

Switching Devices – Contactors and Contactor Assemblies – Special Applications

**Price groups**

PG 41A, 41B

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Introduction**Contactors for special applications**

- 4/6 SIRIUS 3RT.4 contactors for resistive loads (AC-1), 3-pole
- 4/17 **SIRIUS 3RT.3 contactors, 4-pole, up to 525 A *NEW***
- 4/32 SIRIUS 3RT25 contactors, 4-pole, 2 NO + 2 NC
- 4/38 SIRIUS 3RT26 contactors for capacitive loads (AC-6b), 3-pole
- 4/49 Contactors for railway applications
- SIRIUS 3RT contactors with extended operating range, 3-pole
 - SIRIUS 3RH2 contactor relays with extended operating range
 - 3TH4 contactor relays, 8-pole
 - 3TC contactors for switching DC voltage, 2-pole
- 4/63 3TC contactors for switching DC voltage, 1-pole and 2-pole

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3TG10 power relays/miniature contactors

Switching Devices – Contactors and Contactor Assemblies – Special Applications

Introduction

Overview

More information

Homepage, see www.siemens.com/sirius

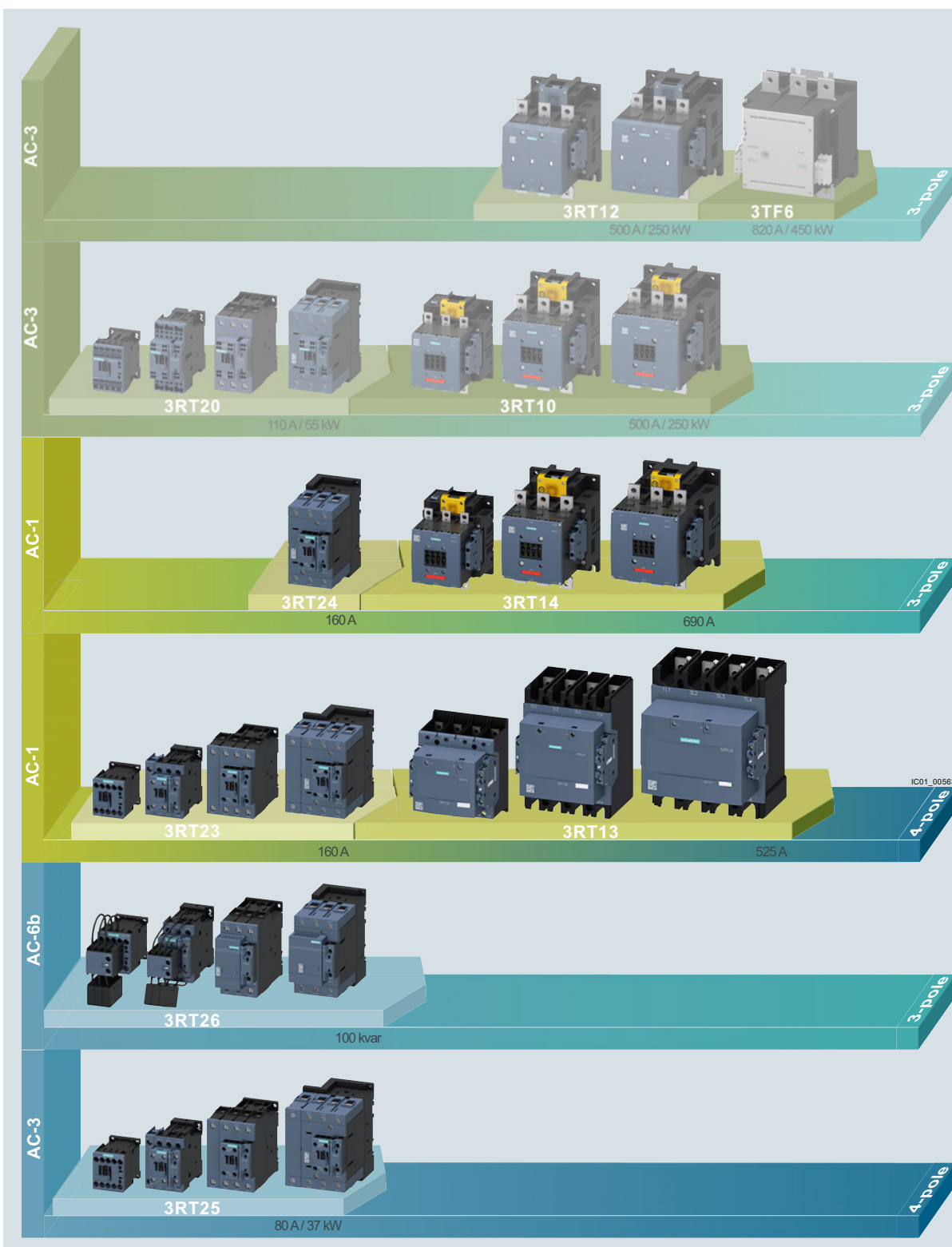
Industry Mall, see www.siemens.com/product?3RT_3TK_3TC

Conversion tool for article numbers, see

www.siemens.com/sirius/conversion-tool

TIA Selection Tool Cloud (TST Cloud), see

<https://www.siemens.com/tstcloud/?node=Contactor>



Overview of the 3RT and 3TF contactors

Switching Devices – Contactors and Contactor Assemblies – Special Applications

Introduction

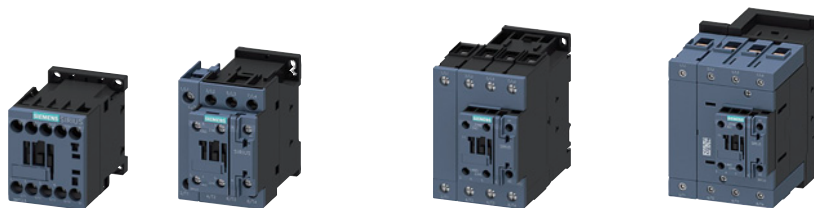


Size	S3		S6		S10		S12		
Type	3RT244.		3RT1456		3RT146.		3RT1476		
3-pole 3RT244 and 3RT145 to 3RT147 contactors									
Type	3RT2446		3RT2448		3RT1456		3RT1466 3RT1467		3RT1476
Number of main contacts	3 NO		3 NO		3 NO		3 NO		3 NO
AC, AC/DC operation	(p. 4/14)		(p. 4/15, 4/16)		(p. 4/15, 4/16)		(p. 4/15, 4/16)		(p. 4/15, 4/16)
AC-1									
U_i	V	1 000							
U_e	V	690							
I_e up to 690 V	40 °C A	140	160	275		400	500	690	
	60 °C A	130	140	250		380	450	Standard operating mechanism: 650, solid-state operating mechanism: 600	
Accessories for contactors									
Auxiliary switches	3RH29, 3RA28 (p. 3/93 ... 3/100)			3RH19, 3RT1926 (p. 3/96, 3/98, 3/99, 3/101)					
Function modules (direct-on-line starting, star-delta (wye-delta) starting)	3RA281. (p. 3/105)			--					
Terminal covers	3RT2946-4EA4 (p. 3/117)			3RT1956-4EA. (p. 3/117)					
Box terminal blocks	--			3RT1955/56-4G (p. 3/115)					
Surge suppressors	3RT2936¹⁾, 3RT2946 (p. 3/102, 3/103)			3RT1956-1C (RC element) (p. 3/103)					

¹⁾ Surge suppressors 3RT2936-1B/-1E can be used for 3RT2.4 contactors as from product version E03. When using an AC/DC coil, the surge suppressor is already integrated in the electronics.

Switching Devices – Contactors and Contactor Assemblies – Special Applications

Introduction



Size	S00			S0			S2		S3		
Type	3RT231.			3RT232.			3RT233.		3RT234.		
4-pole 3RT23 contactors											
Type	3RT2316 3RT2317			3RT2325 3RT2326 3RT2327			3RT2336 3RT2337		3RT2344 3RT2346 3RT2348		
Number of main contacts	4 NO			4 NO			4 NO		4 NO		
AC, DC and AC/DC operation	(p. 4/25, 4/27)			(p. 4/25 ... 4/27)			(p. 4/25 ... 4/29)		(p. 4/25 ... 4/29)		
AC-1											
U _i	V	690									
U _e	V	690									
I _e up to 690 V	40 °C A	18	22	35	40	50	60	110	110	140	160
	60 °C A	16	20	30	35	42	55	95	100	130	140
AC-2 and AC-3											
I _e up to 400 V	A	9	12	15.5	15.5	15.5	--	--	--	--	--
P at 400 V	kW	4	5.5	7.5	7.5	7.5	--	--	--	--	--
Accessories for contactors											
Auxiliary switches	3RH29, 3RA28 (p. 3/93 ... 3/100)										
Function modules (direct-on-line starting, star-delta (wye-delta) starting)	3RA281. (p. 3/105)										
Terminal covers	--						3RT2936-4EA4 (p. 3/117)		3RT2946-4EA4 (p. 3/117)		
Surge suppressors	3RT2916 (p. 3/102, 3/103)						3RT2936 (p. 3/102, 3/103)		3RT2936 ¹⁾ , 3RT2946 (p. 3/102, 3/103)		

¹⁾ Surge suppressors 3RT2936-1B/-1E can be used for 3RT2.4 contactors as from product version E03. When using an AC/DC coil, the surge suppressor is already integrated in the electronics.



Size	S6		S10		S12	
Type	3RT1355		3RT136.		3RT137.	
4-pole 3RT13 contactors						
Type	3RT1355		3RT1363 3RT1364		3RT1373 3RT1374 3RT1375	
Number of main contacts	4 NO		4 NO		4 NO	
AC/DC operation	(p. 4/30)		(p. 4/30)		(p. 4/30)	
AC-1						
U _i	V	1 000				
U _e	V	690		1 000		
I _e	40 °C A	200	275	350	400	500 525
Accessories for contactors						
Auxiliary switch, lateral						
• Second auxiliary switch		3RH1951-1SA11				(p. 4/31)
• First auxiliary switch (spare part)		3RH1951-1TA11				(p. 4/31)
Terminal covers		3RT1956-4EB10	(p. 4/31)	3RT1966-4EB10	(p. 4/31)	3RT1976-4EB10 (p. 4/31)
Mechanical interlocks		3RA1954-3A				(p. 4/31)
Bus connectors offset		--	3RT1966-4D	(p. 4/31)	3RT1976-4D (p. 4/31)	



Size	S00					S0		S2		S3	
Type	3RT251.					3RT252.		3RT253.		3RT254.	
4-pole 3RT25 contactors											
Type	3RT2516 3RT2517 3RT2518					3RT2526		3RT2535 3RT2536		3RT2544 3RT2545	
Number of main contacts	2 NO + 2 NC					2 NO + 2 NC		2 NO + 2 NC		2 NO + 2 NC	
AC, DC and AC/DC operation	(p. 4/35, 4/36)					(p. 4/35, 4/36)		(p. 4/35, 4/37)		(p. 4/35, 4/37)	
AC-1											
U_i	V	690									
U_e	V	690									
I_e up to 690 V	40 °C	A	18	22	22	40	60	70	100	125	
	60 °C	A	16	20	20	35	55	60	90	105	
AC-2 and AC-3											
I_e up to 400 V	NO	A	9	12	16	25	35	41	65	80	
	NC	A	9	9	9	25 (20) ¹⁾	35	41	65	80	
P											
At 400 V	NO	kW	4	5.5	7.5	11	18.5	22	30	37	
	NC	kW	4	4	4	11 (7.5) ¹⁾	18.5	22	30	37	
At 230 V	NO	kW	2.2	3 / 2.2	4 / 2.2	5.5	11	11	18.5	22	
	NC	kW	2.2	3 / 2.2	4 / 2.2	5.5	11	11	18.5	22	
Accessories for contactors											
Auxiliary switches	3RH29, 3RA28 (p. 3/93 ... 3/100)										
Function modules (direct-on-line starting, star-delta (wye-delta) starting)	3RA281. (p. 3/105)										
Terminal covers	--						3RT2936-4EA4 (p. 3/117)		3RT2946-4EA4 (p. 3/117)		
Surge suppressors	3RT2916 (p. 3/102, 3/103)					3RT2926 (p. 3/102, 3/103)		3RT2936 (p. 3/102, 3/103)		3RT2936 ²⁾ , 3RT2946 (p. 3/102, 3/103)	

¹⁾ The value in brackets applies to the NC for DC operation.

²⁾ Surge suppressors 3RT2936-1B/-1E can be used for 3RT2.4 contactors as from product version E03.
When using an AC/DC coil, the surge suppressor is already integrated in the electronics.

Connection methods

The following connection options are available for 3RT contactors depending on the size and version:

- 3RT2 contactors, sizes S00 and S0: screw terminals or spring-loaded terminals both for the main as well as for the auxiliary and control circuits
- 3RT2 contactors, sizes S2 and S3: screw terminals (complete devices) or spring-loaded terminals (auxiliary circuit only)
- 3RT14 contactors, sizes S6 to S12: busbar connections, optionally with box terminal blocks, auxiliary and control circuit available either with screw or spring-loaded terminals



Screw terminals



Spring-loaded terminals



Busbar connections

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

Further contactors

- For SIRIUS 3RT26 contactors for capacitive loads (AC-6b), 3-pole, [see page 4/38](#)
- For 3TC contactors for switching DC voltage, 1- and 2-pole, [see page 4/63](#)
- Contactors for railway applications
 - For SIRIUS 3RT contactors with extended operating range, 3-pole, [see page 4/49](#)
 - For SIRIUS 3RH2 contactor relays with extended operating range, [see page 4/57](#)
 - For 3TH4 contactor relays, 8-pole, [see page 4/59](#)

Switching Devices – Contactors and Contactor Assemblies – Special Applications

Contactors for Special Applications

SIRIUS 3RT.4 contactors for resistive loads (AC-1), 3-pole

Overview

Standards

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

Connection methods

Main circuit

- 3RT244 contactors: Screw terminals with box terminal; direct connection to the connecting bar possible with cable lugs when the box terminal is removed.
- 3RT145 to 3RT147 contactors: screw terminals with connecting bars that the cables can be connected to using either cable lugs or flexible or rigid busbars. Alternatively, box terminals are available as accessories.

Auxiliary/control circuit

Screw terminals

Operating mechanism types

3RT244 contactors

These contactors are available as versions with conventional AC or DC operating mechanisms or as versions with a wide-range solid-state operating mechanism and a universal actuating voltage (AC or DC operation).

With an operating range from 0.8 to $1.1 \times U_s$, control typically takes place via the control supply voltage connection A1 - A2.

3RT145 to 3RT147 contactors

Control and/or operating mechanism versions:

- Standard operating mechanism with economy circuit for AC and DC operating mechanism (switchover from closing coil to holding coil)
- Solid-state operating mechanisms
Overvoltage damping of the operating mechanism coil is already integrated in the electronics for contactors with solid-state operating mechanisms. The operating mechanisms are powered via a supply voltage with an operating range from 0.8 to $1.1 \times U_s$, optionally also controlled depending on the chosen mode of operation. Alternatively, control is via the separate 24 V DC control signal input. Various rated voltage ranges for AC/DC control are available.

The following versions are available:

- With two operating modes: Direct control or via PLC input
- As above, but additionally with remaining lifetime indication (RLT)
- With fail-safe PLC input for simplification of safety applications (without mode of operation selection)

Solenoid coils/drive units

3RT244 contactors

Coil replacement is possible.

3RT145 to 3RT147 contactors

The operating mechanisms for 3RT14...A/-N/-P contactors are removable and can be replaced simply by unlocking and pulling them out.

NOTICE: Removal or changing of the operating mechanism is not permitted for 3RT14...S contactors with fail-safe control.

Contactors in safety-related applications

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

Contactors with mirror contacts according to IEC 60947-4-1 are generally required for use in safety-related applications. Most of our contactors meet this requirement; a corresponding note can be found in the technical product data sheet.

Contactors with increased tamper protection

Increased tamper protection is ensured either by using our contactor versions with factory-installed, permanently mounted auxiliary switches protected against mechanical, external actuation (e.g. 3RT2...-3MA0 or 3RT1...-3PA0 contactors), or by using the 3RT2916-4MA10 or 3RT1926-4MA10 sealable cover as an accessory (see page 3/117).

Switching Devices – Contactors and Contactor Assemblies – Special Applications

Contactors for Special Applications

SIRIUS 3RT.4 contactors for resistive loads (AC-1), 3-pole

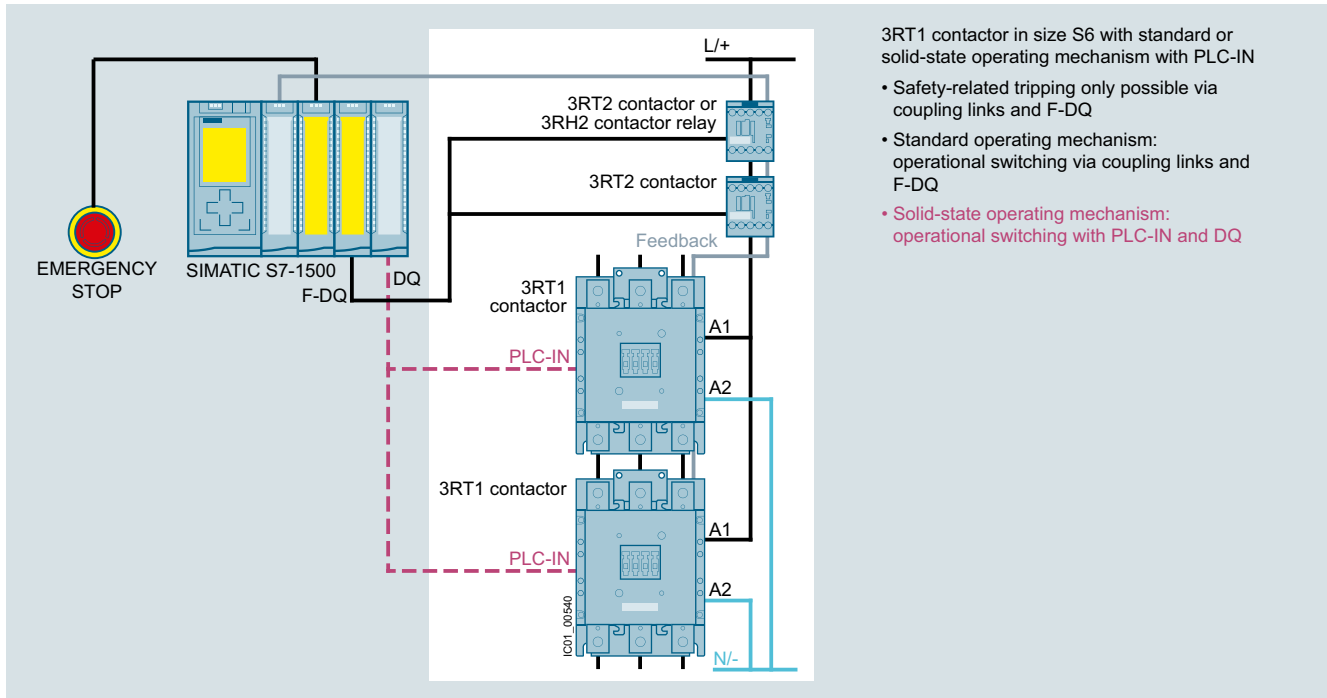
Connection of contactors to fail-safe control modules

While contactors with smaller power ratings can be connected directly to the outputs of fail-safe controllers, implementing safety-related applications with standard contactors with higher power is much more complicated and elaborate because of the necessary coupling links.

Due to their fail-safe control input, the special versions from size S6 to S12 (3RT14...S) provide a much simpler way of doing this.

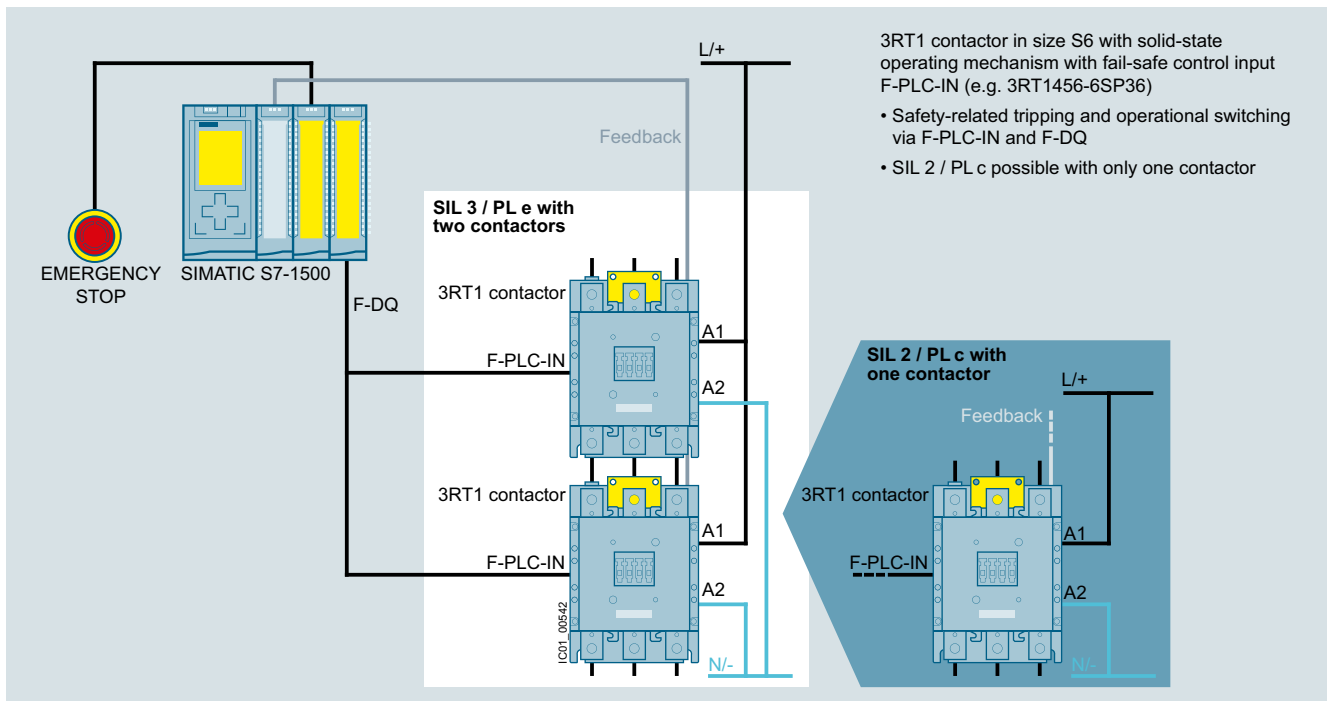
For more information on safety systems, see page 11/1 onwards.

Example for SIL 2 and SIL 3 / PL e application - previously:



Application with safety-related disconnection with standard contactors

Example for SIL 3 / PL e (left-hand side) and SIL 2 / PL c (right-hand side) Application - new:



Application with safety-related disconnection with contactors with fail-safe control

Switching Devices – Contactors and Contactor Assemblies – Special Applications

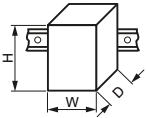
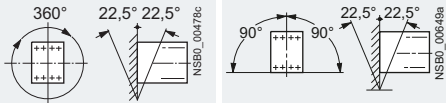
Contactor for Special Applications

SIRIUS 3RT.4 contactors for resistive loads (AC-1), 3-pole

Application

- The 3RT.4 contactors can be used for the following applications:
- For switching resistive and weak inductive loads (AC-1)
 - Disconnecting loads or power generation plants from the grid (e.g. wind turbines or photovoltaic systems)
 - Disconnecting frequency converters from the grid

Technical specifications

More information							
Technical specifications, see https://support.industry.siemens.com/cs/ww/en/ps/24229/td FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/24229/faq		Manuals, see https://support.industry.siemens.com/cs/ww/en/ps/24229/man					
Type		3RT2446, 3RT2448	3RT1456	3RT1466	3RT1467	3RT1476	
Size		S3	S6	S10		S12	
General data							
Dimensions (W x H x D)							
- Basic units - Screw/spring-loaded terminals		mm	70 x 140 x 152	120 x 172 x 170	145 x 210 x 202	160 x 214 x 225	
- Basic unit with mounted auxiliary switch - Screw terminals - Spring-loaded terminals		mm	70 x 140 x 196	120 x 172 x 217	145 x 210 x 251	160 x 214 x 271	
		mm	70 x 140 x 200	--			
- Basic unit with mounted function module or solid-state time-delayed auxiliary switch - Screw/spring-loaded terminals		mm	70 x 140 x 226	--			
Permissible mounting position							
The contactors are designed for operation on a vertical mounting surface.							
Upright mounting position		 Special version required					
Mechanical endurance							
Basic units and basic units with mounted auxiliary switch	Oper. cycles	10 million					
Basic units with solid-state compatible auxiliary switch	Oper. cycles	5 million					
		--					
Electrical endurance for utilization category AC-1, at $U_e = 400$ V		Oper. cycles	0.5 million				
			On request 0.5 million				
Rated insulation voltage U_i (pollution degree 3)		V	1 000				
Rated impulse withstand voltage U_{imp}		kV	6 8				
Protective separation between the coil and the main contacts acc. to IEC 60947-1, Appendix N		V	690				
Mirror contacts according to IEC 60947-4-1, Appendix F A mirror contact is an auxiliary NC contact that cannot be closed simultaneously with an NO main contact.							
Integrated auxiliary switches	Yes	--					
Removable auxiliary switch	--	Yes					
Permissible ambient temperature							
During operation	°C	-25 ... +60					
During storage	°C	-55 ... +80					
Degree of protection acc. to IEC 60529							
On front	IP20	IP00 (IP20 with box terminal/cover)					
Connecting terminal	IP00 (for higher degree of protection: use additional terminal covers)						
Touch protection acc. to IEC 60529							
	Finger-safe for vertical touching from the front	Finger-safe for vertical touching from the front with cover					
Shock resistance							
- Rectangular pulse - AC operation - DC operation	g/ms	10.3/5 and 10.5/10	8.5/5 and 4.2/10				
	g/ms	6.7/5 and 4.0/10	8.5/5 and 4.2/10				
- Sine pulse - AC operation - DC operation	g/ms	16.3/5 and 10.5/10	13.4/5 and 6.5/10				
	g/ms	10.6/5 and 6.3/10	13.4/5 and 6.5/10				

Switching Devices – Contactors and Contactor Assemblies – Special Applications

Contactors for Special Applications

SIRIUS 3RT.4 contactors for resistive loads (AC-1), 3-pole

Type	3RT2446, 3RT2448	3RT1456	3RT1466	3RT1467	3RT1476
Size	S3	S6	S10	S12	S12
Short-circuit protection					
Main circuit					
• Version of the fuse link required for short-circuit protection of the main circuit					
- for type of coordination "1"	gG: 250 A (690 V, 100 kA)	gG: 355 A (690 V, 100 kA)	gG: 500 A (690 V, 100 kA)		gG: 800 A (690 V, 50 kA)
- for type of coordination "2"	gG: 250 A (690 V, 100 kA)	gG: 350 A (690 V, 100 kA)	gG: 500 A (690 V, 100 kA)		gG: 710 A (690 V, 100 kA)
Auxiliary circuit					
• Version of the fuse link required for short-circuit protection A of the auxiliary switch	Fuse gG: 10				
• Miniature circuit breaker version required for short-circuit A protection of the auxiliary switch	On request				
Short-circuit protection for contactors with overload relays	See Configuration Manual for load feeders				
Short-circuit protection for fuseless load feeders	See • 3RA2 load feeders, page 8/4 onwards • Configuration Manual for load feeders				

Type	3RT2446, 3RT2448			3RT1456		3RT1466, 3RT1467		3RT1476	
	-A	-N	-A	-N/-P/-S	-A	-N/-P/-S	-A	-N/-P/-S	
Size	S3		S6		S10		S12		
Control									
Solenoid coil operating range (AC/DC)	0.8 ... 1.1 x U _s	0.8 x U _{s min} ... 1.1 x U _{s max}							
Power consumption of the solenoid coils (for cold coil and 1.0 x U _s)									
• AC operation, 50 Hz, standard version									
- Closing	VA	296	--						
- P.f.		0.61	--						
- Closed	VA	19	--						
- P.f.		0.38	--						
• AC operation, 50/60 Hz, standard version									
- Closing	VA	348/296	--						
- P.f.		0.62/0.55	--						
- Closed	VA	25/18	--						
- P.f.		0.35/0.41	--						
• AC operation, 50/60 Hz, for USA/Canada									
- Closing	VA	326/326	--						
- P.f.		0.62/0.55	--						
- Closed	VA	22/22	--						
- P.f.		0.38/0.4	--						
• AC/DC operation									
- Closing for AC operation	VA	--	163	300	280	590	530	830	750
- P.f.		--		0.9	0.8	0.9	0.8	0.9	0.8
- Closed for AC operation	VA	--	3.1	5.8	4.8	6.7	8.5	9.2	9
- P.f.		--		0.8	0.6	0.9	0.4	0.9	0.4
- Closing for DC operation	W	--	76	360	320	650	580	920	800
- Closed for DC operation	W	--	1.8	5.2	2.8	7.4	3.4	10	3.6

Switching Devices – Contactors and Contactor Assemblies – Special Applications

Contactors for Special Applications

SIRIUS 3RT.4 contactors for resistive loads (AC-1), 3-pole

Type			3RT2446, 3RT2448	3RT1456	3RT1466, 3RT1467	3RT1476
Size			S3	S6	S10	S12
Control (continued)						
Type of PLC control input according to IEC 60947-1						
<u>Solid-state operating mechanism</u>						
• Version	3RT14..-N/-P 3RT14..-S	--	Type 2 Type 1			
• Rated voltage		V DC	--	24		
• Operating range		V DC	--	17 ... 30		
• Power consumption		mA	--	≤ 30		
• Recovery time after mains failure, typical	3RT14..-S	s	--	2		
Operating times for 1.0 x $U_s^{1)}$ (Total break time = Opening delay + Arcing time)						
<u>Standard operating mechanism</u>						
- Closing delay	3RT.4..-A	ms	13 ... 50	25 ... 50	35 ... 50	50 ... 70
- Opening delay		ms	10 ... 21	40 ... 60	50 ... 80	70 ... 100
<u>Solid-state operating mechanism</u>						
• Actuated via A1/A2	3RT.4..-N/-P					
- Closing delay		ms	50 ... 70	100 ... 120	110 ... 130	125 ... 150
- Opening delay		ms	38 ... 57	80 ... 100		
• Actuated via PLC input	3RT14..-N/-P					
- Closing delay		ms	--	40 ... 60	50 ... 65	65 ... 80
- Opening delay		ms	--	80 ... 100		
• Actuated via F-PLC input	3RT14..-S					
- Closing delay		ms	--	60 ... 75		
- Opening delay		ms	--	115 ... 130		
• Arcing time		ms	10 ... 20	10 ... 15		

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 (varistor +2 to 5 ms, diode assembly: 2x to 6x).

Switching Devices – Contactors and Contactor Assemblies – Special Applications

Contactors for Special Applications

SIRIUS 3RT.4 contactors for resistive loads (AC-1), 3-pole

Type		3RT2446	3RT2448	3RT1456	3RT1466	3RT1467	3RT1476	
Size		S3		S6	S10		S12	
Rated data of the main contacts								
Load rating with AC								
Utilization category AC-1, switching resistive loads								
• Rated operational currents I_e	At 40 °C up to 690 V A	140	160	275	400	500	690	
	At 60 °C up to 690 V A	130	140	250	380	450	Standard operating mechanism: 650, solid-state operating mechanism: 600	
	Up to 1 000 V A	60	80	--	--	--	--	
• Minimum cross-section in the main circuit at maximum AC-1 rated value	mm ²	50	70	140	240	300	480	
Utilization categories AC-2 and AC-3								
With an electrical endurance of 1.3 million operating cycles								
• Rated operational currents I_e	Up to 400 V A	44		97	138		170	
	Up to 690 V A	44		97	138		170	
• Rated power for slipping or squirrel-cage motors at 50 and 60 Hz	At 230 V kW	12.7		30	37		55	
	400 V kW	22		55	75		90	
	500 V kW	29.9		55	90		110	
	690 V kW	38.2		90	132		160	
Power loss per conducting path		At I_e /AC-1 W	--	20	27	42	55	
Load rating with DC								
Utilization category DC-1, switching resistive loads ($L/R \leq 1$ ms)								
• Rated operational currents I_e (at 60 °C)	- 1 conducting path	Up to 24 V A	130	140	250	380	500	
		60 V A	80		250	380	500	
		110 V A	12		18	33		
		220 V A	2.5		3.4	3.8		
		440 V A	0.8		0.8	0.9		
		600 V A	0.48		0.5	0.6		
	- 2 conducting paths in series	Up to 24 V A	130	140	250	380	500	
		60 V A	130	140	250	380	500	
		110 V A	130	140	250	380	500	
		220 V A	13		20	380	500	
		440 V A	2.4		3.2	4		
		600 V A	1.3		1.6	2		
	- 3 conducting paths in series	Up to 24 V A	130	140	250	380	500	
		60 V A	130	140	250	380	500	
		110 V A	130	140	250	380	500	
		220 V A	130	140	250	380	500	
		440 V A	6		11.5	11		
		600 V A	3.4		4	5.2		
	Utilization category DC-3/DC-5, shunt-wound and series-wound motors ($L/R \leq 15$ ms)							
	• Rated operational currents I_e (at 60 °C)	- 1 conducting path	Up to 24 V A	6		250	380	500
			60 V A	3		7.5	11	
			110 V A	1.25		2.5	3	
			220 V A	0.35		0.6		
			440 V A	0.15		0.17	0.18	
600 V A			0.1		0.12	0.125		
- 2 conducting paths in series		Up to 24 V A	130	140	250	380	500	
		60 V A	130	140	250	380	500	
		110 V A	130	140	250	380	500	
		220 V A	1.75		2.5			
		440 V A	0.42		0.65			
		600 V A	0.27		0.37			
- 3 conducting paths in series		Up to 24 V A	130	140	250	380	500	
		60 V A	130	140	250	380	500	
		110 V A	130	140	250	380	500	
		220 V A	4		250	380	500	
		440 V A	0.8		1.4			
		600 V A	0.45		0.75			

Switching Devices – Contactors and Contactor Assemblies – Special Applications

Contactors for Special Applications

SIRIUS 3RT.4 contactors for resistive loads (AC-1), 3-pole

Type	3RT2446	3RT2448	3RT1456	3RT1466, 3RT1467	3RT1476
Size	S3		S6	S10	S12

Rated data of main contacts (continued)

Switching frequency

Switching frequency z in operating cycles/hour

Contactors without overload relays

• No-load switching frequency

- Standard operating mechanism	3RT244...A	1/h	5 000	1 000	--	
	3RT14...A	1/h	--		2 000	
- Solid-state operating mechanism	3RT14...N/-P	1/h	--		1 000	
	3RT14...S	1/h	--		1 000	500

• Switching frequency z during rated operation

- Standard operating mechanism	$I_e/AC-1$ at 400 V	1/h	650	--		
	3RT244...A					
- Standard operating mechanism	$I_e/AC-1$ at 400 V	1/h	--	600		
	3RT14...A and solid-state operating mechanism 3RT14...N/-P					
- Solid-state operating mechanism	$I_e/AC-1$ at 400 V	1/h	--	350		
	3RT14...S					

Dependence of the switching frequency z' on the operational current I' and operational voltage U' :
 $z' = z \cdot (I_e/I') \cdot (U_e/U')^{1.5} \cdot 1/h$

Type	3RT2446, 3RT2448
Size	S3

Conductor cross-sections

Main conductors

(1 or 2 conductors can be connected)

• Solid	mm ²	2 x (2.5 ... 16) ¹⁾
• Stranded	mm ²	2 x (6 ... 16) ¹⁾ ; 2 x (10 ... 50) ¹⁾ ; 1 x (10 ... 70) ¹⁾
• Finely stranded with end sleeve (DIN 46228)	mm ²	2 x (2.5 ... 35) ¹⁾ ; 1 x (2.5 ... 50) ¹⁾
• AWG cables, solid or stranded	AWG	2 x (10 ... 1/0) ¹⁾ ; 1 x (10 ... 2/0) ¹⁾
• Terminal screws		Hexagon socket, A/F 4
- Tightening torque	Nm	4.5 ... 6 (40 ... 53 lb.in)

Auxiliary conductors and control conductors

(1 or 2 conductors can be connected)

• Solid or stranded	mm ²	2 x (0.5 ... 1.5) ¹⁾ ; 2 x (0.75 ... 2.5) ¹⁾
• Finely stranded with end sleeve (DIN 46228)	mm ²	2 x (0.5 ... 1.5) ¹⁾ ; 2 x (0.75 ... 2.5) ¹⁾
• AWG cables, solid or stranded	AWG	2 x (20 ... 16) ¹⁾ ; 2 x (18 ... 14) ¹⁾
• Terminal screws		M3 (for Pozidriv size 2; Ø 5 ... 6)
- Tightening torque	Nm	0.8 ... 1.2 (7 ... 10.3 lb.in)

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

Switching Devices – Contactors and Contactor Assemblies – Special Applications

Contactors for Special Applications

SIRIUS 3RT.4 contactors for resistive loads (AC-1), 3-pole

Type	3RT1456		3RT1466, 3RT1467	3RT1476	
Size	S6		S10	S12	
Conductor cross-sections					
Main conductors (1 or 2 conductors can be connected)		 Screw terminals			
<u>With mounted box terminals</u>		Type	3RT1955-4G	3RT1956-4G	3RT1966-4G
Terminal screws			M10 (hexagon socket, A/F 4)	M10 (hexagon socket, A/F 4)	M12 (hexagon socket, A/F 5)
• Tightening torque		Nm lb.in	10 ... 12 90 ... 110	10 ... 12 90 ... 110	20 ... 22 180 ... 195
Front clamping point connected					
 NSB0_00479	• Finely stranded with end sleeve (DIN 46228)	mm ²	16 ... 70	16 ... 120	70 ... 240
	• Finely stranded without end sleeve	mm ²	16 ... 70	16 ... 120	70 ... 240
	• Stranded	mm ²	16 ... 70	16 ... 120	95 ... 300
	• AWG cables, solid or stranded	AWG	6 ... 2/0	6 ... 250 kcmil	3/0 ... 600 kcmil
	• Ribbon cable conductors (Number x Width x Thickness)	mm	Min. 3 x 9 x 0.8, max. 6 x 15.5 x 0.8	Min. 3 x 9 x 0.8, max. 10 x 15.5 x 0.8	Min. 6 x 9 x 0.8, max. 20 x 24 x 0.5
Rear clamping point connected					
 NSB0_00480	• Finely stranded with end sleeve (DIN 46228)	mm ²	16 ... 70	16 ... 120	120 ... 185
	• Finely stranded without end sleeve	mm ²	16 ... 70	16 ... 120	120 ... 185
	• Stranded	mm ²	16 ... 70	16 ... 120	120 ... 240
	• AWG cables, solid or stranded	AWG	6 ... 2/0	6 ... 250 kcmil	250 ... 500 kcmil
	• Ribbon cable conductors (Number x Width x Thickness)	mm	Min. 3 x 9 x 0.8, max. 6 x 15.5 x 0.8	Min. 3 x 9 x 0.8, max. 10 x 15.5 x 0.8	Min. 6 x 9 x 0.8, max. 20 x 24 x 0.5
Both clamping points connected (minimum cross-section 16 mm²)					
 NSB0_00481	• Finely stranded with end sleeve (DIN 46228)	mm ²	Max. 1 x 50, 1 x 70	Max. 1 x 95, 1 x 120	Min. 2 x 50, max. 2 x 185
	• Finely stranded without end sleeve	mm ²	Max. 1 x 50, 1 x 70	Max. 1 x 95, 1 x 120	Min. 2 x 50, max. 2 x 185
	• Stranded	mm ²	Max. 1 x 50, 1 x 70	Max. 1 x 95, 1 x 120	Min. 2 x 70, max. 2 x 240
	• AWG cables, solid or stranded	AWG	Max. 2 x 1/0	Max. 2 x 3/0	Min. 2 x 2/0, max. 2 x 500 kcmil
	• Ribbon cable conductors (Number x Width x Thickness)	mm	Max. 2 x (6 x 15.5 x 0.8)	Max. 2 x (10 x 15.5 x 0.8)	Max. 2 x (20 x 24 x 0.5)
<u>Busbar connections</u>					
• Connecting bar (max. width)		mm	17		25
- Bore diameter		mm	9		11
<u>Cable lug connection</u>			1)		2)
• Finely stranded with cable lug		mm ²	16 ... 95		50 ... 240
• Stranded with cable lug		mm ²	25 ... 120		70 ... 240
• AWG cables, solid or stranded		AWG	4 ... 250 kcmil		2/0 ... 500 kcmil
• Terminal screws			M8 x 25 (A/F 13)		M10 x 30 (A/F 17)
- Tightening torque		Nm lb.in	10 ... 14 90 ... 124		14 ... 24 124 ... 210
Auxiliary conductors (1 or 2 conductors can be connected)					
• Solid		mm ²	2 x (0.5 ... 1.5) ³⁾ ; 2 x (0.75 ... 2.5) ³⁾ acc. to IEC 60947; max. 2 x (0.75 ... 4) ³⁾		
• Finely stranded with end sleeve (DIN 46228)		mm ²	2 x (0.5 ... 1.5) ³⁾ ; 2 x (0.75 ... 2.5) ³⁾		
• AWG cables, solid or stranded		AWG	2 x (18 ... 14)		
• Terminal screws			M3 (Pozidriv size 2)		
- Tightening torque		Nm lb.in	0.8 ... 1.2 7 ... 10.3		
Auxiliary conductors⁴⁾ (1 or 2 conductors can be connected)			 Spring-loaded terminals		
• Operating devices			3.0 x 0.5; 3.5 x 0.5		
• Solid		mm ²	2 x (0.25 ... 2.5)		
• Finely stranded with end sleeve (DIN 46228)		mm ²	2 x (0.25 ... 1.5)		
• Finely stranded without end sleeve		mm ²	2 x (0.25 ... 2.5)		
• AWG cables, solid or stranded		AWG	2 x (24 ... 14)		

1) 3RT1456: When connecting cable lugs according to DIN 46235, the 3RT1956-4EA1 terminal cover is required for conductor cross-sections larger than 95 mm² to maintain the phase clearance, [see page 3/117](#).

2) 3RT1466, 3RT1467 and 3RT1476: When connecting cable lugs according to DIN 46234 for conductor cross-sections larger than 240 mm² and according to DIN 46235 for conductor cross-sections larger than 185 mm², the 3RT1966-4EA1 terminal cover is required to maintain phase clearance, [see page 3/117](#).

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

4) Max. external diameter of the conductor insulation: 3.6 mm. On spring-loaded terminals with conductor cross-sections ≤ 1 mm² an insulation stop is recommended, [see page 3/120](#).

Switching Devices – Contactors and Contactor Assemblies – Special Applications

Contactors for Special Applications

SIRIUS 3RT.4 contactors for resistive loads (AC-1), 3-pole

Selection and ordering data

Size S3: AC operation  **or AC/DC operation** 

- Coil circuits (varistors, diodes, etc.) retrofittable
- Auxiliary switches can be retrofitted
- Main and control conductors: Screw terminals



3RT244.-1...0

Size	Rated data	Auxiliary contacts	Rated control supply voltage U_s		SD	Screw terminals 		PU (UNIT, SET, M)	PS*	PG
	AC-1, t_u : 40 °C 60 °C Operational current I_e up to 690 V 690 V	Ident. No. Version	50 Hz AC	50 Hz AC or DC		Article No.	Price per PU			
A		NO NC	V	V	d					

For screw and snap-on mounting onto TH 35-15 and TH 75-15 standard mounting rails

AC operation

S3	140	130	11	1	1	24	--	5	3RT2446-1AB00	1	1 unit	41B
						110	--	5	3RT2446-1AF00	1	1 unit	41B
						230	--	2	3RT2446-1AP00	1	1 unit	41B
	160	140	11	1	1	24	--	5	3RT2448-1AB00	1	1 unit	41B
						110	--	5	3RT2448-1AF00	1	1 unit	41B
						230	--	5	3RT2448-1AP00	1	1 unit	41B

AC/DC operation

With integrated coil circuit (varistor integrated in electronics at the factory)

S3	140	130	11	1	1	--	20 ... 33	2	3RT2446-1NB30	1	1 unit	41B
						--	83 ... 155	5	3RT2446-1NF30	1	1 unit	41B
						--	175 ... 280	5	3RT2446-1NP30	1	1 unit	41B
	160	140	11	1	1	--	20 ... 33	5	3RT2448-1NB30	1	1 unit	41B
						--	83 ... 155	5	3RT2448-1NF30	1	1 unit	41B
						--	175 ... 280	5	3RT2448-1NP30	1	1 unit	41B

Other voltages [according to page 4/47](#) on request.

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

Switching Devices – Contactors and Contactor Assemblies – Special Applications

Contactors for Special Applications

SIRIUS 3RT.4 contactors for resistive loads (AC-1), 3-pole

Sizes S6 to S12: AC/DC operation

- 3RT14...-A standard operating mechanism
- Solid-state operating mechanism
 - 3RT14...-N with 24 V DC control signal input
 - 3RT14...-P with 24 V DC control signal input and remaining lifetime indication (RLT)
- For screw fixing
- Auxiliary and control conductors: Screw terminals
- Main conductors: Busbar connections; a connection kit with screws, spring washers and nuts is enclosed.



3RT1456-6A.36



3RT1466-6A.36



3RT1476-6A.36



3RT1476-6N.36



3RT1476-6P.35

Size	Rated data AC-1, I_N : 40 °C Operational current I_e up to	Auxiliary contacts, lateral	Rated control supply voltage U_s	SD	Screw terminals	PU (UNIT, SET, M)	PS*	PG
	60 °C 690 V	Version	50/60 Hz AC or DC		Article No.	Price per PU		
A	A	NO NC V	d					

Standard operating mechanism with economy circuit for AC and DC operation (switchover from closing coil to holding coil)

With integrated coil circuit (varistor integrated at the factory)

S6	275	250	2	2	110 ... 127 220 ... 240	► ►	3RT1456-6AF36 3RT1456-6AP36	1 1	1 unit 1 unit	41B 41B
S10	400	380	2	2	110 ... 127 220 ... 240	► ►	3RT1466-6AF36 3RT1466-6AP36	1 1	1 unit 1 unit	41B 41B
	500	450	2	2	110 ... 127 220 ... 240	5 5	3RT1467-6AF36 3RT1467-6AP36	1 1	1 unit 1 unit	41B 41B
S12	690	650	2	2	110 ... 127 220 ... 240	2 ►	3RT1476-6AF36 3RT1476-6AP36	1 1	1 unit 1 unit	41B 41B

Solid-state operating mechanism

With 24 V DC control signal input e.g. for control by PLC

With integrated coil circuit (varistor integrated in electronics at the factory)

S6	275	250	2	2	96 ... 127 200 ... 277	5 5	3RT1456-6NF36 3RT1456-6NP36	1 1	1 unit 1 unit	41B 41B
S10	400	380	2	2	96 ... 127 200 ... 277	5 5	3RT1466-6NF36 3RT1466-6NP36	1 1	1 unit 1 unit	41B 41B
	500	450	2	2	96 ... 127 200 ... 277	5 5	3RT1467-6NF36 3RT1467-6NP36	1 1	1 unit 1 unit	41B 41B
S12	690	650	2	2	96 ... 127 200 ... 277	5 2	3RT1476-6NF36 3RT1476-6NP36	1 1	1 unit 1 unit	41B 41B

With 24 V DC control signal input · with indication of remaining lifetime (RLT) e.g. for control by PLC

With integrated coil circuit (varistor integrated in electronics at the factory)

S6	275	250	1	1	96 ... 127 200 ... 277	5 5	3RT1456-6PF35 3RT1456-6PP35	1 1	1 unit 1 unit	41B 41B
S10	400	380	1	1	96 ... 127 200 ... 277	5 5	3RT1466-6PF35 3RT1466-6PP35	1 1	1 unit 1 unit	41B 41B
	500	450	1	1	96 ... 127 200 ... 277	5 5	3RT1467-6PF35 3RT1467-6PP35	1 1	1 unit 1 unit	41B 41B
S12	690	650	1	1	96 ... 127 200 ... 277	5 5	3RT1476-6PF35 3RT1476-6PP35	1 1	1 unit 1 unit	41B 41B

Other voltages [according to page 4/48](#) on request.

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

Switching Devices – Contactors and Contactor Assemblies – Special Applications

Contactors for Special Applications

SIRIUS 3RT.4 contactors for resistive loads (AC-1), 3-pole

Sizes S6 to S12: AC/DC operation

- Solid-state operating mechanism with fail-safe control input for safety-related applications to SIL CL 3
- 24 V DC control signal input, e.g. for control via the fail-safe output module of a controller (F-PLC) or safety relay
- Attainable Safety Integrity Level (SIL):
 - With one contactor: SIL CL 2 acc. to IEC 62061 or PL c acc. to ISO 13849-1
 - With two contactors in series: SIL CL 3 acc. to IEC 62061 or PL e acc. to ISO 13849-1
- Version with removable lateral auxiliary switches or permanently mounted auxiliary switches
- For screw fixing
- Auxiliary and control conductors: Screw terminals
- Main conductors: Busbar connections; a connection kit with screws, spring washers and nuts is enclosed.

For more information on safety systems, see page 11/1 onwards.



Size	Rated data according to IEC 60947-4-1 AC-1, t_u : 40 °C Operational current I_e up to 690 V	Auxiliary contacts, lateral Version  	Rated control supply voltage U_s 50/60 Hz AC or DC	SD	Screw terminals 	PU (UNIT, SET, M)	PS*	PG
A	A	NO NC	V	d	Article No.	Price per PU		

Solid-state operating mechanism

With two removable laterally mounted auxiliary switches

With integrated coil circuit (varistor integrated in electronics at the factory)

S6	275	250	2	2	96 ... 127 200 ... 277	5 5	3RT1456-6SF36 3RT1456-6SP36	1 1	1 unit 1 unit	41B 41B
S10	400	380	2	2	96 ... 127 200 ... 277	5 5	3RT1466-6SF36 3RT1466-6SP36	1 1	1 unit 1 unit	41B 41B
	500	450	2	2	96 ... 127 200 ... 277	5 5	3RT1467-6SF36 3RT1467-6SP36	1 1	1 unit 1 unit	41B 41B
S12	690	650	2	2	96 ... 127 200 ... 277	5 5	3RT1476-6SF36 3RT1476-6SP36	1 1	1 unit 1 unit	41B 41B

With two permanently laterally mounted auxiliary switches

With integrated coil circuit (varistor integrated in electronics at the factory)

S6	275	250	2	2	96 ... 127 200 ... 277	5 5	3RT1456-6SF36-3PA0 3RT1456-6SP36-3PA0	1 1	1 unit 1 unit	41B 41B
S10	400	380	2	2	96 ... 127 200 ... 277	5 5	3RT1466-6SF36-3PA0 3RT1466-6SP36-3PA0	1 1	1 unit 1 unit	41B 41B
	500	450	2	2	96 ... 127 200 ... 277	5 5	3RT1467-6SF36-3PA0 3RT1467-6SP36-3PA0	1 1	1 unit 1 unit	41B 41B
S12	690	650	2	2	96 ... 127 200 ... 277	5 5	3RT1476-6SF36-3PA0 3RT1476-6SP36-3PA0	1 1	1 unit 1 unit	41B 41B

Accessories and spare parts, see page 3/75 onwards.

Switching Devices – Contactors and Contactor Assemblies – Special Applications

Contactors for Special Applications

SIRIUS 3RT.3 contactors, 4-pole, up to 525 A

Overview



3RT231 to 3RT234 and 3RT135 to 3RT137 contactors, with screw terminals

Standards

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

Sizes S00 to S3

The 3RT23 contactors have two auxiliary contacts with 1 NO and 1 NC.

Sizes S6 to S12

The 3RT13 contactors have four auxiliary contacts with 2 NO and 2 NC.

Connection methods

Main circuit

- Sizes S00 and S0: screw or spring-loaded terminals, spring-loaded terminals with convenient plug-in design for device connectors
- Sizes S2 and S3: screw terminals with box terminal; direct connection to the connecting bar possible with cable lugs for S3 when the box terminal is removed.
- Sizes S6 to S12: screw terminals with connecting bars that the cables can be connected to using either cable lugs or flexible or rigid busbars. Sizes S10 and S12 can be fitted with bus connectors offset, [see page 4/31](#).

Auxiliary/control circuit

- Sizes S00 to S3: Screw or spring-loaded terminals
- Sizes S6 to S12: Screw terminals

Operating mechanism types

Sizes S00 to S3

3RT23 contactors are available as versions with conventional AC or DC operating mechanisms or as versions with a wide-range solid-state operating mechanism and a universal actuating voltage (AC or DC operation possible).

With an operating range from 0.8 to $1.1 \times U_s$, control typically takes place via the control supply voltage connection A1 - A2.

Sizes S6 to S12

The 3RT13 contactors are fitted with a wide-range solid-state operating mechanism that can be controlled with both 50/60 Hz AC and DC.

The operating range of the DC control is $0.8 \times U_{s \min}$ and $1.1 \times U_{s \max}$, and for AC operation $0.85 \times U_{s \min}$ and $1.1 \times U_{s \max}$.

It is not possible to change the operating mechanism.

Mounting of additional auxiliary contacts

Size S00

Four auxiliary contacts, including no more than three NC

Sizes S0 to S3

Four additional auxiliary contacts, including no more than two NC

Sizes S6 to S12

One additional auxiliary switch with 1 NO + 1 NC can be mounted on each side.

Accessories and spare parts

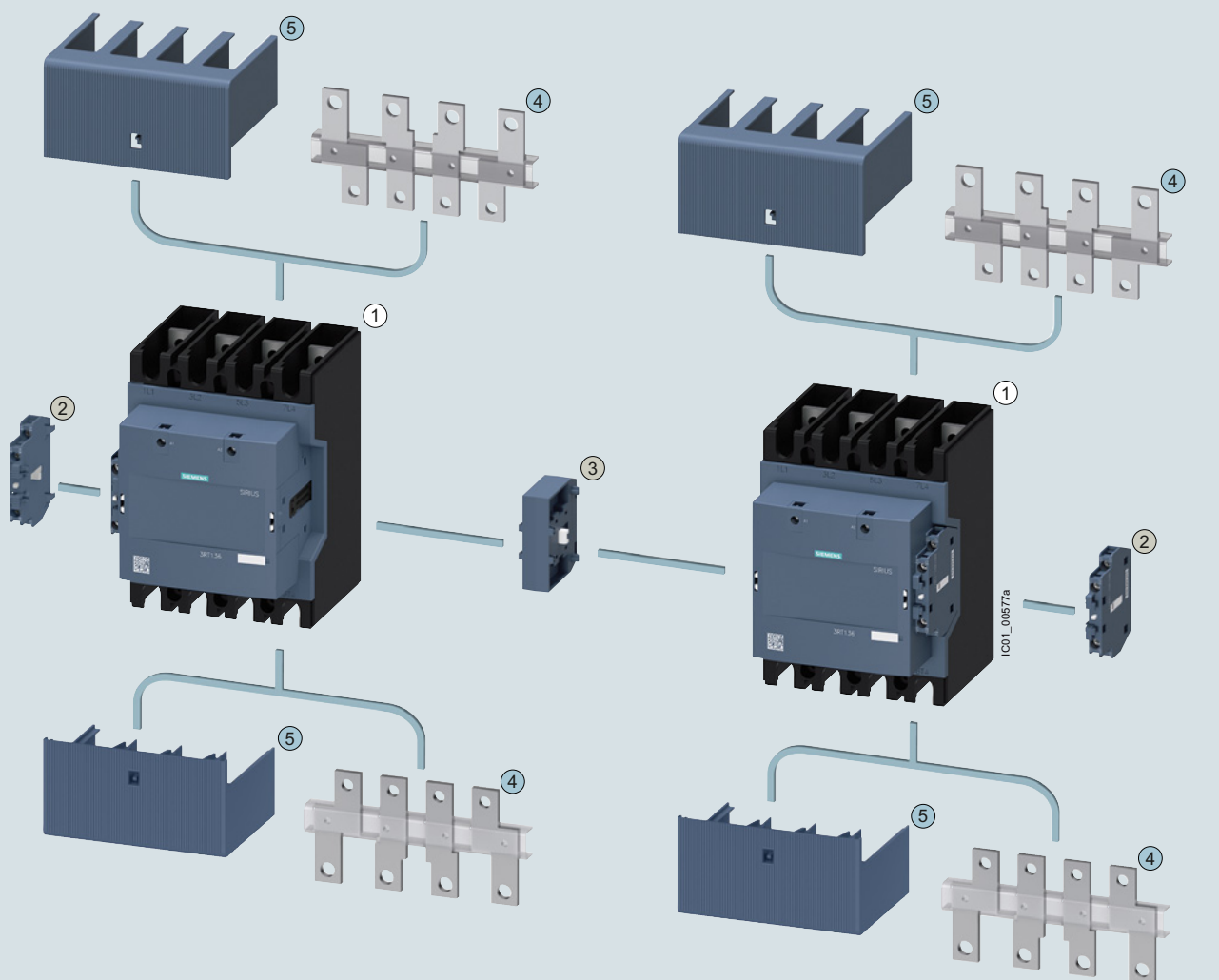
- Sizes S00 to S3, [see page 3/75 onwards](#)
- Sizes S6 to S12, [see page 4/31](#)

Switching Devices – Contactors and Contactor Assemblies – Special Applications

Contactors for Special Applications

SIRIUS 3RT.3 contactors, 4-pole, up to 525 A

**3RT135 to 3RT137 contactors,
sizes S6 to S12 with mountable accessories**



① 4-pole 3RT13 contactors, sizes S6 to S12
(scope of supply: The contactors are supplied with two laterally mounted auxiliary switch blocks)

② 3RH1951-1SA11 second auxiliary switch block, can be laterally mounted on the left or right

③ 3RA1954-3A mechanical interlock for configuring contactor assemblies:
Two 3RT13 contactors of the same size (S6, S10 and S12) can be interlocked with each other. The laterally mounted auxiliary switches of the contactors must be removed beforehand.
The mechanical interlock cannot be used in conjunction with the bus connectors offset ④.

④ 3RT19.6-4D bus connectors offsets, can be mounted on the top or bottom (providing no terminal cover ⑤ is mounted)

⑤ 3RT19.6-4EB10 terminal covers, can be mounted on the top or bottom (providing no bus connectors offset ④ is mounted)

Same accessories for sizes S6 to S12

Different accessories depending on size

	Size	S6	S10		S12		
①	Contactor	3RT1355 ($I_e = 200$ A)	3RT1363 ($I_e = 275$ A)	3RT1364 ($I_e = 350$ A)	3RT1373 ($I_e = 400$ A)	3RT1374 ($I_e = 500$ A)	3RT1375 ($I_e = 525$ A)
②	Second auxiliary switch block	3RH1951-1SA11					
③	Mechanical interlock	3RA1954-3A					
④	Bus connectors offset	--	3RT1966-4D (from $I > 275$ A)		3RT1976-4D (from $I > 450$ A)		
⑤	Terminal cover	3RT1956-4EB10	3RT1966-4EB10		3RT1976-4EB10		

Switching Devices – Contactors and Contactor Assemblies – Special Applications

Contactors for Special Applications

SIRIUS 3RT.3 contactors, 4-pole, up to 525 A

Application

The 3RT.3 contactors can be used for the following applications:

- 4-pole switching of resistive and weak inductive loads (AC-1)
- Disconnecting loads or power generation plants from the grid
- For system transfers

We additionally offer special versions of the 3RT23 contactors for switching inductive loads such as motors (AC-3).

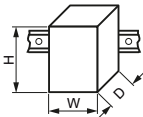
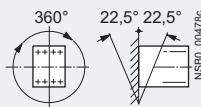
Technical specifications

More information

Technical specifications, see <https://support.industry.siemens.com/cs/ww/en/ps/16165/td>

FAQs, see <https://support.industry.siemens.com/cs/ww/en/ps/16165/faq>

Manuals, see <https://support.industry.siemens.com/cs/ww/en/ps/16165/man>

Type		3RT2316, 3RT2317		3RT2325 to 3RT2327	3RT2336, 3RT2337	3RT2344, 3RT2346, 3RT2348	
Size		S00		S0	S2	S3	
General data							
Dimensions (W x H x D)							
<u>AC or DC operation</u>							
• Basic units - Screw terminals - Spring-loaded terminals • Basic unit with mounted auxiliary switch - Screw terminals - Spring-loaded terminals • Basic unit with mounted function module or solid-state time-delayed auxiliary switch - Screw terminals - Spring-loaded terminals		mm	45 x 58 x 73	(The values in brackets apply for DC operation)	75 x 114 x 130	96 x 140 x 152	
		mm	45 x 70 x 73				61 x 102 x 97 (107)
		mm	45 x 58 x 117	60 x 85 x 141 (151)	75 x 114 x 174	96 x 140 x 196	
		mm	45 x 70 x 121				61 x 102 x 145 (155)
		mm	45 x 58 x 147	60 x 85 x 171 (181)	75 x 114 x 204	96 x 140 x 226	
		mm	45 x 70 x 147				61 x 102 x 171 (181)
Permissible mounting position							
The contactors are designed for operation on a vertical mounting surface.							
Upright mounting position		 NSB0_00477a Special version required					
Mechanical endurance		Operating cycles	30 million	10 million			
Electrical endurance at I_e/AC-1		Operating cycles	Approx. 0.5 million				
Rated insulation voltage U_i (pollution degree 3)		V	690				
Protective separation between the coil and the main contacts acc. to IEC 60947-1, Appendix N		V	400				690
Permissible ambient temperature							
• During operation • During storage	°C	-25 ... +60					
	°C	-55 ... +80					
Degree of protection acc. to IEC 60529							
• On front • Connecting terminal		IP20 (screw terminals and spring-loaded terminals)					
		IP20 (screw terminals and spring-loaded terminals)				IP00 (for higher degree of protection, use additional terminal covers)	
Touch protection acc. to IEC 60529		Finger-safe (screw terminals and spring-loaded terminals)				Finger-safe for vertical touching from the front	

Switching Devices – Contactors and Contactor Assemblies – Special Applications

Contactors for Special Applications

SIRIUS 3RT.3 contactors, 4-pole, up to 525 A

Type Size	3RT2316, 3RT2317 S00	3RT2325, 3RT2326 S0	3RT2326-1...0-4AA0	3RT2327
Short-circuit protection				
Main circuit				
- Version of the fuse link required for short-circuit protection of the main circuit - for type of coordination "1"	gG: 35 A (690 V, 100 kA)	gG: 63 A (690 V, 100 kA)	gG: 100 A (690 V, 100 kA), aM: 50 A (690 V, 100 kA), BS88: 100 A (415 V, 80 kA)	gG: 63 A (690 V, 100 kA)
- for type of coordination "2"	gG: 20 A (690 V, 100 kA)		gG: 35 A (690 V, 100 kA), aM: 20 A (690 V, 100 kA), BS88: 35 A (415 V, 80 kA)	gG: 20 A (690 V, 100 kA)
Auxiliary circuit				
Version of the fuse link required for short-circuit protection of the auxiliary switch	Fuse gG: 10 A (690 V, 1 kA)			
Miniature circuit breaker version required for short-circuit protection of the auxiliary switch	6 A (230 V, 400 A, C characteristic)			

Type Size	3RT2336, 3RT2337 S2	3RT2344, 3RT2346 S3	3RT2346-1...0-4AA0	3RT2348
Short-circuit protection				
Main circuit				
- Version of the fuse link required for short-circuit protection of the main circuit - for type of coordination "1"	gG: 160 A (690 V, 100 kA)	gG: 250 A (690 V, 100 kA)	gG: 250 A (690 V, 100 kA), aM: 160 A (690 V, 100 kA), BS88: 200 A (415 V, 80 kA)	gG: 250 A (690 V, 100 kA)
- for type of coordination "2"	gG: 63 A (690 V, 100 kA)	gR: 80 A (690 V, 100 kA)	gR: 250 A (690 V, 100 kA)	gG: 160 A (690 V, 100 kA), aM: 100 A (690 V, 100 kA), BS88: 125 A (415 V, 80 kA)
Auxiliary circuit				
Version of the fuse link required for short-circuit protection of the auxiliary switch	Fuse gG: 10 A (690 V, 1 kA)			
Miniature circuit breaker version required for short-circuit protection of the auxiliary switch	6 A (230 V, 400 A, C characteristic)			

Switching Devices – Contactors and Contactor Assemblies – Special Applications

Contactors for Special Applications

SIRIUS 3RT.3 contactors, 4-pole, up to 525 A

Type		3RT2316	3RT2317	3RT2325	3RT2326, 3RT2327	3RT2336, 3RT2337	3RT2344, 3RT2346, 3RT2348
Size		S00		S0		S2	S3
Control							
Solenoid coil operating range							
• AC operation	At 50 Hz	0.8 ... 1.1 x U_s		0.8 ... 1.1 x U_s		0.85 ... 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				--	
• AC/DC operation		--				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, standard version							
- Closing	VA	--		77		190	296
- P.f.		--		0.82		0.72	0.61
- Closed	VA	--		9.8		16	19
- P.f.		--		0.25		0.37	0.38
• AC operation, 50/60 Hz, standard version							
- Closing	VA	27/24.3	37/33	81/79		210/188	348/296
- P.f.		0.8/0.75		0.72/0.74		0.69/0.65	0.62/0.55
- Closed	VA	4.2/3.3	5.7/4.4	10.5/8.5		17.2/16.5	25/18
- P.f.		0.25/0.25		0.25/0.28		0.36/0.39	0.35/0.41
• AC operation, 60 Hz, USA, Canada							
- Closing	VA	31.7	43	87		188	326
- P.f.		0.77		0.76		0.67	0.55
- Closed	VA	4.8	6.5	9.4		16.5	22
- P.f.		0.25		0.28		0.37	0.4
• AC/DC operation							
- Closing for AC operation	VA	--				40	151
- P.f.		--				0.95	0.95
- Closed for AC operation	VA	--				2	3.5
- P.f.		--				0.95	0.95
- Closing for DC operation	W	--				23	76
- Closed for DC operation	W	--				1	2.7
• DC operation (closing = closed)	W	4		5.9		--	.. ¹⁾
Operating times for 0.8 ... 1.1 x U_s ²⁾							
Total break time = Opening delay + Arcing time							
• AC operation							
- Closing delay	ms	8 ... 35	8 ... 33	9 ... 38	8 ... 40	10 ... 80	13 ... 50
- Opening delay	ms	3.5 ... 14	4 ... 15	4 ... 16	4 ... 16	10 ... 18	10 ... 21
• DC operation							
- Closing delay	ms	30 ... 100		50 ... 170		--	
- Opening delay	ms	7 ... 13		15 ... 17.5		--	
• AC/DC operation							
- Closing delay	ms	--				35 ... 110	50 ... 70
- Opening delay	ms	--				30 ... 55	38 ... 57
• Arcing time	ms	10 ... 15		10		10 ... 20	

¹⁾ In the case of AC/DC coils, increased pickup currents (6.5 A on average) arise during the first 200 ms.

²⁾ With size S00, DC operation: Operating times at 0.85 to 1.1 x U_s .

Switching Devices – Contactors and Contactor Assemblies – Special Applications

Contactors for Special Applications

SIRIUS 3RT.3 contactors, 4-pole, up to 525 A

Type			3RT2316	3RT2317	3RT2325	3RT2326	3RT2327	3RT2336	3RT2337	3RT2344	3RT2346	3RT2348
Size			S00		S0			S2		S3		
Rated data of the main contacts												
Load rating with AC												
Utilization category AC-1, switching resistive loads												
• Rated operational currents I_e	At 40 °C, up to 690 V	A	18	22	35	40	50	60	110	110	140 (110) ¹⁾	160
	At 60 °C, up to 690 V	A	16	20	30	35	42	55	95	100	130 (100) ¹⁾	140
• Rated power for AC loads P.f. = 0.95 (at 60 °C)	At 230 V	kW	6	7.5	11	13	16	21	36	38	49	53
	400 V	kW	10.5	13	20	23	28	36	63	72	92	105
• Minimum cross-section in the main circuit at maximum AC-1 rated value		mm ²	2.5	4	10			16	35		50 (35) ¹⁾	70
Utilization categories AC-2 and AC-3												
• Rated operational currents I_e (at 60 °C)	At 400 V	A	9	12	15.5	15.5 (25) ¹⁾	15.5	38 (50) ¹⁾	38		-- (95) ¹⁾	--
	At 690 V	A	--	--	--	-- (21) ¹⁾	--	-- (24) ¹⁾	--		-- (58) ¹⁾	--
• Rated power for slipping or squirrel-cage motors at 50 and 60 Hz	At 230 V	kW	2.2	3	4	4 (7.5) ¹⁾	4	-- (15) ¹⁾	--		-- (22) ¹⁾	--
	400 V	kW	4	5.5	7.5	7.5 (15) ¹⁾	7.5	-- (22) ¹⁾	--		-- (45) ¹⁾	--
	690 V	kW	--	--	--	-- (18.5) ¹⁾	--	-- (22) ¹⁾	--		-- (55) ¹⁾	--
Load rating with DC												
Utilization category DC-1, switching resistive loads ($L/R \leq 1$ ms)												
• Rated operational currents I_e (at 60 °C)												
- 1 conducting path	Up to 24 V	A	16	20	30	35	42	55		70	80	
	60 V	A	16	20				23			60	
	110 V	A	2.1		4.5						9	
	220 V	A	0.8		1						2	
	440 V	A	0.6		0.4						0.6	
- 2 conducting paths in series	Up to 24 V	A	16	20	30	35	42	55		70	80	
	60 V	A	16	20	30	35	42	55		70	80	
	110 V	A	12		30	35	42	45		70	80	
	220 V	A	1.6		1			5			10	
	440 V	A	0.8		1						1.8	
- 3 conducting paths in series	Up to 24 V	A	16	20	30	35	42	55		70	80	
	60 V	A	16	20	30	35	42	55		70	80	
	110 V	A	16	20	30	35	42	55		70	80	
	220 V	A	16	20	30	35	42	45		70	80	
	440 V	A	1.3		2.9						4.5	
- 4 conducting paths in series	Up to 24 V	A	16	20	30	35	42	55	65	70	80	
	60 V	A	16	20	30	35	42	55	65	70	80	
	110 V	A	16	20	30	35	42	55		70	80	
	220 V	A	16	20	30	35	42	45	55	70	80	
	440 V	A	1.3		2.9			3.5	2.9	4.5		
Utilization category DC-3/DC-5, shunt-wound and series-wound motors ($L/R \leq 15$ ms)												
• Rated operational currents I_e (at 60 °C)												
- 1 conducting path	Up to 24 V	A	16	20								
	60 V	A	0.5		5					6	6.5	
	110 V	A	0.15		2.5							
	220 V	A	--		1							
	440 V	A	--		0.09			0.1		0.15		
- 2 conducting paths in series	Up to 24 V	A	16	20	30	35	42	45		70	80	
	60 V	A	5		30	35	42	45		70	80	
	110 V	A	0.35		15			25		70	80	
	220 V	A	--		3			5		7		
	440 V	A	--		0.27					0.42		
- 3 conducting paths in series	Up to 24 V	A	16	20	30	35	42	45		70	80	
	60 V	A	16	20	30	35	42	45		70	80	
	110 V	A	16	20	30	35	42	45		70	80	
	220 V	A	1.5		10			25		35		
	440 V	A	0.2		0.6					0.8		
- 4 conducting paths in series	Up to 24 V	A	16	20	30	35	42	45		70	80	
	60 V	A	16	20	30	35	42	45		70	80	
	110 V	A	16	20	30	35	42	45		70	80	
	220 V	A	1.5		30	35	42	25		70	80	
	440 V	A	0.2		0.6					0.8		

¹⁾ The values in brackets apply for 3RT23.6-1...0-4AA0 versions.

Data for North America

For technical specifications of 3RT contactors, [see page 3/52 onwards](#).

Switching Devices – Contactors and Contactor Assemblies – Special Applications

Contactors for Special Applications

SIRIUS 3RT.3 contactors, 4-pole, up to 525 A

Type		3RT1355-6A.36				3RT1363-6A.36				3RT1364-6A.36				3RT1373-6A.36, 3RT1374-6A.36, 3RT1375-6A.36				
Size		S6				S10								S12				
General data																		
Width x height x depth		mm	120 x 150 x 128				140 x 196 x 153								184 x 225 x 180			
Mounting position			For vertical mounting surface can be rotated ± 180°, and with 0° rotation can be tilted forward or backward ± 30°, or standing															
Installation altitude at height above sea level, maximum		m	2 000															
Insulation voltage at pollution degree 3																		
• of the main circuit		V	1 000															
• of the auxiliary circuit		V	690															
Impulse withstand voltage																		
• of the main circuit		kV	8															
• of the auxiliary circuit		kV	6															
Product function, mirror contact according to IEC 60947-4-1			Yes															
Ambient temperature																		
• During operation		°C	-40 ... +60															
• During storage		°C	-40 ... +70															
Degree of protection																		
• On front			IP00; IP20 at front with cover															
• Of the terminal			IP00															
Short-circuit protection																		
Main circuit																		
• Version of the fuse link required for short-circuit protection of the main circuit																		
- for type of coordination "2"			gG: 250 A (500 V, 100 kA)				gG: 355 A (500 V, 100 kA)				gG: 400 A (500 V, 100 kA)				gG: 630 A (500 V, 100 kA)			
Auxiliary circuit																		
• Version of the fuse link required for short-circuit protection of the auxiliary switch			gG: 10 A (690 V, 1 kA)															

Type		3RT1355- 6AE36 6AF36 6AP36 6AR36				3RT1363- 6AE36 6AF36 6AP36 6AR36				3RT1364- 6AE36 6AF36 6AP36 6AR36				
Control circuit/control														
Operating range factor of the control supply voltage, rated value of the solenoid coil														
• At AC at 50/60 Hz		0.85 ... 1.1												
• At DC		0.8 ... 1.1												
Solenoid coil closing for DC		W	210	130	135	205		130	190		205	130	190	
Closing apparent power of the solenoid coil for AC														
• At 50/60 Hz:		VA	225	170	130	205	165	175	220	185	165	175	220	185
Solenoid coil closed for DC		W	2.5		3	4	2.5			4	2.5			4
Closed apparent power of the solenoid coil for AC														
• At 50/60 Hz:		VA	5.5	4	6	16	6	4	7	16	6	4	7	16
Closing delay														
• At AC/DC		ms	20 ... 55				25 ... 60							
Opening delay														
• At AC/DC		ms	40 ... 70				45 ... 80							
Main circuit														
Operating current at AC-1														
• Up to 690 V														
- At an ambient temperature of 40 °C		A	200				275				350			
- At an ambient temperature of 60 °C		A	175				250				300			
• Up to 1 000 V														
- At an ambient temperature of 40 °C		A	--				250				275			
- At an ambient temperature of 60 °C		A	--				225				250			
No-load switching frequency														
• At AC/DC		1/h	300											

Switching Devices – Contactors and Contactor Assemblies – Special Applications

Contactors for Special Applications

SIRIUS 3RT.3 contactors, 4-pole, up to 525 A

Type		3RT1373-				3RT1374-				3RT1375-			
		6AE36	6AF36	6AP36	6AR36	6AE36	6AF36	6AP36	6AR36	6AE36	6AF36	6AP36	6AR36
Control circuit/control													
Operating range factor of the control supply voltage, rated value of the solenoid coil													
• At AC at 50/60 Hz		0.85 ... 1.1											
• At DC		0.8 ... 1.1											
Solenoid coil closing for DC	W	400	360	410	600	400	360	410	600	400	360	410	600
Closing apparent power of the solenoid coil for AC													
• At 50/60 Hz	VA	475	340	385	420	475	340	385	420	475	340	385	420
Solenoid coil closed for DC	W	3.5	2.5	4.5	4.7	3.5	2.5	4.5	4.7	3.5	2.5	4.5	4.7
Closed apparent power of the solenoid coil for AC													
• At 50/60 Hz	VA	8.5	17	17.5	21	8.5	17	17.5	21	8.5	17	17.5	21
Closing delay													
• At AC/DC	ms	30 ... 60											
Opening delay													
• At AC/DC	ms	45 ... 80											
Main circuit													
Operating current at AC-1													
• Up to 690 V													
- At an ambient temperature of 40 °C	A	400				500				525			
- At an ambient temperature of 60 °C	A	350				400				425			
• Up to 1 000 V													
- At an ambient temperature of 40 °C	A	350				375				400			
- At an ambient temperature of 60 °C	A	300				325				350			
No-load switching frequency													
• At AC/DC	1/h	300											

Type		3RT1355- 6A.36	3RT1363- 6A.36	3RT1364- 6A.36	3RT1373- 6A.36	3RT1374- 6A.36	3RT1375- 6A.36
Conductor cross-sections							
Type of electrical connection for the main circuit		Connecting bar		Connecting bar, bus connectors offset > 275 A required	Connecting bar	Connecting bar, bus connectors offset > 450 A required	
Minimum cross-section in the main circuit at maximum AC-1 rated value	mm ²	95	150	240		300	370

Switching Devices – Contactors and Contactor Assemblies – Special Applications

Contactors for Special Applications

SIRIUS 3RT.3 contactors, 4-pole, up to 525 A

Selection and ordering data

AC operation

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



Rated data AC-1, t_h : 40 / 60 °C Operational current I_e up to 690 V A	Auxiliary contacts		Rated control supply voltage U_s		SD	Screw terminals 		SD	Spring-loaded terminals 	
	Ident. No.	Version	50/60 Hz AC	50 Hz AC		Article No.	Price per PU		Article No.	Price per PU
		 	V	V	d			d		

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

Size S00

18 / 16	--	--	--	24 110 230	--	2 5 2	3RT2316-1AB00 3RT2316-1AF00 3RT2316-1AP00	5 5 5	3RT2316-2AB00 3RT2316-2AF00 3RT2316-2AP00
22 / 20	--	--	--	24 110 230	--	2 5 ▶	3RT2317-1AB00 3RT2317-1AF00 3RT2317-1AP00	5 5 5	3RT2317-2AB00 3RT2317-2AF00 3RT2317-2AP00

Size S0

35 / 30 ¹⁾	11	1	1	-- -- --	24 110 230	5 5 5	3RT2325-1AB00 3RT2325-1AF00 3RT2325-1AP00	5 X 2	3RT2325-2AB00 3RT2325-2AF00 3RT2325-2AP00
40 / 35 ¹⁾	11	1	1	-- -- --	24 110 230	5 5 2	3RT2326-1AB00 3RT2326-1AF00 3RT2326-1AP00	5 X 2	3RT2326-2AB00 3RT2326-2AF00 3RT2326-2AP00
50 / 42 ¹⁾	11	1	1	-- -- --	24 110 230	5 5 2	3RT2327-1AB00 3RT2327-1AF00 3RT2327-1AP00	5 5 2	3RT2327-2AB00 3RT2327-2AF00 3RT2327-2AP00

Size S2

60 / 55	11	1	1	-- -- --	24 110 230	5 5 ▶	3RT2336-1AB00 3RT2336-1AF00 3RT2336-1AP00	-- -- --	
110 / 95	11	1	1	-- -- --	24 110 230	5 5 ▶	3RT2337-1AB00 3RT2337-1AF00 3RT2337-1AP00	-- -- --	

For screw fixing and snap-on mounting onto TH 35-15 and TH 75-15 standard mounting rails

Size S3

110 / 100	11	1	1	-- -- --	24 110 230	5 5 2	3RT2344-1AB00 3RT2344-1AF00 3RT2344-1AP00	-- -- --	
140 / 130	11	1	1	-- -- --	24 110 230	5 5 2	3RT2346-1AB00 3RT2346-1AF00 3RT2346-1AP00	-- -- --	
160 / 140	11	1	1	-- -- --	24 110 230	5 5 5	3RT2348-1AB00 3RT2348-1AF00 3RT2348-1AP00	-- -- --	

¹⁾ Required conductor cross-section 10 mm².

Other voltages according to page 4/47 on request.

Accessories and spare parts, see page 3/75 onwards.

Switching Devices – Contactors and Contactor Assemblies – Special Applications

Contactors for Special Applications

SIRIUS 3RT.3 contactors, 4-pole, up to 525 A

AC operation

Version for AC-3 motor loads

PU (UNIT, SET, M) = 1

PS* = 1 unit

PG = 41B



3RT2326-1AP00-4AA0



3RT2336-1AP00-4AA0



3RT2346-1AP00-4AA0

Rated data		Auxiliary contacts		Rated control supply voltage U_s	SD	Screw terminals 		SD	Spring-loaded terminals 	
AC-2/AC-3, t_{th} : Up to 60 °C	AC-1, t_{th} : 40 / 60 °C	Ident. No.	Version	50 Hz AC		Article No.	Price per PU		Article No.	Price per PU
Operational current I_e up to 400 V	Operational current I_e up to 690 V		 		d			d		
A	A		NO NC V							

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

Size S0

32	40 / 35	11	1	1	230	5	3RT2326-1AP00-4AA0	--
----	---------	----	---	---	-----	---	--------------------	----

Size S2

50	60 / 55	11	1	1	230	5	3RT2336-1AP00-4AA0	--
----	---------	----	---	---	-----	---	--------------------	----

For screw fixing and snap-on mounting onto TH 35-15 and TH 75-15 standard mounting rails

Size S3

95	110 / 100	11	1	1	230	5	3RT2346-1AP00-4AA0	--
----	-----------	----	---	---	-----	---	--------------------	----

Other voltages [according to page 4/47](#) on request.

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

Switching Devices – Contactors and Contactor Assemblies – Special Applications

Contactors for Special Applications

SIRIUS 3RT.3 contactors, 4-pole, up to 525 A

DC operation

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



3RT231.-1B.40



3RT231.-2B.40



3RT232.-1B.40



3RT232.-2B.40

Rated data AC-1,
 t_{th} : 40 / 60 °C

Operational current I_{e}
 up to

690 V

A

Auxiliary contacts

Ident. No.

Version



NO

NC

V

Rated control
 supply voltage U_{s}
 DC

SD

Screw terminals

Article No.

Price
per PU

d

SD

Spring-loaded terminals

Article No.

Price
per PU

d

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

Size S00

18 / 16

--

--

--

24
2202
5

3RT2316-1BB40
 3RT2316-1BM40

2
5

3RT2316-2BB40
 3RT2316-2BM40

22 / 20

--

--

--

24
2202
5

3RT2317-1BB40
 3RT2317-1BM40

2
5

3RT2317-2BB40
 3RT2317-2BM40

Size S035 / 30¹⁾

11

1

1

24
2202
5

3RT2325-1BB40
 3RT2325-1BM40

2
5

3RT2325-2BB40
 3RT2325-2BM40

40 / 35¹⁾

11

1

1

24
2202
5

3RT2326-1BB40
 3RT2326-1BM40

2
X

3RT2326-2BB40
 3RT2326-2BM40

50 / 42¹⁾

11

1

1

24
2202
5

3RT2327-1BB40
 3RT2327-1BM40

2
X

3RT2327-2BB40
 3RT2327-2BM40

¹⁾ Required conductor cross-section 10 mm².

Other voltages [according to page 4/47](#) on request.

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

Switching Devices – Contactors and Contactor Assemblies – Special Applications

Contactors for Special Applications

SIRIUS 3RT.3 contactors, 4-pole, up to 525 A

AC/DC operation

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



3RT233.-1N.30



3RT234.-1N.30

Rated data AC-1, t_{th} : 40 / 60 °C Operational current I_{e} up to 690 V A	Auxiliary contacts		Rated control supply voltage U_{s} 50/60 Hz AC or DC	SD	Screw terminals 	SD	Spring-loaded terminals 
	Ident. No.	Version					
		 			Article No.	Price per PU	Article No.
		NO NC V		d			Price per PU

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

Size S2

With integrated coil circuit
 (varistor integrated in electronics at the factory)

60 / 55	11	1	1	20 ... 33 175 ... 280	2 5	3RT2336-1NB30 3RT2336-1NP30	-- --
110 / 95	11	1	1	20 ... 33 175 ... 280	5 5	3RT2337-1NB30 3RT2337-1NP30	-- --

For screw fixing and snap-on mounting onto TH 35-15 and TH 75-15 standard mounting rails

Size S3

With integrated coil circuit
 (varistor integrated in electronics at the factory)

110 / 100	11	1	1	20 ... 33 175 ... 280	X 5	3RT2344-1NB30 3RT2344-1NP30	-- --
140 / 130	11	1	1	20 ... 33 175 ... 280	5 5	3RT2346-1NB30 3RT2346-1NP30	-- --
160 / 140	11	1	1	20 ... 33 175 ... 280	5 5	3RT2348-1NB30 3RT2348-1NP30	-- --

Other voltages [according to page 4/47](#) on request.

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

Switching Devices – Contactors and Contactor Assemblies – Special Applications

Contactors for Special Applications

SIRIUS 3RT.3 contactors, 4-pole, up to 525 A

AC/DC operation

Version for AC-3 motor loads

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



3RT2336-1NB30-4AA0



3RT2346-1NB30-4AA0

Rated data		Auxiliary contacts		Rated control supply voltage U_s 50/60 Hz AC or DC	SD	Screw terminals 		SD	Spring-loaded terminals 	
AC-2/AC-3, t_{ij} : Up to 60 °C	AC-1, t_{ij} : 40/60 °C	Ident. No.	Version			Article No.	Price per PU		Article No.	Price per PU
Operational current I_e up to 400 V	Operational current I_e up to 690 V		 							
A	A		NO NC V		d			d		

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

Size S2

With integrated coil circuit
 (varistor integrated in electronics at the factory)

50 60/55 11 1 1 20 ... 33 5

3RT2336-1NB30-4AA0

--

For screw fixing and snap-on mounting onto TH 35-15 and TH 75-15 standard mounting rails

Size S3

With integrated coil circuit
 (varistor integrated in electronics at the factory)

95 110/100 11 1 1 20 ... 33 5

3RT2346-1NB30-4AA0

--

Other voltages [according to page 4/47](#) on request.

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

Switching Devices – Contactors and Contactor Assemblies – Special Applications

Contactors for Special Applications

SIRIUS 3RT.3 contactors, 4-pole, up to 525 A **NEW**

Sizes S6 to S12: AC/DC operation

- Solid-state operating mechanism
- For screw fixing
- Auxiliary and control circuits: Screw terminals
- Main conductors: Busbar connections; a connection kit is enclosed.



3RT1355-6A.36



3RT1363-6A.36



3RT1373-6A.36

Size	Rated data AC-1, t_{ij} : 40 °C	Auxiliary contacts, lateral	Operating range $0.85 \dots 1.1 \times U_s$ Rated control supply voltage U_s	SD	Busbar connections 	PU (UNIT, SET, M)	PS*	PG
	Operational current I_e at 690 V	Version  	50/60 Hz AC DC		Article No. Price per PU			
A		NO NC V	V	d				
Solid-state operating mechanism								
With integrated coil circuit (varistor integrated in electronics at the factory)								
S6	200	2 2	24 ... 60 48 ... 130 100 ... 250 250 ... 500	20 ... 60 48 ... 130 100 ... 250 250 ... 500	20 20 20 20	3RT1355-6AE36 3RT1355-6AF36 3RT1355-6AP36 3RT1355-6AR36	1 1 1 1	1 unit 1 unit 1 unit 1 unit 41B 41B 41B 41B
S10	275	2 2	24 ... 60 48 ... 130 100 ... 250 250 ... 500	20 ... 60 48 ... 130 100 ... 250 250 ... 500	20 20 20 20	3RT1363-6AE36 3RT1363-6AF36 3RT1363-6AP36 3RT1363-6AR36	1 1 1 1	1 unit 1 unit 1 unit 1 unit 41B 41B 41B 41B
	350	2 2	24 ... 60 48 ... 130 100 ... 250 250 ... 500	20 ... 60 48 ... 130 100 ... 250 250 ... 500	20 20 20 20	3RT1364-6AE36 3RT1364-6AF36 3RT1364-6AP36 3RT1364-6AR36	1 1 1 1	1 unit 1 unit 1 unit 1 unit 41B 41B 41B 41B
S12	400	2 2	24 ... 60 48 ... 130 100 ... 250 250 ... 500	20 ... 60 48 ... 130 100 ... 250 250 ... 500	20 20 20 20	3RT1373-6AE36 3RT1373-6AF36 3RT1373-6AP36 3RT1373-6AR36	1 1 1 1	1 unit 1 unit 1 unit 1 unit 41B 41B 41B 41B
	500	2 2	24 ... 60 48 ... 130 100 ... 250 250 ... 500	20 ... 60 48 ... 130 100 ... 250 250 ... 500	20 20 20 20	3RT1374-6AE36 3RT1374-6AF36 3RT1374-6AP36 3RT1374-6AR36	1 1 1 1	1 unit 1 unit 1 unit 1 unit 41B 41B 41B 41B
	525	2 2	24 ... 60 48 ... 130 100 ... 250 250 ... 500	20 ... 60 48 ... 130 100 ... 250 250 ... 500	20 20 20 20	3RT1375-6AE36 3RT1375-6AF36 3RT1375-6AP36 3RT1375-6AR36	1 1 1 1	1 unit 1 unit 1 unit 1 unit 41B 41B 41B 41B

Depending on the operational current, bus connectors offset must be used for sizes S10 and S12, [see page 4/31](#):

- 3RT136: For more than 275 A, the 3RT1966-4D bus connectors offset must be used.
- 3RT137: For more than 450 A, the 3RT1976-4D bus connectors offset must be used.

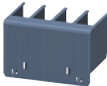
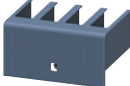
Switching Devices – Contactors and Contactor Assemblies – Special Applications

Contactors for Special Applications

NEW

SIRIUS 3RT.3 contactors, 4-pole, up to 525 A > Accessories

Overview**3RT135 to 3RT137 contactors**Overview graphic with mountable accessories, [see page 4/18](#).**More information**Equipment Manual, [see](#)
<https://support.industry.siemens.com/cs/ww/en/view/60306557>**Selection and ordering data**

For contactors		Auxiliary contacts Version		SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	
Type	NO	NC	d							
Laterally mountable auxiliary switches, mounting on the right and/or on the left, 2-pole										
	Second auxiliary switch (optionally mountable)				Left	Right				
	3RT135	1	1		20	3RH1951-1SA11		1	1 unit	41B
	...									
3RT137										
	First auxiliary switch (spare part)				Left	Right				
	3RT135	1	1		20	3RH1951-1TA11		1	1 unit	41B
	...									
3RT137										
Terminal covers										
	Two units required per contactor (1 set = 2 units) Either bus connectors offset or terminal covers can be used.				20	3RT1956-4EB10	1	1 unit	41B	
	3RT135	--	--	--	--	20	3RT1966-4EB10	1	1 unit	41B
	3RT136	--	--	--	--	20	3RT1976-4EB10	1	1 unit	41B
3RT137	--	--	--	--	20					
										
	3RT135	--	--	--	--	20				
	3RT136	--	--	--	--	20				
3RT137	--	--	--	--	20					
										
	3RT135	--	--	--	--	20				
	3RT136	--	--	--	--	20				
3RT137	--	--	--	--	20					
Bus connectors offset										
	(Two units required per contactor) Either terminal covers or bus connectors offset can be used.				20	3RT1966-4D	1	1 unit	41B	
	3RT135	--	--	--	--	20	3RT1976-4D	1	1 unit	41B
	3RT136	--	--	--	--	20				
3RT137	--	--	--	--	20					
										
	3RT135	--	--	--	--	20				
	3RT136	--	--	--	--	20				
3RT137	--	--	--	--	20					
Mechanical interlocks for contactor assemblies										
	Enables two 3RT13 contactors of the same size (S6, S10 and S12) to be interlocked with each other. The laterally mounted auxiliary switches of the contactor must be removed beforehand. The mechanical interlock cannot be used in conjunction with the bus connectors offset.				20	3RA1954-3A	1	1 unit	41B	
	3RT135	--	--	--	--	20				
	...									
3RT137										

Switching Devices – Contactors and Contactor Assemblies – Special Applications

Contactors for Special Applications

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

Overview

Standards

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

The contactors are suitable for use in any climate. They are finger-safe according to IEC 60529.

The accessories for the 3-pole SIRIUS 3RT2 contactors can also be used for the 4-pole versions, [see page 3/75 onwards](#).

Size S0 to S3 contactors have two auxiliary contacts 1 NO and 1 NC integrated in the basic version.

Mountable auxiliary contacts

Sizes S00 to S3

Four additional auxiliary contacts, including no more than two NC.

For a general description of sizes S00 to S3 of 3RT2 contactors, [see page 3/17 onwards](#).

Use of 3RT contactors with IE3/IE4 motors

Note:

For the use of 3RT25 contactors in conjunction with highly energy-efficient IE3/IE4 motors, please observe the information on dimensioning and configuring, [see Application Manual](#).

For more information, [see page 1/7](#).

Application

The contactors are suitable:

- For changing the polarity of hoisting gear motors
- For switching two separate loads

Note:

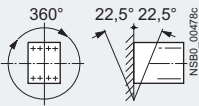
Single device for pole reversal; not suitable for reversing duty. 3RT25 contactors are not suitable for switching a load between two current sources.

Technical specifications

More information

Technical specifications, [see https://support.industry.siemens.com/cs/ww/en/ps/16169/td](https://support.industry.siemens.com/cs/ww/en/ps/16169/td)
FAQs, [see https://support.industry.siemens.com/cs/ww/en/ps/16169/faq](https://support.industry.siemens.com/cs/ww/en/ps/16169/faq)

Manuals, [see https://support.industry.siemens.com/cs/ww/en/ps/16169/man](https://support.industry.siemens.com/cs/ww/en/ps/16169/man)

Type		3RT2516 to 3RT2518	3RT2526	3RT2535	3RT2536	3RT2544, 3RT2545
Size		S00	S0	S2		S3
General data						
Dimensions (W x H x D)		See 3RT231., page 4/19	See 3RT232., page 4/19	See 3RT233., page 4/19		See 3RT234., page 4/19
Permissible mounting position						
The contactors are designed for operation on a vertical mounting surface.						
Upright mounting position		 Special version required				
Mechanical endurance		Operating cycles	30 million	10 million		
Electrical endurance at $I_e/AC-1$		Operating cycles	Approx. 0.5 million			
Rated insulation voltage U_i (pollution degree 3)		V	690			
Protective separation between the coil and the main contacts acc. to IEC 60947-1, Appendix N		V	400			690
Permissible ambient temperature		°C	-25 ... +60			
		°C	-55 ... +80			
Degree of protection acc. to IEC 60529			IP20 (screw terminals and spring-loaded terminals)			
			IP20 (screw terminals and spring-loaded terminals)			IP00 (for higher degree of protection, use additional terminal covers)
Touch protection acc. to IEC 60529			Finger-safe (screw terminals and spring-loaded terminals)			Finger-safe for vertical touching from the front

Switching Devices – Contactors and Contactor Assemblies – Special Applications

Contactors for Special Applications

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

Type	3RT2516 to 3RT2518	3RT2526	3RT2535	3RT2536	3RT2544, 3RT2545
Size	S00	S0	S2	S3	S3
Short-circuit protection					
Main circuit					
- Version of the fuse link required for short-circuit protection of the main circuit - for type of coordination "1"	gG: 35 A (690 V, 100 kA)	gG: 63 A (690 V, 100 kA)	gG: 125 A (690 V, 100 kA)	gG: 160 A (690 V, 100 kA)	gG: 250 A (690 V, 100 kA)
for type of coordination "2"	gG: 20 A (690 V, 100 kA)	gG: 35 A (690 V, 50 kA)	gG: 63 A (690 V, 100 kA)	gG: 80 A (690 V, 100 kA)	gR: 250 A (690 V, 100 kA)
Auxiliary circuit					
- Version of the fuse link required for short-circuit protection of the auxiliary switch - Miniature circuit breaker version required for short-circuit protection of the auxiliary switch	Fuse gG: 10 A (690 V, 1 kA)				
	6 A (230 V, 400 A, C characteristic)				

Type	3RT2516-1A	3RT2517-1A, 3RT2518-1A	3RT2516-1B, 3RT2517-1B, 3RT2518-1B	3RT2526-1A	3RT2526-1B	3RT253-1A	3RT253-1N	3RT254-1A	3RT254-1N
Size	S00			S0		S2		S3	
Control									
Type of operating mechanism	AC		DC	AC	DC	AC	AC/DC	AC	AC/DC
Solenoid coil operating range									
• AC operation	At 50 Hz	0.8 ... 1.1 x U_s	--	0.8 ... 1.1 x U_s	--	0.8 ... 1.1 x U_s	--	0.8 ... 1.1 x U_s	--
	At 60 Hz	0.8 ... 1.1 x U_s	--	0.8 ... 1.1 x U_s	--	0.8 ... 1.1 x U_s	--	0.85 ... 1.1 x U_s	--
• DC operation	Up to 50 °C	--	0.8 ... 1.1 x U_s	--	0.8 ... 1.1 x U_s	--			
	Up to 60 °C	--	0.85 ... 1.1 x U_s	--	0.85 ... 1.1 x U_s	--			
• AC/DC operation	--	--	--	--	--		0.8 x $U_{s \min}$... 1.1 x $U_{s \max}$	--	0.8 x $U_{s \min}$... 1.1 x $U_{s \max}$
Power consumption of the solenoid coils (for cold coil and 1.0 x U_s)									
• AC operation, 50/60 Hz, standard version									
- Closing	VA	27/24.3	37/33	--	81/79	--	210/188	110	348/296
- P.f.		0.8/0.75	--	--	0.72/0.74	--	0.69/0.65	0.95	0.62/0.55
- Closed	VA	4.2/3.3	5.7/4.4	--	10.5/8.5	--	17.2/16.5	2.5	25/18
- P.f.		0.25/0.25	--	--	0.25/0.28	--	0.36/0.39	0.95	0.35/0.41
• DC operation									
- Closing	W	--	4	--	5.9	23	70	--	76
- Closed	W	--	4	--	5.9	1	1.5	--	1.8
Operating times for 1.0 x U_s¹⁾									
Total break time = Opening delay + Arcing time									
• AC operation									
- Closing delay	ms	9.5 ... 24	9 ... 22	--	10 ... 17	--	12 ... 22	30 ... 70	15 ... 25
- Opening delay	ms	4 ... 14	4.5 ... 15	--	4 ... 16	--	10 ... 18	30 ... 55	11 ... 20
• DC operation									
- Closing delay	ms	--	35 ... 50	--	55 ... 80	--	30 ... 70	--	50 ... 70
- Opening delay	ms	--	7 ... 12	--	16 ... 17	--	30 ... 55	--	38 ... 57
• Arcing time	ms	10 ... 15		10		10 ... 20			

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 (varistor +2 ms to 5 ms, diode assembly: 2x to 6x).

Switching Devices – Contactors and Contactor Assemblies – Special Applications

Contactors for Special Applications

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

Type		3RT2516	3RT2517	3RT2518	3RT2526	3RT2535	3RT2536	3RT2544	3RT2545
Size		S00			S0	S2		S3	
Rated data of the main contacts									
Load rating with AC									
Utilization category AC-1, switching resistive loads									
• Rated operational currents I_e	At 40 °C up to 690 V	A	18	22	40	60	70	100	125
	At 60 °C up to 690 V	A	16	20	35	55	60	90	105
• Rated power for AC loads	At 230 V	kW	6	7.5	13.3	21	23	34	59
	400 V	kW	10.5	13	23	36	39	40	69
P.f. = 0.95 (at 60 °C)									
• Minimum cross-section in the main circuit at maximum AC-1 rated value		mm ²	2.5	4	10	16	25	35	50
Utilization categories AC-2 and AC-3									
• Rated operational currents I_e (at 60 °C)	NO up to 400 V	A	9	12	16	25	35	41	65
	NC up to 400 V	A	9			25	20	35	41
• Rated power for slipping or squirrel-cage motors at 50 and 60 Hz	NO at 230 V	kW	2.2	3	4	5.5	11	18.5	22
	NC at 230 V	kW	2.2			5.5	11	18.5	22
	NO at 400 V	kW	4	5.5	7.5	11	18.5	22	30
	NC at 400 V	kW	4			11	7.5	18.5	22
Load rating with DC									
Utilization category DC-1, switching resistive loads ($L/R \leq 1$ ms)									
• Rated operational currents I_e (at 60 °C)									
- 1 conducting path	Up to 24 V	A	16	20	35	55	60	100	
	60 V	A	16	20	20	23		60	
	110 V	A	2.1		4.5			9	
	220 V	A	0.8		1			2	
	440 V	A	0.6		0.4			0.6	
- 2 conducting paths in series	Up to 24 V	A	16	20	35	55		100	
	60 V	A	16	20	35	45		100	
	110 V	A	12		35	45		100	
	220 V	A	1.6		5			10	
	440 V	A	0.8		1			1.8	
Utilization category DC-3/DC-5²⁾, shunt-wound and series-wound motors ($L/R \leq 15$ ms)									
• Rated operational currents I_e (at 60 °C)									
- 1 conducting path	Up to 24 V	A	16	20		35		40	
	60 V	A	0.5		5	6			
	110 V	A	0.15		2.5				
	220 V	A	0.75		1				
	440 V	A	--		0.09	0.1		0.15	
- 2 conducting paths in series	Up to 24 V	A	16	20	35	55		100	
	60 V	A	5		35	45		100	
	110 V	A	0.35		15	25		100	
	220 V	A	--		3	5		7	
	440 V	A	--		0.27			0.42	
Switching frequency									
Switching frequency z in operating cycles/hour									
Contactors without overload relays									
• No-load switching frequency	AC	1/h	--		5 000	--	5 000		
	DC	1/h	--		--	1 500	--		
	AC/DC	1/h	10 000		--		500	1 000	
• Switching frequency z during rated operation ³⁾	I_e /AC-1 at 400 V	1/h	1 000				1 200 (350) ⁴⁾	1 000 (350) ⁴⁾	900

¹⁾ Values for devices with AC and DC operation: For 3RT2526 with DC operation, different values apply to AC-2 and AC-3 for the NC.

²⁾ For $U_e > 24$ V, the rated operational currents I_e for the NC contact conducting paths are equal to 50% of the values for the NO contact conducting paths.

³⁾ Dependence of the switching frequency z' on the operational current I' and operational voltage U':

$$z' = z \cdot (I_e/I') \cdot (U_e/U')^{1.5} \cdot 1/h.$$

⁴⁾ The values in brackets apply for 3RT253.-N.

Switching Devices – Contactors and Contactor Assemblies – Special Applications

Contactors for Special Applications

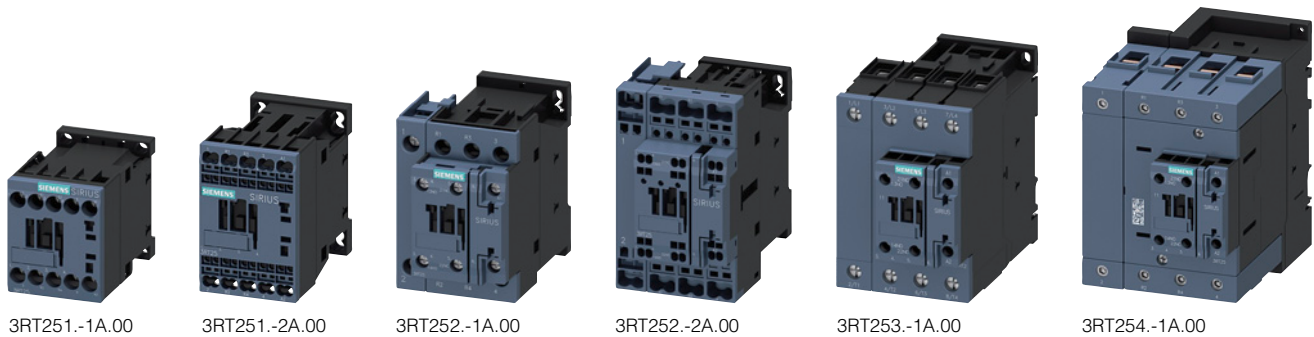
SIRIUS 3RT25 contactors, 4-pole, 2 NO + 2 NC

Selection and ordering data

AC operation

Single device for pole reversal (not suitable for reversing duty)

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



Rated data		Auxiliary contacts		Rated control supply voltage U_s		SD	Screw terminals 		SD	Spring-loaded terminals 	
AC-2/AC-3, t_i : Up to 60 °C		Ident. No.	Version	50/60 Hz AC	50 Hz AC		Article No.	Price per PU		Article No.	Price per PU
Operational current I_e up to 400 V	Ratings of three-phase motors at 50 Hz and up to 400 V										
A	kW	A	NO NC V	V	d						

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

Size S00

9	4	18 / 16	--	--	--	24	--	5	3RT2516-1AB00	5	3RT2516-2AB00
						110	--	5	3RT2516-1AF00	5	3RT2516-2AF00
						230	--	2	3RT2516-1AP00	5	3RT2516-2AP00
12/9 ¹⁾	5.5/4 ¹⁾	22 / 20	--	--	--	24	--	5	3RT2517-1AB00	5	3RT2517-2AB00
						110	--	5	3RT2517-1AF00	5	3RT2517-2AF00
						230	--	▶ 5	3RT2517-1AP00	5	3RT2517-2AP00
16/9 ¹⁾	7.5/4 ¹⁾	22 / 20	--	--	--	24	--	5	3RT2518-1AB00	5	3RT2518-2AB00
						110	--	5	3RT2518-1AF00	5	3RT2518-2AF00
						230	--	5	3RT2518-1AP00	5	3RT2518-2AP00

Size S0

25	11	40 / 35	11	1	1	--	24	5	3RT2526-1AB00	5	3RT2526-2AB00
						--	110	5	3RT2526-1AF00	5	3RT2526-2AF00
						--	230	2	3RT2526-1AP00	2	3RT2526-2AP00

Size S2

35	18.5	60 / 55	11	1	1	--	24	2	3RT2535-1AB00		--
						--	110	2	3RT2535-1AF00		--
						--	230	2	3RT2535-1AP00		--
41	22	70 / 60	11	1	1	--	24	5	3RT2536-1AB00		--
						--	110	5	3RT2536-1AF00		--
						--	230	2	3RT2536-1AP00		--

For screw fixing and snap-on mounting onto TH 35-15 and TH 75-15 standard mounting rails

Size S3

65	30	100 / 90	11	1	1	--	24	5	3RT2544-1AB00		--
						--	110	5	3RT2544-1AF00		--
						--	230	5	3RT2544-1AP00		--
80	37	125 / 105	11	1	1	--	24	5	3RT2545-1AB00		--
						--	110	5	3RT2545-1AF00		--
						--	230	5	3RT2545-1AP00		--

¹⁾ Values for NO contact/NC contact. The NC contact can switch no more than 4 kW.

Other voltages according to page 4/47 on request.

Accessories and spare parts, see page 3/75 onwards.

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

Single device for pole reversal (not suitable for reversing duty)

3RT251-1B.40 3RT251-2B.40 3RT252-1B.40 3RT252-2B.40

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

9	4	18 / 16	--	--	--	24 220	► 5	3RT2516-1BB40 3RT2516-1BM40	2 5	3RT2516-2BB40 3RT2516-2BM40
12/9 ¹⁾	5.5/4 ¹⁾	22 / 20	--	--	--	24 220	2 5	3RT2517-1BB40 3RT2517-1BM40	2 5	3RT2517-2BB40 3RT2517-2BM40
16/9 ¹⁾	7.5/4 ¹⁾	22 / 20	--	--	--	24 220	5 5	3RT2518-1BB40 3RT2518-1BM40	2 5	3RT2518-2BB40 3RT2518-2BM40

25 (20) ²⁾	11 (7.5)²⁾	40 / 35	11	1	1	24 220	2 5	3RT2526-1BB40 3RT2526-1BM40	2 5	3RT2526-2BB40 3RT2526-2BM40
-----------------------	------------------------------	---------	-----------	---	---	-----------	--------	--	--------	--

- 1) Values for NO contact/NC contact. The NC contact can switch no more than 4 kW.
- 2) Value in brackets for NC contact (the deviating value for the NC contact applies only for devices with DC operation).

Other voltages according to page 4/47 on request.
Accessories and spare parts, see page 3/75 onwards.

Switching Devices – Contactors and Contactor Assemblies – Special Applications

Contactors for Special Applications

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

AC/DC operation

Single device for pole reversal (not suitable for reversing duty)

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



3RT253.-1N.30



3RT254.-1N.30

Rated data		Auxiliary contacts		Rated control supply voltage U_s 50/60 Hz AC or DC	SD	Screw terminals 		SD	Spring-loaded terminals 	
AC-2/AC-3, t_{ij} : Up to 60 °C	AC-1, t_{ij} : 40/60 °C	Ident. No.	Version			Article No.	Price per PU		Article No.	Price per PU
Operational current I_e up to 400 V	Ratings of three-phase motors at 50 Hz and up to 690									
A	kW	A	NO NC V	d				d		

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

Size S2

With integrated coil circuit (varistor integrated in electronics at the factory)

35	18.5	60 / 55	11	1	1	20 ... 33 83 ... 155 175 ... 280	2 5 5	3RT2535-1NB30 3RT2535-1NF30 3RT2535-1NP30	-- -- --
41	22	70 / 60	11	1	1	20 ... 33 83 ... 155 175 ... 280	2 5 5	3RT2536-1NB30 3RT2536-1NF30 3RT2536-1NP30	-- -- --

For screw fixing and snap-on mounting onto TH 35-15 and TH 75-15 standard mounting rails

Size S3

With integrated coil circuit (varistor integrated in electronics at the factory)

65	30	100 / 90	11	1	1	20 ... 33 175 ... 280	5 5	3RT2544-1NB30 3RT2544-1NP30	-- --
80	37	125 / 105	11	1	1	20 ... 33 175 ... 280	5 5	3RT2545-1NB30 3RT2545-1NP30	-- --

Other voltages [according to page 4/47](#) on request.

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

Switching Devices – Contactors and Contactor Assemblies – Special Applications

Contactors for Special Applications

SIRIUS 3RT26 contactors for capacitive loads (AC-6b), 3-pole

Overview

Standards

IEC/EN 60947-1, IEC/EN 60947-4-1, IEC/EN 60947-5-1,
IEC/EN 60831-1, IEC/EN 61921

The 3RT26 contactors are suitable for use in any climate. They are finger-safe according to IEC 60529.

Function

The 3RT26 contactors for capacitive loads (AC-6b) are special versions of the 3RT20 contactors in sizes S00 to S3 that are configured for switching banks of capacitors.

They are designed to convey the inrush current in such applications, and are weld-resistant in compliance with the technical specifications.

The 3RT26 contactors are suitable for choked and unchoked capacitors. Besides switching power capacitors in reactive-current compensation systems, they are also used to switch converters.

In the case of 3RT26 contactors, the precharging resistors are an integral component of the contactor. The precharging resistors are activated via leading auxiliary contacts before the main contacts close. During switching, after attenuation of the peak current, they are decoupled again. Attenuation of the inrush current peaks also reduces interfering harmonics in the supply.

Notes:

Only switching onto discharged capacitors is permitted with 3RT26 contactors.

Manual operation for function tests is not permitted. The series resistors must not be removed.

Auxiliary switches

The variance of unassigned auxiliary switches has been increased; for available versions, [see page 4/43 onwards](#). Details of deviating versions are available on request.

In sizes S00 and S0, the auxiliary switch which is snapped onto the capacitor contactor contains the three leading NO contacts and one unassigned auxiliary contact. In addition, another one (S00) or two (S0) unassigned auxiliary contacts are provided in the basic unit.

It is not possible to mount additional auxiliary switches for 3RT26 contactors in sizes S00 and S0 of the respective version. For sizes S2 and S3, freely available auxiliary switches are implemented by means of lateral auxiliary switches. More auxiliary switches can be mounted laterally corresponding to the 3RT20 contactors.

Devices with 2 NC contacts are now consistently available in all power quantities.

Technical specifications

More information

Technical specifications, [see](https://support.industry.siemens.com/cs/ww/en/ps/16171/td)
<https://support.industry.siemens.com/cs/ww/en/ps/16171/td>

Manuals, [see](https://support.industry.siemens.com/cs/ww/en/ps/16171/man)
<https://support.industry.siemens.com/cs/ww/en/ps/16171/man>

Type

3RT26

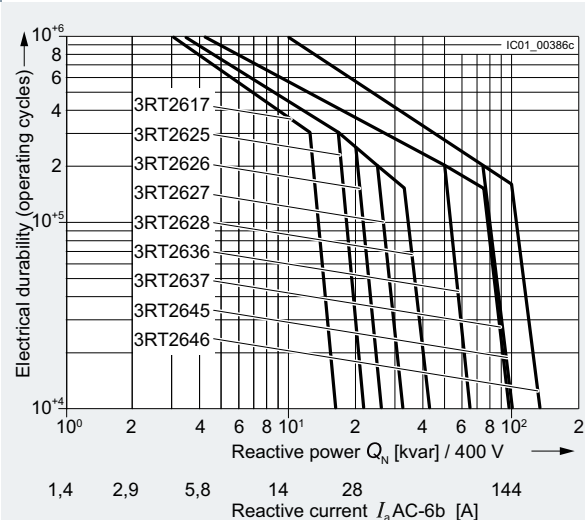
Size

S00 ... S3

Contact endurance of the main contacts

The characteristic curves show the contact endurance of the contactors when switching capacitive loads (AC-6b) depending on the reactive power Q_N and rated operational voltage.

The rated operational current I_e in accordance with utilization category AC-6b (breaking of 1.35 times the rated operational current) is specified for a contact endurance of approximately 150 000 to 200 000 operating cycles.



Switching Devices – Contactors and Contactor Assemblies – Special Applications

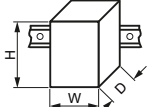
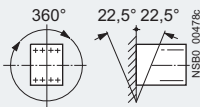
Contactors for Special Applications

SIRIUS 3RT26 contactors for capacitive loads (AC-6b), 3-pole

All technical specifications not mentioned in the table below are identical to those of the 3RT20 contactors:

- For size S00 as for the 3RT201 contactors
- For size S0 as for the 3RT202 contactors
- For size S2 as for the 3RT203 contactors
- For size S3 as for the 3RT204 contactors

See page 3/22 onwards.

Type		3RT2617	3RT2625	3RT2626	3RT2627	3RT2628	3RT2636	3RT2637	3RT2645	3RT2646
Size		S00	S0				S2		S3	
General data										
Dimensions (W x H x D) including auxiliary switches and connection cables										
• AC operation	mm									
• DC operation, AC/DC operation	mm									
		45 x 125 x 120	45 x 135 x 155			45 x 150 x 155	65 x 114 x 130		80 x 140 x 152	
		45 x 125 x 120	45 x 135 x 165			45 x 150 x 165	65 x 114 x 130		80 x 140 x 152	
Permissible mounting position The contactors are designed for operation on a vertical mounting surface.										
Mechanical endurance Basic units with mounted auxiliary switch		Operating cycles	3 million							
Electrical endurance For apparent power at 400 V		kvar Operating cycles	12.5 300 000	16.7 200 000	20	25	33 150 000	50 200 000	75 150 000	100 200 000
Rated insulation voltage U_i (pollution degree 3)		V	690						1 000 ²⁾	
Rated impulse withstand voltage U_{imp}		kV	6						8 ²⁾	
Protective separation between the coil and the main contacts acc. to IEC 60947-1, Appendix N		V	400						690	
Permissible ambient temperature										
• During operation ¹⁾	°C	-25 ... +60								
• During storage	°C	-55 ... +80								
Degree of protection acc. to IEC 60529										
• On front		IP20						IP00 (for higher degree of protection, use additional terminal covers)		
• Connecting terminal		IP20								
Touch protection acc. to IEC 60529			Finger-safe						Finger-safe for vertical touching from the front	
Shock resistance										
• Rectangular pulse	g/ms	6.7/5 and 4.2/10	7.5/5 and 4.7/10	8.3/5 and 5.3/10			6.8/5 and 4/10		10.3/5 and 6.7/10	
• Sine pulse	g/ms	10.5/5 and 6.6/10	11.8/5 and 7.4/10	13.5/5 and 8.3/10			10.6/5 and 6.2/10		16.3/5 and 10.5/10	
Short-circuit protection										
Main circuit Fuse links, operational class gG: LV HRC, type 3NA; DIAZED, type 5SB; NEOZED, type 5SE acc. to IEC/EN 60947-4-1										
• Type of coordination "1"	A	25 ... 40	32 ... 80	40 ... 80	50 ... 100	63 ... 100	100 ... 160	160 ... 200	200 ... 250	
Auxiliary circuit										
• 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 breakers with C charac- teristic with short-circuit current I_k = 400 A	A	10								

¹⁾ A clearance of 10 mm is required for side-by-side mounting.

²⁾ Only applies for main current paths, otherwise $U_i = 690$ V; $U_{imp} = 6$ kV.

Switching Devices – Contactors and Contactor Assemblies – Special Applications

Contactors for Special Applications

SIRIUS 3RT26 contactors for capacitive loads (AC-6b), 3-pole

Type		3RT2617-1A, -1B	3RT2625-1A, -1B	3RT2626-1A, -1B; 3RT2627-1A, -1B; 3RT2628-1A, -1B	3RT2636-1A, 3RT2637-1A	3RT2645-1A, 3RT2646-1A
Size		S00	S0		S2	S3
Control						
Solenoid coil operating range						
• AC operation	50 Hz	0.8 ... 1.1 x U_s	0.8 ... 1.1 x U_s		--	
	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 coils (for cold coil and 1.0 x U_s)						
• AC operation, 50 Hz, standard version						
- Closing	VA	--	77		190	296
- P.f.		--	0.82		0.72	0.61
- Closed	VA	--	9.8		16	19
- P.f.		--	0.25		0.37	0.38
• AC operation, 50/60 Hz, standard version						
- Closing	VA	49	81/79		210/188	348/296
- P.f.		0.8	0.72/0.74		0.69/0.65	0.62/0.55
- Closed	VA	7.8	10.5/8.5		17.2/16.5	25/18
- P.f.		0.25	0.25/0.28		0.36/0.39	0.35/0.41
• DC operation						
- Closing	W	4	5.9		--	
- Closed	W	4	5.9		--	
Maximum permissible residual current of the electronics (with 0 signal) ¹⁾						
• AC operation (230 V/ U_s)	mA	4 ¹⁾	7		--	
• DC operation (24 V/ U_s)	mA	10 ¹⁾	16		--	
Operating times for 0.8 ... 1.1 x U_s ²⁾						
Total break time = Opening delay + Arcing time						
• AC operation						
- Closing delay	ms	8 ... 33	9 ... 38	8 ... 40	10 ... 80	15 ... 25
- Opening delay	ms	4 ... 15	4 ... 16		10 ... 18	11 ... 20
• DC operation						
- Closing delay	ms	30 ... 100	55 ... 80	50 ... 170	--	
- Opening delay	ms	7 ... 13	16 ... 17	15 ... 18	--	
• Arcing time	ms	10 ... 15				

¹⁾ Size S00: The 3RT2916-1GA00 additional load module is recommended for higher residual currents, [see page 3/119](#).

²⁾ With size S00, DC operation: Operating times at 0.85 ... 1.1 x U_s .

Type		3RT262.-1NB35	3RT262.-1NF35	3RT262.-1NP35	3RT263.-1N.35	3RT264.-1N.35
Size		S0			S2	S3
Control						
Solenoid coil operating range						
• AC/DC operation (50/60 Hz AC or DC)		--	0.7 ... 1.3 x U _s		0.8 ... 1.1 x U _s	
Power consumption of the solenoid coils (for cold coil and 1.0 x U _s)						
• AC operation, 50/60 Hz, standard version						
- Closing	VA	6.6/6.7	11.9/12.0	12.7/14.7	110	163
- P.f.		0.98/0.98			0.95	--
- Closed	VA	1.9/2.0	1.6/1.8	3.9/4.3	2.5	3.1
- P.f.		0.86/0.82	0.79/0.74	0.51/0.56	0.95	--
• DC operation						
- Closing	W	5.9	10.2	14.3	70	76
- Closed	W	1.4	1.3	1.9	1.5	1.8
Maximum permissible residual current of the electronics (with 0 signal)						
• AC operation (230 V/U _s)	mA	7			< 20	
• DC operation (24 V/U _s)	mA	16			< 20	
Operating times for 0.8 ... 1.1 x U _s						
Total break time = Opening delay + Arcing time						
• AC/DC operation						
- Closing delay	for 0.8 ... 1.1 x U _s ms	50 ... 70			30 ... 100	50 ... 70
	for 1.0 x U _s	--			30 ... 70	--
- Opening delay	ms	35 ... 45			30 ... 55	38 ... 57
• Arcing time	ms	10 ... 15				

Switching Devices – Contactors and Contactor Assemblies – Special Applications

Contactors for Special Applications

SIRIUS 3RT26 contactors for capacitive loads (AC-6b), 3-pole

Type		3RT2617	3RT2625	3RT2626	3RT2627	3RT2628	3RT2636	3RT2637	3RT2645	3RT2646	
Size		S00	S0				S2		S3		
Auxiliary circuit											
Auxiliary contacts (unassigned)		1 NO + 1 NC, 2 NC		1 NO + 2 NC			1 NO + 1 NC, 2 NC				
Further auxiliary switches, laterally mountable		--					No more than one lateral auxiliary switch can be mounted.				
Technical specifications including CSA and UL rated data of the auxiliary contacts, see "3RT20 contactors", page 3/22 onwards.											
Rated data of the main contacts											
Load rating with AC											
Utilization category AC-6b											
Switching of AC capacitors											
• Rated operational current I_e at AC											
- Up to 690 V at ambient temperature		40 °C A	18.9	25.3	30.2	37.8	50	75.8	113.4	113	151
		60 °C A	18	24	29	36	47.6	72.2	108		144
- Up to 1 000 V at ambient temperature		60 °C A	--							54	68
• Rated operational reactive power at rated operational voltage		230 V, 50/60 Hz kvar	0 ... 7.2	3 ... 9.6	4 ... 11.5	5 ... 14	6 ... 19	10 ... 29	14 ... 43		19 ... 57
		400 V, 50/60 Hz kvar	0 ... 12.5	6 ... 16.7	7 ... 20	8 ... 25	11 ... 33	17 ... 50	25 ... 75		33 ... 100
		500 V, 50/60 Hz kvar	0 ... 15	7 ... 21	8 ... 25	10 ... 31	14 ... 41	21 ... 63	31 ... 94		41 ... 125
		690 V, 50/60 Hz kvar	0 ... 21	10 ... 29	11 ... 34	14 ... 43	19 ... 57	29 ... 86	43 ... 129		57 ... 172
		1 000 V, 50/60 Hz kvar	--							31 ... 94	41 ... 125
Switching frequency											
No-load switching frequency		AC operation 1/h	500					500 ²⁾			
		DC operation 1/h	500					500 ²⁾			
Max. switching frequency z at $T_u = 60\text{ °C}$ ¹⁾ in operating cycles/hour											
• At I_e /AC-6b and at		230 V, 50/60 Hz 1/h	180		100				200	150	
		400 V, 50/60 Hz 1/h	180		100			100 / 80 ³⁾	100 / 80 ³⁾	80 / 60 ⁴⁾	
		480 V, 50/60 Hz 1/h	180		100		70	60	50	40	
		500 V, 50/60 Hz 1/h	180		100		65	55	45	40	
		600 V, 50/60 Hz 1/h	180		100		45	40	32	20	
		690 V, 50/60 Hz 1/h	180	150	100	72	36	30	25	20	
		1 000 V, 50/60 Hz 1/h	--							30	20
Ⓢ and Ⓢ rated data											
Rated insulation voltage		V AC	600								
Operational reactive power at AC-6b, three-phase, at operational voltage		110 ... 120 V kvar	3.4	4.6	5.5	6.3	8.3	14	19	20	25
		200 ... 208 V kvar	6.2	8.3	10	11	15	25	34	37	45
		220 ... 230 V kvar	6.9	9.2	11	13	17	27	38	41	50
		460 ... 480 V kvar	14	18	22	25	33	55	75	82	100
		575 ... 600 V kvar	17	23	27	31	41	69	94	103	125
Short-circuit protection		At 600 V kA	5				10				
Fuse for main circuit		Class RK5 A	40	80			100	250			

¹⁾ Specifications for worst case scenario, higher switching frequency possible.

²⁾ In case of AC/DC operation (UC operating mechanisms): max. 300/h.

³⁾ Operating cycles/h: 100 with AC operation; 80 with AC/DC operation.

⁴⁾ Operating cycles/h: 80 with AC operation; 60 with AC/DC operation.

Switching Devices – Contactors and Contactor Assemblies – Special Applications

Contactors for Special Applications

SIRIUS 3RT26 contactors for capacitive loads (AC-6b), 3-pole

Type		3RT2617	3RT2625, 3RT2626, 3RT2627	3RT2628	3RT2636	3RT2637	3RT2645, 3RT2646
Size		S00	S0 ²⁾		S2 ³⁾		S3 ⁴⁾
Conductor cross-sections ¹⁾							
Main conductors (1 or 2 conductors can be connected)		Screw terminals					
• Solid or stranded	mm ²	2 x (0.5 ... 1.5) ⁵⁾ ; 2 x (0.75 ... 2.5) ⁵⁾ ; max. 2 x 4	2 x (1 ... 2.5) ⁵⁾ ; 2 x (2.5 ... 10) ⁵⁾	1 x (2.5 ... 25)	2 x (2.5 ... 35); 1 x (2.5 ... 50)		2 x (10 ... 70); 1 x (10 ... 70)
• Finely stranded with end sleeve (DIN 46228)	mm ²	2 x (0.5 ... 1.5) ⁵⁾ ; 2 x (0.75 ... 2.5) ⁵⁾	2 x (1 ... 2.5) ⁵⁾ ; 2 x (2.5 ... 6) ⁵⁾ ; 1 x 10	1 x (2.5 ... 16)	2 x (1 ... 25); 1 x (1 ... 35)	--	2 x (10 ... 50); 1 x (10 ... 50)
• AWG cables, solid or stranded	AWG	2 x (20 ... 16) ⁵⁾ ; 2 x (18 ... 14) ⁵⁾ ; 2 x 12	2 x (16 ... 12) ⁵⁾ ; 2 x (14 ... 8) ⁵⁾	1 x (10 ... 4)	2 x (18 ... 2); 1 x (18 ... 0)		2 x (8 ... 3/0); 1 x (8 ... 3/0)
• Terminal screw		M3 (for Pozidriv size 2; Ø 5 ... 6)	M4 (for Pozidriv size 2; Ø 5 ... 6)	M8	M6 (for Pozidriv size 2; Ø 5 ... 6)		M8 (Hexagon socket, A/F 4)
• Tightening torque	Nm lb.in	0.8 ... 1.2 7 ... 10.3	2 ... 2.5 18 ... 22	3 ... 4 27 ... 36	3 ... 4.5 27 ... 40		4.5 ... 6 40 ... 53
Auxiliary conductors (1 or 2 conductors can be connected)							
• Solid or stranded	mm ²	2 x (0.5 ... 1.5) ⁵⁾ ; 2 x (0.75 ... 2.5) ⁵⁾ ; max. 2 x 4					
• Finely stranded with end sleeve (DIN 46228)	mm ²	2 x (0.5 ... 1.5) ⁵⁾ ; 2 x (0.75 ... 2.5) ⁵⁾					
• AWG cables, solid or stranded	AWG	2 x (20 ... 16) ⁵⁾ ; 2 x (18 ... 14) ⁵⁾ ; 2 x 12					
• Terminal screw		M3 (for Pozidriv size 2; Ø 5 ... 6)					
• Tightening torque	Nm lb.in	0.8 ... 1.2 7 ... 10.3					

¹⁾ Observe the main conductor minimum cross-sections according to the manual.

²⁾ Three-phase infeed terminal 3RV2925-5AB available, [see page 3/115](#).
With 3RT2628, the three-phase infeed terminal is included in the scope of supply.

³⁾ Three-phase infeed terminal 3RV2935-5A available, [see page 3/115](#).

⁴⁾ Single-phase infeed terminal 3RA2943-3L available, [see page 3/115](#).

⁵⁾ If two different conductor cross-sections are connected to one clamping point, both cross-sections must lie in one of the ranges specified.

Switching Devices – Contactors and Contactor Assemblies – Special Applications

Contactors for Special Applications

SIRIUS 3RT26 contactors for capacitive loads (AC-6b), 3-pole

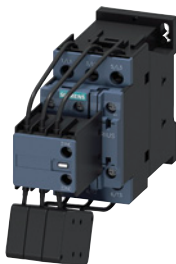
Selection and ordering data

AC operation

Main, auxiliary and control conductors: Screw terminals



3RT2617-1A.05



3RT262-1A.05



3RT2628-1A.05
with infeed terminal

Utilization category AC-6b				Auxiliary contacts, unassigned		Rated control supply voltage U_s		SD	Screw terminals 	PU (UNIT, SET, M)	PS*	PG
Switching AC capacitors at an ambient temperature of 60 °C				Version		50 Hz AC	50/60 Hz AC					
Capacitor rating at operational voltage 50/60 Hz				 					Article No.	Price per PU		
At 230 V	At 400 V	At 500 V	At 690 V	NO	NC	V	V	d				
kvar	kvar	kvar	kvar									
For screw fixing and snap-on mounting onto TH 35 standard mounting rail												
Size S00												
0 ... 7.2	0 ... 12.5	0 ... 15	0 ... 21	1	1	--	24	5	3RT2617-1AB03	1	1 unit	41B
						--	110	5	3RT2617-1AF03	1	1 unit	41B
						--	230	5	3RT2617-1AP03	1	1 unit	41B
0 ... 7.2	0 ... 12.5	0 ... 15	0 ... 21	0	2	--	24	5	3RT2617-1AB05	1	1 unit	41B
						--	110	5	3RT2617-1AF05	1	1 unit	41B
						--	230	5	3RT2617-1AP05	1	1 unit	41B
Size S0¹⁾												
3 ... 9.6	6 ... 16.7	7 ... 21	10 ... 29	1	2	24	--	5	3RT2625-1AB05	1	1 unit	41B
						110	--	5	3RT2625-1AF05	1	1 unit	41B
						230	--	5	3RT2625-1AP05	1	1 unit	41B
4 ... 11.5	7 ... 20	8 ... 25	11 ... 34	1	2	24	--	5	3RT2626-1AB05	1	1 unit	41B
						110	--	5	3RT2626-1AF05	1	1 unit	41B
						230	--	5	3RT2626-1AP05	1	1 unit	41B
5 ... 14	8 ... 25	10 ... 31	14 ... 43	1	2	24	--	5	3RT2627-1AB05	1	1 unit	41B
						110	--	5	3RT2627-1AF05	1	1 unit	41B
						230	--	5	3RT2627-1AP05	1	1 unit	41B
6 ... 19	11 ... 33	14 ... 41	19 ... 57	1	2	24	--	5	3RT2628-1AB05	1	1 unit	41B
						110	--	5	3RT2628-1AF05	1	1 unit	41B
						230	--	5	3RT2628-1AP05	1	1 unit	41B

¹⁾ Three-phase infeed terminal 3RV2925-5AB available, see page 3/115.
With 3RT2628, the three-phase infeed terminal is included in the scope of supply.

Other voltages according to page 4/47 on request.

Accessories and spare parts, see page 3/75 onwards.

Switching Devices – Contactors and Contactor Assemblies – Special Applications

Contactors for Special Applications

SIRIUS 3RT26 contactors for capacitive loads (AC-6b), 3-pole

AC operation

Main, auxiliary and control conductors: Screw terminals



3RT263.-1A.05



3RT264.-1A.05

Utilization category AC-6b				Auxiliary contacts, unassigned		Rated control supply voltage U_s	SD	Screw terminals 	PU (UNIT, SET, M)	PS*	PG
Switching AC capacitors at an ambient temperature of 60 °C				Version		50 Hz AC		Article No.	Price per PU		
Capacitor rating at operational voltage 50/60 Hz											
At 230 V	At 400 V	At 500 V	At 690 V	NO	NC	V	d				
kvar	kvar	kvar	kvar								
For screw fixing and snap-on mounting onto TH 35 standard mounting rail											
Size S2 ¹⁾											
10 ... 29	17 ... 50	21 ... 63	29 ... 86	1	1	24 110 230	5 5 5	3RT2636-1AB03 3RT2636-1AF03 3RT2636-1AP03	1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
10 ... 29	17 ... 50	21 ... 63	29 ... 86	0	2	24 110 230	5 5 5	3RT2636-1AB05 3RT2636-1AF05 3RT2636-1AP05	1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
14 ... 43	25 ... 75	31 ... 94	43 ... 129	1	1	24 110 230	5 5 5	3RT2637-1AB03 3RT2637-1AF03 3RT2637-1AP03	1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
14 ... 43	25 ... 75	31 ... 94	43 ... 129	0	2	24 110 230	5 5 5	3RT2637-1AB05 3RT2637-1AF05 3RT2637-1AP05	1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
For screw fixing and snap-on mounting onto TH 35-15 and TH 75-15 standard mounting rails											
Size S3 ²⁾											
14 ... 43	25 ... 75	31 ... 94	43 ... 129	1	1	24 110 230	5 5 5	3RT2645-1AB03 3RT2645-1AF03 3RT2645-1AP03	1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
14 ... 43	25 ... 75	31 ... 94	43 ... 129	0	2	24 110 230	5 5 5	3RT2645-1AB05 3RT2645-1AF05 3RT2645-1AP05	1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
19 ... 57	33 ... 100	41 ... 125	57 ... 172	1	1	24 110 230	5 5 5	3RT2646-1AB03 3RT2646-1AF03 3RT2646-1AP03	1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
19 ... 57	33 ... 100	41 ... 125	57 ... 172	0	2	24 110 230	5 5 5	3RT2646-1AB05 3RT2646-1AF05 3RT2646-1AP05	1 1 1	1 unit 1 unit 1 unit	41B 41B 41B

¹⁾ Three-phase infeed terminal 3RV2935-5A available, [see page 3/115](#).

²⁾ Single-phase infeed terminal 3RA2943-3L available, [see page 3/115](#).

Other voltages [according to page 4/47](#) on request.
Accessories, [see page 3/75 onwards](#).

Switching Devices – Contactors and Contactor Assemblies – Special Applications

Contactors for Special Applications

SIRIUS 3RT26 contactors for capacitive loads (AC-6b), 3-pole

DC operation

Main, auxiliary and control conductors: Screw terminals



3RT2617-1B.45



3RT262-1B.45



3RT2628-1B.45
with infeed terminal

Utilization category AC-6b				Auxiliary contacts, unassigned		Rated control supply voltage U_s	SD	Screw terminals 	PU (UNIT, SET, M)	PS*	PG
Switching AC capacitors at an ambient temperature of 60 °C				Version		DC					
Capacitor rating at operational voltage 50/60 Hz				 				Article No.	Price per PU		
At 230 V	At 400 V	At 500 V	At 690 V	NO	NC	V	d				
kvar	kvar	kvar	kvar								

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

Size S00

0 ... 7.2	0 ... 12.5	0 ... 15	0 ... 21	1	1	24 110	5 5	3RT2617-1BB43 3RT2617-1BF43	1 1	1 unit 1 unit	41B 41B
0 ... 7.2	0 ... 12.5	0 ... 15	0 ... 21	0	2	24 110	5 5	3RT2617-1BB45 3RT2617-1BF45	1 1	1 unit 1 unit	41B 41B

Size S0¹⁾

3 ... 9.6	6 ... 16.7	7 ... 21	10 ... 29	1	2	24 110	5 5	3RT2625-1BB45 3RT2625-1BF45	1 1	1 unit 1 unit	41B 41B
4 ... 11.5	7 ... 20	8 ... 25	11 ... 34	1	2	24 110	5 5	3RT2626-1BB45 3RT2626-1BF45	1 1	1 unit 1 unit	41B 41B
5 ... 14	8 ... 25	10 ... 31	14 ... 43	1	2	24 110	5 5	3RT2627-1BB45 3RT2627-1BF45	1 1	1 unit 1 unit	41B 41B
6 ... 19	11 ... 33	14 ... 41	19 ... 57	1	2	24 110	5 5	3RT2628-1BB45 3RT2628-1BF45	1 1	1 unit 1 unit	41B 41B

¹⁾ Three-phase infeed terminal 3RV2925-5AB available, [see page 3/115](#).
With 3RT2628, the three-phase infeed terminal is included in the scope of supply.

Other voltages [according to page 4/47](#) on request.

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

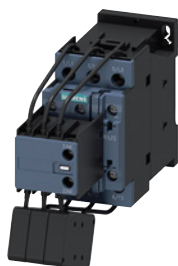
Switching Devices – Contactors and Contactor Assemblies – Special Applications

Contactors for Special Applications

SIRIUS 3RT26 contactors for capacitive loads (AC-6b), 3-pole

AC/DC operation

Main, auxiliary and control conductors: Screw terminals



3RT262.-1N.35



3RT2628-1N.35
with infeed terminal



3RT263.-1N.35



3RT264.-1N.35

Utilization category AC-6b				Auxiliary contacts, unassigned		Rated control supply voltage U_s	SD	Screw terminals 	PU (UNIT, SET, M)	PS*	PG
Switching AC capacitors at an ambient temperature of 60 °C				Version		50/60 Hz AC or DC					
Capacitor rating at operational voltage 50/60 Hz				 				Article No.	Price per PU		
At 230 V	At 400 V	At 500 V	At 690 V	NO	NC	V	d				
kvar	kvar	kvar	kvar								
For screw fixing and snap-on mounting onto TH 35 standard mounting rail											
Size S0 ¹⁾											
3 ... 9.6	6 ... 16.7	7 ... 21	10 ... 29	1	2	21 ... 28 95 ... 130 200 ... 280	5 5 5	3RT2625-1NB35 3RT2625-1NF35 3RT2625-1NP35	1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
4 ... 11.5	7 ... 20	8 ... 25	11 ... 34	1	2	21 ... 28 95 ... 130 200 ... 280	5 5 5	3RT2626-1NB35 3RT2626-1NF35 3RT2626-1NP35	1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
5 ... 14	8 ... 25	10 ... 31	14 ... 43	1	2	21 ... 28 95 ... 130 200 ... 280	5 5 5	3RT2627-1NB35 3RT2627-1NF35 3RT2627-1NP35	1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
6 ... 19	11 ... 33	14 ... 41	19 ... 57	1	2	21 ... 28 95 ... 130 200 ... 280	5 5 5	3RT2628-1NB35 3RT2628-1NF35 3RT2628-1NP35	1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
Size S2 ²⁾											
10 ... 29	17 ... 50	21 ... 63	29 ... 86	0	2	20 ... 33 83 ... 155 175 ... 280	5 5 5	3RT2636-1NB35 3RT2636-1NF35 3RT2636-1NP35	1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
14 ... 43	25 ... 75	31 ... 94	43 ... 129	0	2	20 ... 33 83 ... 155 175 ... 280	5 5 5	3RT2637-1NB35 3RT2637-1NF35 3RT2637-1NP35	1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
For screw fixing and snap-on mounting onto TH 35-15 and TH 75-15 standard mounting rails											
Size S3 ³⁾											
14 ... 43	25 ... 75	31 ... 94	43 ... 129	0	2	20 ... 33 83 ... 155 175 ... 280	5 5 5	3RT2645-1NB35 3RT2645-1NF35 3RT2645-1NP35	1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
19 ... 57	33 ... 100	41 ... 125	57 ... 172	0	2	20 ... 33 83 ... 155 175 ... 280	5 5 5	3RT2646-1NB35 3RT2646-1NF35 3RT2646-1NP35	1 1 1	1 unit 1 unit 1 unit	41B 41B 41B

¹⁾ Three-phase infeed terminal 3RV2925-5AB available, [see page 3/115](#).
With 3RT2628, the three-phase infeed terminal is included in the scope of supply.

²⁾ Three-phase infeed terminal 3RV2935-5A available, [see page 3/115](#).

³⁾ Single-phase infeed terminal 3RA2943-3L available, [see page 3/115](#).

Other voltages [according to page 4/47](#) on request.
Accessories, [see page 3/75 onwards](#).

Switching Devices – Contactors and Contactor Assemblies – Special Applications

Contactors for Special Applications

SIRIUS 3RT26 contactors for capacitive loads (AC-6b), 3-pole

Options

**Rated control supply voltages for 3RT2 contactors, 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	3RT231, 3RT251	3RT232, 3RT252	3RT233, 3RT253	3RT234, 3RT244, 3RT254	3RT2617, 3RT262, 3RT263, 3RT264
	Size	S00	S0	S2	S3	S00 to S3
Sizes S00 to S3						
AC operation¹⁾						
Solenoid coils for 50 Hz (exception: Size S00: 50 and 60 Hz ²⁾)						
24 V AC		B0	B0	B0	B0	B0
42 V AC		D0	D0	D0	D0	--
48 V AC		H0	--	--	H0	--
110 V AC		F0	F0	F0	F0	F0
230 V AC		P0	P0	P0	P0	P0
240 V AC		--	--	U0	U0	--
400 V AC		V0	V0	V0	V0	--
Solenoid coils for 50 and 60 Hz²⁾						
24 V AC		B0	C2	C2	C2	C2
42 V AC		D0	D2	D2	D2	--
48 V AC		H0	H2	H2	H2	--
110 V AC		F0	G2	G2	G2	--
220 V AC		N2	N2	N2	N2	N2
230 V AC		P0	L2	L2	L2	L2
Solenoid coils (for USA and Canada³⁾)						
50 Hz	60 Hz					
110 V AC	120 V AC	K6	K6	K6	K6	--
220 V AC	240 V AC	P6	P6	P6	P6	--
Solenoid coils (for Japan)						
50/60 Hz⁴⁾	60 Hz⁵⁾					
100 V AC	110 V AC	G6	G6	G6	G6	G6
200 V AC	220 V AC	N6	N6	N6	N6	N6
400 V AC	440 V AC	R6	R6	R6	R6	R6
DC operation¹⁾						
12 V DC		A4	A4	--	--	--
24 V DC		B4	B4	--	--	B4
42 V DC		D4	D4	--	--	--
48 V DC		W4	W4	--	--	--
60 V DC		--	--	--	--	--
110 V DC		F4	F4	--	--	F4
125 V DC		G4	G4	--	--	--
220 V DC		M4	M4	--	--	--
230 V DC		P4	--	--	--	--

Examples

AC operation	3RT2325-1AP00 3RT2325-1AG20	Contactor with screw terminals; with solenoid coil for 50 Hz for rated control supply voltage of 230 V AC Contactor with screw terminals; with solenoid coil for 50/60 Hz for rated control supply voltage of 110 V AC
DC operation	3RT2526-2BB40 3RT2526-2BG40	Contactor with spring-loaded terminals; for rated control supply voltage of 24 V DC Contactor with spring-loaded terminals; for rated control supply voltage of 125 V DC

¹⁾ For deviating coil voltages and operating ranges of sizes S00 and S0, a SITOP 24 V DC power supply with wide-range input can be used for the coil control, see page 15/1 or Catalog KT10.1.

²⁾ Coil operating range
- At 50 Hz: 0.8 to $1.1 \times U_s$,
- At 60 Hz: 0.85 to $1.1 \times U_s$.

³⁾ Coil operating range
- Size S00:
At 50 Hz: 0.85 to $1.1 \times U_s$,
At 60 Hz: 0.8 to $1.1 \times U_s$
- Sizes S0 to S3: At 50 Hz and 60 Hz: 0.8 to $1.1 \times U_s$.

⁴⁾ Coil operating range

- Size S00:
At 50/60 Hz: 0.85 to $1.1 \times U_s$
- Sizes S0 to S3:
At 50 Hz: 0.8 to $1.1 \times U_s$,
At 60 Hz: 0.85 to $1.1 \times U_s$.

⁵⁾ Coil operating range at 60 Hz: 0.8 to $1.1 \times U_s$.

Rated control supply voltage	Contactor type	3RT2.2.-N	Rated control supply voltage	Contactor type	3RT2.3.-N	3RT2.4.-N
$U_{s \min} \dots U_{s \max}^{1)}$	Size	S0	$U_{s \min} \dots U_{s \max}^{1)}$	Size	S2	S3
Sizes S0 to S3						
AC/DC operation (50/60 Hz AC or DC)						
21 ... 28 V AC/DC		B3	20 ... 33 V AC/DC		B3	B3
95 ... 130 V AC/DC		F3	48 ... 80 V AC/DC		E3	E3
200 ... 280 V AC/DC		P3	83 ... 155 V AC/DC		F3	F3
			175 ... 280 V AC/DC		P3	P3

¹⁾ Coil operating range: $0.8 \times U_{s \min}$ to $1.1 \times U_{s \max}$.

Switching Devices – Contactors and Contactor Assemblies – Special Applications

Contactors for Special Applications

SIRIUS 3RT26 contactors for capacitive loads (AC-6b), 3-pole

Rated control supply voltages for 3RT14 contactors, possible on request (change of the 10th and 11th digits of the Article No.)

Delivery time on request

Rated control supply voltage	Contactor type 3RT145.-A, 3RT146.-A, 3RT147.-A	Rated control supply voltage	Contactor type 3RT145.-N, 3RT146.-N, 3RT147.-N	3RT145.-P, 3RT145.-S, 3RT146.-P, 3RT146.-S, 3RT147.-P, 3RT147.-S
$U_{s \min} \dots U_{s \max}$	Sizes S6 to S12	$U_{s \min} \dots U_{s \max}$	Sizes S6 to S12	
Sizes S6 to S12				

AC/DC operation (50/60 Hz AC or DC) and operating range $0.8 \times U_{s \min} \dots 1.1 \times U_{s \max}$

Standard operating mechanism

23 ... 26 V AC/DC	B3
42 ... 48 V AC/DC	D3
110 ... 127 V AC/DC	F3
200 ... 220 V AC/DC	M3
220 ... 240 V AC/DC	P3
240 ... 277 V AC/DC	U3
380 ... 420 V AC/DC	V3
440 ... 480 V AC/DC	R3
500 ... 550 V AC/DC	S3
575 ... 600 V AC/DC	T3

Solid-state operating mechanism

21 ... 27.3 V AC/DC	B3	--
96 ... 127 V AC/DC	F3	F3
200 ... 277 V AC/DC	P3	P3

Switching Devices – Contactors and Contactor Assemblies – Special Applications

Contactors for Special Applications

Contactors for railway applications > SIRIUS 3RT contactors with extended operating range, 3-pole

Overview

Standards

IEC/EN 60947-4-1, IEC/EN 60077-2, EN 50155

Performance range

Sizes S00 to S3

- 3RT20 contactors for motor loads (AC-3) up to 110 A / 55 kW

Sizes S6 to S12

- 3RT10 contactors for motor loads (AC-3) from 55 kW to 500 A / 250 kW
- 3RT14 contactors for resistive loads (AC-1) up to 690 A

Application

Besides standard approval in compliance with IEC 60947-4-1, the contactors with an extended operating range are also approved in compliance with the relevant parts of IEC 60077-2, thus fulfilling the requirement for use in railway applications.

Thus, their suitability for increased requirements such as an

- extended temperature range compared to the IEC 60947-4-1 product standard or
- extended operating range of the contactor operating mechanisms or also
- increased resistance to mechanical oscillations and vibrations is warranted. The design of the terminals in the spring-loaded connection system also contributes toward vibration resistance.

Versions

In addition to the complete motor contactor series (AC-3) up to 250 kW of sizes S00 to S12 (3RT.0), as from size S6, new variants of the 3RT14 contactors optimized for AC-1 operation up to 525 kW with extended operating conditions are also available.

Operating range of contactor operating mechanisms

The contactors with extended operating range and railway approval are available with a solid-state DC operating mechanism in all sizes from S00 to S12.

This operating mechanism version has an operating range from 0.7 to $1.25 \times U_s$ in the temperature range -40 to 70 °C. Overvoltage damping of the contactor coil with a varistor circuit is already integrated.

As from size S6, the operating mechanisms are equipped with an additional control input that can be operated between 24 DC and 110 V. This function can optionally be switched on or off via a selector switch.

Auxiliary switches

These devices can be equipped with auxiliary switches in the same way as their corresponding versions of the standard motor contactors (see overview diagrams of the contactors, page 3/8 onwards).

Ambient temperature

The permissible ambient temperature for operation of the contactors (across the full operating range of the operating mechanisms) is -40 to $+70$ °C.

Side-by-side mounting

Contactors with conventional operating mechanism

- Sizes S00 and S0:
Side-by-side mounting is permissible at ambient temperatures up to 60 °C. At > 60 to 70 °C, a clearance of at least 10 mm shall be provided.

Contactors with series resistor

- Size S00:
Side-by-side mounting is permissible at ambient temperatures up to 70 °C.

Contactors with solid-state operating mechanism (version: 3RT....-.....0LA2)

- Sizes S00 to S3:
Side-by-side mounting is permissible at ambient temperatures up to 70 °C.
- Sizes S6 to S12:
Side-by-side mounting is permissible at ambient temperatures up to 60 °C. At > 60 to 70 °C, a clearance of at least 10 mm shall be provided.

Switching Devices – Contactors and Contactor Assemblies – Special Applications

Contactors for Special Applications

Contactors for railway applications > SIRIUS 3RT contactors with extended operating range, 3-pole

Technical specifications

More information

Technical specifications, see
<https://support.industry.siemens.com/cs/ww/en/ps/16177/td>
 FAQs, see <https://support.industry.siemens.com/cs/ww/en/ps/16177/faq>

Manuals, see <https://support.industry.siemens.com/cs/ww/en/ps/16177/man>

Type	3RT2017	3RT2017- 2XB4- 0LA2	2XF4- 0LA2	3RT2018- 2XB4- 0LA2	2XF4- 0LA2	3RT202.	3RT202.- 2XB40- 0LA2	2XF40- 0LA2
Size	S00					S0		

General data

Upright mounting position

- Contactors with series resistor
- Contactors with conventional coil

Special version (on request)
 Special version (on request)

Ambient temperature

- | | | | |
|--------------------|----|---------------------------|-------------|
| • During operation | °C | -40 ... +70 ¹⁾ | -40 ... +70 |
| • During storage | °C | -55 ... +80 | |

Control

Solenoid coil operating range DC 0.7 ... 1.25 x U_s

Power consumption of the solenoid coils For cold coil and 1.0 x U_s

• Contactors with series resistor	Closing	W	13	--						
	Closed	W	4.0	--						
• Contactors with conventional coil	Closing	W	2.8	--			4.5	--		
	Closed	W	2.8	--			4.5	--		
• Contactors with solid-state operating mechanism	Closing	W	--	4.0	4.5	4.0	4.5	--	6.7	13.2
	Closed	W	--	0.95	0.75	0.95	0.75	--	1.4	1.3

Rated data of the main contacts

Load rating with AC

Minimum cross-section in the main circuit

- | | | | | | | | |
|-----------------------------------|-----------------|----|---|--|--|----|----|
| • At maximum AC-1 rated value | mm ² | 4 | | | | 10 | |
| • At maximum I_{th} rated value | mm ² | -- | 4 | | | -- | 10 |

¹⁾ 3RT20...-K contactors without the article number suffix "-0LA2" are coupling contactors that are certified for the -25 to +60 °C temperature range. For railway applications, an additional certification approves these contactors with a minimum clearance of 10 mm for the extended temperature range from -40 to +70 °C.

All details and technical specifications not mentioned here are identical to those of the basic units, see page 3/22 onwards.

Type	3RT2035- 3XB40- 0LA2	3XF40- 0LA2	3RT2036- 3XB40- 0LA2	3XF40- 0LA2	3RT2037- 3XB40- 0LA2	3XF40- 0LA2	3RT2038- 3XB40- 0LA2	3XF40- 0LA2	3RT204.- 3XB40- 0LA2	3XF40- 0LA2
Size	S2								S3	

General data

Ambient temperature

- | | | |
|--------------------|----|-------------|
| • During operation | °C | -40 ... +70 |
| • During storage | °C | -55 ... +80 |

Control

Solenoid coil operating range DC 0.7 ... 1.25 x U_s

Power consumption of the solenoid coils For cold coil and 1.0 x U_s

• Contactors with solid-state operating mechanism	Closing	W	23					76	64
	Closed	W	1					1.8	1.0

Rated data of the main contacts

Load rating with AC

Minimum cross-section in the main circuit

- | | | | | | | |
|-----------------------------------|-----------------|----|----|--|----|----|
| • At maximum AC-1 rated value | mm ² | 16 | 25 | | 35 | 50 |
| • At maximum I_{th} rated value | mm ² | 16 | 25 | | 35 | 50 |

All details and technical specifications not mentioned here are identical to those of the basic units, see page 3/22 onwards.

Switching Devices – Contactors and Contactor Assemblies – Special Applications

Contactors for Special Applications

Contactors for railway applications > SIRIUS 3RT contactors with extended operating range, 3-pole

Type			3RT1054- .X.46- 0LA2	3RT1055- .X.46- 0LA2	3RT1056- .X.46- 0LA2	3RT1064- .X.46- 0LA2	3RT1065- .X.46- 0LA2	3RT1066- .X.46- 0LA2	3RT1075- .X.46- 0LA2	3RT1076- .X.46- 0LA2
Size			S6			S10			S12	
General data										
Ambient temperature										
• During operation	°C		-40 ... +70							
• During storage	°C		-55 ... +80							
Control										
• Solenoid coil closing for DC	W		320			580			800	
• Solenoid coil closed for DC	W		2.8			3.4			3.6	
• Control version of the switch operating mechanism			PLC-IN or standard A1 - A2 (can be set)							
Actuated via A1/A2										
• Rated control supply voltage	V DC		24, 72 or 110							
• Operating range			0.7 ... 1.25							
Actuated via PLC input										
• Rated voltage	V DC		24 ... 110							
• Operating range			0.7 ... 1.25							
• Consumed current at PLC control input according to IEC 60947-1, maximum	mA		2							
Rated data of the main contacts										
Load rating with AC										
Minimum cross-section in the main circuit										
• At maximum AC-1 rated value	mm ²		70	95		150	185		300	370
• At maximum I _{th} rated value	mm ²		70	95		150	185		300	370
Switching frequency										
Switching frequency z in operating cycles/hour										
Contactors without overload relays										
• No-load switching frequency										
- Contactors with solid-state operating mechanism	1/h		1 000			700			500	
• Switching frequency z during rated operation ¹⁾										
- Contactors with solid-state operating mechanism			I _e /AC-1 at 400 V h ⁻¹ I _e /AC-2 at 400 V h ⁻¹ I _e /AC-3 at 400 V h ⁻¹ I _e /AC-4 at 400 V h ⁻¹			700 250 500 700			500 200 500 500	
			800 400 1 000 130			300 750			170 420	

¹⁾ Dependence of the switching frequency z' on the operational current I' and operational voltage U':
z' = z · (I_e/I) · (U_e/U)^{1.5} · 1/h.

For all details and technical specifications not mentioned here, see
<https://support.industry.siemens.com/cs/ww/en/ps/16177/td>.

¹⁾ Dependence of the switching frequency z' on the operational current I' and operational voltage U:
 $z' = z \cdot (I_e/I') \cdot (U_e/U)^{1.5} \cdot 1/h$.

For all details and technical specifications not mentioned here,
 see
<https://support.industry.siemens.com/cs/ww/en/ps/16177/td>.

Type		3RT1456-.X.46-0LA2	3RT1466-.X.46-0LA2	3RT1467-.X.46-0LA2	3RT1476-.X.46-0LA2
Size		S6	S10		S12
General data					
Ambient temperature					
• During operation	°C	-40 ... +70			
• During storage	°C	-55 ... +80			
Control					
• Solenoid coil closing for DC		320	580		800
• Solenoid coil closed for DC		2.8	3.4		3.6
• Control version of the switch operating mechanism		PLC-IN or standard A1 - A2 (can be set)			
<u>Actuated via A1/A2</u>					
• Rated control supply voltage	V DC	24, 72 or 110			
• Operating range		0.7 ... 1.25			
<u>Actuated via PLC input</u>					
• Rated voltage	V DC	24 ... 110			
• Operating range		0.7 ... 1.25			
• Consumed current at PLC control input according to IEC 60947-1, maximum	mA	2			
Rated data of the main contacts					
Load rating with AC					
Minimum cross-section in the main circuit					
• At maximum AC-1 rated value	mm ²	140	240	300	480
• At maximum <i>I</i> _{th} rated value	mm ²	140	240		480

Switching Devices – Contactors and Contactor Assemblies – Special Applications

Contactor for Special Applications

Contactor for railway applications > SIRIUS 3RT contactors with extended operating range, 3-pole **IE3/IE4 ready**

Selection and ordering data

DC operation



3RT201-2K.4.



3RT201-2K.42-0LA0

Rated data according to IEC 60947-4-1				Auxiliary contacts		Rated control supply voltage U_s	SD	Spring-loaded terminals	PU (UNIT, SET, M)	PS*	PG
AC-2 and AC-3, t_u : 70 °C				Ident. No.	Version						
Operational current I_e up to	Ratings of three-phase motors at							Article No.	Price per PU		
400 V	230 V	400 V	500 V	690 V			V DC	d			
A	kW	kW	kW	kW	NO	NC	V DC	d			

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

Size S00

Coupling contactors with integrated coil circuit

- Suppressor diode integrated at the factory

12	3	5.5	5.5	5.5	10 ¹⁾	1	--	24	5	3RT2017-2KB41	1	1 unit	41B
								110	5	3RT2017-2KF41	1	1 unit	41B
12	3	5.5	5.5	5.5	01 ¹⁾	--	1	24	5	3RT2017-2KB42	1	1 unit	41B
								110	5	3RT2017-2KF42	1	1 unit	41B

- Varistor integrated at the factory

12	3	5.5	5.5	5.5	10 ¹⁾	1	--	24	5	3RT2017-2LB41	1	1 unit	41B
								110	5	3RT2017-2LF41	1	1 unit	41B
12	3	5.5	5.5	5.5	01 ¹⁾	--	1	24	5	3RT2017-2LB42	1	1 unit	41B
								110	5	3RT2017-2LF42	1	1 unit	41B

With plug-on series resistor and integrated coil circuit

- Suppressor diode integrated at the factory

12	3	5.5	5.5	5.5	-- ²⁾	--	1 ³⁾	24	5	3RT2017-2KB42-0LA0	1	1 unit	41B
								110	5	3RT2017-2KF42-0LA0	1	1 unit	41B
16	4	7.5	10	11	-- ²⁾	--	1 ³⁾	24	5	3RT2018-2KB42-0LA0	1	1 unit	41B
								110	5	3RT2018-2KF42-0LA0	1	1 unit	41B

- Varistor integrated at the factory

12	3	5.5	5.5	5.5	-- ²⁾	--	1 ³⁾	24	5	3RT2017-2LB42-0LA0	1	1 unit	41B
								110	5	3RT2017-2LF42-0LA0	1	1 unit	41B
16	4	7.5	10	11	-- ²⁾	--	1 ³⁾	24	5	3RT2018-2LB42-0LA0	1	1 unit	41B
								110	5	3RT2018-2LF42-0LA0	1	1 unit	41B

¹⁾ It is not possible to mount an auxiliary switch. A clearance of 10 mm is required for side-by-side mounting at ambient temperatures > 60 °C.

²⁾ One 4-pole auxiliary switch according to EN 50005 can be mounted from -40 to 70 °C; no clearance required.

³⁾ NC contact cannot be used because it is used for switching of the series resistor.

Accessories and spare parts, see page 3/75 onwards.

Switching Devices – Contactors and Contactor Assemblies – Special Applications

IE3/IE4 ready Contactors for railway applications > SIRIUS 3RT contactors with extended operating range, 3-pole

DC operation



3RT201.-2X.41-0LA2



3RT201.-2X.42-0LA2



3RT202.-2K.40



3RT202.-2X.40-0LA2

Rated data acc. to IEC 60077-2 IEC 60947-4-1						Auxiliary contacts		Rated control supply voltage U_s	SD	Spring-loaded terminals 	PU (UNIT, SET, M)	PS*	PG
t_U : 70 °C Conventional thermal current I_{th} up to 690 V A		t_U : 60 °C Operational current I_e up to 400 V A		Ratings of three-phase motors at 230 V kW 400 V kW 500 V kW 690 V kW		Ident. No.	Version						
						 NO  NC		V DC	d	Article No.	Price per PU		

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

Size S00

With integrated coil circuit (varistor integrated in electronics at the factory)

18	12	3	5.5	5.5	5.5	10	1	--	24 ... 34 72 ... 125	5 5	3RT2017-2XB41-0LA2 3RT2017-2XF41-0LA2	1 1	1 unit 1 unit	41B 41B
18	12	3	5.5	5.5	5.5	01	--	1	24 ... 34 72 ... 125	5 5	3RT2017-2XB42-0LA2 3RT2017-2XF42-0LA2	1 1	1 unit 1 unit	41B 41B
18	16	4	7.5	10	11	10	1	--	24 ... 34 72 ... 125	5 5	3RT2018-2XB41-0LA2 3RT2018-2XF41-0LA2	1 1	1 unit 1 unit	41B 41B
18	16	4	7.5	10	11	01	--	1	24 ... 34 72 ... 125	5 5	3RT2018-2XB42-0LA2 3RT2018-2XF42-0LA2	1 1	1 unit 1 unit	41B 41B

Size S0

With integrated coil circuit

- Coupling contactors with varistor integrated at the factory

--	17	4	7.5	10	11	11¹⁾	1	1	24	2	3RT2025-2KB40	1	1 unit	41B
									110	5	3RT2025-2KF40	1	1 unit	41B
--	25	5.5	11	11	11	11¹⁾	1	1	24	2	3RT2026-2KB40	1	1 unit	41B
									110	5	3RT2026-2KF40	1	1 unit	41B
--	32	7.5	15	18.5	18.5	11¹⁾	1	1	24	5	3RT2027-2KB40	1	1 unit	41B
									110	5	3RT2027-2KF40	1	1 unit	41B

- Varistor integrated in electronics at the factory

30	17	4	7.5	10	11	11	1	1	24	5	3RT2025-2XB40-0LA2	1	1 unit	41B
									110	5	3RT2025-2XF40-0LA2	1	1 unit	41B
30	25	5.5	11	11	11	11	1	1	24	5	3RT2026-2XB40-0LA2	1	1 unit	41B
									110	5	3RT2026-2XF40-0LA2	1	1 unit	41B
36	32	7.5	15	18.5	18.5	11	1	1	24	5	3RT2027-2XB40-0LA2	1	1 unit	41B
									110	5	3RT2027-2XF40-0LA2	1	1 unit	41B
38	38	7.5	18.5	18.5	18.5	11	1	1	24	5	3RT2028-2XB40-0LA2	1	1 unit	41B
									110	5	3RT2028-2XF40-0LA2	1	1 unit	41B

¹⁾ It is not possible to mount an auxiliary switch. A clearance of 10 mm is required for side-by-side mounting at ambient temperatures > 60 °C.

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

Switching Devices – Contactors and Contactor Assemblies – Special Applications

Contactors for Special Applications

Contactors for railway applications > SIRIUS 3RT contactors with extended operating range, 3-pole **IE3/IE4 ready**

DC operation



3RT203-3X.40-0LA2



3RT204-3X.40-0LA2

Rated data acc. to IEC 60077-2 IEC 60947-4-1		Auxiliary contacts		Rated control supply voltage U_s	SD	Spring-loaded terminals for auxiliary and control circuits		PU (UNIT, SET, M)	PS*	PG
t_U : 70 °C Conven- tional thermal current I_{th} up to	t_U : 60 °C Operational current I_e up to	Ratings of three-phase motors at		Ident. No.	Version					
690 V	400 V	230 V	400 V	500 V	690 V	Article No.		Price per PU		
A	A	kW	kW	kW	kW			V DC	d	

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

Size S2

With integrated coil circuit (varistor integrated in electronics at the factory)

50	40	11	18.5	22	22	11	1	1	24 110	5 5	3RT2035-3XB40-0LA2 3RT2035-3XF40-0LA2	1 1	1 unit 1 unit	41B 41B
55	50	15	22	30	22	11	1	1	24 110	5 5	3RT2036-3XB40-0LA2 3RT2036-3XF40-0LA2	1 1	1 unit 1 unit	41B 41B
60	65	18.5	30	37	37	11	1	1	24 110	5 5	3RT2037-3XB40-0LA2 3RT2037-3XF40-0LA2	1 1	1 unit 1 unit	41B 41B
75	80	22	37	37	45	11	1	1	24 110	5 5	3RT2038-3XB40-0LA2 3RT2038-3XF40-0LA2	1 1	1 unit 1 unit	41B 41B

For screw fixing and snap-on mounting onto TH 35-15 and TH 75-15 standard mounting rails

Size S3

With integrated coil circuit (varistor integrated in electronics at the factory)

90	80	22	37	45	55	11	1	1	24 110	5 5	3RT2045-3XB40-0LA2 3RT2045-3XF40-0LA2	1 1	1 unit 1 unit	41B 41B
95	95	22	45	55	75	11	1	1	24 110	5 5	3RT2046-3XB40-0LA2 3RT2046-3XF40-0LA2	1 1	1 unit 1 unit	41B 41B
95	110	30	55	75	75	11	1	1	24 110	5 5	3RT2047-3XB40-0LA2 3RT2047-3XF40-0LA2	1 1	1 unit 1 unit	41B 41B

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

Switching Devices – Contactors and Contactor Assemblies – Special Applications

Contactors for Special Applications

IE3/IE4 ready Contactors for railway applications > SIRIUS 3RT contactors with extended operating range, 3-pole

DC operation

- Solid-state operating mechanism with 24 to 110 V DC control signal input
- For screw fixing
- Auxiliary and control conductors: Spring-loaded terminals
- Main conductors: Busbar connections; a connection kit with screws, spring washers and nuts is enclosed.



3RT105.-2X.46-0LA2



3RT106.-2X.46-0LA2



3RT107.-2X.46-0LA2

Size	Rated data acc. to IEC 60077-2	IEC 60947-4-1 AC-3	Auxiliary contacts, lateral	Rated control supply voltage U_s	SD	Spring-loaded terminals 	PU (UNIT, SET, M)	PS*	PG
	t_{th} : 70 °C Conventional thermal current I_{th} up to 690 V	t_{th} : 60 °C Operational current I_e up to 400 V	Version  	V DC	d	Article No.	Price per PU		
A	A	A	NO NC	V DC	d				

Solid-state operating mechanism

With 24 ... 110 V DC control signal input
e.g. for control by PLC

With integrated coil circuit (varistor integrated in electronics at the factory)

S6	120	115	2	2	24 72 110	5 5 5	3RT1054-2XB46-0LA2 3RT1054-2XJ46-0LA2 3RT1054-2XF46-0LA2	1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
	140	150	2	2	24 72 110	5 5 5	3RT1055-2XB46-0LA2 3RT1055-2XJ46-0LA2 3RT1055-2XF46-0LA2	1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
	145	185	2	2	24 72 110	5 5 5	3RT1056-2XB46-0LA2 3RT1056-2XJ46-0LA2 3RT1056-2XF46-0LA2	1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
S10	215	225	2	2	24 72 110	5 5 5	3RT1064-2XB46-0LA2 3RT1064-2XJ46-0LA2 3RT1064-2XF46-0LA2	1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
	265	265	2	2	24 72 110	5 5 5	3RT1065-2XB46-0LA2 3RT1065-2XJ46-0LA2 3RT1065-2XF46-0LA2	1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
	265	300	2	2	24 72 110	5 5 5	3RT1066-2XB46-0LA2 3RT1066-2XJ46-0LA2 3RT1066-2XF46-0LA2	1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
S12	350	400	2	2	24 72 110	5 5 5	3RT1075-2XB46-0LA2 3RT1075-2XJ46-0LA2 3RT1075-2XF46-0LA2	1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
	475	500	2	2	24 72 110	5 5 5	3RT1076-2XB46-0LA2 3RT1076-2XJ46-0LA2 3RT1076-2XF46-0LA2	1 1 1	1 unit 1 unit 1 unit	41B 41B 41B

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

Switching Devices – Contactors and Contactor Assemblies – Special Applications

Contactors for Special Applications

Contactors for railway applications > SIRIUS 3RT contactors with extended operating range, 3-pole

DC operation

- Solid-state operating mechanism with 24 to 110 V DC control signal input
- For screw fixing
- Auxiliary and control conductors: Spring-loaded terminals
- Main conductors: Busbar connections; a connection kit with screws, spring washers and nuts is enclosed.



3RT1456-2X.46-0LA2



3RT146-2X.46-0LA2



3RT1476-2X.46-0LA2

Size	Rated data acc. to IEC 60077-2	IEC 60947-4-1 AC-1 t_{ij} : 70 °C Conventional thermal current I_{th} up to 690 V	AC-1 t_{ij} : 40 °C Operational current I_e up to 400 V	Auxiliary contacts, lateral Version  	Rated control supply voltage U_s	SD	Spring-loaded terminals 	PU (UNIT, SET, M)	PS*	PG
A			A	NO NC	V DC	d	Article No.	Price per PU		

Solid-state operating mechanism

**With 24 ... 110 V DC control signal input
e.g. for control by PLC**

With integrated coil circuit (varistor integrated in electronics at the factory)

S6	190	275	2	2	24	5	3RT1456-2XB46-0LA2	1	1 unit	41B
					72	5	3RT1456-2XJ46-0LA2	1	1 unit	41B
					110	5	3RT1456-2XF46-0LA2	1	1 unit	41B
S10	330	400	2	2	24	5	3RT1466-2XB46-0LA2	1	1 unit	41B
					72	5	3RT1466-2XJ46-0LA2	1	1 unit	41B
					110	5	3RT1466-2XF46-0LA2	1	1 unit	41B
	330	500	2	2	24	5	3RT1467-2XB46-0LA2	1	1 unit	41B
					72	5	3RT1467-2XJ46-0LA2	1	1 unit	41B
					110	5	3RT1467-2XF46-0LA2	1	1 unit	41B
S12	520	690	2	2	24	5	3RT1476-2XB46-0LA2	1	1 unit	41B
					72	5	3RT1476-2XJ46-0LA2	1	1 unit	41B
					110	5	3RT1476-2XF46-0LA2	1	1 unit	41B

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

Switching Devices – Contactors and Contactor Assemblies – Special Applications

Contactors for Special Applications

Contactors for railway applications > SIRIUS 3RH2 contactor relays with extended operating range

Overview

Standards

IEC/EN 60947-5-1

The contactor relays are finger-safe according to IEC 60529. The size S00 contactor relays have spring-loaded connections for all terminals.

Ambient temperature

The permissible ambient temperature for operation of the contactor relays (across the full coil operating range) is -40 to +70 °C.

Uninterrupted duty at temperatures > +60 °C reduces the mechanical endurance, the current carrying capacity of the conducting paths and the switching frequency.

Control and auxiliary circuits

The solenoid coils of the contactor relays have an extended coil operating range from 0.7 to 1.25 x U_s and are fitted as standard with surge suppressors. The opening delay is consequently 2 to 5 ms longer than for standard contactors.

Application

For operation in installations that are subject both to considerable variations in the control voltage and to high ambient temperatures, e. g. railway applications under extreme climatic conditions, rolling mills, etc.

Also for control supply voltages with battery buffering to extend the operating time in the event of battery charge failure.

Contactor relays with conventional coil

Control and auxiliary circuits

These contactor relays have an extended operating range from 0.7 to 1.25 x U_s ; the solenoid coils are fitted with suppressor diodes as standard. An additional series resistor is not required.

Note:

An additional auxiliary switch cannot be mounted.

Side-by-side mounting

A clearance of 10 mm is required for side-by-side mounting at ambient temperatures > 60 °C ≤ 70 °C.

Contactor relays with series resistor

Control and auxiliary circuits

The DC solenoid systems of the contactor relays are modified (to holding coil) by means of a series resistor.

The size S00 contactor relays are supplied prewired with a plug-on module containing the series resistor. A surge suppressor (a suppressor diode or varistor as preferred) is integrated.

A 4-pole auxiliary switch (according to EN 50005) can be mounted additionally.

Side-by-side mounting

Side-by-side mounting is permissible at ambient temperatures up to 70 °C.

Contactor relays with solid-state operating mechanism

Control and auxiliary circuits

The solenoid coils of these contactor relays have an extended coil operating range from 0.7 to 1.25 x U_s and are fitted as standard with varistors to provide protection against overvoltage.

The contactor relays are energized via upstream control electronics which ensure the coil operating range of 0.7 to 1.25 x U_s at an ambient temperature of 70 °C. They are supplied as complete units with integrated coil electronics. A varistor is integrated for damping opening surges in the coil.

Side-by-side mounting

Side-by-side mounting is permissible at ambient temperatures up to 70 °C.

Technical specifications

More information				
Technical specifications, see https://support.industry.siemens.com/cs/ww/en/ps/16174/td FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/16174/faq			Manuals, see https://support.industry.siemens.com/cs/ww/en/ps/16174/man	
Contactor relays		Type	3RH21...-2K, -2L	3RH2122-2XB40-0LA2 3RH2122-2XF40-0LA2
General data				
Upright mounting position				
• Contactors with series resistor		Special version (on request)		
• Contactors with conventional coil		Special version (on request)		
Ambient temperature				
• During operation		°C	-40 ... +70 ¹⁾	
• During storage		°C	-55 ... +80	
Control				
Solenoid coil operating range		DC	0.7 ... 1.25 x U _s	
Power consumption of the solenoid coils		For cold coil and 1.0 x U _s		
• Contactors with series resistor	- Closing	W	13	--
	- Closed	W	4	--
• Contactors with conventional coil	- Closing	W	2.8	--
	- Closed	W	2.8	--
• Contactors with solid-state operating mechanism	- Closing	W	--	4
	- Closed	W	--	0.95
				4.5
				0.75

¹⁾ 3RH21...-K contactor relays without article number suffix "-0LA." are coupling contactor relays that are certified for the temperature range -25 to +60 °C. For railway applications, an additional certification approves these contactors with a minimum clearance of 10 mm for the extended temperature range from -40 to +70 °C.

All details and technical specifications not mentioned here are identical to those of the 3RH2 basic units, see page 5/4 onwards.

Switching Devices – Contactors and Contactor Assemblies – Special Applications

Contactors for Special Applications

Contactors for railway applications > SIRIUS 3RH2 contactor relays with extended operating range

Selection and ordering data

DC operation



3RH2122-2K.40



3RH2122-2K.40-0LA0

Rated operational current				Contacts Ident. No. acc. to EN 50011	Version	Rated control supply voltage U_s	SD	Spring-loaded terminals 	PU (UNIT, SET, M)	PS*	PG
I_e /AC-15/AC-14 t_{θ} : 70 °C at	230 V	400 V	500 V	690 V							
A	A	A	A		NO NC	V DC	d	Article No.	Price per PU		

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

Size S00

With integrated coil circuit

- Suppressor diode integrated at the factory

10	3	2	1	22E	2	2 ¹⁾	24 110	▶	3RH2122-2KB40	1	1 unit	41A
				31E	3	1 ¹⁾	24	▶	3RH2131-2KB40	1	1 unit	41A
				40E	4	0 ¹⁾	24	5	3RH2140-2KB40	1	1 unit	41A

- Varistor integrated at the factory

10	3	2	1	22E	2	2 ¹⁾	24 110	5	3RH2122-2LB40	1	1 unit	41A
								2	3RH2122-2LF40	1	1 unit	41A

With plug-on series resistor and integrated coil circuit

- Suppressor diode integrated at the factory

10	3	2	1	21X	2	1 ²⁾	24 110	5	3RH2122-2KB40-0LA0	1	1 unit	41A
								5	3RH2122-2KF40-0LA0	1	1 unit	41A

- Varistor integrated at the factory

10	3	2	1	21X	2	1 ²⁾	24 110	2	3RH2122-2LB40-0LA0	1	1 unit	41A
								2	3RH2122-2LF40-0LA0	1	1 unit	41A

With integrated coil circuit (varistor integrated in electronics at the factory)

10	3	2	1	22E	2	2 ²⁾	24 ... 34 72 ... 125	5	3RH2122-2XB40-0LA2	1	1 unit	41A
								5	3RH2122-2XF40-0LA2	1	1 unit	41A

¹⁾ It is not possible to mount an auxiliary switch.

²⁾ 4-pole auxiliary switch according to EN 50005 can be mounted.

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

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

Switching Devices – Contactors and Contactor Assemblies – Special Applications

Contactors for Special Applications

Contactors for railway applications > 3TH4 contactor relays, 8-pole

Overview

Standards

IEC/EN 60947-5-1

The contactor relays are finger-safe according to IEC 60529. Terminal covers may have to be fitted onto the connecting bars, depending on the configuration with other devices.

Ambient temperature

The permissible ambient temperature for operation of the contactors (across the full coil operating range) is -50 to +70 °C. Uninterrupted duty at temperatures < -25 °C and > +55 °C reduces the mechanical endurance, the current carrying capacity of the conducting paths and the switching frequency.

A clearance of 10 mm is required for side-by-side mounting at ambient temperatures > 55 °C. There is no need to reduce the technical specifications.

Application

For operation in installations which are subject both to considerable variations in the control voltage and to high ambient temperatures, e.g. in railway applications.

Control and auxiliary circuits

The solenoid coils of the contactor relays have an extended coil operating range from 0.7 to 1.25 x U_s and are fitted as standard with varistors to provide protection against overvoltage. The opening delay is consequently 2 to 5 ms longer than for standard contactors.

Technical specifications

More information

Technical specifications, see
<https://support.industry.siemens.com/cs/ww/en/ps/16176/td>
 FAQs, see <https://support.industry.siemens.com/cs/ww/en/ps/16176/faq>

Manuals, see
<https://support.industry.siemens.com/cs/ww/en/ps/16176/man>

Contactor relays

Type **3TH42**

General data

Permissible ambient temperature

- During operation
- During storage

°C -50 ... +70¹⁾
 °C -55 ... +80

Control

Solenoid coil operating range

0.7 ... 1.25 x U_s

Power consumption of the solenoid coils (for cold coil and 1.0 x U_s)
 For cold coil: Closing = Closed

W 5.2

Permissible residual current of the electronics (with 0 signal)

- DC operation

≤ 10 mA x (24 V/ U_s)

Operating times for 1.0 x U_s

(Total break time = OFF-delay + Arcing time)

- Closing

ON-delay (NO)
 OFF-delay (NC)

ms 45 ... 80
 ms 30 ... 34

- Opening

OFF-delay (NO)
 ON-delay (NC)

ms 20 ... 30
 ms 22 ... 32

- Arcing time

ms 10

¹⁾ Side-by-side mounting with 10 mm clearance

All details and technical specifications not mentioned here are identical to those of the 3TH4 basic units, [see page 5/16 onwards](#).

Switching Devices – Contactors and Contactor Assemblies – Special Applications

Contactors for Special Applications

Contactors for railway applications > 3TH4 contactor relays, 8-pole

Selection and ordering data

DC operation 



3TH4244-0L..

Contacts	Rated operational current I_e /AC-15/AC-14				Contacts ¹⁾		Rated control supply voltage U_s	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	V DC	d				
For screw fixing and snap-on mounting onto TH 35 standard mounting rail												
With integrated coil circuit (varistor integrated at the factory)												
8	10	6	4	2	44E	4 4	24 110	X X	3TH4244-0LB4 3TH4244-0LF4	1 1	1 unit 1 unit	41A 41A
8	10	6	4	2	53E	5 3	24 110	X X	3TH4253-0LB4 3TH4253-0LF4	1 1	1 unit 1 unit	41A 41A
8	10	6	4	2	62E	6 2	24 110	X X	3TH4262-0LB4 3TH4262-0LF4	1 1	1 unit 1 unit	41A 41A

¹⁾ Contacts not extendable.

Other voltages [according to page 5/22](#) on request.

Accessories, [see page 5/23](#).

Switching Devices – Contactors and Contactor Assemblies – Special Applications

Contactors for Special Applications

Contactors for railway applications > 3TC contactors for switching DC voltage, 2-pole

Overview

Standards

IEC/EN 60947-4-1

The contactors are finger-safe according to IEC 60529 (exception: series resistor). Terminal covers may have to be fitted onto the connecting bars, depending on the configuration with other devices.

All details and technical specifications not mentioned here are identical to those of the standard 3TC contactors, [see page 4/63](#).

Ambient temperature

The permissible ambient temperature for operation of the contactors (across the full coil operating range) is -50 to +70 °C. Uninterrupted duty at temperatures < -25 °C and > +55 °C reduces the mechanical endurance, the current carrying capacity of the conducting paths and the switching frequency.

A clearance of 10 mm is required for side-by-side mounting of size 2 contactors at ambient temperatures > 55 °C. There is no need to reduce the technical specifications.

Series resistor

The DC solenoid systems of the 3TC contactors must be modified (to holding coil) by means of a series resistor. This series resistor is supplied separately packed with the contactors.

With types 3TC48, the series resistor must be attached onto the right-hand side of the auxiliary switch by means of the enclosed mounting parts and sets of links provided, while in the case of the 3TC44 it must be mounted and wired between the contactor poles. With types 3TC52 and 3TC56, the series resistor must be attached separately next to the contactors.

Auxiliary contacts

The contactors are equipped with two lateral auxiliary switches each with 1 NO + 1 NC contact. Further auxiliary switches cannot be mounted onto the DC-operated contactors.

One NC contact is required for the series resistor function. Two NO contacts and one NC contact are thus freely available.

Reversing contactors

With the 3TC52 and 3TC56 contactors, the series resistor must be connected using an additional K2 reversing contactor (3RT2317-1FF40). This contactor is automatically included in the scope of supply.

Dimensions

Attaching resistors and varistors increases the width of the contactors.

Application

For operation in installations which are subject both to considerable variations in the control voltage and to high ambient temperatures, e.g. in railway applications.

Control and auxiliary circuits

The solenoid coils of the contactors have an extended coil operating range from 0.7 to $1.25 \times U_s$ and are fitted as standard with varistors to provide protection against overvoltage. The opening delay is consequently 2 to 5 ms longer than for standard contactors.

Technical specifications

More information				
Technical specifications, see https://support.industry.siemens.com/cs/ww/en/ps/16180/td		Manuals, see https://support.industry.siemens.com/cs/ww/en/ps/16180/man		
Type		3TC44	3TC48	3TC52
Size		2	4	8
General data				
Ambient temperature				
• During operation	°C	-40 ... +70		
Control				
Solenoid coil operating range		0.7 ... 1.25 x U _s		
Power consumption of the solenoid coils		For cold coil and 1.0 x U _s		
• Closing	W	48	26	40
• Closed	W	13	14	21
				130
				59

All details and technical specifications not mentioned here are identical to those of the basic units of the 3TC contactors, [see page 4/63](#).

Switching Devices – Contactors and Contactor Assemblies – Special Applications

Contactors for Special Applications

Contactors for railway applications > 3TC contactors for switching DC voltage, 2-pole

Selection and ordering data

DC operation

3TC44: For screw fixing and snap-on mounting onto 35 mm standard mounting rail

3TC48 to 3TC56: For screw fixing



Size	Utilization category	Rated operational current I_e at 750 V	Rated power of loads at				Auxiliary contacts ¹⁾ Version		Rated control supply voltage U_s	SD	Screw terminals 	PU (UNIT, SET, M)	PS*	PG
			220 V	440 V	600 V	750 V	NO	NC	V DC	d	Article No.	Price per PU		
	A		kW	kW	kW	kW								

Contactors for switching DC voltage

With integrated coil circuit (varistor integrated at the factory)

2	DC-1	32	7	14	19.2	24	2	1 ²⁾	24	5	3TC4417-0LB4	1	1 unit	41B
	DC-3/DC-5	7.5	5	9	9	4			110	10	3TC4417-0LF4	1	1 unit	41B

With laterally mounted coil circuit (varistor mounted externally in additional auxiliary switch enclosure on the contactor)

4	DC-1	75	16.5	33	45	56	2	1 ²⁾	24	15	3TC4817-0LB4	1	1 unit	41B
	DC-3/DC-5	75	13	27	38	45			110	15	3TC4817-0LF4	1	1 unit	41B
8	DC-1	170	48	97	132	165	2	1 ²⁾	24	15	3TC5217-0LB4	1	1 unit	41B
	DC-3/DC-5	170	41	82	110	110			110	15	3TC5217-0LF4	1	1 unit	41B
12	DC-1	400	88	176	240	300	2	1 ²⁾	24	15	3TC5617-0LB4	1	1 unit	41B
	DC-3/DC-5	400	70	140	200	250			110	15	3TC5617-0LF4	1	1 unit	41B

¹⁾ The number of auxiliary contacts cannot be increased.

²⁾ One NC contact used for series resistor.

Other rated control supply voltages according to page 4/70 on request.

Accessories

Accessories, see basic units of the 3TC contactors, page 4/70 onwards.

Spare parts for contactors with extended operating range

For contactors	Remarks	Rated control supply voltage U_s	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Size	Type	V DC	d					
Arc chutes								
2	3TC4417-0L...	With cutout for resistor mounting	--	X	3TY2442-0B	1	1 unit	41B
Solenoid coils								
2	3TC44	With series resistor, without varistor	24	15	3TY6443-0LB4	1	1 unit	41B
			110	X	3TY6443-0LF4	1	1 unit	41B
4	3TC48		24	X	3TY6483-0LB4	1	1 unit	41B
			110	X	3TY6483-0LF4	1	1 unit	41B

All spare parts not mentioned here are identical to those of the basic units of the 3TC contactors, see page 4/72.

Switching Devices – Contactors and Contactor Assemblies – Special Applications

Contactors for Special Applications

3TC contactors for switching DC voltage, 1-pole and 2-pole

Overview

3TC4 and 3TC5

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

The contactors are finger-safe according to IEC 60529. Terminal covers may have to be fitted onto the connecting bars, depending on the configuration with other devices.

The DC motor ratings given in the tables are applicable to the DC-3 and DC-5 utilization categories with 2-pole switching of the load or with the two conducting paths of the contactor connected in series.

One contactor conducting path can switch full power up to 220 V. For voltages over 220 V, the two conducting paths are to be switched in series, [see Rated data of the main contacts, page 4/65](#).

Auxiliary contacts

The contactors are equipped with two lateral auxiliary switches each with 1 NO + 1 NC contact. On the 3TC48 to 3TC56 contactors with AC operation, a second auxiliary switch can be mounted on the right and left. On contactors with DC operation, expansion of the auxiliary contacts is not possible.

3TC7

IEC/EN 60947-4-1

The contactors are suitable for use in any climate. They are suitable for switching and controlling DC motors as well as all other DC circuits.

The solenoid excitation is configured for a particularly large operating range. It is between 0.7 or 0.8 and $1.2 \times U_s$.

3TC74 contactors can be used at up to 750 V/400 A and 50 Hz in AC-1 operation.

For voltages over 750 V, the two conducting paths (3TC74: two contactors) are to be switched in series, [see "Rated data of the main contacts", page 4/67](#).

Application

The contactors are suitable for switching and controlling DC motors as well as all other DC circuits.

A version with a particularly large coil operating range is available for operation in electrically driven vehicles and in switchgear subject to large fluctuations in actuating voltage ([see page 4/72](#)).

Technical specifications

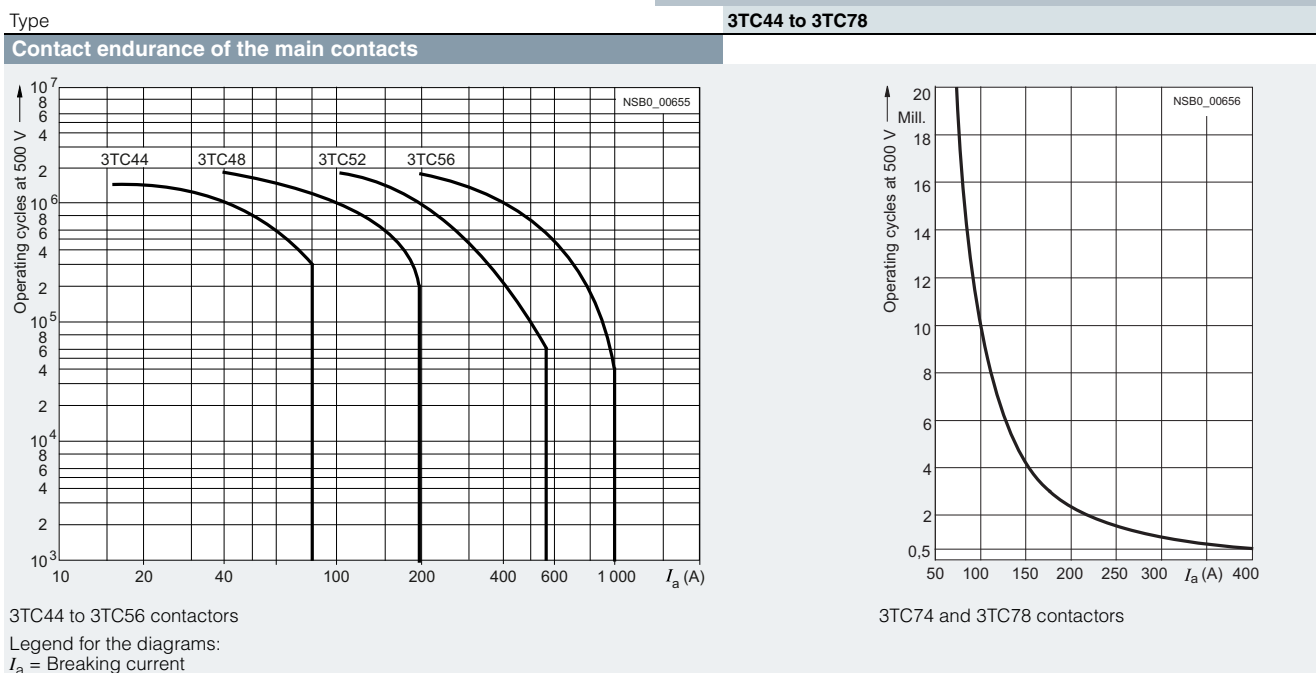
Type			3TC4 and 3TC7	3TC5
Rated data of the auxiliary contacts				
Rated insulation voltage U_i (pollution degree 3)	V		690	
Conventional thermal current I_{th} = rated operational current I_e /AC-12	A		10	10
AC load				
Rated operational current I_e /AC-15/AC-14				
• At rated operational voltage U_e	24 V	A	10	10
	110 V	A	10	10
	125 V	A	10	10
	220 V	A	6	6
	230 V	A	5.6	5.6
	380 V	A	4	4
	400 V	A	3.6	3.6
	500 V	A	2.5	2.5
	660 V	A	2.5	2.5
	690 V	A	--	--
DC load				
Rated operational current I_e /DC-12				
• At rated operational voltage U_e	24 V	A	10	10
	60 V	A	10	10
	110 V	A	3.2	8
	125 V	A	2.5	6
	220 V	A	0.9	2
	440 V	A	0.33	0.6
	600 V	A	0.22	0.4
Rated operational current I_e /DC-13				
• At rated operational voltage U_e	24 V	A	10	10
	48 V	A	5	5
	110 V	A	1.14	2.4
	125 V	A	0.98	2.1
	220 V	A	0.48	1.1
	440 V	A	0.13	0.32
	600 V	A	0.07	0.21

Type	3TC44 to 3TC56	
Ⓢ and Ⓛ rated data of the auxiliary contacts		
Rated voltage, max.	V AC	600
Switching capacity	A 600, P 600	

Switching Devices – Contactors and Contactor Assemblies – Special Applications

Contactors for Special Applications

3TC contactors for switching DC voltage, 1-pole and 2-pole



Contactor	Type	Size	3TC44	3TC48	3TC52	3TC56
			2	4	8	12
General data						
Dimensions (W x H x D)						
- DC operation - AC operation						
			mm	mm	mm	mm
			70 x 85 x 141	100 x 183 x 180	135 x 238 x 232	160 x 279 x 310
			70 x 85 x 100	100 x 183 x 154	135 x 238 x 200	160 x 279 x 251
Permissible mounting position						
The contactors are designed for operation on a vertical mounting surface.						
Mechanical endurance		Operating cycles	10 million			
Electrical endurance			See the endurance diagram above			
Rated insulation voltage U_i (pollution degree 3)		V	800			
Rated impulse withstand voltage U_{imp}		kV	8			
Protective separation between the coil and the main contacts acc. to IEC 60947-1, Appendix N		V	Up to 300			
Mirror contacts¹⁾ A mirror contact is an auxiliary NC contact that cannot be closed simultaneously with an NO main contact.			Yes, acc. to IEC 60947-4-1, Appendix F			
Permissible ambient temperature						
• During operation		°C	-25 ... +55			
• During storage		°C	-50 ... +80			
Degree of protection acc. to IEC 60529			IP00			
• Connecting terminals			Finger-safe with terminal covers			
Touch protection acc. to IEC 60529						
Shock resistance		Rectangular pulse	g/ms	7.5/5 and 3.4/10	10/5 and 5/10	12/5 and 5.5/10
Short-circuit protection						
Main circuit Fuse links, operational class gG: LV HRC, type 3NA; DIAZED, type 5SB; NEOZED, type 5SE						
• Type of coordination "1"		A	50	160	250	400
• Type of coordination "2"		A	35	63	80	250
Auxiliary circuit (short-circuit current $I_k \leq 1$ kA)						
• Fuse links, operational class gG: DIAZED, type 5SB; NEOZED, type 5SE		A	16			
• Miniature circuit breaker with C characteristic		A	10			

¹⁾ For 3TC44, one NC contact each must be connected in series for the right and left auxiliary switch, respectively.

Rated data of the auxiliary contacts, see page 4/63.

Switching Devices – Contactors and Contactor Assemblies – Special Applications

Contactors for Special Applications

3TC contactors for switching DC voltage, 1-pole and 2-pole

Type			3TC44	3TC48	3TC52	3TC56
Size			2	4	8	12
Control						
Solenoid coil operating range			0.8 ... 1.1 x U_s			
Power consumption of the solenoid coils (for cold coil and 1.0 x U_s)						
• DC operation	- Closing = Closed	W	10	19	30	86
• AC operation, 50 Hz coil	- Closing	VA/p.f.	68/0.86	300/0.5	640/0.48	1780/0.3
	- Closed	VA/p.f.	10/0.29	26/0.24	46/0.23	121/0.22
• AC operation, 60 Hz coil	- Closing	VA/p.f.	95/0.79	365/0.45	730/0.38	2140/0.3
	- Closed	VA/p.f.	12/0.3	35/0.26	56/0.24	140/0.29
• AC operation, 50/60 Hz coil	- Closing at 50 Hz/60 Hz	VA/p.f.	79/73/0.83/0.78	--		
	- Closed at 50 Hz/60 Hz	VA/p.f.	11/9/0.28/0.27	--		
Operating times (for 0.8 ... 1.1 x U_s) Total break time = Opening delay + Arcing time			(The values apply up to and including 20% undervoltage, 10% overvoltage, as well as when the coil is cold and warm)			
• DC operation	- Closing delay	ms	35 ... 190	90 ... 380	120 ... 400	110 ... 400
	- Opening delay ¹⁾	ms	10 ... 25	17 ... 28	22 ... 35	40 ... 110
• AC operation	- Closing delay	ms	10 ... 40	20 ... 50		
	- Opening delay ¹⁾	ms	5 ... 25	5 ... 30	10 ... 30	
• Arcing time	- DC-1	ms	20			
	- DC-3/DC-5	ms	30			
Rated data of the main contacts						
Load rating with DC						
Utilization category DC-1, switching resistive loads ($L/R \leq 1$ ms)						
• Rated operational currents I_e (at 55 °C)	Up to U_e 750 V	A	32	75	220	400
• Minimum conductor cross-section		mm ²	6	25	95	240
• Rated power at U_e (≤ 220 V DC: one conducting path, > 220 V DC: two conducting paths in series)	At 220 V	kW	7	16.5	48	88
	440 V	kW	14	33	97	176
	600 V	kW	19.2	45	132	240
	750 V	kW	24	56	165	300
Utilization category DC-3 and DC-5, shunt-wound and series-wound motors ($L/R \leq 15$ ms)						
• Rated operational currents I_e (at 55 °C)	Up to 220 V	A	32	75	220	400
	440 V	A	29	75	220	400
	600 V	A	21	75	220	400
	750 V	A	7.5	75	170	400
• Rated power at U_e (≤ 220 V DC: one conducting path, > 220 V DC: two conducting paths in series)	At 110 V	kW	2.5	6.5	20	35
	220 V	kW	5	13	41	70
	440 V	kW	9	27	82	140
	600 V	kW	9	38	110	200
	750 V	kW	4	45	110	250
Switching frequency						
Switching frequency z in operating cycles/hour						
AC/DC operation						
• With resistive load DC-1	h ⁻¹		1 500	1 000		
• For inductive load DC-3/DC-5	h ⁻¹		750	600		
Conductor cross-sections						
Main conductors (1 or 2 conductors can be connected)						
• Solid	mm ²		2 x (2.5 ... 10)	2 x (6 ... 16)	--	
• Finely stranded with end sleeve	mm ²		2 x (1.5 ... 4)	--		
• Stranded with cable lug	mm ²		2 x 16	2 x 35	2 x 120	2 x 150
• Pin-end connector to DIN 46231	mm ²		2 x (1 ... 6)	--		
• Busbars	mm		--	15 x 2.5	25 x 4	2 x (25 x 3)
• Terminal screw			M5	M6	M10	
Auxiliary conductors (1 or 2 conductors can be connected)						
• Solid	mm ²		2 x (1 ... 2.5)			
• Finely stranded with end sleeve	mm ²		2 x (0.75 ... 1.5)			

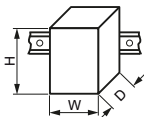
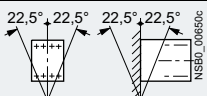
¹⁾ The opening delay times can increase if the contactor coils are attenuated against voltage peaks. The 3TC44 contactors are not allowed to be fitted with diodes.

Rated data of the auxiliary contacts, see page 4/63.

Switching Devices – Contactors and Contactor Assemblies – Special Applications

Contactors for Special Applications

3TC contactors for switching DC voltage, 1-pole and 2-pole

Type			3TC74	3TC78
Design			1-pole contactors	2-pole contactors
General data				
Dimensions (W x H x D)	 mm		78 x 352 x 276	160 x 366 x 290
Permissible mounting position	The contactors are designed for operation on a vertical mounting surface.			
Mechanical endurance	Operating cycles		30 million	
Electrical endurance			See page 4/64	
Rated insulation voltage U_i (pollution degree 3)	V		1 500	
Rated impulse withstand voltage U_{imp}	kV		8	
Protective separation between the coil and the main contacts acc. to IEC 60947-1, Appendix N	V		630	
Permissible ambient temperature	°C		-25 ... +55	
Degree of protection acc. to IEC 60529				
• Connecting terminals			IP00	
Touch protection acc. to IEC 60529			Finger-safe with terminal covers	
Short-circuit protection				
Main circuit				
Fuse links, operational class gG: LV HRC, type 3NA				
• Type of coordination "1"	A		630	
• Type of coordination "2"	A		500	
Auxiliary circuit (Short-circuit current $I_k \leq 1$ kA)				
• Fuse links, operational class gG: DIAZED, type 5SB; NEOZED, type 5SE	A		16	
• Miniature circuit breaker with C characteristic	A		10	
Control				
Solenoid coil operating range				
• DC operation	At $U_c = 24$ V At $U_c > 24$ V		0.8 ... 1.2 x U_s 0.7 ... 1.2 x U_s	
• AC operation	At $U_c = 24$ V At $U_c > 24$ V		0.7 ... 1.15 x U_s 0.7 ... 1.14 x U_s	
Power consumption of the solenoid coils (for cold coil and 1.0 x U_s)				
• DC operation	Closing = Closed	W	46	92
• AC operation, 50 Hz	Closing = Closed	VA	80	160
		P.f.	0.95	
Operating times			(The values apply up to and including 15% undervoltage, 10% overvoltage, as well as when the coil is cold and warm)	
Total break time = Opening delay + Arcing time				
• AC and DC operation	Closing delay	ms	60 ... 100	
	Opening delay	ms	20 ... 35	
• Arcing time at 0.06 ... 4 x I_e		ms	40 ... 70	

Rated data of the auxiliary contacts, see page 4/63.

Switching Devices – Contactors and Contactor Assemblies – Special Applications

Contactors for Special Applications

3TC contactors for switching DC voltage, 1-pole and 2-pole

Type	3TC74			3TC78	
Design	1-pole contactors			2-pole contactors	
Rated data of the main contacts					
Load rating with DC					
Utilization category DC-1, switching resistive loads ($L/R \leq 1$ ms)					
• Rated operational current I_e /DC-1 (at 55 °C)	A	500			
• Minimum conductor cross-section	mm ²	2 x 150			
• Rated power	At 220 V	kW	110		
(≤ 750 V DC: one conducting path,	440 V	kW	220		
> 750 V DC: two conducting paths in series)	600 V	kW	300		
	750 V	kW	375		
	1 200 V	kW	--	600	
	1 500 V	kW	--	750	
• critical currents, without arc extinction	At 440 V	A	≤ 7	--	
	600 V	A	≤ 13	--	
	750 V	A	≤ 15	--	
	≤ 800 V	A	--	≤ 7	
	1 200 V	A	--	≤ 13	
	1 500 V	A	--	≤ 15	
Utilization category DC-3 and DC-5, shunt-wound and series-wound motors ($L/R \leq 15$ ms)					
• Rated operational current I_e (at 55 °C)	A	400			
• Rated power at U_e	At 110 V	kW	35		
(≤ 220 V DC: one conducting path,	220 V	kW	70		
> 220 V DC: two conducting paths in series)	440 V	kW	140		
	600 V	kW	200		
	750 V	kW	250		
	1 200 V	kW	--	400	
	1 500 V	kW	--	500	
Permissible rated current for regenerative braking					
at 110 ... 600 V	A	400			
Switching frequency					
Switching frequency z in operating cycles/hour					
AC/DC operation					
• With resistive load DC-1	h ⁻¹	750		1 000	
• For inductive load DC-3/DC-5	h ⁻¹	500			
Conductor cross-sections					
Main conductors		 Screw terminals			
(1 or 2 conductors can be connected)					
• Stranded with cable lug	mm ²	2 x ... 150			
• Busbars	mm	2 x (30 x 4)			
Auxiliary conductors					
(1 or 2 conductors can be connected)					
• Solid	mm ²	1 ... 2.5			
• Finely stranded with end sleeve	mm ²	0.75 ... 1.5			

Rated data of the auxiliary contacts, [see page 4/63](#).

Switching Devices – Contactors and Contactor Assemblies – Special Applications

Contactors for Special Applications

3TC contactors for switching DC voltage, 1-pole and 2-pole

Selection and ordering data

DC operation  or AC operation, 50 Hz 



3TC44



3TC48

Size	Utilization category ¹⁾	Operational current I_e ²⁾	Ratings of DC motors at					Auxiliary contacts ³⁾ Version		Rated control supply voltage U_s	SD	Screw terminals 	PU (UNIT, SET, M)	PS*	PG
			110 V	220 V	440 V	600 V	750 V	NO	NC	V		Article No.	Price per PU		
	A		kW	kW	kW	kW	kW				d				

3TC44 to 3TC56 2-pole contactors · Operational voltage up to 750 V

DC operation

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

2	DC-3, DC-5	32	2.5	5	9	9	4	2	2	24 DC 110 DC 220 DC	2 2 2	3TC4417-0AB4 3TC4417-0AF4 3TC4417-0AM4	1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
4	DC-3, DC-5	75	6.5	13	27	38	45	2	2	24 DC 110 DC 220 DC	2 2 2	3TC4817-0AB4 3TC4817-0AF4 3TC4817-0AM4	1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
8	DC-3, DC-5	220 ⁴⁾	20	41	82	110	110	2	2	24 DC 110 DC 220 DC	15 15 10	3TC5217-0AB4 3TC5217-0AF4 3TC5217-0AM4	1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
12	DC-3, DC-5	400	35	70	140	200	250	2	2	24 DC 110 DC 220 DC	15 15 15	3TC5617-0AB4 3TC5617-0AF4 3TC5617-0AM4	1 1 1	1 unit 1 unit 1 unit	41B 41B 41B

AC operation, 50 Hz

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

2	DC-3, DC-5	32	2.5	5	9	9	4	2	2	220/230 AC ⁵⁾ 110/110 AC	2 2	3TC4417-0BP0 3TC4417-0BF0	1 1	1 unit 1 unit	41B 41B
4	DC-3, DC-5	75	6.5	13	27	38	45	2	2	220/230 AC ⁵⁾ 110 AC	2 2	3TC4817-0BP0 3TC4817-0BF0	1 1	1 unit 1 unit	41B 41B
8	DC-3, DC-5	220 ⁴⁾	20	41	82	110	110	2	2	220/230 AC ⁵⁾ 110 AC	2 10	3TC5217-0BP0 3TC5217-0BF0	1 1	1 unit 1 unit	41B 41B
12	DC-3, DC-5	400	35	70	140	200	250	2	2	220/230 AC ⁵⁾ 110 AC	15 15	3TC5617-0BP0 3TC5617-0BF0	1 1	1 unit 1 unit	41B 41B

¹⁾ Permissible load for DC-1 utilization category, see detailed technical specifications in the Reference Manual.

²⁾ The following rated operational currents are permitted for reversing duty with 3TC44 to 3TC56 contactors:

Contactor Type	Rated operational voltage	
	110 V, 220 V	440 V
3TC44	32 A	7 A
3TC48	75 A	75 A
3TC52	170 A	170 A
3TC56	400 A	400 A

³⁾ The fitting of auxiliary switches cannot be altered on DC-operated contactors.

⁴⁾ At > 600 V: $I_e = 170$ A.

⁵⁾ Operating range at 220 V AC: 0.85 to $1.15 \times U_s$; lower operating range limit according to IEC 60947.

Other rated control supply voltages according to page 4/70 on request.

Accessories, see page 4/70 onwards.

Spare parts, see page 4/72.

Switching Devices – Contactors and Contactor Assemblies – Special Applications

Contactors for Special Applications

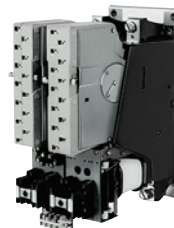
3TC contactors for switching DC voltage, 1-pole and 2-pole

DC operation  or AC operation, 50 Hz 

For screw fixing



3TC74



3TC78

Size	Utiliza- tion category ¹⁾	Oper- ational cur- rent I_e	Ratings of DC motors at							Auxil- iary con- tacts ²⁾ Version		Rated control supply voltage U_s	SD	Screw terminals	PU (UNIT, SET, M)	PS*	PG
			110 V	220 V	440 V	600 V	750 V	1 200 V	1 500 V	I	L			Article No.	Price per PU		
		A	kW	kW	kW	kW	kW	kW	kW	NO	NC	V	d				
3TC74 1-pole contactors · Operational voltage up to 750 V																	
DC operation																	
12	DC-3, DC-5	400	35	70	140	200	250	--	--	4	4	24 DC 110 DC	15 15	3TC7414-0EB 3TC7414-0EF	1 1	1 unit 1 unit	41B 41B
AC operation, 50 Hz																	
12	DC-3, DC-5	400	35	70	140	200	250	--	--	4	4	230/220 AC ³⁾	15	3TC7414-1CM	1	1 unit	41B
3TC78 2-pole contactors · Operational voltage up to 1 500 V																	
DC operation																	
12	DC-3, DC-5	400	35	70	140	200	250	400	500	4	4	24 DC 110 DC	15 15	3TC7814-0EB 3TC7814-0EF	1 1	1 unit 1 unit	41B 41B
AC operation, 50 Hz																	
12	DC-3, DC-5	400	35	70	140	200	250	400	500	4	4	230/220 AC ³⁾	15	3TC7814-1CM	1	1 unit	41B

¹⁾ Permissible load for DC-1 utilization category, [see detailed technical specifications in the Reference Manual](#).

²⁾ The fitting of auxiliary switches cannot be altered on DC-operated contactors.

³⁾ Upper operating range limit at 230 V AC: $1.14 \times U_s$.

Other rated control supply voltages [according to page 4/70](#) on request.

Spare parts, [see page 4/72](#).

Switching Devices – Contactors and Contactor Assemblies – Special Applications

Contactors for Special Applications

3TC contactors for switching DC voltage, 1-pole and 2-pole

Options

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

Delivery time on request

Rated control supply voltage U_s	Contactor type	3TC44	3TC48	3TC52/3TC56	3TC74/3TC78
DC operation					
24 V DC		B4	B4	B4	B
48 V DC		W4	W4	--	--
60 V DC		E4	E4	--	--
110 V DC		F4	F4	F4	F
125 V DC		G4	G4	--	--
220 V DC		M4	M4	M4	M
230 V DC		P4	P4	--	--
AC operation					
Solenoid coils for 50 Hz					
24 V AC		B0	B0	--	--
110 V AC		F0	F0	F0	--
230/220 V AC		P0 ¹⁾	P0 ¹⁾	P0 ¹⁾	M ²⁾
240 V AC		U0	U0	--	--
Solenoid coils for 50/60 Hz					
24 V AC		C2	--	--	--
110 V AC		G2	--	--	--
120 V AC		K2	--	--	--
220 V AC		N2	--	--	--
230 V AC		L2	--	--	--

¹⁾ Operating range at 220 V AC: 0.85 to $1.15 \times U_s$;
lower operating range limit according to IEC 60947.

²⁾ Upper operating range limit at 230 V AC: $1.14 \times U_s$.

Accessories

For contactors		Version	Auxiliary switches		SD	Screw terminals	PU (UNIT, SET, M)	PS*	PG
		Auxiliary contacts	Left	Right		Article No.	Price per PU		
Size	Type	NO	NC		d				
Second auxiliary switch (for AC operation only)									
4	3TC48	2nd auxiliary switch, left		--	20	3TY6501-1K	1	1 unit	41B
		1	1						
		2nd auxiliary switch, right		--	20	3TY6501-1L	1	1 unit	41B
		1	1						
8 and 12	3TC52, 3TC56	2nd auxiliary switch, left		--	20	3TY6561-1K	1	1 unit	41B
		1	1						
		2nd auxiliary switch, right		--	20	3TY6561-1L	1	1 unit	41B
		1	1						
Solid-state compatible auxiliary switches									
		For operation in dusty atmospheres and in solid-state circuits with rated operational currents I_e AC-14 and DC-13 of 1 ... 300 mA at 3 ... 60 V							
2 and 4	3TC44, 3TC48	2nd auxiliary switch, left or right (replacement for 3TY6561-1U, 3TY6561-1V)			5	3TY7561-1UA00	1	1 unit	41B
		1 CO contact							



3TY7561-1.