	1/h	1 000
Dependence of the switching frequency z' on the operational current I' and operational voltage U' : $z' = z \cdot (I_e/I') \cdot (U_e/U')^{1.5} \cdot 1/h$	AC-15/AC-14	1/h	1 000
	DC-13	1/h	1 000
• No-load switching frequency		1/h	10 000
Ⓢ and Ⓜ 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/AC-14 and DC-13.

Switching Devices – Contactors and Contactor Assemblies – Contactor Relays and Relays

Contactor Relays

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



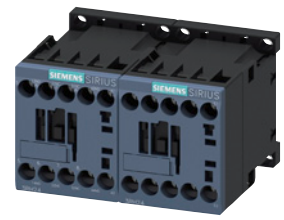
3RH2122-2A..0





3RH2244-1A..0



3RH2244-2A..0



3RH2422-1A..0

Rated operational current I_e /AC-15/AC-14 at 230 V	Contacts		Rated control supply voltage U_s at 50/60 Hz ¹⁾	SD	Screw terminals 		SD	Spring-loaded terminals 	
	Ident. No.	Version			Article No.	Price per PU		Article No.	Price per PU
A		NO NC	V AC	d			d		

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

Size S00

10	40E	4	--	24	▶	3RH2140-1AB00	2	3RH2140-2AB00
				110		3RH2140-1AF00		3RH2140-2AF00
				230		3RH2140-1AP00		3RH2140-2AP00
31E	3	1	24	▶	3RH2131-1AB00	2	3RH2131-2AB00	
			110		3RH2131-1AF00		3RH2131-2AF00	
			230		3RH2131-1AP00		3RH2131-2AP00	
22E	2	2	24	▶	3RH2122-1AB00	2	3RH2122-2AB00	
			110		3RH2122-1AF00		3RH2122-2AF00	
			230		3RH2122-1AP00		3RH2122-2AP00	
With permanently mounted auxiliary switch								
6	44E	4	4	230	▶	3RH2244-1AP00	2	3RH2244-2AP00
				62E		6		2
Latched								
No lateral auxiliary switches can be mounted								
10	40E	4	--	24	5	3RH2440-1AB00		--
				110		3RH2440-1AF00		--
				230		3RH2440-1AP00		--
31E	3	1	24	5	3RH2431-1AB00		--	
			110		3RH2431-1AF00		--	
			230		3RH2431-1AP00		--	
22E	2	2	24	5	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 3/73 on request.

Accessories, see page 3/75 onwards.

Switching Devices – Contactors and Contactor Assemblies – Contactor Relays and Relays





Contactor Relays

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

DC operation

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



Rated operational current I_e /AC-15/AC-14 at 230 V	Contacts		Rated control supply voltage U_c	SD	Screw terminals 		SD	Spring-loaded terminals 	
	Ident. No.	Version			Article No.	Price per PU		Article No.	Price per PU
A		 	V DC	d			d		

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

Size S00

10	40E	4	--	24 220	▶	3RH2140-1BB40 3RH2140-1BM40	▶	3RH2140-2BB40 3RH2140-2BM40	
	31E	3	1	24 220	▶	3RH2131-1BB40 3RH2131-1BM40	▶	3RH2131-2BB40 3RH2131-2BM40	
	22E	2	2	24 220	▶	3RH2122-1BB40 3RH2122-1BM40	▶	3RH2122-2BB40 3RH2122-2BM40	
With integrated coil circuit (diode 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	--	24 110 220	5 5 5	3RH2440-1BB40 3RH2440-1BF40 3RH2440-1BM40	-- -- --		
	31E	3	1	24 110 220	5 5 5	3RH2431-1BB40 3RH2431-1BF40 3RH2431-1BM40	-- -- --		
	22E	2	2	24 110 220	2 5 5	3RH2422-1BB40 3RH2422-1BF40 3RH2422-1BM40	-- -- --		

Other voltages according to page 3/73 on request.
 Accessories, see page 3/75 onwards.



Switching Devices – Contactors and Contactor Assemblies – Contactor Relays and Relays

Contactor Relays

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/AC-14 at 230 V	Auxiliary contacts		Rated control supply voltage U_s	SD	Screw terminals 		SD	Spring-loaded terminals 	
	Ident. No. acc. to EN 50011	Version			Article No.	Price per PU		Article No.	Price per PU
		 	V DC	d			d		

A For screw fixing and snap-on mounting onto TH 35 standard mounting 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	5
	31E	3	1	24	5
	22E	2	2	24	5

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	5
	31E	3	1	24	2
	22E	2	2	24	5

3RH2140-1HB40
3RH2131-1HB40
3RH2122-1HB40

3RH2140-2HB40
3RH2131-2HB40
3RH2122-2HB40

3RH2140-1MB40-0KT0
3RH2131-1MB40-0KT0
3RH2122-1MB40-0KT0

3RH2140-2MB40-0KT0
3RH2131-2MB40-0KT0
3RH2122-2MB40-0KT0

Other voltages [according to page 3/73](#) on request.

Accessories, [see page 3/75 onwards](#).

Switching Devices – Contactors and Contactor Assemblies – Contactor Relays and Relays

Contactor Relays

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/AC-14 at 230 V	Auxiliary contacts		Rated control supply voltage U_s	SD	Screw terminals 		SD	Spring-loaded terminals 	
	Ident. No. acc. to EN 50011	Version			Article No.	Price per PU		Article No.	Price per PU
		 	V DC	d			d		

For screw fixing and snap-on mounting onto TH 35 standard mounting 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	2
	31E	3	1	24	▶
	22E	2	2	24	▶

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	5
	31E	3	1	24 <td>5</td>	5
	22E	2	2	24 <td>5</td>	5

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	5
	31E	3	1	24	▶
	22E	2	2	24	▶

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	5
	31E	3	1	24 <td>2</td>	2
	22E	2	2	24 <td>2</td>	2

▶	3RH2140-1JB40	▶	3RH2140-2JB40
	3RH2131-1JB40	▶	3RH2131-2JB40
	3RH2122-1JB40	2	3RH2122-2JB40
	3RH2140-1VB40	5	3RH2140-2VB40
	3RH2131-1VB40	5	3RH2131-2VB40
	3RH2122-1VB40	5	3RH2122-2VB40
	3RH2140-1KB40	5	3RH2140-2KB40
	3RH2131-1KB40	▶	3RH2131-2KB40
	3RH2122-1KB40	▶	3RH2122-2KB40
	3RH2140-1SB40	5	3RH2140-2SB40
	3RH2131-1SB40	5	3RH2131-2SB40
	3RH2122-1SB40	5	3RH2122-2SB40

Other voltages [according to page 3/73](#) on request.

Accessories, [see page 3/75 onwards](#).

Switching Devices – Contactors and Contactor Assemblies – Contactor Relays and Relays

Contactor Relays

3TH4 contactor relays, 8- and 10-pole

Overview

Standards

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

The 3TH42 and 3TH43 contactor relays are suitable for use in any climate. They are finger-safe according to IEC 60529.

Note:

The 3TH42 and 3TH43 contactor relays feature positively driven operation in accordance with 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 Specific Contactor Relays.

Contact reliability

High contact stability 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.

Surge suppression

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 opening surges. The surge suppressors can be mounted directly on the coil (see page 5/23).

Note:

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

Mounting

Note:

With 3TH4 contactor relays with AC operation, an overvoltage of $1.1 \times U_s$, 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

Contactor relays

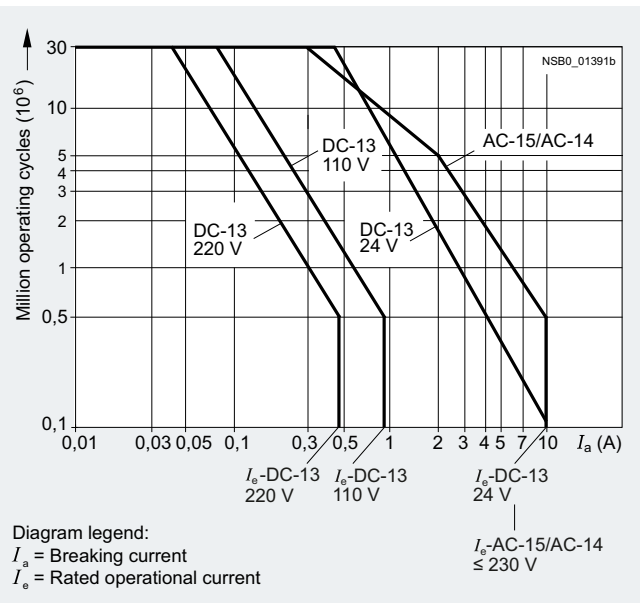
Type **3TH42, 3TH43**

Contact endurance for AC-15/AC-14 and DC-13 utilization categories

The contact endurance is mainly dependent on the breaking current. It is assumed that the operating mechanisms are switched randomly, i.e. not synchronized with the phase angle of the supply system.

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.

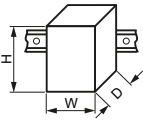
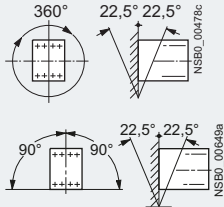


RC elements or freewheel diodes are suitable as protective measures for the circuits.



Switching Devices – Contactors and Contactor Assemblies – Contactor Relays and Relays

Contactor Relays

3TH4 contactor relays, 8- and 10-pole

Contactor relays	Type	3TH42	3TH43
General data			
Dimensions (W x H x D)			
<ul style="list-style-type: none"> AC operation DC operation 		mm 45 x 78 x 97 mm 45 x 78 x 130	55 x 78 x 97 55 x 78 x 130
Permissible mounting position			
The contactor relays are designed for operation on a vertical mounting surface.			
<ul style="list-style-type: none"> 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 coil and main contacts acc. to IEC 60947-1, Appendix N		V	Up to 500
Permissible ambient temperature			
<ul style="list-style-type: none"> During operation During storage 		°C	-25 ... +55 -55 ... +80
Degree of protection acc. to IEC 60529			
<ul style="list-style-type: none"> On front Connecting terminal 			IP20 (with screw terminals) IP20 (with screw terminals) Finger-safe (for screw terminals)
Touch protection acc. to IEC 60529			
Shock resistance			
<ul style="list-style-type: none"> Rectangular pulse <ul style="list-style-type: none"> AC operation DC operation Sine pulse <ul style="list-style-type: none"> AC operation DC operation 		g/ms g/ms g/ms g/ms	7.7/5 and 4.4/10 9.3/5 and 5.4/10 12/5 and 6.8/10 14.7/5 and 8.5/10
Short-circuit protection			
Short-circuit test			
<ul style="list-style-type: none"> With fuse links of operational class gG With short-circuit current $I_k = 1$ kA acc. to IEC 60947-5-1 <ul style="list-style-type: none"> LV HRC, type 3NA DIAZED, type 5SB NEOZED, type 5SE, quick With miniature circuit breakers With short-circuit current $I_k = 400$ A acc. to IEC 60947-5-1 <ul style="list-style-type: none"> C characteristic B characteristic 		A A A A A	16 16 20 16 16
and UL rated data			
Basic units			
Rated control supply voltage U_s			Max. 600 V AC, 230 V DC (acc. 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)			
<ul style="list-style-type: none"> Solid or stranded Finely stranded with end sleeve Terminal screw 		mm ² mm ²	 Screw terminals 2 x (0.5 ... 1) ¹⁾ ; 2 x (1 ... 2.5) ¹⁾ ; 1 x 4 2 x (0.75 ... 2.5) 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.

Switching Devices – Contactors and Contactor Assemblies – Contactor Relays and Relays

Contactor Relays

3TH4 contactor relays, 8- and 10-pole

Contactor relays	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	VA/p.f.	68/0.82
- Closed	VA/p.f.	10/0.29
• AC operation, 50/60 Hz, standard version		
- Closing, 50 Hz	VA/p.f.	77/0.81
- Closed, 50 Hz	VA/p.f.	11/0.28
- Closing, 60 Hz	VA/p.f.	71/0.75
- Closed, 60 Hz	VA/p.f.	9/0.27
• AC operation, 50 Hz, USA/Canada		
- Closing	VA/p.f.	68/0.82
- Closed	VA/p.f.	10/0.29
• AC operation, 60 Hz, USA/Canada		
- Closing	VA/p.f.	75/0.76
- Closed	VA/p.f.	9.4/0.29 ... 0.3
• AC operation, 50 Hz, Japan		
- Closing	VA/p.f.	80/0.8
- Closed	VA/p.f.	10.7/0.29
• AC operation, 60 Hz, Japan		
- Closing	VA/p.f.	75 ... 90/0.73
- Closed	VA/p.f.	8.5 ... 10.7/0.29 ... 0.3
• DC operation up to 250 V	W	6.2
Closing = Closed		
Permissible residual current of the electronics (with 0 signal)		
• For AC operation		$\leq 8 \text{ mA} \times (220 \text{ V}/U_s)$
• For DC operation		$\leq 1.25 \text{ mA} \times (220 \text{ V}/U_s)$
Operating times at 1.0 x U_s²⁾		
<u>AC operation</u>		
• Closing		
- ON-delay NO	ms	10 ... 25
- OFF-delay NC	ms	7 ... 20
• Opening		
- OFF-delay NO	ms	5 ... 18
- ON-delay NC	ms	7 ... 20
<u>DC operation</u>		
• Closing		
- ON-delay NO	ms	30 ... 70
- OFF-delay NC	ms	28 ... 65
• Opening		
- OFF-delay NO	ms	10 ... 20
- ON-delay NC	ms	15 ... 25
Arcing time	ms	10

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

2) The OFF-delay times of the NO contacts and the ON-delay times of the NC contacts increase if the contactor coils are attenuated against voltage peaks (suppression diode 6x to 9x; diode assembly 2x to 6x; varistor +2 to 5 ms).

Switching Devices – Contactors and Contactor Assemblies – Contactor Relays and Relays

Contactor Relays

3TH4 contactor relays, 8- and 10-pole

Contactor relays	Type	3TH42, 3TH43	
Rated data of the auxiliary contacts			
Load rating with AC			
Rated operational currents I_e			
• AC-12	A	16	
• AC-15/AC-14, for 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			
Acc. to utilization categories AC-2 and AC-3, 50 Hz			
	230/220 V kW	2.4	
	400/380 V kW	4	
	500 V kW	4	
	690/660 V kW	4	
Load rating with DC			
Rated operational currents I_e			
DC-12, for rated operational voltage U_e			
• 1 conducting path			
	Up to 48 V A	10	
	110 V A	2.1	
	220 V A	0.8	
	440 V A	0.6	
• 2 conducting paths in series			
	Up to 48 V A	10	
	110 V A	10	
	220 V A	1.6	
	440 V A	0.8	
• 3 conducting paths in series			
	Up to 48 V A	10	
	110 V A	10	
	220 V A	10	
	440 V A	1.3	
DC-13, at rated operational voltage U_e			
• 1 conducting path			
	Up to 24 V A	10	
	48 V A	5	
	110 V A	1	
	220 V A	0.45	
	440 V A	0.25	
	600 V A	0.2	
• 2 conducting paths in series			
	Up to 24 V A	10	
	48 V A	10	
	110 V A	2.5	
	220 V A	0.75	
	440 V A	0.5	
	600 V A	0.4	
• 3 conducting paths in series			
	Up to 24 V A	10	
	48 V A	10	
	110 V A	10	
	220 V A	2	
	440 V A	0.9	
	600 V A	0.8	
Switching frequency			
Switching frequency z in operating cycles/hour			
• Rated operation for utilization category	AC-12/DC-12	1/h	1 000
	AC-2	1/h	500
	AC-3	1/h	1 000
	AC-15/AC-14	1/h	3 600
	DC-13	1/h	3 600
• No-load switching frequency		1/h	10 000
Dependence of the switching frequency z' on the operational current I' and operational voltage U' : $z' = z \cdot (I'/I) \cdot (U_e/U')^{1.5} \cdot 1/h$			

Switching Devices – Contactors and Contactor Assemblies – Contactor Relays and Relays

Contactor Relays

3TH4 contactor relays, 8- and 10-pole

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/AC-14 at				Contacts	SD	Screw terminals 	PU (UNIT, SET, M)	PS*	PG
	230/220 V	400/380 V	500 V	690/660 V	Ident. No. acc. to EN 50011	Version				
Number	A	A	A	A			Article No.	Price per PU		
						   				

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

AC operation, rated control supply voltage $U_s = 50 \text{ Hz } 230/220 \text{ V AC}^{1)}$

8	10	6	4	2										
					80E	8	--	--	--	X	3TH4280-0AP0	1	1 unit	41A
					71E	7	1	--	--	X	3TH4271-0AP0	1	1 unit	41A
					62E	6	2	--	--	X	3TH4262-0AP0	1	1 unit	41A
					53E	5	3	--	--	X	3TH4253-0AP0	1	1 unit	41A
					44E	4	4	--	--	X	3TH4244-0AP0	1	1 unit	41A
					44E, U	3	3	1	1	X	3TH4293-0AP0	1	1 unit	41A

DC operation, rated control supply voltage $U_s = 24 \text{ V DC}$

8	10	6	4	2										
					80E	8	--	--	--	X	3TH4280-0BB4	1	1 unit	41A
					71E	7	1	--	--	X	3TH4271-0BB4	1	1 unit	41A
					62E	6	2	--	--	X	3TH4262-0BB4	1	1 unit	41A
					53E	5	3	--	--	X	3TH4253-0BB4	1	1 unit	41A
					44E	4	4	--	--	X	3TH4244-0BB4	1	1 unit	41A
					44E, U	3	3	1	1	X	3TH4293-0BB4	1	1 unit	41A

¹⁾ Operating range at 220 V: 0.85 to $1.1 \times U_s$;
lower operating range limit according to IEC 60947.

Other voltages according to page 5/22 on request.

Accessories, see page 5/23.

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.

Switching Devices – Contactors and Contactor Assemblies – Contactor Relays and Relays

Contactor Relays

3TH4 contactor relays, 8- and 10-pole

10-pole contactor relays

AC operation  or DC operation 



3TH4355-0AP0



3TH4355-0BB4

Contacts	Rated operational current I_e /AC-15/AC-14 at				Contacts	SD	PU	PS*	PG
	230 V	400 V	500 V	690 V	Ident. No. acc. to EN 50011	Version	(UNIT, SET, M)		
Number	A	A	A	A			Article No.	Price per PU	

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

AC operation, rated control supply voltage $U_s = 50$ Hz 230/220 V AC¹⁾

Number	A	A	A	A		NO	NC	NO	NC	d				
10	10	6	4	2	100E	10	--	--	--	X	3TH4310-0AP0	1	1 unit	41A
					91E	9	1	--	--	X	3TH4391-0AP0	1	1 unit	41A
					82E	8	2	--	--	X	3TH4382-0AP0	1	1 unit	41A
					73E	7	3	--	--	X	3TH4373-0AP0	1	1 unit	41A
					73E, U	6	2	1	1	X	3TH4346-0AP0	1	1 unit	41A
					64E	6	4	--	--	X	3TH4364-0AP0	1	1 unit	41A
					55E	5	5	--	--	X	3TH4355-0AP0	1	1 unit	41A
					55E, U	4	4	1	1	X	3TH4394-0AP0	1	1 unit	41A

DC operation, rated control supply voltage $U_s = 24$ V DC

Number	A	A	A	A		NO	NC	NO	NC	d				
10	10	6	4	2	100E	10	--	--	--	X	3TH4310-0BB4	1	1 unit	41A
					91E	9	1	--	--	X	3TH4391-0BB4	1	1 unit	41A
					82E	8	2	--	--	X	3TH4382-0BB4	1	1 unit	41A
					73E	7	3	--	--	X	3TH4373-0BB4	1	1 unit	41A
					73E, U	6	2	1	1	X	3TH4346-0BB4	1	1 unit	41A
					64E	6	4	--	--	X	3TH4364-0BB4	1	1 unit	41A
					55E	5	5	--	--	X	3TH4355-0BB4	1	1 unit	41A
					55E, U	4	4	1	1	X	3TH4394-0BB4	1	1 unit	41A

¹⁾ Operating range at 220 V: 0.85 to $1.1 \times U_s$;
lower operating range limit according to IEC 60947.

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.

Other voltages according to page 5/22 on request.

Accessories, see page 5/23.

Switching Devices – Contactors and Contactor Assemblies – Contactor Relays and Relays

Contactor Relays

3TH4 contactor relays, 8- and 10-pole

Options

Rated control supply voltages, possible on request (change of the 10th and 11th digits of the Article No.)

Delivery time on request

Rated control supply voltage U_s		Control supply voltage at	3TH42/3TH43
AC operation			
Solenoid coils for 50 and 60 Hz AC			
50 Hz	60 Hz		
24 V AC	29 V AC	B0	
36 V AC	42 V AC	G0	
42 V AC	50 V AC	D0	
48 V AC	58 V AC	H0	
60 V AC	72 V AC	E0	
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⁾	
240 V AC	288 V AC	U0	
400/380 V AC	480/460 V AC	V0 ¹⁾	
415 V AC	500 V AC	R0	
500 V AC	600 V AC	S0	
50/60 Hz			
24 V AC		C2	
42 V AC		D2	
110 V AC		G2	
115 V AC		J2	
120 V AC		K2	
220 V AC		N2	
230 V AC		L2	
240 V AC		P2	
440 V AC		R2	
For Japan			
50 Hz	60 Hz		
100 V AC	100 ... 110 V AC	G6 ²⁾	
200 V AC	200 ... 220 V AC	N6 ²⁾	
For USA and Canada			
50 Hz	60 Hz		
110 V AC	120 V AC	K6 ²⁾	
220 V AC	240 V AC	P6 ²⁾	

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 .


Rated control supply voltage U_s		Control supply voltage at	3TH42/3TH43
DC operation			
12 V DC		A4	
24 V DC		B4	
30 V DC		C4	
36 V DC		V4	
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	

Switching Devices – Contactors and Contactor Assemblies – Contactor Relays and Relays

Contactor Relays


3TH4 contactor relays, 8- and 10-pole > Accessories for 3TH4 contactor relays

Selection and ordering data


Version	Rated control supply voltage U_s		SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	
	AC	DC							
	V	V	d						
Surge suppressors¹⁾ for 3TH4 contactor relays									
 3TX7402-3.	Noise suppression diodes With line spacer, for mounting onto the coil terminal	--	24 ... 250	2	3TX7402-3A		1	1 unit	41B
	Diode assemblies (diode and Zener diode) With line spacer, DC operation, for mounting onto the coil terminal	--	24 ... 250	2	3TX7402-3D		1	1 unit	41B
	Varistors²⁾ With line spacer, for mounting onto the coil terminal	24 ... 48	24 ... 70	2	3TX7402-3G		1	1 unit	41B
		48 ... 127	70 ... 150	2	3TX7402-3H		1	1 unit	41B
		127 ... 240	150 ... 250	2	3TX7402-3J		1	1 unit	41B
		240 ... 400	--	20	3TX7402-3K		1	1 unit	41B
		400 ... 600	--	20	3TX7402-3L		1	1 unit	41B
RC elements With line spacer, for mounting onto the coil terminal	24 ... 48	24 ... 70	2	3TX7402-3R		1	1 unit	41B	
	48 ... 127	70 ... 150	2	3TX7402-3S		1	1 unit	41B	
	127 ... 240	150 ... 250	2	3TX7402-3T		1	1 unit	41B	
	240 ... 400	--	5	3TX7402-3U		1	1 unit	41B	
400 ... 600	--	20	3TX7402-3V		1	1 unit	41B		
Covers for switch position indicator	--	--	X	3TX4210-0P		1	1 unit	41B	

¹⁾ The OFF-delay times of the NO contacts and the ON-delay times of the NC contacts increase if the contactor coils are attenuated against voltage peaks (suppression diode 6x to 10x; diode assembly 2x to 6x; varistor +2 to 5 ms).

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

For contactors	Version	Rated control supply voltage U_s 50/60 Hz AC	Time setting range (minimum times)	SD	Screw terminals 	PU (UNIT, SET, M)	PS*	PG
Type		V	s	d	Article No.			

ON-delay devices

 3TX4180-0A	3TH42, 3TH43	NTC thermistors	220 ... 230	0.1	5	3TX4180-0A		1	1 unit	41B
			Time tolerance +100%, -50%							

Switching Devices – Contactors and Contactor Assemblies – Contactor Relays and Relays

Coupling Relays

SIRIUS 3RQ2 coupling relays with industrial enclosure

Overview



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

More information

Homepage, see www.siemens.com/relays

Industry Mall, see www.siemens.com/product?3RQ2

Conversion tool for article numbers, see www.siemens.com/sirius/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.

Thanks to terminal assignment that is identical to the previous version, existing products can easily be converted.

The reduced variety of components simplifies product selection and standardization.

Numerous accessories are available for the 3RQ2 coupling relays, for example replacement terminals, push-in lugs for wall mounting and coding pins.

Article No. scheme

Product versions		Article number						
Coupling relays, standard		3RQ2000	-	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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 = AgSnO ₂							0
	1 = AgNi + Au							1
Example		3RQ2000	-	1	C	W	0	1

Note:

The Article No. scheme shows an overview of product versions for better understanding of the logic behind the article numbers.

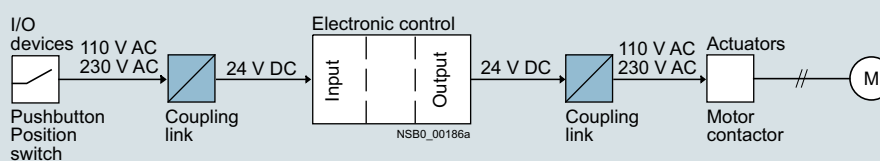
For your orders, please use the article numbers quoted in the selection and ordering data.

Benefits

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

Application

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



Application example motor controller

Switching Devices – Contactors and Contactor Assemblies – Contactor Relays and Relays Coupling Relays

SIRIUS 3RQ2 coupling relays with industrial enclosure

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>

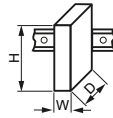
Type

3RQ2000-AW00
3RQ2000-BW00
3RQ2000-CW00

3RQ2000-CW01

General data

Dimensions (W x H x D)



mm 22.5 x 100 x 90

Insulation voltage for overvoltage category III acc. to IEC 60664 for pollution degree 3

V 300

Max. permissible voltage for protective separation between control circuit and auxiliary circuit acc. to IEC 60947-1

V 300

Ambient temperature

- During operation °C -40 ... +60
- During storage °C -40 ... +80

Degree of protection

IP20

Control circuit

Control supply voltage

V 24 ... 240 AC/DC; 50/60 Hz

Operating range factor of control supply voltage

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 A 3
- At DC-13 at 24 V A 1
- At DC-13 at 125 V A 0.2
- At DC-13 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 ... 4.0 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

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Switching Devices – Contactors and Contactor Assemblies – Contactor Relays and Relays

Coupling Relays

SIRIUS 3RQ2 coupling relays with industrial enclosure

Selection and ordering data

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

Control supply voltage At AC At 50 Hz	Control supply voltage At DC	Number of CO contacts for auxiliary contacts	Material of switching contacts	SD	Screw terminals 		Spring-loaded terminals (push-in) 		
					Article No.	Price per PU	Article No.	Price per PU	
V	V	W		d					
Coupling relays with industrial enclosure, 22.5 mm									
		24 ... 240	24 ... 240	1	AgSnO ₂	7	3RQ2000-1AW00	7	3RQ2000-2AW00
				2	AgSnO ₂	7	3RQ2000-1BW00	7	3RQ2000-2BW00
				3	AgSnO ₂	7	3RQ2000-1CW00	7	3RQ2000-2CW00
				3	AgNi + Au	7	3RQ2000-1CW01	7	3RQ2000-2CW01

Accessories

More information

Operating instructions, [see](https://support.industry.siemens.com/cs/ww/en/ps/25158/man)
<https://support.industry.siemens.com/cs/ww/en/ps/25158/man>




Conversion tool for article numbers, [see](http://www.siemens.com/sirius/conversion-tool)
www.siemens.com/sirius/conversion-tool

Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	d					


Terminals for SIRIUS devices in the industrial standard mounting rail enclosure

	Removable terminals		Screw terminals 		PU (UNIT, SET, M)	PS*	PG
	Article No.	Quantity	Article No.	Quantity			
3ZY1122-1BA00	• 2-pole, up to 1 x 4 mm ² or 2 x 2.5 mm ²	2	3ZY1122-1BA00	1	6 units	41L	
	• 2-pole, up to 1 x 4 mm ² or 2 x 1.5 mm ²	2	3ZY1122-2BA00	1	6 units	41L	

Accessories for enclosures

	Hinged cover Replacement cover, without terminal labeling, titanium gray, 22.5 mm wide	2	3ZY1450-1AB00	1	5 units	41L
	Push-in lugs For wall mounting	2	3ZY1311-0AA00	1	10 units	41L
	Coding pins For removable terminals of SIRIUS devices in the industrial standard mounting rail enclosure; they enable the mechanical coding of terminals	2	3ZY1440-1AA00	1	12 units	41L

Tools for opening spring-loaded terminals

	Screwdrivers For all SIRIUS devices with spring-loaded terminals 3.0 mm x 0.5 mm, length approx. 200 mm, titanium gray/black, partially insulated	2	3RA2908-1A	1	1 unit	41B
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Switching Devices – Contactors and Contactor Assemblies – Contactor Relays and Relays Coupling Relays

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					

Switching Devices – Contactors and Contactor Assemblies – Contactor Relays and Relays Coupling Relays

SIRIUS 3RQ3 coupling relays, narrow design

Overview



SIRIUS 3RQ3 coupling relays

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)

Coupling relays with relay output (not plug-in)

AC and DC operation

IEC/EN 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 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 electronic systems.

For test purposes, versions are available with manual-0-automatic switches.

Switching Devices – Contactors and Contactor Assemblies – Contactor Relays and Relays

Coupling Relays

SIRIUS 3RQ3 coupling relays, narrow design

Article No. scheme

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/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 = AgSnO ₂		□
	1 = AgSnO ₂ 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 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
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	AgSnO ₂		0
	AgSnO ₂ hard gold-plated		1
Example		3RQ31 1 8 – 1 A B 0 1	

Product versions		Article number		Control supply voltage	Switching voltage of the semiconductor output
Coupling relays with semiconductor output (not plug-in)		3RQ30 □ □ – □ S □ □ 0			
	Current carrying capacity of the semiconductor output				
Output coupler	• Without manual/automatic switch	1 mA ... 0.5 A	3RQ30 5 0 – □ S M 5 0	11 ... 30 V DC	10 ... 60 V DC
		5 mA ... 2 A	3RQ30 5 2 – □ S M 3 0	11 ... 30 V DC	10 ... 30 V DC
		1 mA ... 2 A	3RQ30 5 2 – □ S M 4 0	11 ... 30 V DC	10 ... 60 V DC
		5 mA ... 2 A	3RQ30 5 2 – □ S M 5 0	11 ... 30 V DC	20 ... 264 V AC
	• With manual/automatic switch	1 mA ... 3 A	3RQ30 5 3 – □ S G 3 0	110 ... 230 V AC/DC	10 ... 30 V DC
		5 mA ... 5 A	3RQ30 5 5 – □ S M 3 0	11 ... 30 V DC	10 ... 30 V DC
		5 mA ... 5 A	3RQ30 6 5 – □ S M 3 0	11 ... 30 V DC	10 ... 30 V DC
		10 mA ... 0.5 A	3RQ30 7 0 – □ S B 3 0	11 ... 30 V AC/DC	10 ... 30 V DC
Input coupler	10 mA ... 0.5 A	3RQ30 7 0 – □ S G 3 0	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 No. 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.

Switching Devices – Contactors and Contactor Assemblies – Contactor Relays and Relays Coupling Relays

SIRIUS 3RQ3 coupling relays, narrow design

Benefits

General

- All versions with screw terminals or spring-loaded terminals (push-in technology)
- TOP wiring with spring-loaded terminals (push-in) for quick and reliable wiring
- Low space requirements in the control cabinet thanks to a consistent width of 6.2 mm
- Reduced inventory due to fewer variants
- Clearly visible functional state of the coupling relay by green LED
- Integrated reverse polarity protection and EMC arc-suppression 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
- 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 variants with hard gold-plated contacts, hence high contact reliability at low currents

Coupling relays with plug-in relays

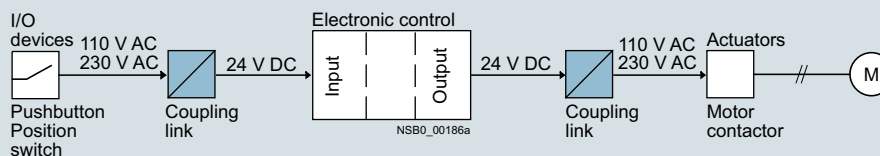
- Fast replacement of the relays with existing wiring
- Shorter installation times thanks to certified complete units
- Individual relays available as spare parts
- Device variants with hard gold-plated contacts, hence high contact reliability at low currents

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

Application

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



Application example motor controller

Switching Devices – Contactors and Contactor Assemblies – Contactor Relays and Relays

Coupling Relays

SIRIUS 3RQ3 coupling relays, narrow design

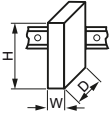
Technical specifications

More information

Technical specifications, see
<https://support.industry.siemens.com/cs/ww/en/ps/16198/td>
 FAQs, see <https://support.industry.siemens.com/cs/ww/en/ps/16198/faq>

Operating instructions, see
<https://support.industry.siemens.com/cs/ww/en/ps/16198/man>

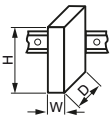
Coupling relays with relay output (not plug-in)

Article number	3RQ30.8- .AB00	3RQ30.8- .AB01	3RQ30.8- .AE00	3RQ30.8- .AE01	3RQ30.8- .AF00	3RQ30.8- .AF01	3RQ3018- 2AM08-0AA0	3RQ3018- 2AN08-0AA0	
General technical specifications									
Width x height x depth			mm						6.2 x 93 x 72.5
Insulation voltage for overvoltage category III acc. 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			-40 ... +70			
• During storage	°C		-40 ... +85						
Degree of protection	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		
Mechanical endurance (operating cycles) typical	10 000 000								
Electrical endurance (operating cycles) for AC-15 at 230 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		
Thermal current	A		6						

Switching Devices – Contactors and Contactor Assemblies – Contactor Relays and Relays Coupling Relays

SIRIUS 3RQ3 coupling relays, narrow design

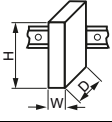


Coupling relays with plug-in relays

Article number		3RQ3118- .AB00	3RQ3118- .AB01	3RQ3118- .AE00	3RQ3118- .AE01	3RQ3118- .AF00	3RQ3118- .AF01	3RQ3118- .AM00	3RQ3118- .AM01
General technical specifications									
Width x height x depth	mm	6.2 x 93 x 76							
									
Insulation voltage for overvoltage category III acc. 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		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 230 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							

Switching Devices – Contactors and Contactor Assemblies – Contactor Relays and Relays Coupling Relays

SIRIUS 3RQ3 coupling relays, narrow design

Coupling relays with semiconductor output (not plug-in)

Article number	3RQ3050- .SM50	3RQ3052- .SM30	3RQ3052- .SM40	3RQ3052- .SM50	3RQ3053- .SG30	3RQ3055- .SM30	3RQ3065- .SM30	3RQ3070- .SB30	3RQ3070- .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 acc. 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		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		--		5 mA ... 2 A		--			
• At DC		1 mA ... 0.5 A	5 mA ... 2 A	1 mA ... 2 A	--	1 mA ... 3 A	5 mA ... 5 A	10 mA ... 0.5 A	
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
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)								

Switching Devices – Contactors and Contactor Assemblies – Contactor Relays and Relays

Coupling Relays

SIRIUS 3RQ3 coupling relays, narrow design

Selection and ordering data

Type of voltage	Control supply voltage			Number of CO contacts for auxiliary contacts	Material of switching contacts	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	At AC		At DC								
	At 50 Hz	At 60 Hz									
	V	V	V			d					

Coupling relays with relay output (not plug-in)

Output coupling links

AC/DC	24	24	24	1	AgSnO2	2	3RQ3018-□AB00	1	5 units	41H
					AgSnO2 hard gold-plated	2	3RQ3018-□AB01	1	5 units	41H
	115	115	115	1	AgSnO2	2	3RQ3018-□AE00	1	5 units	41H
					AgSnO2	2	3RQ3018-□AF00	1	5 units	41H
230	230	230	1	AgSnO2	2	3RQ3018-2AM08-0AA0	1	5 units	41H	
				AgSnO2	2	3RQ3018-2AN08-0AA0	1	5 units	41H	
DC	--	--	24	1	AgSnO2	2	3RQ3018-2AM08-0AA0	1	5 units	41H
					AgSnO2	2	3RQ3018-2AN08-0AA0	1	5 units	41H

Input coupling links

AC/DC	24	24	24	1	AgSnO2	2	3RQ3038-□AB00	1	5 units	41H
					AgSnO2 hard gold-plated	2	3RQ3038-□AB01	1	5 units	41H
	115	115	115	1	AgSnO2	2	3RQ3038-□AE00	1	5 units	41H
					AgSnO2 hard gold-plated	2	3RQ3038-□AE01	1	5 units	41H
230	230	230	1	AgSnO2	2	3RQ3038-□AF00	1	5 units	41H	
				AgSnO2 hard gold-plated	2	3RQ3038-□AF01	1	5 units	41H	

Coupling relays with plug-in relays

Output coupling links

AC/DC	24	24	24	1	AgSnO2	2	3RQ3118-□AB00	1	5 units	41H
					AgSnO2 hard gold-plated	2	3RQ3118-□AB01	1	5 units	41H
	115	115	115	1	AgSnO2	2	3RQ3118-□AE00	1	5 units	41H
					AgSnO2 hard gold-plated	2	3RQ3118-□AE01	1	5 units	41H
230	230	230	1	AgSnO2	2	3RQ3118-□AF00	1	5 units	41H	
				AgSnO2 hard gold-plated	2	3RQ3118-□AF01	1	5 units	41H	
DC	--	--	24	1	AgSnO2	2	3RQ3118-□AM00	1	5 units	41H
					AgSnO2 hard gold-plated	2	3RQ3118-□AM01	1	5 units	41H

3RQ3018-2....

Type of electrical connection

- Screw terminals
- Spring-loaded terminals (push-in)

1
2

Type of voltage	Control supply voltage			Current carrying capacity of the semiconductor output		Operating mode selectable via switch position	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	At AC		At DC	At AC	At DC							
	At 50 Hz	At 60 Hz										
							d					

Coupling relays with semiconductor output (not plug-in)

Output coupling links

DC	--	--	11 ... 30 V	--	1 mA ... 0.5 A	--	2	3RQ3050-□SM50	1	5 units	41H	
					5 mA ... 2 A	--	2	3RQ3052-□SM30	1	5 units	41H	
					1 mA ... 2 A	--	2	3RQ3052-□SM40	1	5 units	41H	
					5 mA ... 2 A	--	2	3RQ3052-□SM50	1	5 units	41H	
					--	5 mA ... 5 A	--	2	3RQ3055-□SM30	1	5 units	41H
					--	5 mA ... 5 A	--	2	3RQ3065-□SM30	1	5 units	41H
3RQ3050-2SM50	AC/DC	110 ... 230 V	110 ... 230 V	110 ... 230 V	--	1 mA ... 3 A	--	2	3RQ3053-□SG30	1	5 units	41H

Input coupling links

AC/DC	11 ... 30 V	11 ... 30 V	11 ... 30 V	--	10 mA ... 0.5 A	--	2	3RQ3070-□SB30	1	5 units	41H
					10 mA ... 0.5 A	--	2	3RQ3070-□SG30	1	5 units	41H

Type of electrical connection






- Screw terminals
- Spring-loaded terminals (push-in)

1
2

Switching Devices – Contactors and Contactor Assemblies – Contactor Relays and Relays Coupling Relays

SIRIUS 3RQ3 coupling relays, narrow design

Accessories

Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	
	d						
Galvanic isolation plates							
		For electrical separation of different potentials when devices of different types are installed side by side	2	3RQ3900-0A	1	10 units	41H
3RQ3900-0A							
Connecting combs							
		For linking the same potentials, current carrying capacity for infeed max. 6 A					
3RQ3901-0B		<ul style="list-style-type: none"> • 2-pole • 4-pole • 8-pole • 16-pole 	2	3RQ3901-0A	1	10 units	41H
			2	3RQ3901-0B	1	10 units	41H
			2	3RQ3901-0C	1	10 units	41H
			2	3RQ3901-0D	1	10 units	41H
Clip-on labels¹⁾							
		For terminal and equipment labeling, white					
3RQ3902-0A		<ul style="list-style-type: none"> • 5 x 5 mm • 6 x 12 mm 	2	3RQ3902-0A	100	2 000 units	41H
			2	3RQ3902-0B	100	1 200 units	41H
Tools for opening spring-loaded terminals							
		Screwdrivers For all SIRIUS devices with spring-loaded terminals					
3RA2908-1A		3.0 mm x 0.5 mm, length approx. 200 mm, titanium gray/black, partially insulated	2	Spring-loaded terminals (push-in) 	1	1 unit	41B
				3RA2908-1A			

¹⁾ PC labeling system for individual inscription of unit labeling plates available from Conta-Clip Verbindungstechnik GmbH (see page 16/15).

Coupling relays with plug-in relay	Control supply voltage	Material of switching contacts	Number of CO contacts for auxiliary contacts	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Type	V			d					
Replacement modules for 3RQ3118 coupling relays with plug-in relay									
3RQ3118-.AM00	24 DC	AgSnO2	1	2	3TX7014-7BM00		1	15 units	41H
3RQ3118-.AM01		AgSnO2 hard gold-plated		2	3TX7014-7BM02		1	15 units	41H
3RQ3118-.AB00	24 AC/DC	AgSnO2	1	2	3TX7014-7BM00		1	15 units	41H
3RQ3118-.AB01		AgSnO2 hard gold-plated		2	3TX7014-7BM02		1	15 units	41H
3RQ3118-.AE00	115 AC/DC	AgSnO2	1	2	3TX7014-7BP00		1	15 units	41H
3RQ3118-.AF00	230 AC/DC	AgSnO2							
3RQ3118-.AE01	115 AC/DC	AgSnO2 hard gold-plated	1	2	3TX7014-7BP02		1	15 units	41H
3RQ3118-.AF01	230 AC/DC	AgSnO2 hard gold-plated							

Switching Devices – Contactors and Contactor Assemblies – Contactor Relays and Relays Coupling Relays

LZS coupling relays with plug-in relays

Overview

Coupling relays with plug-in relays can be ordered as complete units or as individual modules for customer assembly.

Function

The coupling relays with semiconductor output have low power consumption and are therefore particularly well-suited to solid-state systems. In the versions equipped with LEDs, these indicate the switching state. The LZS:PT/MT 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 (freewheel 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 standard mounting rail according to IEC 60715.

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

They can be mounted as required.

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 Appendix N).

Notes on the previous LZX series

The complete units and accessory parts of the LZX series are no longer listed in this catalog. The complete units of the LZS series are fully compatible with the corresponding units of the LZX series. Prices for the LZS series are lower than for the previous LZX series.

The LZX plug-in relays are available unchanged and are used accordingly in both the LZS and the LZX series.

Note:

Due to differences in geometry, the LED modules, plug-in bases, fixing brackets and labels can be combined and/or used only in the respective series, LZS or LZX.

The LZS series offers not only service-proven screw connections but also versions with plug-in terminals (push-in).

Switching Devices – Contactors and Contactor Assemblies – Contactor Relays and Relays

Coupling Relays

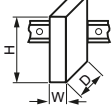


LZX coupling relays with plug-in relays

Technical specifications

More information

Technical specifications, see
<https://support.industry.siemens.com/cs/ww/en/ps/16204/td>

Manuals, see
<https://support.industry.siemens.com/cs/ww/en/ps/16204/man>

Relay type		LZX:RT print 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_s¹⁾	V		24 DC	24 AC	115 AC	230 AC	24 DC	24 AC	115 AC	230 AC
Rated insulation voltage U_i	V		250							
(Pollution degree 3)										
Overvoltage category			III							
Acc. to IEC 60664-1										
Protective separation			Up to 250 V (with plug-in base LZS:RT78726)				No			
Between coil and contacts										
Acc. to IEC 60947-1, Appendix N										
Degree of protection			IP67				IP50			
• Relays										
• Bases										
Permissible ambient temperature										
• During operation										
• During storage										
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										
 Plug-in 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.

Switching Devices – Contactors and Contactor Assemblies – Contactor Relays and Relays

Coupling Relays

LZX 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
Protection circuit		Freewheel diode for complete unit	--			Freewheel diode in LED module	--		
Load side									
Switching voltage									
AC/DC	V	24 ... 250							
Rated currents²⁾									
• Conventional thermal current I_{th}									
- 1 CO contact	A	16				--			
- 2 CO contacts	A	6				12			
- 3 CO contacts	A	--				10			
- 4 CO contacts	A	--				6			
• Rated operational current I_o /AC-15 acc. 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_o DC-13 with suppressor diode acc. 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 acc. 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			

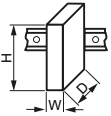
¹⁾ AC voltages, 50 Hz; for 60 Hz operation, the lower response value must be increased by 10%; the power loss will decrease slightly.

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

Switching Devices – Contactors and Contactor Assemblies – Contactor Relays and Relays

Coupling Relays

LZS coupling relays with plug-in relays

Relay type	LZS industrial relays: MT, 11-pole (35.5 mm) 3 CO contacts				
General data					
Dimensions (W x H x D)		mm	36 x 69 x 36		
Rated control supply voltage U_s¹⁾	V	24 DC	24 AC	115 AC	230 AC
Rated insulation voltage U_i (Pollution degree 3)	V	250			
Overvoltage category Acc. to IEC 60664-1	III				
Protective separation Between coil and contacts Acc. to IEC 60947-1, Appendix N	No				
Degree of protection of relays/bases					
• Relays	IP50				
• Bases	IP20				
Permissible ambient temperature					
• During operation	°C	-40 ... +60	-45 ... +50		
• During storage	°C	-45 ... +80			
Conductor cross-sections					
Connection type	⊕ Screw terminals				
• Solid	mm ²	2 x 2.5			
• Finely stranded with or without end sleeve	mm ²	2 x 1.5			
• Corresponding opening tool	Screwdriver, size 1 or Pozidriv 1				
Control side					
Operating range	V	18 ... 38	19.2 ... 38	92 ... 137	184 ... 264
Power consumption					
• AC	VA	--	2.3		
• DC	W	1.2	--		
Release voltage	V	2.4	9.6	46	92
Protection circuit	--				
Load side					
Switching voltage					
• AC/DC	V	24 ... 250			
Rated currents²⁾					
• Conventional thermal current I_{th}	A	10			
• Rated operational current I_e /DC-13 acc. to utilization categories (IEC 60947-5-1)	A	2 at 24 V, 0.27 at 230 V			
• Rated operational current I_e /AC-15 acc. to utilization categories (IEC 60947-5-1)	A	5 at 24 V and 230 V			
Short-circuit protection					
Short-circuit test with fuse links of operational class gG with short-circuit current $I_k = 1$ kA acc. to IEC 60947-5-1					
• DIAZED, type 5SB	A	10			
Min. contact load (reliability: 1 ppm)	12 V DC/10 mA				
Mechanical endurance	Operating cycles	20 x 10 ⁶			
Electrical endurance (resistive load at 250 V AC)	Operating cycles	3 x 10 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.

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

Switching Devices – Contactors and Contactor Assemblies – Contactor Relays and Relays

Coupling Relays

LZS coupling relays with plug-in relays

Selection and ordering data

Version	Rated control supply voltage U_s (at AC: 50/60 Hz)	Contacts, number of CO contacts	Width mm	SD d	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
---------	--	---------------------------------	----------	------	-------------	--------------	-------------------	-----	----

Complete units, 11- and 14-pole, PT series



LZS:PT3A5L24

Complete units with plug-in base

For snap-on mounting onto TH 35 standard mounting rail
Comprising:

- Coupling relays with plug-in relays
- Standard plug-in base with screw terminals
- LED module (24 V DC version: LED module with freewheel diode)
- Fixing/ejection brackets
- Labels

Contacts	Rated control supply voltage	Number of CO contacts	Width mm	SD d	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
3 CO contacts	24 DC	3	28	2	LZS:PT3A5L24		1	5 units	41H
	24 AC				LZS:PT3A5R24				
	115 AC				LZS:PT3A5S15				
	230 AC				LZS:PT3A5T30				
4 CO contacts	24 DC	4	28	2	LZS:PT5A5L24		1	5 units	41H
	24 AC				LZS:PT5A5R24				
	115 AC				LZS:PT5A5S15				
	230 AC				LZS:PT5A5T30				

Complete units with plug-in base

With logical separation

For snap-on mounting onto TH 35 standard mounting rail
Comprising:

- Coupling relays with plug-in relays
- Plug-in base with logical separation and screw terminals
- LED module (24 V DC version: LED module with freewheel diode)
- Fixing/ejection brackets
- Labels

Contacts	Rated control supply voltage	Number of CO contacts	Width mm	SD d	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
4 CO contacts	24 DC	4	28	2	LZS:PT5B5L24		1	5 units	41H
	24 AC				LZS:PT5B5R24				
	115 AC				LZS:PT5B5S15				
	230 AC				LZS:PT5B5T30				

Complete units, 8- and 14-pole, PT series



LZS:PT5D5L24

Complete units with plug-in base

With logical separation

For snap-on mounting onto TH 35 standard mounting rail
Comprising:

- Coupling relays with plug-in relays
- Plug-in base with logical separation and plug-in terminals (push-in)
- LED module (24 V DC version: LED module with freewheel diode)
- Fixing/ejection brackets
- Labels

Contacts	Rated control supply voltage	Number of CO contacts	Width mm	SD d	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
2 CO contacts	24 DC	2	28	2	LZS:PT2D5L24		1	5 units	41H
	230 AC				LZS:PT2D5T30				
4 CO contacts	24 DC	4	28	2	LZS:PT5D5L24		1	5 units	41H
	24 AC				LZS:PT5D5R24				
	115 AC				LZS:PT5D5S15				
	230 AC				LZS:PT5D5T30				

Note:

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

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

Switching Devices – Contactors and Contactor Assemblies – Contactor Relays and Relays Coupling Relays

LZS coupling relays with plug-in relays

Version	Rated control supply voltage U_s at 50/60 Hz AC	Contacts, number of CO contacts	Width	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	V		mm	d					

Individual 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 LED¹⁾



LZX:PT370024

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	5	LZX:PT270615	1	1 unit	41H		
	3		2	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	4	22.5	▶	LZX:PT580024	1	1 unit	41H		
230 AC			▶	LZX:PT580730	1	1 unit	41H		
• Without test bracket									
24 DC	4	22.5	▶	LZX:PT520024	1	1 unit	41H		
230 AC			5	LZX:PT520730	1	1 unit	41H		

Plug-in bases for PT relays

Standard plug-in bases

For mounting onto TH 35 standard mounting rail



LZS:PT78740

				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 bases with logical separation

For mounting onto TH 35 standard mounting rail



LZS:PT78722

--	2	28	▶	LZS:PT78722	1	1 unit	41H
	4		▶	LZS:PT78742	1	1 unit	41H

Plug-in bases with logical separation

For mounting onto TH 35 standard mounting rail



LZS:PT7874P

				Plug-in terminals (push-in)			
--	2	28	▶	LZS:PT7872P	1	1 unit	41H
	4		▶	LZS:PT7874P	1	1 unit	41H

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.

Note:

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

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






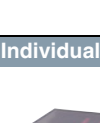


Switching Devices – Contactors and Contactor Assemblies – Contactor Relays and Relays

Coupling Relays





LZS coupling relays with plug-in relays

Version	Rated control supply voltage U_s at 50/60 Hz AC	Contacts, number of CO contacts	Width	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	V		mm	d					

Individual modules for customer assembly, PT series

More individual modules										
LED modules										
• Red										
	- With freewheel diode	24 DC	--	12.5	▶	LZS:PTML0024		1	1 unit	41H
	- Without freewheel diode	24 AC/DC 110 ... 230 AC/DC			▶	LZS:PTML0524 LZS:PTML0730		1 1	1 unit 1 unit	41H 41H
	• Green									
	- With freewheel diode	24 DC	--	12.5	▶	LZS:PTMG0024		1	1 unit	41H
	- Without freewheel diode	24 AC/DC 110 ... 230 AC/DC			▶	LZS:PTMG0524 LZS:PTMG0730		1 1	1 unit 1 unit	41H 41H
	Fixing/ejection brackets for PT base with logical separation									
	Screw terminals and plug-in terminals (push-in)	--	--	26	▶	LZS:PT17021		100	10 units	41H
	Fixing/ejection brackets for standard plug-in base without logical separation									
	Screw terminals	--	--	26	▶	LZS:PT17024		100	10 units	41H
	Labels									
		--	--	26	▶	LZS:PT17040		100	10 units	41H
	RC elements									
		6 ... 60 AC	--	26	▶	LZS:PTMU0524		1	1 unit	41H
		110 ... 230 AC			▶	LZS:PTMU0730		1	1 unit	41H
Freewheel diodes with connection to A1										
		6 ... 230 DC	--	26	▶	LZS:PTMT00A0		1	1 unit	41H
	Connecting combs for PT screw base									
	6-pole, 10 A current carrying capacity, natural-colored	--	--	--	5	LZS:PT170R6		1	10 units	41H
Connecting brackets for PT push-in base										
	2-pole, 10 A current carrying capacity, natural-colored	--	--	--	5	LZS:PT170P1		1	10 units	41H

Individual modules for customer assembly, MT series

Industrial relays, 11-pole										
Industrial relays with test bracket										
	Without LED	24 DC	3	35.5	2	LZX:MT321024		1	1 unit	41H
	With LED				▶	LZX:MT323024		1	1 unit	41H
	Without LED	24 AC	3	35.5	2	LZX:MT326024		1	1 unit	41H
	With LED				15	LZX:MT328024		1	1 unit	41H
	Without LED	115 AC	3	35.5	15	LZX:MT326115		1	1 unit	41H
	With LED				15	LZX:MT328115		1	1 unit	41H
	Without LED	230 AC	3	35.5	2	LZX:MT326230		1	1 unit	41H
	With LED				2	LZX:MT328230		1	1 unit	41H
Plug-in bases										
	For mounting onto TH 35 standard mounting rail					Screw terminals				
		--	--	38	▶	LZS:MT78750		1	1 unit	41H
	Fixing brackets									
		--	--	38	▶	LZS:MT28800		1	1 unit	41H

Note:






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

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

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

Switching Devices – Contactors and Contactor Assemblies – Contactor Relays and Relays Coupling Relays

LZS coupling relays with plug-in relays

Version	Rated control supply voltage U_s at 50/60 Hz AC	Contacts, number of CO contacts	Width	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	
	V		mm	d						
Complete units, 8-pole, 5 mm pinning, RT series										
 LZS:RT4A4T30	Complete units with standard plug-in base				Screw terminals 					
	For snap-on mounting onto TH 35 standard mounting rail									
	Comprising:									
	<ul style="list-style-type: none"> • Coupling relays with plug-in relays • Standard plug-in base with screw terminals • LED module (24 V DC version: LED module with freewheel diode) • Fixing/ejection brackets • Labels 									
	1 CO contact	24 DC	1	15.5	2	LZS:RT3A4L24		1	5 units	41H
		24 AC			2	LZS:RT3A4R24		1	5 units	41H
		115 AC			2	LZS:RT3A4S15		1	5 units	41H
		230 AC			2	LZS:RT3A4T30		1	5 units	41H
	2 CO contacts	24 DC	2	15.5	2	LZS:RT4A4L24		1	5 units	41H
		24 AC			2	LZS:RT4A4R24		1	5 units	41H
	115 AC			2	LZS:RT4A4S15		1	5 units	41H	
	230 AC			2	LZS:RT4A4T30		1	5 units	41H	
 LZS:RT4B4T30	Complete units with plug-in base With logical separation									
	For snap-on mounting onto TH 35 standard mounting rail									
	Comprising:									
	<ul style="list-style-type: none"> • Coupling relays with plug-in relays • Plug-in base with logical separation and screw terminals • LED module (24 V DC version: LED module with freewheel diode) • Fixing/ejection brackets • Labels 									
	1 CO contact	24 DC	1	15.5	2	LZS:RT3B4L24		1	5 units	41H
		24 AC			2	LZS:RT3B4R24		1	5 units	41H
		115 AC			2	LZS:RT3B4S15		1	5 units	41H
		230 AC			2	LZS:RT3B4T30		1	5 units	41H
	2 CO contacts	24 DC	2	15.5	2	LZS:RT4B4L24		1	5 units	41H
		24 AC			2	LZS:RT4B4R24		1	5 units	41H
	115 AC			2	LZS:RT4B4S15		1	5 units	41H	
	230 AC			2	LZS:RT4B4T30		1	5 units	41H	
 LZS:RT3D4L24	Complete units with plug-in base With logical separation				Plug-in terminals (push-in) 					
	For snap-on mounting onto TH 35 standard mounting rail									
	Comprising:									
	<ul style="list-style-type: none"> • Coupling relays with plug-in relays • Plug-in base with logical separation and plug-in terminals (push-in) • LED module (24 V DC version: LED module with freewheel diode) • Fixing/ejection brackets • Labels 									
	1 CO contact	24 DC	1	15.5	2	LZS:RT3D4L24		1	5 units	41H
		24 AC			2	LZS:RT3D4R24		1	5 units	41H
		115 AC			2	LZS:RT3D4S15		1	5 units	41H
		230 AC			2	LZS:RT3D4T30		1	5 units	41H
	2 CO contacts	24 DC	2	15.5	2	LZS:RT4D4L24		1	5 units	41H
		24 AC			2	LZS:RT4D4R24		1	5 units	41H
	115 AC			2	LZS:RT4D4S15		1	5 units	41H	
	230 AC			2	LZS:RT4D4T30		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).

Switching Devices – Contactors and Contactor Assemblies – Contactor Relays and Relays

Coupling Relays

LZS coupling relays with plug-in relays

Version	Rated control supply voltage U_s at 50/60 Hz AC	Contacts, number of CO contacts	Width	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	V		mm	d					
Individual modules for customer assembly, RT series									
Print relays, 8-pole, 5 mm pinning									
Print relays With hard gold-plating									
Version with 1 CO contact									
LZX:RT314024	24 DC 230 AC	1	12.7	▶ 15	LZX:RT315024 LZX:RT315730		1 1	1 unit 1 unit	41H 41H
Print relays Version with 1 CO contact									
	24 DC 24 AC 115 AC 230 AC	1	12.7	▶ 15 15 ▶	LZX:RT314024 LZX:RT314524 LZX:RT314615 LZX:RT314730		1 1 1 1	1 unit 1 unit 1 unit 1 unit	41H 41H 41H 41H
Version with 2 CO contacts									
LZS:RT78725	12 DC 24 DC	2	12.7	▶ ▶	LZX:RT424012 LZX:RT424024		1 1	1 unit 1 unit	41H 41H
	24 AC 115 AC 230 AC			▶ ▶ ▶	LZX:RT424524 LZX:RT424615 LZX:RT424730		1 1 1	1 unit 1 unit 1 unit	41H 41H 41H
Standard plug-in bases For mounting onto TH 35 standard mounting rail					Screw terminals 				
	--	--	15.5	▶	LZS:RT78725		1	1 unit	41H
Plug-in bases with logical separation For mounting onto TH 35 standard mounting rail									
LZS:RT78726	--	--	15.5	▶	LZS:RT78726		1	1 unit	41H
Plug-in bases with logical separation For mounting onto TH 35 standard mounting rail					Plug-in terminals (push-in) 				
	--	--	15.5	▶	LZS:RT7872P		1	1 unit	41H
LED modules									
• Red									
	With freewheel diode 24 DC	--	15.5	▶	LZS:PTML0024		1	1 unit	41H
	Without freewheel diode 24 AC/DC	--		▶	LZS:PTML0524		1	1 unit	41H
	110 ... 230 AC/DC	--		▶	LZS:PTML0730		1	1 unit	41H
• Green									
	With freewheel diode 24 DC	--	15.5	▶	LZS:PTMG0024		1	1 unit	41H
	Without freewheel diode 24 AC/DC	--		▶	LZS:PTMG0524		1	1 unit	41H
	110 ... 230 AC/DC	--		▶	LZS:PTMG0730		1	1 unit	41H
LZS:PTML0024									
Fixing/ejection brackets for RT base									
	--	--	15.5	▶	LZS:RT17016		100	10 units	41H
Labels									
	--	--	15.5	▶	LZS:RT17040		100	10 units	41H
RC elements									
	6 ... 60 AC	--	15.5	▶	LZS:PTMU0524		1	1 unit	41H
	110 ... 230 AC	--		▶	LZS:PTMU0730		1	1 unit	41H
LZS:RT17040									
Freewheel diodes with connection to A1									
	6 ... 230 DC	--	15.5	▶	LZS:PTMT00A0		1	1 unit	41H
Connecting combs for RT screw base									
	8-pole, 10 A current carrying capacity, natural-colored	--	--	▶	LZS:RT170R8		1	10 units	41H
LZS:PTMU0730									
Connecting brackets for push-in base									
	2-pole, 10 A current carrying capacity, natural-colored	--	--	▶ 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.