Note:

3RH1 contactor relays can be found

- in the Catalog Add-On IC 10 AO · 2016 in the Information and Download Center
- in the interactive Catalog CA 01
- in the Industry Mall

Conversion tool
e. g. from 3RH11 to 3RH21: see www.siemens.com/sirius/conversion-tool

Introduction

Overview

More information	
Home page, see www.siemens.com/sirius	Conversion tool, e.g. from 3RH11 to 3RH21, see www.siemens.com/sirius/conversion-tool
Industry Mall, see www.siemens.com/product?3RH_3TH	

The advantages at a glance





Size	**S00**	**S00**			
Type	3RH21	3RH22	3TH42	3TH43	3TH2
				Article No.	Page
SIRIUS 3RH2 contactor relays					
4-pole	• Screw or spring-type terminals			**3RH21**	5/13, 5/14
8-pole				**3RH22**	5/13, 5/14
4-pole, latched				**3RH24**	5/13, 5/14
Coupling contactor relays	• Coils for control by PLC			**3RH21**	5/15, 5/16
Contactor relays for railway applications	• Coils with extended voltage range			**3RH21**	4/69
3TH4 contactor relays					
8-pole	• Screw terminals			**3TH42**	5/21
10-pole				**3TH43**	5/22
Contactor relays for railway applications	• Coils with extended voltage range			**3TH42**	4/72
3TH2 miniature contactor relays					
4-pole	• Screw terminals, flat connectors and solder pin connections			**3TH20**	5/29, 5/30
8-pole	• Screw terminals			**3TH22**	5/29
4-pole, latched	• Screw terminals			**3TH27**	5/29
Accessories for SIRIUS 3RH2 contactor relays					
Auxiliary switch blocks	• 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**	3/118

Note:

For safety characteristics for contactors, see "Standards and Approvals", from page 16/10 onwards.

More information	
Home page, see www.siemens.com/relays Industry Mall, see www.siemens.com/product?3RQ_3RS_LZ	Conversion tool, e.g. from 3TX7 to 3RQ3, see www.siemens.com/sirius/conversion-tool

The advantages at a glance

Type	3RQ3	3RS18	LZS/LZX

		Article No.	Page
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** **3RQ303**	 5/39 5/39
Coupling relays with plug-in relays	• Width 6.2 mm, 1 CO, versions with hard gold-plated contacts optionally available - Output coupling links	 **3RQ311**	 5/39
Coupling relays with semiconductor output (not plug-in)	• Width 6.2 mm, output 1 semiconductor, triac or transistor - Output coupling links - Input coupling links	 **3RQ305, 3RQ306** **3RQ307**	 5/39 5/39
SIRIUS 3RS18 coupling relays with industrial enclosure			
Coupling relays with relay output	• Protective separation up to 300 V between contacts and relay circuits • 1, 2 or 3 changeover contacts • Hard gold-plated contacts in combination and wide voltage range versions	**3RS18**	5/42
LZS coupling relays with plug-in relays			
Coupling relays with plug-in relays with 2, 3 or 4 changeover contacts	• Switching capacity 12 A/10 A/6 A • Width 27 mm • Base with or without logical separation	**LZS:PT, LZX:PT**	5/47 ... 5/49
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**	5/49
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**	5/50

Introduction

Connection methods

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

Devices of the 3TH2 series are also available with screw terminals, flat connectors and solder pin connectors.

The 3RQ3 coupling relays are supplied with screw terminals and spring-type (push-in) terminals. The plug-in bases for LZS/LZX coupling relays are also available with plug-in (push-in) terminals.

	Screw terminals
	Spring-type terminals, spring-type terminals (push-in)
	Flat connectors
	Solder pin connections
	Plug-in terminals (push-in)
	The terminals are indicated in the corresponding tables by the symbols shown on orange backgrounds.

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

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

As with other spring-type 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-type terminals, in speed of assembly and disassembly and vibration-proof connection. There is no need for the checking and tightening required with screw terminals.

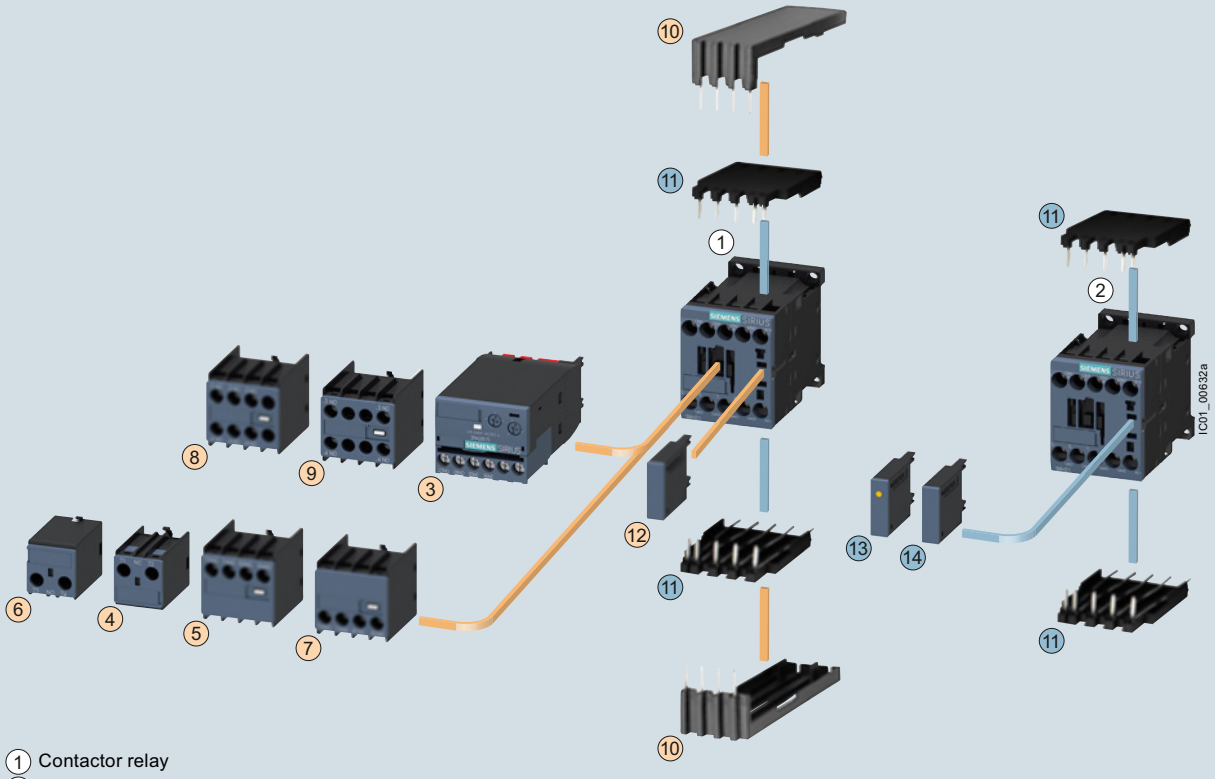
With the TOP wiring method, the wire inlet and terminals can be reached from the front. This helps to speed up the wiring process and eliminate wiring errors.

SUVA-certified safety contactors

We offer special safety contactors for use in safety-related applications. They have NC contacts with mirror contact function and they have SUVA certification. This means they have permanently fitted auxiliary switch blocks and cannot be operated manually. They thus comply with all requirements for use in safety applications.

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

(10) Solder pin adapter for contactor relays with 4-pole auxiliary switch block
(11) Solder pin adapter
(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

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

Standards

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

The 3RH2 contactor relays are available with screw or spring-type 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 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 from page 3/75 onwards).

Auxiliary switch blocks

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 switch blocks.

The auxiliary switch block can easily be snapped onto the front of the contactor relays. The auxiliary switch block 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.

Article No. scheme

Product versions		Article number
SIRIUS contactor relays		**3RH2** □ □ □ **–** □ □ □ □ **0 –** □ □ □ □
Device type	e. g. 1 = 4-pole motor contactor	□
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-type 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**

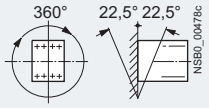
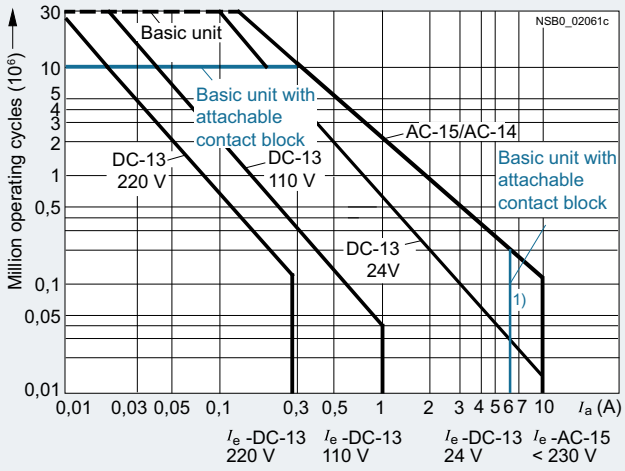
Note:

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

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

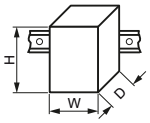
Technical specifications

More information	
Technical specifications, see https://support.industry.siemens.com/cs/ww/en/ps/16188/td FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/16188/faq	Manuals, see • System Manual "SIRIUS – System Overview", https://support.industry.siemens.com/cs/ww/en/view/60311318 • Manual "SIRIUS – SIRIUS 3RT Contactors/Contactor Assemblies", https://support.industry.siemens.com/cs/ww/en/view/60306557

	Contactor relays
Type	3RH2
Size	S00
Permissible mounting position	
The contactor relays are designed for operation on a vertical mounting surface.	
Upright mounting position	 Special version required (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 block as well as between the basic unit and the front-mounted auxiliary switch block (removable) acc. to: • ZH1/457 • IEC 60947-5-1, Appendix L **3RH22:** **Yes,** in the basic unit and the auxiliary switch block as well as between the basic unit and the mounted auxiliary switch block (permanently mounted) acc. to: • ZH1/457 • IEC 60947-5-1, Appendix L Note: 3RH2911-.NF. solid-state compatible auxiliary switch blocks 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 on low-voltage switchgear and controlgear, Control circuit devices and switching elements; 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 coil systems 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 relays[1)] • 3RH24 latched contactor relays • 3RH2911 auxiliary switch blocks[1)] • Auxiliary switch blocks 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.

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

Type			Contactor relays 3RH21	3RH22	3RH24
Size			S00		
General data					
Dimensions (W x H x D)					
• Basic units					
- Screw terminals		mm	45 x 58 x 73	--	90 x 58 x 73
- Spring-type terminals		mm	45 x 70 x 73	--	
• Basic unit with mounted auxiliary switch block					
- Screw terminals		mm	45 x 58 x 117		--
- Spring-type terminals		mm	45 x 70 x 121		--
• Basic unit with mounted function module or solid-state time-delay auxiliary switch block					
- Screw terminals		mm	45 x 58 x 147	--	
- Spring-type terminals		mm	45 x 70 x 147	--	
Mechanical endurance					
• Basic units		Operating cycles	30 million		5 million
• Basic unit with mounted auxiliary switch block		Operating cycles	10 million		5 million
• Solid-state compatible auxiliary switch block		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-type terminals)		
• Connecting terminal			IP20 (screw terminals and spring-type terminals)		
Touch protection acc. to IEC 60529			Finger-safe (screw terminals and spring-type terminals)		
Shock resistance					
• Rectangular pulse					
- AC operation		*g*/ms	7.3/5 and 4.7/10		
- DC operation		*g*/ms	10/5 and 5/10		
• Sine pulse					
- AC operation		*g*/ms	11.4/5 and 7.3/10		
- DC operation		*g*/ms	15/5 and 8/10		
Short-circuit protection					
• Short-circuit test					
- With fuse links of operational class gG: DIAZED, type 5SB; NEOZED, type 5SE With short-circuit current I_k = 1 kA acc. to IEC 60947-5-1		A	10		
- With miniature circuit breaker with C characteristic with short-circuit current I_k = 400 A acc. to IEC 60947-5-1		A	6		

Type		Contactor relays 3RH21	3RH22	3RH24
Size		S00		
Conductor cross-sections				
Auxiliary conductors and coil terminals (1 or 2 conductors can be connected)		**Screw terminals**		
• Solid or stranded	mm^2	2 x (0.5 ... 1.5)[1]; 2 x (0.75 ... 2.5)[1], max. 2 x 4		
• Finely stranded with end sleeve	mm^2	2 x (0.5 ... 1.5)[1]; 2 x (0.75 ... 2.5)[1]		
• AWG cables, solid or stranded	AWG	2 x (20 ... 16)[1]; 2 x (18 ... 14)[1]		
• Terminal screw		M3 (for Pozidriv size 2, ∅ 5 ... 6 mm)		
- Tightening torque	Nm	0.8 ... 1.2 (7 ... 10.3 lb.in)		
Auxiliary conductors and coil terminals[2] (1 or 2 conductors can be connected)		**Spring-type terminals**		
• Operating devices[3]	mm	3.0 x 0.5; 3.5 x 0.5		
• Solid or stranded	mm^2	2 x (0.5 ... 4)		
• Finely stranded with end sleeve	mm^2	2 x (0.5 ... 2.5)		
• Finely stranded without end sleeve	mm^2	2 x (0.5 ... 2.5)		
• AWG cables, solid or stranded	AWG	2 x (20 ... 12)		
Auxiliary conductors for front and laterally mounted auxiliary switches[2]				
• Operating devices[3]	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-type terminals with conductor cross-sections ≤ 1 mm^2 an "insulation stop" must be used; see page 3/119.

3) Tool for opening the spring-type terminals: see page 3/119.

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

			Contactor relays
Type			3RH2
Size			S00
Control			
Solenoid coil operating range			
• AC operation	At 50 Hz		0.8 ... 1.1 x U_s
	At 60 Hz		0.85 ... 1.1 x U_s
• DC operation	At +50 °C		0.8 ... 1.1 x U_s
	At +60 °C		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 Closing = Closed		W	4.0
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_s[2]			
Total break time = OFF-delay + Arcing time			
Values apply with coil in cold state and at operating temperature for operating range			
AC operation			
• 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
DC operation			
• 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 additional load module 3RT2916-1GA00 is recommended for higher residual currents; see page 3/118.

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

			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 for 0 signal			<10 mA x (24 V/U_s)		
Overvoltage configuration of the solenoid coil			No overvoltage damping 	Built-in diode 	Built-in 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	7 ... 20
	ON-delay NO	ms	10 ... 30	30 ... 90	10 ... 30
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 for 0 signal			< 8 mA x (24 V/U_s)		
Overvoltage configuration of the solenoid coil			No overvoltage damping 	Built-in diode 	Built-in 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	5 ... 20
	OFF-delay NC	ms	10 ... 30	30 ... 90	10 ... 30
Upright mounting position			On request		

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

			Contactor relays
Type			3RH2
Size			S00
Rated data of the auxiliary contacts			
Load rating with AC			
Rated operational currents I_e			
AC-12		A	10
AC-15/AC-14 for rated operational voltage U_s			
	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 for rated operational voltage U_s			
• 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 for rated operational voltage U_s			
• 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	h^{-1}	1 000
	AC-15/AC-14	h^{-1}	1 000
	DC-13	h^{-1}	1 000
Dependence of the switching frequency z' on the operational current I' and operational voltage U':			
$z' = z \cdot (I_e/I') \cdot (U_e/U')^{1.5} \cdot 1/h$			
• No-load switching frequency		h^{-1}	10 000
SIRIUS and UL rated data			
Basic units and auxiliary switch blocks			
• 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.

Selection and ordering data

AC operation

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

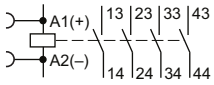
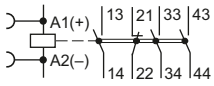
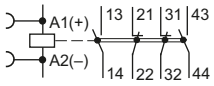
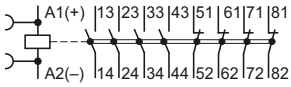
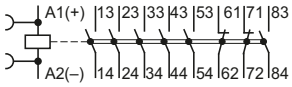
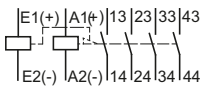
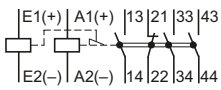
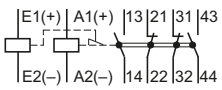

3RH2122-1A..0


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 Ident. No.	Version	Rated control supply voltage U_s at 50/60 Hz[1]	SD	**Screw terminals** Article No.	Price per PU	SD	**Spring-type terminals** 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									
Terminal designations according to EN 50011									
4 NO, Ident. No. **40E** 									
10	**40E**	4	--	24	▶	**3RH2140-1AB00**	2	**3RH2140-2AB00**	
				110	▶	**3RH2140-1AF00**	5	**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**	
3 NO + 1 NC, Ident. No. **31E** 									
2 NO + 2 NC, Ident. No. **22E** 									
• With permanently mounted auxiliary switch block (SUVA-certified safety contactor)									
4 NO + 4 NC, Ident. No. **44E** 									
6	**44E**	4	4	230	▶	**3RH2244-1AP00**	2	**3RH2244-2AP00**	
	62E	6	2	230	▶	**3RH2262-1AP00**	2	**3RH2262-2AP00**	
6 NO + 2 NC, Ident. No. **62E** 									
• Latched									
No lateral auxiliary switch block can be mounted									
4 NO, Ident. No. **40E** 									
10	**40 E**	4	--	24	5	**3RH2440-1AB00**		--	
				110	5	**3RH2440-1AF00**		--	
				230	5	**3RH2440-1AP00**		--	
	31 E	3	1	24	5	**3RH2431-1AB00**		--	
				110	5	**3RH2431-1AF00**		--	
				230	5	**3RH2431-1AP00**		--	
	22 E	2	2	24	5	**3RH2422-1AB00**		--	
				110	5	**3RH2422-1AF00**		--	
				230	5	**3RH2422-1AP00**		--	
3 NO + 1 NC, Ident. No. **31E** 									
2 NO + 2 NC, Ident. No. **22E** 									

[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.

For accessories, see from page 3/75 onwards.

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

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

DC operation

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

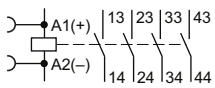
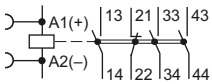
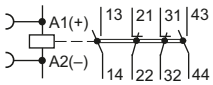
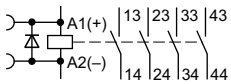
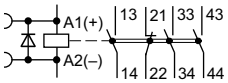
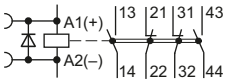
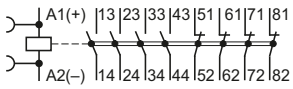
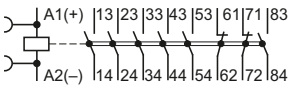
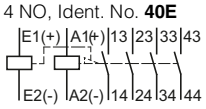
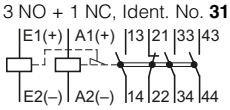
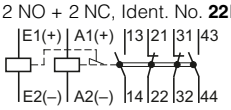

3RH2122-1B..0


3RH2122-2B..0


3RH2244-1B..0


3RH2244-2B..0


3RH2422-1B.40

Rated operational current I_e/AC-15/AC-14 at **230 V**	Contacts Ident. No.	Version		Rated control supply voltage U_s	SD	**Screw terminals**		SD	**Spring-type terminals**	
						Article No.	Price per PU		Article No.	Price per PU
A		NO	NC	V DC	d			d		
For screw fixing and snap-on mounting onto TH 35 standard mounting rail										
Size S00										
Terminal designations according to EN 50011										
4 NO, Ident. No. **40E** 				3 NO + 1 NC, Ident. No. **31E** 		2 NO + 2 NC, Ident. No. **22E** 				
10	**40E**	4	--	24	▶	**3RH2140-1BB40**	▶		**3RH2140-2BB40**	
				220	▶	**3RH2140-1BM40**		5	**3RH2140-2BM40**	
	31E	3	1	24	▶	**3RH2131-1BB40**	▶		**3RH2131-2BB40**	
				220	2	**3RH2131-1BM40**		5	**3RH2131-2BM40**	
	22E	2	2	24	▶	**3RH2122-1BB40**	▶		**3RH2122-2BB40**	
				220	▶	**3RH2122-1BM40**		5	**3RH2122-2BM40**	
• With integrated diode										
4 NO, Ident. No. **40E** 				3 NO + 1 NC, Ident. No. **31E** 		2 NO + 2 NC, Ident. No. **22E** 				
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 block (SUVA-certified safety contactor)										
4 NO + 4 NC, Ident. No. **44E** 				6 NO + 2 NC, Ident. No. **62E** 						
6	**44E**	4	4	24	▶	**3RH2244-1BB40**	▶		**3RH2244-2BB40**	
	62E	6	2	24	▶	**3RH2262-1BB40**	▶		**3RH2262-2BB40**	
• Latched										
No lateral auxiliary switch block can be mounted										
4 NO, Ident. No. **40E** 				3 NO + 1 NC, Ident. No. **31E** 		2 NO + 2 NC, Ident. No. **22E** 				
10	**40E**	4	--	24	5	**3RH2440-1BB40**			--	
				110	5	**3RH2440-1BF40**			--	
				220	5	**3RH2440-1BM40**			--	
	31E	3	1	24	5	**3RH2431-1BB40**			--	
				110	5	**3RH2431-1BF40**			--	
				220	5	**3RH2431-1BM40**			--	
	22E	2	2	24	2	**3RH2422-1BB40**			--	
				110	5	**3RH2422-1BF40**			--	
				220	5	**3RH2422-1BM40**			--	

Other voltages according to page 3/73 on request.

For accessories, see from page 3/75 onwards.

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

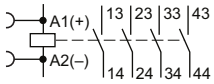
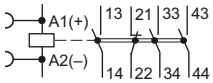
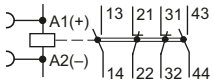
DC operation for direct control from the PLC

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

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 Ident. No. acc. to EN 50011	Version		SD	**Screw terminals**	SD	**Spring-type terminals**
					Article No. / Price per PU		Article No. / Price per PU
A		NO	NC	d		d	
For screw fixing and snap-on mounting onto TH 35 standard mounting rail							
Size S00							
Diode, varistor or RC element, attachable							
Terminal designations according to EN 50011 (auxiliary switch blocks cannot be mounted)							
4 NO, Ident. No. **40E** 							
3 NO + 1 NC, Ident. No. **31E** 							
2 NO + 2 NC, Ident. No. **22E** 							
Rated control supply voltage U_s = 24 V DC 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	--	5	**3RH2140-1HB40**	5	**3RH2140-2HB40**
	31E	3	1	5	**3RH2131-1HB40**	5	**3RH2131-2HB40**
	22E	2	2	5	**3RH2122-1HB40**	5	**3RH2122-2HB40**
Rated control supply voltage U_s = 24 V DC 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	--	5	**3RH2140-1MB40-0KT0**	5	**3RH2140-2MB40-0KT0**
	31E	3	1	2	**3RH2131-1MB40-0KT0**	5	**3RH2131-2MB40-0KT0**
	22E	2	2	5	**3RH2122-1MB40-0KT0**	5	**3RH2122-2MB40-0KT0**

Other voltages according to page 3/73 on request.

For accessories, see from page 3/75 onwards.

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

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

DC operation for direct control from the PLC

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

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 Ident. No. acc. to EN 50011	Version		SD	**Screw terminals**	SD	**Spring-type terminals**
					Article No. / Price per PU		Article No. / Price per PU
A		NO	NC	d		d	

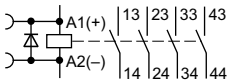
For screw fixing and snap-on mounting onto TH 35 standard mounting rail

Size S00

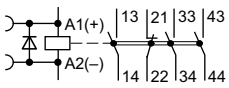
With integrated coil circuit (diode)

Terminal designations according to EN 50011 (auxiliary switch blocks cannot be mounted)

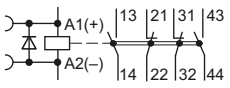
4 NO, Ident. No. **40E**



3 NO + 1 NC, Ident. No. **31E**



2 NO + 2 NC, Ident. No. **22E**



Rated control supply voltage U_S = 24 V DC
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	--	2	**3RH2140-1JB40**	▶	**3RH2140-2JB40**
	31E	3	1	▶	**3RH2131-1JB40**	▶	**3RH2131-2JB40**
	22E	2	2	▶	**3RH2122-1JB40**	2	**3RH2122-2JB40**

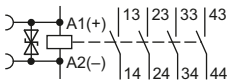
Rated control supply voltage U_S = 24 V DC
Operating range **0.85 to 1.85 x U_S**
Power consumption of the solenoid coils **1.6 W** at 24 V

10	**40E**	4	--	5	**3RH2140-1VB40**	5	**3RH2140-2VB40**
	31E	3	1	5	**3RH2131-1VB40**	5	**3RH2131-2VB40**
	22E	2	2	5	**3RH2122-1VB40**	5	**3RH2122-2VB40**

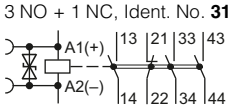
With integrated coil circuit (suppressor diode)

Terminal designations according to EN 50011 (auxiliary switch blocks cannot be mounted)

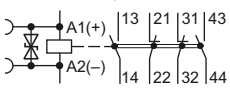
4 NO, Ident. No. **40E**



3 NO + 1 NC, Ident. No. **31E**



2 NO + 2 NC, Ident. No. **22E**



Rated control supply voltage U_S = 24 V DC
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	--	5	**3RH2140-1KB40**	5	**3RH2140-2KB40**
	31E	3	1	▶	**3RH2131-1KB40**	▶	**3RH2131-2KB40**
	22E	2	2	▶	**3RH2122-1KB40**	▶	**3RH2122-2KB40**

Rated control supply voltage U_S = 24 V DC
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	--	5	**3RH2140-1SB40**	5	**3RH2140-2SB40**
	31E	3	1	2	**3RH2131-1SB40**	5	**3RH2131-2SB40**
	22E	2	2	2	**3RH2122-1SB40**	5	**3RH2122-2SB40**

Other voltages according to page 3/73 on request.

For accessories, see from page 3/75 onwards.

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

Overview

Standards

IEC 60947-1, EN 60947-1,
IEC 60947-5-1, 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 5/24).

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).

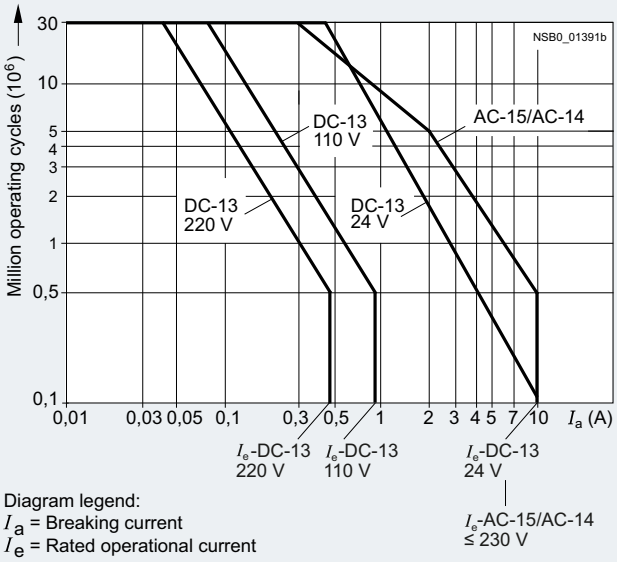
Mounting

Note:

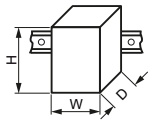
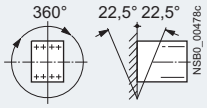
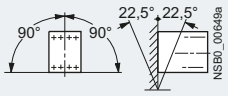
With 3TH4 contactor relays with AC operation, an overvoltage of 1.1 x U_S, an ambient temperature ≥ 45 °C and 100% ON-period of all contactors, a minimum clearance of 5 mm between the contactors shall be observed in the case of side-by-side mounting.

Technical specifications

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 coil systems 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.		



3TH4 contactor relays, 8- and 10-pole

Contactor relays		Type	3TH42	3TH43
General data				
Dimensions (W x H x D)				
• AC operation		mm	45 x 78 x 97	55 x 78 x 97
• DC operation		mm	45 x 78 x 130	55 x 78 x 130
Permissible mounting position				
The contactor relays are designed for operation on a vertical mounting surface.				
• AC operation				
• DC operation				
Upright mounting position				
AC and DC operation			Special version required	
Mechanical endurance	Basic units	Operating cycles	30 million	
Rated insulation voltage U_i (pollution degree 3)		V	690	
Rated impulse withstand voltage U_{imp}		kV	8	
Protective separation between coil and main contacts acc. to IEC 60947-1, Appendix N		V	Up to 500	
Permissible ambient temperature				
• During operation		°C	-25 ... +55	
• During storage		°C	-55 ... +80	
Degree of protection acc. to IEC 60529				
• On front			IP20 (with screw terminals)	
• Connecting terminal			IP20 (with screw terminals)	
Touch protection acc. to IEC 60529			Finger-safe (for screw terminals)	
Shock resistance				
• Rectangular pulse				
- AC operation		g/ms	7.7/5 and 4.4/10	
- DC operation		g/ms	9.3/5 and 5.4/10	
• Sine pulse				
- AC operation		g/ms	12/5 and 6.8/10	
- DC operation		g/ms	14.7/5 and 8.5/10	
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				
- LV HRC, type 3NA		A	16	
- DIAZED, type 5SB		A	16	
- NEOZED Type 5SE, quick		A	20	
• With miniature circuit breaker with short-circuit current I_k = 400 A acc. to IEC 60947-5-1				
- C Characteristic		A	16	
- B Characteristic		A	16	
cULus and CSA 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)			**Screw terminals**	
• Solid or stranded		mm^2	2 x (0.5 ... 1)[1]; 2 x (1 ... 2.5)[1]; 1 x 4	
• Finely stranded with end sleeve		mm^2	2 x (0.75 ... 2.5)	
• Terminal screw			M3.5	

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

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
Solenoid coil power consumption (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, standard version		
- Closing	VA/p.f.	80/0.8
- Closed	VA/p.f.	10.7/0.29
• AC operation, 60 Hz, standard version		
- 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 Closing = Closed	W	6.2
Permissible residual current of the electronics (with 0 signal)		
• For AC operation		≤ 8 mA x (220 V/U_s)
• For DC operation		≤ 1.25 mA x (220 V/U_s)
Operating times at 1.0 x U_s [2]		
AC operation		
• 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
DC operation		
• 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 of the NO contact and the ON-delay of the NC contact are increased if the contactor coils are attenuated against voltage peaks (suppression diode 6x to 9x); diode assembly 2x to 6x; varistor +2 to 5 ms).

3TH4 contactor relays, 8- and 10-pole

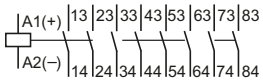
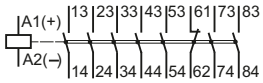
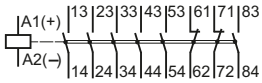
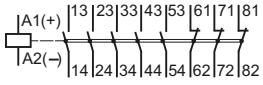
Contactor relays	Type		3TH42, 3TH43
Rated data of the auxiliary contacts			
Load rating with AC			
Rated operational currents I_e			
• AC-12		A	16
• AC-15/AC-14, for rated operational voltage U_e			
	230 V	A	10
	400 V	A	6
	500 V	A	4
	690 V	A	2
Rated power of three-phase motors According to utilization 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, for 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	h^{-1}	1 000
	AC-2	h^{-1}	500
	AC-3	h^{-1}	1 000
	AC-15/AC-14	h^{-1}	3 600
	DC-13	h^{-1}	3 600
Dependence of the switching frequency z' on the operational current I' and operational voltage U': $z' = z \cdot (I_e/I') \cdot (U_e/U')^{1.5} \cdot 1/h$			
• No-load switching frequency		h^{-1}	10 000

Selection and ordering data

8-pole contactor relays

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								
											Article No.	Price per PU		
Number	A	A	A	A		NO	NC	NO	NC	d				
For screw fixing and snap-on mounting onto TH 35 standard mounting rail														
Terminal designations according to EN 50011														
8 NO, Ident. No. **80E**														
														
7 NO + 1 NC, Ident. No. **71E**														
														
6 NO + 2 NC, Ident. No. **62E**														
														
5 NO + 3 NC, Ident. No. **53E**														
														
4 NO + 4 NC, Ident. No. **44E**														
														
3 NO + 3 NC and 1 NO + 1 NC make-before-break, Ident. No. **44E, U**														
														
AC operation, rated control supply voltage U_s = 50 Hz 230/220 V AC [1]														
8	**10**	6	4	2	**80E**	8	--	--	--	▶	**3TH4280-0AP0**	1	1 unit	41A
					71E	7	1	--	--	▶	**3TH4271-0AP0**	1	1 unit	41A
					62E	6	2	--	--	▶	**3TH4262-0AP0**	1	1 unit	41A
					53E	5	3	--	--	▶	**3TH4253-0AP0**	1	1 unit	41A
					44E	4	4	--	--	▶	**3TH4244-0AP0**	1	1 unit	41A
					44E, U	3	3	1	1	▶	**3TH4293-0AP0**	1	1 unit	41A
DC operation, rated control supply voltage U_s = 24 V DC														
8	**10**	6	4	2	**80E**	8	--	--	--	▶	**3TH4280-0BB4**	1	1 unit	41A
					71E	7	1	--	--	▶	**3TH4271-0BB4**	1	1 unit	41A
					62E	6	2	--	--	▶	**3TH4262-0BB4**	1	1 unit	41A
					53E	5	3	--	--	▶	**3TH4253-0BB4**	1	1 unit	41A
					44E	4	4	--	--	▶	**3TH4244-0BB4**	1	1 unit	41A
					44E, U	3	3	1	1	▶	**3TH4293-0BB4**	1	1 unit	41A

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

Other voltages according to page 5/23 on request.

For accessories, see page 5/24.

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.

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

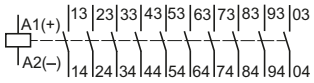
3TH4 contactor relays, 8- and 10-pole

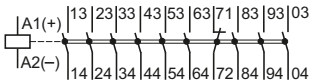
10-pole contactor relays

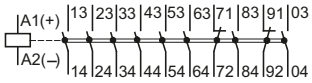

3TH4355-0A..

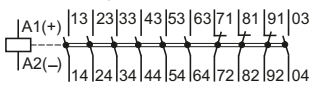

3TH4355-0B..

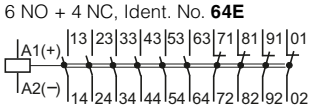
Contacts	Rated operational current I_e/AC-15/AC-14 at				Contacts					SD	Screw terminals		PU (UNIT, SET, M)	PS*	PG
	230 V	400 V	500 V	690 V	Ident. No. acc. to EN 50011	Version					Article No.	Price per PU			
Number	A	A	A	A		NO	NC	NO	NC	d					
For screw fixing and snap-on mounting onto TH 35 standard mounting rail															
Terminal designations according to EN 50011															
10 NO, Ident. No. **100E**															
9 NO + 1 NC, Ident. No. **91E**															
8 NO + 2 NC, Ident. No. **82E**															
7 NO + 3 NC, Ident. No. **73E**															
6 NO + 4 NC, Ident. No. **64E**															
5 NO + 5 NC, Ident. No. **55E**															
6 NO + 2 NC and 1 NO + 1 NC make-before-break, Ident. No. **73E, U**															
4 NO + 4 NC and 1 NO + 1 NC make-before-break, Ident. No. **55E, U**															
AC operation, rated control supply voltage U_s = 50 Hz 230/220 V AC [1]															
10	**10**	6	4	2	**100E**	10	--	--	--	▶	**3TH4310-0AP0**		1	1 unit	41A
					91E	9	1	--	--	▶	**3TH4391-0AP0**		1	1 unit	41A
					82E	8	2	--	--	▶	**3TH4382-0AP0**		1	1 unit	41A
					73E	7	3	--	--	▶	**3TH4373-0AP0**		1	1 unit	41A
					73E, U	6	2	1	1	▶	**3TH4346-0AP0**		1	1 unit	41A
					64E	6	4	--	--	▶	**3TH4364-0AP0**		1	1 unit	41A
					55E	5	5	--	--	▶	**3TH4355-0AP0**		1	1 unit	41A
					55E, U	4	4	1	1	▶	**3TH4394-0AP0**		1	1 unit	41A
DC operation, rated control supply voltage U_s = 24 V DC															
10	**10**	6	4	2	**100E**	10	--	--	--	▶	**3TH4310-0BB4**		1	1 unit	41A
					91E	9	1	--	--	▶	**3TH4391-0BB4**		1	1 unit	41A
					82E	8	2	--	--	▶	**3TH4382-0BB4**		1	1 unit	41A
					73E	7	3	--	--	▶	**3TH4373-0BB4**		1	1 unit	41A
					73E, U	6	2	1	1	▶	**3TH4346-0BB4**		1	1 unit	41A
					64E	6	4	--	--	▶	**3TH4364-0BB4**		1	1 unit	41A
					55E	5	5	--	--	▶	**3TH4355-0BB4**		1	1 unit	41A
					55E, U	4	4	1	1	▶	**3TH4394-0BB4**		1	1 unit	41A

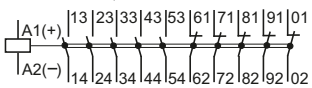


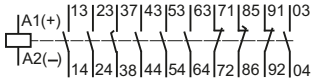


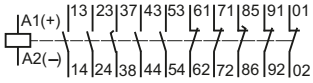












[1] Operating range at 220 V: 0.85 to 1.1 x U_s; lower operating range limit according to IEC 60947.

Other voltages according to page 5/23 on request.

For accessories, see page 5/24.

Note:

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

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

The contacts cannot be replaced on 3TH43 contactor relays.

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

Options

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

Delivery time on request

Rated control supply voltage U_s	Contactor type Control supply voltage at	3TH42/3TH43
AC operation		
Solenoid coils for 50 Hz 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
For Japan		
100 V AC	100 ... 110 V AC	G6[2]
200 V AC	200 ... 220 V AC	N6[2]
For USA and Canada		
110 V AC	120 V AC	K6[2]
220 V AC	240 V AC	P6[2]
Solenoid coils for 50 and 60 Hz AC		
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

[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	Contactor type	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

Accessories for 3TH4 contactor relays

Selection and ordering data

Version	Rated control supply voltage U_s AC V	Rated control supply voltage U_s DC V	SD d	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Surge suppressors[1] 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
Varistors[2] 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	--	15	**3TX7402-3K**		1	1 unit	41B
	400 ... 600	--	15	**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	--	15	**3TX7402-3V**		1	1 unit	41B
Covers for switch position indicator	--	--	X	**3TX4210-0P**		1	1 unit	41B

[1] The OFF-delay of the NO contact and the ON-delay of the NC contact are increased if the contactor coils are attenuated against voltage peaks (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 Type	Version	Rated control supply voltage U_s 50/60 Hz AC V	Time setting range (minimum times) s	SD d	Screw terminals Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
ON-delay devices									
 3TX4180-0A 3TH42, 3TH43	**NTC thermistors** Time tolerance +100 %, -50 %	220 ... 230	0.1	5	**3TX4180-0A**		1	1 unit	41B
Coupling links for control by PLC for 3TH4 contactor relays									
 3TX4090 Mounted on contactor 3TH42, 3TH43	Operating range: 17 ... 30 V DC Power consumption: 0.5 W at 24 V DC • for direct mounting on the contactor coil								
	- **Without** surge suppressor			15	**3TX4090-0C**		1	1 unit	41B
	- **With** surge suppressor			2	**3TX4090-0D**		1	1 unit	41B

For contactors Type	Rated control supply voltage U_s 50/60 Hz AC V	Rated control supply voltage U_s DC V	OFF-delay (minimum times) s	SD d	Screw terminals Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
OFF-delay devices for contactors with DC operation									
Bridging of voltage interruptions up to 1.2 sec									
 3TX4701-0AN1 3TH42..-0BF4 3TH43..-0BF4	110	--	0.15 or 0.3	2	**3TX4701-0AN1**		1	1 unit	41B
3TH42..-0BM4 3TH43..-0BM4	220	--	0.6 or 1.2	2	**3TX4701-0AN1**		1	1 unit	41B
3TH42..-0BP4 3TH43..-0BP4	230	--	0.6 or 1.2	2	**3TX4701-0AN1**		1	1 unit	41B
3TH42..-0BB4 3TH43..-0BB4	--	24	0.4 or 0.8	15	**3TX4701-0BB4**		1	1 unit	41B

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

Overview

Standards

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

The 3TH2 miniature contactor relays are suitable for use in any climate. The contactor relays with screw terminals are finger-safe according to IEC 60529.

The terminal designations comply with EN 50011.

Connections

The 3TH20 miniature contactor relays with four auxiliary contacts are available with SIGUT screw terminals, 6.3 mm x 0.8 mm flat connectors, and solder pin connections.

The miniature contactor relays with 6.3 mm x 0.8 mm flat connectors can be used in the plug-in base with solder pin connections for printed circuit boards. The miniature contactor relays are coded, and the plug-in base is codable in order to ensure non-interchangeability.

The 3TH22 miniature contactor relays with eight integrated contacts are available with screw terminals. The terminal designations comply with EN 50011.

Contact reliability

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

Latched 3TH27 miniature contactor relays

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

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

The contactor relay can also be switched on and released manually.

Accessories

Auxiliary switch blocks

The miniature contactor relays with four contacts with screw terminals can be expanded by up to four contacts by adding mountable auxiliary switch blocks (see page 5/31).

A cover (with unit labeling plate) must be removed from the front of the miniature contactor relays for this purpose. The auxiliary switch block is then easy to mount. The auxiliary switch blocks can be removed again by unlocking them with a laterally arranged slide.

The miniature contactor relays with screw terminals with four contacts according to EN 50011 with the identification number 40E can be expanded with 80E, 71E, 62E, 53E or 44E auxiliary switch blocks to a total of eight miniature contactor relays according to EN 50011. The identification numbers 80E, 71E, 62E, 53E or 44E on the coded auxiliary switch blocks apply to the complete contactors. They cannot be combined with miniature contactor relays with identification number 31E and 33E.

All miniature contactor relays with screw terminals with four contacts according to EN 50011, identification number 40E, 31E or 22E, can be expanded with auxiliary switch blocks with identification number 40, 31, 22, 20, 11 or 02 to miniature contactor relays with six or eight contacts according to EN 50005. The identification numbers on the auxiliary switch blocks apply only to the attached auxiliary switch blocks.

Surge suppression

RC elements, varistors, diodes or diode assemblies (combination of a diode and a Zener diode for short break times) can be plugged onto all contactors and auxiliary switch blocks with screw terminals from the front in order to dampen opening surges in the coil (see page 5/32).

The unit labeling plate must be removed for this purpose. It can be snapped onto the attached surge suppressor.

Additional load module

The 3TX4490-1J additional load module (see page 5/32) can be used by programmable logic controllers to increase permissible residual current, and to limit residual voltage in semiconductor outputs.

This module ensures the safe shut-down of 3TH2 contactor relays and 3TF2 contactors with direct control via 230 V AC semiconductor outputs. It is accommodated in the same enclosure as the 3TX4490-3. surge suppressors and can be plugged into the contactor.

3TH2 miniature contactor relays, 4- and 8-pole

Technical specifications

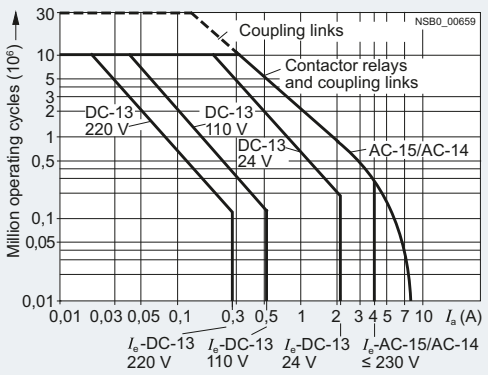
Contactor relays	Type	3TH2

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 coil systems 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.

Legend for the diagram:
I_e = Rated operational current
I_a = Breaking current



Positively-driven operation of contacts in miniature contactor relays

3TH20:
Yes, in the basic unit and the auxiliary switch block as well as between the basic unit and the mounted auxiliary switch block (removable) acc. to:
- ZH1/457
- IEC 60947-5-1, Appendix L

3TH22:
Yes, in the basic unit and the auxiliary switch block as well as between the basic unit and the mounted auxiliary switch block (permanently mounted) according to:
- ZH1/457
- IEC 60947-5-1, Appendix L
- SUVA

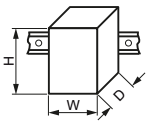
Explanations:

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, Control Circuit Devices and Switching Elements.
Special requirements for positively-driven contacts

SUVA
Accident prevention regulations of "Schweizer Unfallverhütungsanstalt" (Swiss Institute for Accident Insurance)

Type			Miniature contactor relays 3TH20..-....	Miniature contactor relays 3TH22..-....	Auxiliary switch block 3TX4...-..
General data					
Dimensions (W x H x D)		mm	45 x 48 x 63	45 x 48 x 91	45 x 33 x 28
• With 3TX4490 surge suppressor		mm	45 x 48 x 88	45 x 48 x 116	--
Permissible mounting position	AC and DC operation		Any		
Mechanical endurance	• AC operation • DC operation	Operating cycles	10 million 30 million		
Rated insulation voltage U_i	(Pollution degree 3)				
• Screw terminals		V	690	500	
• Plug-type terminal 6.3 mm x 0.8 mm		V	500	--	
• Solder pin connections		V	500	--	
Rated impulse withstand voltage U_{imp}	(Pollution degree 3)				
• Screw terminals		kV	6, control circuit 4		
• Plug-type terminal 6.3 mm x 0.8 mm		kV	6	--	
• Solder pin connections		kV	6	--	
Protective separation between coil and contacts (according to IEC 60947-1, Appendix N)		V	Up to 300		
Permissible ambient temperature[1]	• During operation • During storage	°C °C	-25 ... +55 -55 ... +80		
Degree of protection acc. to IEC 60529					
• On front			IP20 (with screw terminals)		
• Connecting terminal			IP20 (with screw terminals)		
Touch protection acc. to IEC 60529			Finger-safe (for screw terminals)		
Shock resistance					
• Rectangular pulse	- AC operation - DC operation	*g*/ms *g*/ms	7/5 and 4/10 10/5 and 6/10		
• Sine pulse	- AC operation - DC operation	*g*/ms *g*/ms	9/5 and 6/10 13/5 and 8/10		

[1] Applies to 50/60 Hz coil:
Operating range at 60 Hz: 0.85 to 1.1 x U_s;
at 50 Hz, 1.1 x U_s, with side-by-side mounting and 100 % ON period the max. ambient temperature is +40 °C.

Contactor relays		Type	3TH2
Short-circuit protection			
Short-circuit test with fuse links, operational class gG: LV HRC, type 3NA; DIAZED, type 5SB; NEOZED, type 5SE with short-circuit current I_k = 1 kA acc. to IEC 60947-5-1		A	6
Conductor cross-sections			
Auxiliary conductors (1 or 2 conductors can be connected)			**Screw terminals**
• Solid or stranded		mm^2	2 x (0.5 ... 2.5)
• Finely stranded with end sleeve		mm^2	2 x (0.5 ... 1.5)
• Terminal screw			M3
Auxiliary conductors (1 or 2 conductors can be connected)			**Flat connectors**
• Finely stranded When using a plug-in sleeve	- 6.3 ... 1 - 6.3 ... 2.5	mm^2 mm^2	0.5 ... 1 1 ... 2.5
			Solder pin connections (for printed circuit boards only)
• Solder pin cross-section	(does not apply to plug-in bases)	mm^2	0.8 x 1.2
Control			
Solenoid coil operating range[1]			0.8 ... 1.1 x U_s
Power consumption of the solenoid coils (for cold coil and 1.0 x U_s)			
• AC operation, 50 Hz	Closing P.f. Closed P.f.	VA VA 	15 0.41 6.8 0.42
• AC operation, 60 Hz	Closing P.f. Closed P.f.	VA VA 	14.4 0.36 6.1 0.46
• AC operation, 50/60 Hz[1]	Closing P.f. Closed P.f.	VA VA 	16.5/13.2 0.43/0.38 8.0/5.4 0.48/0.42
• DC operation	Closing = Closed	W	3
Permissible residual current of the electronics (with 0 signal)	AC operation DC operation	mA mA	≤ 3 x (220 V/U_s) ≤ 1 x (220 V/U_s)
Operating times at 1.0 x U_s[2]			
• AC operation			
- Closing	ON-delay NO OFF-delay NC	ms ms	6 ... 17 5 ... 12
- Opening	OFF-delay NO ON-delay NC	ms ms	3 ... 24 5 ... 20
• DC operation			
- Closing	ON-delay NO OFF-delay NC	ms ms	18 ... 42 15 ... 26
- Opening	OFF-delay NO ON-delay NC	ms ms	3 ... 5 4 ... 10
• Arcing time		ms	10

1) Applies to 50/60 Hz coil:
Operating range at 60 Hz: 0.85 to 1.1 x U_s;
at 50 Hz, 1.1 x U_s, with side-by-side mounting and 100 % ON period the max. ambient temperature is +40 °C.

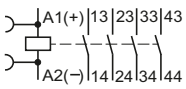
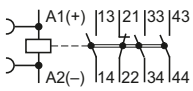
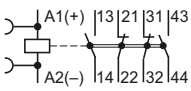
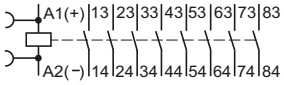
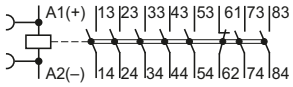
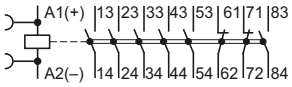
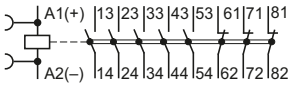
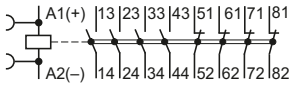
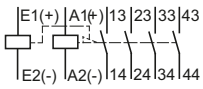
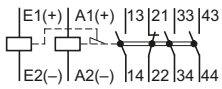
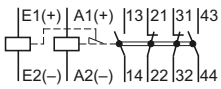
2) The OFF-delay of the NO contact and the ON-delay of the NC contact are increased if the contactor coils are attenuated against voltage peaks (suppression diode 6x to 10x; diode assembly 2x to 6x; varistor +2 to 5 ms).

3TH2 miniature contactor relays, 4- and 8-pole

Contactor relays		Type	3TH2
Rated data of the auxiliary contacts			
Load rating with AC			
Utilization category AC-12			
Rated operational current I_e (at 60 °C)		A	10
Utilization categories AC-15 and AC-14			
Rated operational current I_e			
For rated operational voltage U_e	230/220 V	A	4
	400/380 V	A	3
	500 V	A	2
	690/660 V	A	1
Rated power of three-phase motors			
According to utilization categories AC-2 and AC-3	110 V	kW	0.2
	230/220 V	kW	0.55
	400/380 V	kW	1.1
	500 V	kW	1.5
	690/660 V	kW	1.5
Load rating with DC			
Utilization category DC-12		A	10
Rated operational current I_e			
For rated operational voltage U_e			
• 1 conducting path[1)]	Up to 24 V	A	4
	60 V	A	2
	110 V	A	1.1
	240/220 V	A	0.5
• 2 conducting paths in series	Up to 24 V	A	10
	60 V	A	10
	110 V	A	4
	240/220 V	A	2
• 3 conducting paths in series	Up to 24 V	A	10
	60 V	A	10
	110 V	A	6
	240/220 V	A	2.5
Utilization category DC-13			
Rated operational current I_e			
For rated operational voltage U_e			
• 1 conducting path	Up to 24 V	A	2.1
	60 V	A	0.9
	110 V	A	0.52
	240/220 V	A	0.27
• 2 conducting paths in series	Up to 24 V	A	10
	60 V	A	3.5
	110 V	A	1.3
	240/220 V	A	0.9
• 3 conducting paths in series	Up to 24 V	A	10
	60 V	A	4.7
	110 V	A	3
	240/220 V	A	1.2
Switching frequency			
Switching frequency *z* in operating cycles/hour			
• Rated operation for utilization category	AC-12/DC-12	h^{-1}	1 000
	AC-2	h^{-1}	500
	AC-3	h^{-1}	1 000
	AC-15/AC-14	h^{-1}	1 200
	DC-13	h^{-1}	1 200
Dependence of the switching frequency z' on the operational current I' and operational voltage U':			
$z' = z \cdot (I_e/I') \cdot (U_e/U')^{1.5} \cdot 1/h$			
• No-load switching frequency		h^{-1}	10 000

1) Contact endurance 0.1 x 10^6 operating cycles.

Selection and ordering data

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			Article No.	Price per PU		
Number	**A**	A	A	A		NO	NC	d				
For screw fixing and snap-on mounting onto TH 35 standard mounting rail												
Terminal designations according to EN 50011												
4 NO, Ident. No. **40E** 												
3 NO + 1 NC, Ident. No. **31E** 												
2 NO + 2 NC, Ident. No. **22E** 												
AC operation, rated control supply voltage U_s = 50 Hz 230/220 V AC [1]												
4	**4**	3	2	1	**40E**	4	--	2	**3TH2040-0AP0**	1	1 unit	41A
					31E	3	1	2	**3TH2031-0AP0**	1	1 unit	41A
					22E	2	2	2	**3TH2022-0AP0**	1	1 unit	41A
DC operation, rated control supply voltage U_s = 24 V DC												
4	**4**	3	2	1	**40E**	4	--	2	**3TH2040-0BB4**	1	1 unit	41A
					31E	3	1	2	**3TH2031-0BB4**	1	1 unit	41A
					22E	2	2	2	**3TH2022-0BB4**	1	1 unit	41A
With permanently mounted auxiliary switch blocks · For screw fixing and snap-on mounting onto TH 35 standard mounting rail												
Terminal designations according to EN 50011												
8 NO, Ident. No. **80E** 												
7 NO + 1 NC, Ident. No. **71E** 												
6 NO + 2 NC, Ident. No. **62E** 												
5 NO + 3 NC, Ident. No. **53E** 												
4 NO + 4 NC, Ident. No. **44E** 												
AC operation, rated control supply voltage U_s = 50 Hz 230/220 V AC [1]												
8	**4**	3	2	--	**80E**	8	0	20	**3TH2280-0AP0**	1	1 unit	41A
					71E	7	1	20	**3TH2271-0AP0**	1	1 unit	41A
					62E	6	2	2	**3TH2262-0AP0**	1	1 unit	41A
					53E	5	3	20	**3TH2253-0AP0**	1	1 unit	41A
					44E	4	4	2	**3TH2244-0AP0**	1	1 unit	41A
DC operation, rated control supply voltage U_s = 24 V DC												
8	**4**	3	2	--	**80E**	8	0	2	**3TH2280-0BB4**	1	1 unit	41A
					71E	7	1	2	**3TH2271-0BB4**	1	1 unit	41A
					62E	6	2	2	**3TH2262-0BB4**	1	1 unit	41A
					53E	5	3	2	**3TH2253-0BB4**	1	1 unit	41A
					44E	4	4	2	**3TH2244-0BB4**	1	1 unit	41A
Latched miniature contactor relays · For screw fixing and snap-on mounting onto TH 35 standard mounting rail												
Terminal designations according to EN 50011												
4 NO, Ident. No. **40E** 												
3 NO + 1 NC, Ident. No. **31E** 												
2 NO + 2 NC, Ident. No. **22E** 												
AC operation, rated control supply voltage U_s = 50 Hz 230/220 V AC [1]												
4	**4**	3	2	1	**40E**	4	--	10	**3TH2740-0AP0**	1	1 unit	41A
					31E	3	1	20	**3TH2731-0AP0**	1	1 unit	41A
					22E	2	2	20	**3TH2722-0AP0**	1	1 unit	41A
DC operation, rated control supply voltage U_s = 24 V DC												
4	**4**	3	2	1	**40E**	4	--	5	**3TH2740-0BB4**	1	1 unit	41A
					31E	3	1	20	**3TH2731-0BB4**	1	1 unit	41A
					22E	2	2	20	**3TH2722-0BB4**	1	1 unit	41A

3TH20..-0A..

3TH22..-0A..

3TH27..-0...

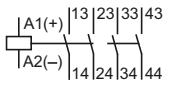
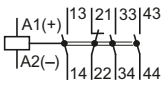
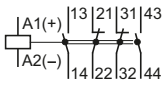
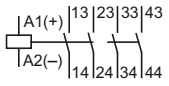
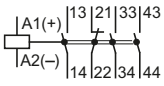
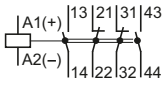
[1] Operating range at AC-1 and 220 V: 0.85 to 1.15 × U_s; lower operating range limit according to IEC 60947.

For accessories, see pages 5/31 and 5/32.

Other voltages according to page 5/30 on request.

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

3TH2 miniature contactor relays, 4- and 8-pole

Contacts	Rated operational current I_e/AC-15/AC-14 at				Contacts			SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	230/ 220 V	400/ 380 V	500 V	690/ 660 V	Ident. No. acc. to EN 50011	Version							
						NO	NC						
Number	**A**	A	A	A				d					
Miniature contactor relays with 6.3 mm x 0.8 mm flat connectors													
Terminal designations according to EN 50011									**Flat connectors**				
4 NO, Ident. No. **40E**													
													
3 NO + 1 NC, Ident. No. **31E**													
													
2 NO + 2 NC, Ident. No. **22E**													
													
AC operation, rated control supply voltage U_s = 50 Hz 230/220 V AC [1]													
For screw fixing and snap-on mounting onto TH 35 standard mounting rail													
	**4**	**4**	3	2	--	**40E**	4	--	20	**3TH2040-3AP0**	1	1 unit	41A
						31E	3	1	15	**3TH2031-3AP0**	1	1 unit	41A
						22E	2	2	20	**3TH2022-3AP0**	1	1 unit	41A
3TH20..-3...	For screw fixing (diagonal)												
	4	**4**	3	2	--	**40E**	4	--	20	**3TH2040-7AP0**	1	1 unit	41A
						31E	3	1	20	**3TH2031-7AP0**	1	1 unit	41A
						22E	2	2	10	**3TH2022-7AP0**	1	1 unit	41A
DC operation, rated control supply voltage U_s = 24 V DC													
For screw fixing and snap-on mounting onto TH 35 standard mounting rail													
	**4**	**4**	3	2	--	**40E**	4	--	20	**3TH2040-3BB4**	1	1 unit	41A
						31E	3	1	20	**3TH2031-3BB4**	1	1 unit	41A
						22E	2	2	15	**3TH2022-3BB4**	1	1 unit	41A
3TH20..-7...	For screw fixing (diagonal)												
	4	**4**	3	2	--	**40E**	4	--	20	**3TH2040-7BB4**	1	1 unit	41A
						31E	3	1	20	**3TH2031-7BB4**	1	1 unit	41A
						22E	2	2	20	**3TH2022-7BB4**	1	1 unit	41A
Miniature contactor relays with solder pin connections for printed circuit boards													
Terminal designations according to EN 50011									**Solder pin connections**				
4 NO, Ident. No. **40E**													
													
3 NO + 1 NC, Ident. No. **31E**													
													
2 NO + 2 NC, Ident. No. **22E**													
													
AC operation, rated control supply voltage U_s = 50 Hz 230/220 V AC [1]													
For screw fixing (diagonal)													
	**4**	**4**	3	2	--	**40E**	4	--	20	**3TH2040-6AP0**	1	1 unit	41A
						31E	3	1	20	**3TH2031-6AP0**	1	1 unit	41A
						22E	2	2	20	**3TH2022-6AP0**	1	1 unit	41A
3TH20..-6...	***DC operation, rated control supply voltage U_s = 24 V DC***												
	For screw fixing (diagonal)												
	4	**4**	3	2	--	**40E**	4	--	20	**3TH2040-6BB4**	1	1 unit	41A
						31E	3	1	20	**3TH2031-6BB4**	1	1 unit	41A
						22E	2	2	20	**3TH2022-6BB4**	1	1 unit	41A

[1] Operating range at AC-1 and 220 V: 0.85 to 1.15 × U_s; lower operating range limit according to IEC 60947.

For accessories, see pages 5/31 and 5/32.

Options

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

Contactor type	3TH20..-0...	3TH20..-3..., 3TH20..-6..., 3TH20..-7..., 3TH22, 3TH27
Rated control supply voltage U_s		
AC operation		
Solenoid coils for 50 and 60 Hz AC		
50 Hz / **60 Hz**		
24 V AC / 29 V AC	B0	--
110 V AC / 132 V AC	F0	--
230/220 V AC / 276 V AC	P0[1]	P0[1]

[1] Operating range at AC-1 and 220 V: 0.85 to 1.15 x U_s; lower operating range limit according to IEC 60947.

Contactor type	3TH20..-0...	3TH20..-3..., 3TH20..-6..., 3TH20..-7..., 3TH22, 3TH27
Rated control supply voltage U_s		
DC operation		
24 V DC	B4	B4
110 V DC	F4	--
220 V DC	M4	--

Please inquire about further voltages.

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

Selection and ordering data

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	Ident. No.	Version						Article No.	Price per PU			
				NO	NC	NO	NC							
A	A	A							d					
Snap-on auxiliary switch blocks for 3TH20 miniature contactor relays														
For expansion to 8 contacts according to EN 50011 Only for 3TH2040-0... (with 4 NO, Ident. No. 40E)														
4	3	2	**80E**	4	--	--	--		▶	**3TX4440-0A**		1	1 unit	41A
			71E	3	1	--	--		▶	**3TX4431-0A**		1	1 unit	41A
			62E	2	2	--	--		▶	**3TX4422-0A**		1	1 unit	41A
			53E	1	3	--	--		▶	**3TX4413-0A**		1	1 unit	41A
			44E	--	4	--	--		▶	**3TX4404-0A**		1	1 unit	41A
For expansion to 6 or 8 contacts according to EN 50005														
4	3	2	**40E**	4	--	--	--	53 63 73 83 / 54 64 74 84	▶	**3TX4440-2A**		1	1 unit	41A
			31E	3	1	--	--	53 61 73 83 / 54 62 74 84	▶	**3TX4431-2A**		1	1 unit	41A
			22E	2	2	--	--	53 61 71 83 / 54 62 72 84	▶	**3TX4422-2A**		1	1 unit	41A
			22; 2U	--	--	2	2	57 67 75 85 / 58 68 76 86	5	**3TX4422-2G**		1	1 unit	41A
4	3	2	**20E**	2	--	--	--	53 63 / 54 64	▶	**3TX4420-2A**		1	1 unit	41A
			11E	1	1	--	--	53 61 / 54 62	▶	**3TX4411-2A**		1	1 unit	41A
			02E	--	2	--	--	51 61 / 52 62	20	**3TX4402-2A**		1	1 unit	41A
			11; U	--	--	1	1	57 65 / 58 66	20	**3TX4411-2G**		1	1 unit	41A


3TX4440-0A

For contactors	Rated control supply voltage U_s		OFF-delay (minimum times)	SD	Screw terminals		PU (UNIT, SET, M)	PS*	PG
	50/60 Hz AC	DC			Article No.	Price per PU			
Type	V	V	s	d					
OFF-delay devices for miniature contactor relays with DC operation									
Bridging of voltage interruptions up to 0.8 s									
3TH2...-0BB4	--	24	0.25 or 0.5	15	**3TX4490-1H**		1	1 unit	41B
3TH2...-0BF4	110	--	0.1 or 0.2	15	**3TX4490-1A**		1	1 unit	41B
3TH2...-0BM4, 3TH2...-0BP4	220/230	--	0.4 or 0.8	15	**3TX4490-1A**		1	1 unit	41B


3TX4490-1A

Accessories for 3TH2 miniature contactor relays

	For contactors	Rated control supply voltage U_s		Power consumption of LED at U_s	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	Type	V AC	V DC	mW	d					
Surge suppressors[1] **For plugging onto 3TH2 miniature contactor relays with and without auxiliary switch blocks**										
	Version without LED									
	RC elements									
	3TH2...-0...	24 ... 48	24 ... 70	--	5	**3TX4490-3R**		1	1 unit	41B
		48 ... 127	70 ... 150	--	5	**3TX4490-3S**		1	1 unit	41B
		127 ... 240	150 ... 250	--	5	**3TX4490-3T**		1	1 unit	41B
		240 ... 400	--	--	5	**3TX4490-3U**		1	1 unit	41B
		400 ... 600	--	--	5	**3TX4490-3V**		1	1 unit	41B
	Varistors									
	3TH2...-0...	≤ 48	24 ... 70	--	►	**3TX4490-3G**		1	1 unit	41B
		48 ... 127	70 ... 150	--	5	**3TX4490-3H**		1	1 unit	41B
		127 ... 240	150 ... 250	--	5	**3TX4490-3J**		1	1 unit	41B
		240 ... 400	--	--	5	**3TX4490-3K**		1	10 units	41B
		400 ... 600	--	--	5	**3TX4490-3L**		1	10 units	41B
 3TX4490-3A	**Noise suppression diode**									
	3TH2...-0...	--	12 ... 250	--	►	**3TX4490-3A**		1	1 unit	41B
	Diode assemblies (diode and Zener diode) For DC operation and short break times									
	3TH2...-0...	--	24 ... 250	--	5	**3TX4490-3B**		1	1 unit	41B
	Version with LED									
	Varistors									
	3TH2...-0...	24 ... 48	12 ... 24	10 ... 120	5	**3TX4490-4G**		1	1 unit	41B
		48 ... 127	24 ... 70	20 ... 470	5	**3TX4490-4H**		1	1 unit	41B
		127 ... 240	70 ... 150	50 ... 700	5	**3TX4490-4J**		1	1 unit	41B
		--	150 ... 250	160 ... 950	20	**3TX4490-4K**		1	1 unit	41B
	Noise suppression diodes									
	3TH2...-0...	--	24 ... 70	20 ... 470	5	**3TX4490-4A**		1	1 unit	41B
		--	70 ... 150	50 ... 700	5	**3TX4490-4B**		1	1 unit	41B
		--	150 ... 250	160 ... 950	5	**3TX4490-4C**		1	1 unit	41B
Additional load modules For plugging onto 3TH2 miniature contactor relays with and without auxiliary switch blocks										
 3TX4490-1J	For increasing the permissible residual current and for limiting the residual voltage of SIMATIC semiconductor outputs									
	3TH2...-0A..	230/220, 50 Hz		--	20	**3TX4490-1J**		1	1 unit	41B
		230, 60 Hz		--						
		230, 50/60 Hz		--						
		Operating range 0.8 ... 1.1 x U_s								
Plug-in bases with solder pin connections for printed circuit boards, width 45 mm										
 3TX4491-2A	For 3TH2 miniature contactor relays; with flat connectors 1 x 6.3 mm ... 0.8 mm Rated insulation voltage U_i: 400 V (with pollution degree 3); Rated impulse withstand voltage U_{imp}: 6 kV; Rated operational current I_e 6 A; cULus and CSA rated data: max. 300 V, 6 A									
	3TH20..-3..., 3TH20..-7...	--		--	20	**3TX4491-2A**		1	5 units	41A
Release tools										
	For releasing miniature contactor relays from 3TX4491-2A plug-in bases				20	**3TX4491-2K**		1	1 unit	41A
	3TH20..-7...	--		--						

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

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

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 60947-5-1, 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.

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-type terminals (push-in)	**2**
Control supply voltage	24 V AC/DC	**B**
	115 V AC/DC	**E**
	230 V AC/DC	**F**
Material of switching contacts	e. g.	
	0 = AgSnO2	□
	1 = AgSnO2 hard gold-plated	□
Example		**3RQ30 1 8 – 1 A B 0 1**

Product versions		Article number
Coupling relays with relay output (not plug-in)		**3RQ30 1 8 – 2 A □ 0 8 – 0 A 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-type terminals (push-in)	**2**
Control supply voltage	24 V AC/DC	**B**
	115 V AC/DC	**E**
	230 V AC/DC	**F**
	24 V DC	**M**
Material of switching contacts	AgSnO2	**0**
	AgSnO2 hard gold-plated	**1**
Example		**3RQ31 1 8 – 1 A B 0 1**

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

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

General

- All versions with screw terminals or spring-type terminals (push-in technology)
- TOP wiring with spring-type 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)

- Permanently soldered relay for enhanced contact reliability
- Device variants with hard gold-plated contacts, hence high contact reliability at low currents

Coupling relays with plug-in relays

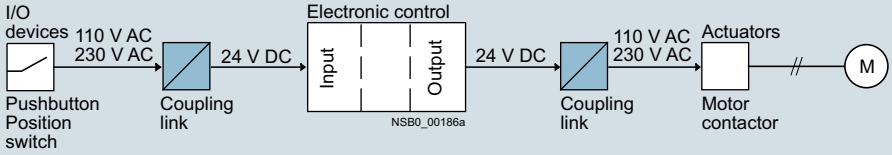
- Fast replacement of the relays with existing wiring
- Shorter installation times thanks to certified complete units
- Individual relays available as spare parts
- Device variants with hard gold-plated contacts, hence high contact reliability at low currents

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

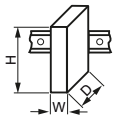


Application example motor controller

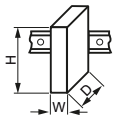
Technical specifications

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)

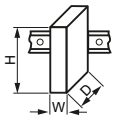
Article number		3RQ30.8-.AB00	3RQ30.8-.AB01	3RQ30.8-.AE00	3RQ30.8-.AE01	3RQ30.8-.AF00	3RQ30.8-.AF01	3RQ3018-2AM08-0AA0	3RQ3018-2AN08-0AA0
General technical specifications:									
Width x height x depth 	mm	6.2 x 93 x 72.5							
Insulation voltage for overvoltage category III to IEC 60664 for pollution 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							
IP 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, 1 mA	5 V, 1 mA	17 V, 1 mA	5 V, 1 mA	17 V, 1 mA	5 V, 1 mA	17 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 DC		0.8 ... 1.25		0.8 ... 1.1				0.7 ... 1.25	
Active power input	W	0.3		0.5		1		0.3	0.6
Thermal current	A	6							

Coupling relays with plug-in relay

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 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							
IP 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, 1 mA	5 V, 1 mA	17 V, 1 mA	5 V, 1 mA	17 V, 1 mA	5 V, 1 mA	17 V, 1 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 DC		0.8 ... 1.25		0.8 ... 1.1				0.8 ... 1.25	
Active power input	W	0.3		0.5		1		0.3	
Thermal current	A	6							

SIRIUS 3RQ3 coupling relays, narrow design

Coupling relays with semiconductor output (not plug-in)

Article number	3RQ3050-.SM50	3RQ3052-.SM30	3RQ3052-.SM40	3RQ3052-.SM50	3RQ3053-.SG30	3RQ30.5-.SM30	3RQ3070-.SB30	3RQ3070-.SG30
General technical specifications:								
Width x height x depth 	6.2 x 93 x 72.5							
Insulation voltage for overvoltage category III to IEC 60664 for pollution degree 3	50 V			300 V		50 V		--
Ambient temperature								
• During operation	-25 ... +60 °C							
• During storage	-40 ... +85 °C							
IP degree of protection	IP20							
Switching voltage of the semiconductor output								
• At AC	--			20 ... 264 V	--			
• At DC	10 ... 60 V	10 ... 30 V	10 ... 60 V	--	10 ... 30 V			
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	--				1 ... 1	--	1 ... 1	
• At DC	1 ... 1							
Active power input	0.3 W			0.25 W	0.3 W		0.5 W	
Thermal current	0.5 A	2 A			3 A	5 A	0.5 A	

Article number	3RQ3...-1....	3RQ3...-2....
Type of electrical connection For auxiliary and control circuit	**Screw terminals**	**Spring-type terminals (push-in)**
Type of connectable conductor cross-sections		
• Solid	1x (0.25 ... 2.5) mm²	
• Finely stranded		
- Without end sleeves	--	1x (0.25 ... 2.5) mm²
- With end sleeves	1x (0.25 ... 1.5) mm²	
• Solid for AWG cables	1x (20 ... 14)	

Selection and ordering data

Type of voltage	Control supply voltage At AC At 50 Hz	At AC At 60 Hz	At DC	Number of CO contacts for auxiliary contacts	Material of switching contacts	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	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
	230	230	230	1	AgSnO2	2	**3RQ3018-☐AF00**		1	5 units	41H
DC	--	--	24	1	AgSnO2	2	**3RQ3018-2AM08-0AA0**		1	5 units	41H
			110	1	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 relay											
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

3RQ30.8-2....

3RQ3118-2....

Type of electrical connection

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

1
2

Type of voltage	Control supply voltage At AC At 50 Hz	At AC At 60 Hz	At DC	Current carrying capacity of the semiconductor output At AC	At DC	Operating mode selectable via switch position	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
							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
						Manual/ Off/ Automatic	2	**3RQ3065-☐SM30**		1	5 units	41H
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
	110 ... 230 V	110 ... 230 V	110 ... 230 V	--	10 mA ... 0.5 A	--	2	**3RQ3070-☐SG30**		1	5 units	41H

3RQ3050-2SM50

Type of electrical connection

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

1
2

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

SIRIUS 3RQ3 coupling relays, narrow design

Accessories

	Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		d					
Galvanic isolation plates							
 3RQ3900-0A	For electrical separation of different potentials when devices of different types are installed side by side	2	**3RQ3900-0A**		1	10 units	41H
Connecting combs							
 3RQ3901-0B	For linking the same potentials, current carrying capacity for infeed max. 6 A						
	• 2-pole	2	**3RQ3901-0A**		1	10 units	41H
	• 4-pole	2	**3RQ3901-0B**		1	10 units	41H
	• 8-pole	2	**3RQ3901-0C**		1	10 units	41H
	• 16-pole	2	**3RQ3901-0D**		1	10 units	41H
Clip-on labels							
	For terminal marking and equipment labeling, white						
	• 5 x 5 mm	2	**3RQ3902-0A**		100	2 000 units	41H
	• 6 x 12 mm	2	**3RQ3902-0B**		100	1 200 units	41H
Tools for opening spring-type terminals							
			Spring-type terminals (push-in)				
 3RA2908-1A	**Screwdrivers** For all SIRIUS devices with spring-type terminals; 3.0 mm x 0.5 mm; length approx. 200 mm, titanium gray/black, partially insulated	2	**3RA2908-1A**		1	1 unit	41B

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	20 units	41H
3RQ3118-.AM01		AgSnO2 hard gold-plated		2	**3TX7014-7BM02**		1	20 units	41H
3RQ3118-.AB00	24 AC/DC	AgSnO2	1	2	**3TX7014-7BQ00**		1	20 units	41H
3RQ3118-.AB01		AgSnO2 hard gold-plated		2	**3TX7014-7BQ02**		1	20 units	41H
3RQ3118-.AE00	115 AC/DC	AgSnO2	1	2	**3TX7014-7BP00**		1	20 units	41H
3RQ3118-.AF00	230 AC/DC	AgSnO2 hard gold-plated							
3RQ3118-.AE01	115 AC/DC	AgSnO2	1	2	**3TX7014-7BP02**		1	20 units	41H
3RQ3118-.AF01	230 AC/DC	AgSnO2 hard gold-plated							

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

Overview

3RS18 coupling relays in their proven 22.5 mm industrial enclosure serve to couple control signals from and to a controller.

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

The relay coils are protected internally with noise suppression diodes.

Versions:

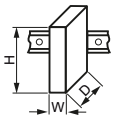
- Wide voltage range: One connection for a wide voltage range
- Combination voltage: Two connections for different voltage ranges
- Versions with solid-state compatible outputs (hard gold-plating)
- 1, 2 or 3 changeover contacts

Application

They can be used wherever solid-state-compatible contacts are required and where devices with a wide voltage range are used.

Technical specifications

More information	
Technical specifications, see https://support.industry.siemens.com/cs/ww/en/ps/16203/td	Manuals, see https://support.industry.siemens.com/cs/ww/en/ps/16203/man

Type			3RS1800-.A...	3RS1800-.B...	3RS1800-.H...
General data					
Dimensions (W x H x D)		mm	22.5 x 86 x 84	22.5 x 86 x 94	22.5 x 86 x 103
Rated insulation voltage U_i (pollution degree 3)		V	500		
Protective separation acc. to IEC 60947-1, Appendix N between the coil and the contacts and between the individual contacts.		V	300		
Permissible ambient temperature					
• During operation		°C	-25 ... +60		
• During storage		°C	-40 ... +80		
Degree of protection acc. to IEC 60529					
• Enclosure			IP20		
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		A	4		
Conductor cross-sections					
For 3RS1800-1:			**Screw terminals**		
• Solid		mm^2	1 x (0.5 ... 4); 2 x (0.5 ... 2.5)		
• Finely stranded with end sleeve		mm^2	2 x (0.5 ... 2.5)		
• AWG cables, solid or stranded		mm^2	2 x (20 ... 14)		
• Terminal screw - Corresponding opening tool			M3.5 Screwdriver, size 3.0 mm x 0.5 mm (3RA2908-1A)		
• Tightening torque		Nm	0.8 ... 1.2		
For 3RS1800-2:			**Spring-type terminals**		
• Solid		mm^2	2 x (0.25 ... 1.5)		
• Finely stranded without end sleeve		mm^2	2 x (0.25 ... 1.5)		
• Finely stranded with end sleeve		mm^2	2 x (0.25 ... 1)		
• AWG cables, solid or stranded		AWG	2 x (24 ... 16)		
• Corresponding opening tool			Screwdriver, size 3.0 mm x 0.5 mm (3RA2908-1A)		

SIRIUS 3RS18 coupling relays with industrial enclosure

Type			3RS1800-.A...	3RS1800-.B...	3RS1800-.H...
Control side					
Operating range			0.85 ... 1.1 x U_s		
Power consumption, max.	AC or DC	VA/W	8 / 1		
Load side					
Conventional thermal current I_{th}		A	6		
Rated operational currents I_e					
• AC-15	At 24 ... 400 V	A	3		
• DC-13	At 24 V	A	1		
	At 110 V	A	0.2		
	At 230 V	A	0.1		
Switching current for resistive load					
• AC-12	At 24 ... 400 V	A	5		
• DC-12	At 24 V	A	5		
	At 115 V	A	0.2		
	At 230 V	A	0.2		
Switching voltage					
• Max. AC		V	400		
• Max. DC		V	250		
Min. contact load					
• Standard contacts			17 V DC, 5 mA with 1 ppm fault		
• Hard gold-plated contacts			5 V DC, 1 mA with 1 ppm fault		
Mechanical endurance		Operating cycles	10×10^6		
Electrical endurance at I_e		Operating cycles	1×10^5		

Selection and ordering data

Rated control supply voltage U_s (with AC: 50/60 Hz)	Connection U_s	Contacts Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
V		CO	d					
Coupling relays in industrial enclosure, 22.5 mm								
				Screw terminals				
Wide voltage range								
24 ... 240 AC/DC	A1 - A2	2	2	**3RS1800-1BW00**		1	1 unit	41H
		3	2	**3RS1800-1HW00**		1	1 unit	41H
		3 [1]	2	**3RS1800-1HW01**		1	1 unit	41H
Combination voltage								
24 AC/DC and 110 ... 120 AC	A3 - A2 or A1 - A2	1	2	**3RS1800-1AQ00**		1	1 unit	41H
		2	2	**3RS1800-1BQ00**		1	1 unit	41H
		3	2	**3RS1800-1HQ00**		1	1 unit	41H
		3 [1]	5	**3RS1800-1HQ01**		1	1 unit	41H
24 AC/DC and 220 ... 240 AC	A3 - A2 or A1 - A2	1	2	**3RS1800-1AP00**		1	1 unit	41H
		2	2	**3RS1800-1BP00**		1	1 unit	41H
		3	2	**3RS1800-1HP00**		1	1 unit	41H
		3 [1]	2	**3RS1800-1HP01**		1	1 unit	41H
				Spring-type terminals				
Wide voltage range								
24 ... 240 AC/DC	A1 - A2	2	2	**3RS1800-2BW00**		1	1 unit	41H
		3	2	**3RS1800-2HW00**		1	1 unit	41H
		3 [1]	2	**3RS1800-2HW01**		1	1 unit	41H
Combination voltage								
24 AC/DC and 110 ... 120 AC	A3 - A2 or A1 - A2	1	5	**3RS1800-2AQ00**		1	1 unit	41H
		2	2	**3RS1800-2BQ00**		1	1 unit	41H
		3	5	**3RS1800-2HQ00**		1	1 unit	41H
		3 [1]	5	**3RS1800-2HQ01**		1	1 unit	41H
24 AC/DC and 220 ... 240 AC	A3 - A2 or A1 - A2	1	2	**3RS1800-2AP00**		1	1 unit	41H
		2	2	**3RS1800-2BP00**		1	1 unit	41H
		3	2	**3RS1800-2HP00**		1	1 unit	41H
		3 [1]	2	**3RS1800-2HP01**		1	1 unit	41H

3RS1800-1H...

3RS1800-2B...

[1] Hard gold-plated contacts.

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

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).

Technical specifications

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

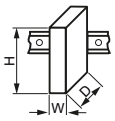
Relay type		LZX:RT print relay, 8-pole, (12.7 mm) 1 CO / 2 CO				LZX:PT industrial relay, 8-, 11- and 14-pole, (22.5 mm) 2 CO / 3 CO / 4 CO			
General data									
Dimensions (W x H x D)									
• LZS:RT.A4 / LZS:PT.A5	mm	15.5 x 78 x 71				28 x 74 x 72			
• LZS:RT.B4 / LZS:PT.B5	mm	15.5 x 77 x 71				28 x 77 x 79			
• LZS:RT.D4 / LZS:PT.D5	mm	15.5 x 98 x 71				28 x 98 x 79			
Rated control supply voltage U_s [1]	V	24 DC	24 AC	115 AC	230 AC	24 DC	24 AC	115 AC	230 AC
Rated insulation voltage U_i (Pollution degree 3)	V	250							
Overvoltage category Acc. to IEC 60664-1		III							
Protective separation Between coil and contacts Acc. to IEC 60947-1, Appendix N		Up to 250 V (with plug-in base LZS:RT78726) No (for complete units with standard socket)				No			
Degree of protection									
• Relays		IP67				IP50			
• Bases		IP20							
Permissible ambient temperature									
• During operation	°C	-40 ... +70							
• During storage	°C	-40 ... +80							
Conductor cross-sections									
Connection type		**Screw terminals**							
• Solid	mm^2	2 x 2.5							
• Finely stranded with end sleeve	mm^2	2 x 1.5							
• Corresponding opening tool		Screwdriver, size 3.0 ... 3.5 mm x 0.5 mm (3RA2908-1A)							
Connection type		**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 x1.5							

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

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			
Control side										
Operating range at 20 °C		V	16.8 ... 52	18 ... 52	86.3 ... 127	172 ... 264	18 ... 40.8	19.2 ... 39.6	92 ... 190	184 ... 380
Power consumption at U_s										
• AC		VA	--	0.75			--	1		
• DC		W	0.4	--			0.75	--		
Release voltage		V	2.4	7.2	34.5	69	3.6	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 currents[1]										
• Conventional thermal current I_{th}		A								
- 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_e /AC-15 acc. to utilization categories (IEC 60947-5-1)		A	RT3 (1 changeover contact): 6 RT4 (2 changeover contacts): 2.5				PT2 (2 changeover contacts): 5 PT3 (3 changeover contacts): 5 PT5 (4 changeover contacts): 4 (DC coils), 2 (AC coils)			
• Rated operational current I_e 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: 5 at 24 V 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)			Normal 17 V, 10 mA; hard gold-plated 17 V/0.1 mA				Normal 17 V, 10 mA; hard gold-plated 20 mV/1 mA			
Mechanical endurance	Operating cycles		30 x 10^6	10 x 10^6						
Electrical endurance (Resistive load at 250 V AC)	Operating cycles		1 x 10^5							

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

LZS coupling relays with plug-in relays

Relay type			LZS:MT industrial relay, 11-pole (35.5 mm) 3 CO			
General data						
Dimensions (W x H x D)		mm	36 x 69 x 36			
Rated control supply voltage U_s[1]		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 • Bases			 IP50 IP20			
Permissible ambient temperature • During operation • During storage		 °C °C	 -40 ... +60 -45 ... +80	 -45 ... +50		
Conductor cross-sections						
Connection type			**Screw terminals**			
• Solid • Finely stranded with or without end sleeve		mm^2 mm^2	2 x 2.5 2 x 1.5			
• Corresponding opening tool			Screwdriver, size 1 or Pozidriv 1			
Control side						
Operating range at 20 °C		V	18 ... 38	19.2 ... 38	92 ... 137	184 ... 264
Power consumption • AC • DC		 VA W	 -- 1.2	 2.3 --		
Release voltage		V	2.4	9.6	46	92
Protection circuit			--			
Load side						
Switching voltage • AC/DC		V	24 ... 250			
Rated currents[2]						
• 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	20×10^6			
Electrical endurance (Resistive load at 250 V AC)		Operating cycles	4×10^5			

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.

Selection and ordering data

Version	Rated control supply voltage U_s (with AC: 50/60 Hz)	Contacts, number of CO contacts	Width	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	V		mm	d					
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				**Screw terminals**				
3 CO contacts	24 DC	3	28	2	**LZS:PT3A5L24**		1	5 units	41H
	24 AC			2	**LZS:PT3A5R24**		1	5 units	41H
	115 AC			2	**LZS:PT3A5S15**		1	5 units	41H
	230 AC			2	**LZS:PT3A5T30**		1	5 units	41H
4 CO contacts	24 DC	4	28	2	**LZS:PT5A5L24**		1	5 units	41H
	24 AC			2	**LZS:PT5A5R24**		1	5 units	41H
	115 AC			2	**LZS:PT5A5S15**		1	5 units	41H
	230 AC			2	**LZS:PT5A5T30**		1	5 units	41H
	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								
4 CO contacts	24 DC	4	28	2	**LZS:PT5B5L24**		1	5 units	41H
	24 AC			2	**LZS:PT5B5R24**		1	5 units	41H
	115 AC			2	**LZS:PT5B5S15**		1	5 units	41H
	230 AC			2	**LZS:PT5B5T30**		1	5 units	41H
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				**Plug-in terminals (push-in)**				
2 CO contacts	24 DC	2	28	2	**LZS:PT2D5L24**		1	5 units	41H
	230 AC			2	**LZS:PT2D5T30**		1	5 units	41H
4 CO contacts	24 DC	4	28	2	**LZS:PT5D5L24**		1	5 units	41H
	24 AC			2	**LZS:PT5D5R24**		1	5 units	41H
	115 AC			2	**LZS:PT5D5S15**		1	5 units	41H
	230 AC			2	**LZS:PT5D5T30**		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).

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 LED[1]									
	24 DC	2	22.5	▶	**LZX:PT270024**		1	1 unit	41H
		3		▶	**LZX:PT370024**		1	1 unit	41H
		4		▶	**LZX:PT570024**		1	1 unit	41H
	24 AC	2	22.5	▶	**LZX:PT270524**		1	1 unit	41H
		3		2	**LZX:PT370524**		1	1 unit	41H
		4		▶	**LZX:PT570524**		1	1 unit	41H
	115 AC	2	22.5	15	**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			15	**LZX:PT520730**		1	1 unit	41H
Plug-in bases for PT relays									
Standard plug-in bases For mounting onto TH 35 standard mounting rail					**Screw terminals**				
	--	2	28	▶	**LZS:PT78720**		1	1 unit	41H
		3		▶	**LZS:PT78730**		1	1 unit	41H
		4		▶	**LZS:PT78740**		1	1 unit	41H
Plug-in bases with logical separation For mounting onto TH 35 standard mounting rail									
	--	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					**Plug-in terminals (push-in)**				
	--	2	28	▶	**LZS:PT7872P**		1	1 unit	41H
		4		▶	**LZS:PT7874P**		1	1 unit	41H


LZX:PT370024


LZS:PT78740


LZS:PT78722


LZS:PT7874P

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

Note:

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

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

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

Version	Rated control supply voltage U_s at 50/60 Hz AC	Contacts, number of CO contacts	Width	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			▶	**LZS:PTML0524**		1	1 unit	41H
	110 … 230 AC/DC			▶	**LZS:PTML0730**		1	1 unit	41H
• Green									
- With freewheel diode	24 DC	--	12.5	▶	**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
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 cables, 24-pole									
Current carrying capacity 12 A, with supply cable, blue				2	**3TX7004-8BA00**		1	1 unit	41H
Connecting combs for PT screw base									
6-pole, 10 A current carrying capacity, natural-colored				▶	**LZS:PT170R6**		1	10 units	41H
Connecting brackets for PT push-in base									
2-pole, current carrying capacity 10 A, natural-colored				▶	**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


LZS:PTML0024


LZS:PT17021


LZS:PT17024


LZS:PT17040


LZS:PTMU0730


3TX7004-8BA00

LZX:MT326024

LZS:MT78750

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 15/3.

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

LZS coupling relays with plug-in relays

Version	Rated control supply voltage U_s at 50/60 Hz AC	Contacts, number of CO contacts	Width	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** 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				**Screw terminals**				
	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: • 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** 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				**Plug-in terminals (push-in)**				
	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).

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

Version	Rated control supply voltage U_s at 50/60 Hz AC	Contacts, number of CO contacts	Width	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	1	12.7	▶	**LZX:RT315024**		1	1 unit	41H
	230 AC			15	**LZX:RT315730**		1	1 unit	41H
Print relays									
Version with 1 CO contact									
 LZS:RT78725	24 DC	1	12.7	▶	**LZX:RT314024**		1	1 unit	41H
	24 AC			15	**LZX:RT314524**		1	1 unit	41H
	115 AC			15	**LZX:RT314615**		1	1 unit	41H
	230 AC			▶	**LZX:RT314730**		1	1 unit	41H
Version with 2 CO contacts									
	12 DC	2	12.7	15	**LZX:RT424012**		1	1 unit	41H
	24 DC			▶	**LZX:RT424024**		1	1 unit	41H
	24 AC			▶	**LZX:RT424524**		1	1 unit	41H
	115 AC			▶	**LZX:RT424615**		1	1 unit	41H
	230 AC			▶	**LZX:RT424730**		1	1 unit	41H
Standard plug-in bases For mounting onto TH 35 standard mounting rail					**Screw terminals**				
 LZS:RT78726	--	--	15.5	▶	**LZS:RT78725**		1	1 unit	41H
Plug-in bases with logical separation For mounting onto TH 35 standard mounting rail									
	--	--	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)**				
 LZS:RT7872P	--	--	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
 LZS:PTML0024	110 ... 230 AC/DC	--		▶	**LZS:PTMG0730**		1	1 unit	41H
Fixing/ejection brackets For RT base									
 LZS:RT17016	--	--	15.5	▶	**LZS:RT17016**		100	10 units	41H
Labels									
 LZS:RT17040	--	--	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
Freewheel diodes with connection to A1									
 LZS:PTMT0730	6 ... 230 DC	--	15.5	▶	**LZS:PTMT00A0**		1	1 unit	41H
Connecting cables, 24-pole									
Current carrying capacity 12 A, with supply cable, blue	--	--	--	2	**3TX7004-8BA00**		1	1 unit	41H
Connecting combs for RT screw base									
8-pole, current carrying capacity 10 A, natural-colored	--	--	--	▶	**LZS:RT170R8**		1	10 units	41H
Connecting brackets for push-in base									
 3TX7004-8BA00 2-pole, current carrying capacity 10 A, natural-colored	--	--	--	▶	**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 15/3.

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Illustrations are approximate.

Notes