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SIRIUS

Industrial Controls

Catalog
IC 10

Edition
2018

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Industrial Controls IC 10 AO
SIRIUS Classic

PDF (E86060-K1010-A191-A5-7600)

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SIMATIC ST 70
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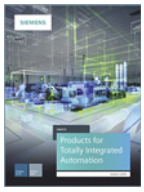
E86060-K4670-A101-B6-7600



Low-Voltage Power Distribution and Electrical Installation Technology LV 10
SENTRON • SIVACON • ALPHA
Protection, Switching, Measuring and Monitoring Devices, Switchboards and Distribution Systems

PDF (E86060-K8280-A101-A4-7600)
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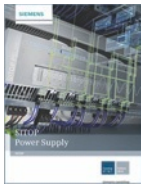
SIMOTICS GP, SD, XP, DP Low-Voltage Motors D 81.1
Type series 1FP1, 1LE1, 1MB1 and 1PC1
Frame sizes 71 to 315
Power range 0.09 to 200 kW
E86060-K5581-A111-A9-7600

SITOP KT 10.1
Power supply
SITOP

E86060-K2410-A101-B2-7600



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Industrial Controls

SIRIUS

Catalog IC 10 · 2018

Supersedes:
Catalog IC 10 · 2017
Catalog Abridged IC 10 A · 03/2017 ET 200SP motor starters
Catalog Abridged IC 10 A · 04/2017 SIMOCODE pro 3UF7 Motor Management and Control Devices

Refer to the Industry Mall for current updates of this catalog:
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The products contained in this catalog can also be found in the Interactive Catalog CA 01.
Article No.: E86060-D4001-A510-D8-7600.

Please contact your local Siemens branch.

The products and systems described in this catalog are manufactured/distributed under application of a certified quality management system in accordance with DIN EN ISO 9001
(For Certified Registration, see www.siemens.com/system-certificates/cp).
The certificate is recognized by all IQNet countries.

Note:

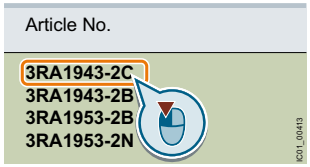
You will find 3RT1 contactors in sizes S00 to S12

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

For the conversion tool e.g. from 3RT13 to 3RT23, see www.siemens.com/sirius/conversion-tool

NEW

Click on the Article No. in the catalog PDF to access it in the Industry Mall and get all related information.



Or directly in the Internet, e. g. www.siemens.com/product?3RA1943-2C

Introduction

Overview

More information	
Homepage, see www.siemens.com/sirius Industry Mall, see www.siemens.com/product?3RT_3TK_3TC	For the conversion tool e.g. from 3RT13 to 3RT23, see www.siemens.com/sirius/conversion-tool

Size			**S3**		**S6, S10, S12**		
Type			3RT244.		3RT14.6		
3-pole 3RT24, 3RT14 contactors							
Type			**3RT2446**	**3RT2448**	**3RT1456**	**3RT1466**	**3RT1476**
Number of main contacts			3 NO		3 NO		
AC, AC/DC operation			(p. 4/12)		(p. 4/13, 4/14)		
AC-1							
I_e up to 690 V	**40 °C**	**A**	**140**	**160**	**275**	**400**	**690**
	60 °C	A	130	140	250	380	conventional operating mechanism: 650, solid-state operating mechanism: 600
AC-2 and AC-3							
I_e up to 400 V		A	44	44	97	138	170
P at 400 V		**kW**	**22**	**22**	**55**	**75**	**90**
At 230 V		kW	12.7	12.7	30	37	55
At 500 V		kW	29.9	29.9	55	90	110
At 690 V		kW	38.2	38.2	90	132	160

Accessories for contactors				
Auxiliary switch blocks	**3RH29, 3RA28**	(p. 3/89 ... 3/96)	**3RH19, 3RT1926**	(p. 3/92, 3/94, 3/95, 3/97)
Functional modules (Direct-on-line, star-delta (wye-delta) starting)	**3RA281.**	(p. 3/101)	**--**	
Terminal covers	**3RT2946-4EA4**	(p. 3/112)	**3RT1956-4EA.**	(p. 3/112)
Box terminal blocks	**--**		**3RT1955/56-4G**	(p. 3/110)
Surge suppressors	**3RT2936**[1], **3RT2946**	(p. 3/98, 3/99)	**3RT1956-1C** (RC element)	(p. 3/99)

[1] As from product version E03, 3RT2936-1B/-1E surge suppressors can be used for 3RT2.4 contactors.

Note:

For safety characteristics for contactors, see "Standards and approvals", from page 16/6 onwards.




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. 4/19, 4/21)		(p. 4/19 ... 4/21)			(p. 4/19 ... 4/23)		(p. 4/19 ... 4/23)		
AC-1													
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 switch blocks			**3RH29, 3RA28**									(p. 3/89 ... 3/96)
Function modules (direct-on-line starting, star-delta (wye-delta) starting)			**3RA281.**									(p. 3/101)
Terminal covers			**--**					**3RT2936-4EA4** (S. 3/112)		**3RT2946-4EA4** (S. 3/112)		
Surge suppressors			**3RT2916**	(p. 3/98, 3/99)				**3RT2936** (S. 3/98, 3/99)		**3RT2936[1], 3RT2946** (p. 3/98, 3/99)		

[1] As from product version E03, 3RT2936-1B/-1E surge suppressors can be used for 3RT2.4 contactors.

Note:
For safety characteristics for contactors, see "Standards and approvals", from page 16/6 onwards.




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. 4/27, 4/28)			(p. 4/27, 4/28)		(p. 4/27, 4/29)			(p. 4/27, 4/29)		
AC-1													
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 switch blocks			**3RH29, 3RA28**		(p. 3/89 ... 3/96)			**3RH29, 3RA28**				(p. 3/89 ... 3/96)	
Function modules (direct-on-line starting, star-delta (wye-delta) starting)			**3RA281.**		(p. 3/101)			**3RA281.**				(p. 3/101)	
Terminal covers			**--**								**3RT2936-4EA4** (S. 3/112)	**3RT2946-4EA4** (S. 3/112)	
Surge suppressors			**3RT2916** (S. 3/98, 3/99)			**3RT2926** (S. 3/98, 3/99)		**3RT2936** (S. 3/98, 3/99)			**3RT2936[2], 3RT2946** (p. 3/98, 3/99)		

[1] The value in brackets applies to the NC for DC operation.
[2] As from product version E03, 3RT2936-1B/-1E surge suppressors can be used for 3RT2.4 contactors.

Note:
For safety characteristics for contactors, see "Standards and approvals", from page 16/6 onwards.

Introduction

Size			**00**
Type			3TK20
4-pole 3TK miniature contactors			
Type			**3TK20**
Number of main contacts			4
AC, DC operation			(p. 4/47, 4/48)
AC-1			
I_e at 400 V	Up to 690 V	**A**	**18**
AC-2 and AC-3			
I_e at 400 V		A	8.4
***P* at 400 V**		**kW**	**4**
At 127 V		kW	1.4
At 230 V		kW	2.5
At 500 V		kW	4
At 690 V		kW	4
Accessories for contactors			
Auxiliary switch blocks	Lateral		**--**
Terminal covers			**--**
Surge suppressors			**3TX4490** (p. 3/145)

Note:

For safety characteristics for contactors, see "Standards and approvals", from page 16/6 onwards.

Further contactors

- For SIRIUS 3RT26 contactors for capacitive loads (AC-6b), 3-pole, see page 4/30
- For 3TC contactors for switching DC voltage, 1- and 2-pole, see page 4/62
- 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 4/56
  - For 3TH4 contactor relays, 8-pole, see page 4/58
  - For 3TC contactors for switching DC voltage, 2-pole, see page 4/60

Connection methods

The contactors are available with screw terminals (box terminals or flat connectors) or with spring-type terminals.

Devices of the 3TK2 series are also available for connection with flat connectors and solder pin connectors.

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

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

Use of 3RT contactors with IE3/IE4 motors

Note:

When using 3RT contactors (exception: 3RT26) in conjunction with highly energy-efficient IE3/IE4 motors, please observe the information on dimensioning and configuring, see Application Manual "Controls with IE3/IE4 Motors", https://support.industry.siemens.com/cs/ww/en/view/94770820.

For more information, see page 1/7.

Overview

Standards

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

3RT.4 contactors are used for switching resistive loads (AC-1) or as contactors, that normally only have to carry the current, for example for variable-speed operating mechanisms.

The accessories and spare parts of the 3RT contactors can also be used here, see from page 3/71 onwards.

For a general description of 3RT contactors, sizes S3 to S12, see from page 3/14 onwards.

Connection methods

Main circuit

- Size S3: screw terminals with box terminal; direct connection to the connecting bar possible with cable lugs 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. Alternatively, box terminals are available as accessories.

Auxiliary/control circuit

Sizes S3 to S12: Screw terminals

Operating mechanism types

3RT2 contactors

3RT2 contactors are available as versions with conventional AC 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 between 0.8 to 1.1 x U_s, control takes place via the control supply voltage connection A1 - A2 as is typically the case.

3RT1 contactors

The following control and/or actuator versions are available in sizes S6 to S12:

- Conventional operating mechanisms
- Solid-state operating mechanism
  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 x 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 CPU 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

3RT2 contactors

Coil replacement is possible for sizes S0 to S3.

3RT1 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.

Safety 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.

In addition to the provision of safety-related device data in the technical specifications and the Safety Evaluation Tool for the easy evaluation of the overall system, as well as accessories for simple and space-saving design, 3RT1 contactors that can be controlled directly by fail-safe controllers via fail-safe modules are also available in the high current range from 275 A (AC-1) upwards.

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

Technical specifications

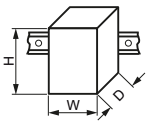
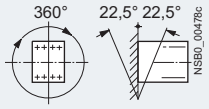
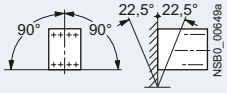
More information

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

- System Manual "SIRIUS Modular System – System Overview", https://support.industry.siemens.com/cs/WW/en/view/60311318
- Manual "SIRIUS – SIRIUS 3RT Contactors/Contactor Assemblies", https://support.industry.siemens.com/cs/WW/en/view/60306557
- Application Manual "Controls with IE3/IE4 Motors", https://support.industry.siemens.com/cs/ww/en/view/94770820

Type		3RT2446, 3RT2448	3RT1456	3RT1466	3RT1476
Size		S3	S6	S10	S12
General data					
Dimensions (W x H x D) 					
• Basic units - Screw/spring-type 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 block - Screw terminals	mm	70 x 140 x 196	120 x 172 x 217	145 x 210 x 251	160 x 214 x 271
- Spring-type terminals	mm	70 x 140 x 200	--		
• Basic unit with mounted function module or solid-state time-delayed auxiliary switch block - Screw/spring-type 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 block	Operating cycles	10 million			
• Basic units with solid-state compatible auxiliary switch block	Operating cycles	5 million	--		
Electrical endurance **For utilization category AC-1, at I_e**	Operating cycles	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 block		--	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	*g*/ms	10.3/5 and 10.5/10	8.5/5 and 4.2/10		
- DC operation	*g*/ms	6.7/5 and 4.0/10	8.5/5 and 4.2/10		
• Sine pulse - AC operation	*g*/ms	16.3/5 and 10.5/10	13.4/5 and 6.5/10		
- DC operation	*g*/ms	10.6/5 and 6.3/10	13.4/5 and 6.5/10		

Type		3RT2446, 3RT2448	3RT1456	3RT1466	3RT1476
Size		S3	S6	S10	S12
Short-circuit protection					
Main circuit					
• Fuse links, operational class gG: LV HRC, type 3NA - Type of coordination "1"	A	250	355	500	800
• Fuse links, operational class gR: SITOR, type 3NE - Type of coordination "2"	A	250	350	500	710
Auxiliary circuit					
Short-circuit test					
• With fuse links of operational class gG: DIAZED, type 5SB; NEOZED, type 5SE with short-circuit current I_k = 1 kA acc. to IEC 60947-5-1	A	10	10		
Short-circuit protection for contactors with overload relays		See Configuration Manual "Configuring the SIRIUS Modular System – Selection Data for Fuseless and Fused Load Feeders", https://support.industry.siemens.com/cs/ww/en/view/39714188			
Short-circuit protection for fuseless load feeders		See • 3RA2 load feeders, from page 8/4 • Configuration Manual "Configuring the SIRIUS Modular System – Selection Data for Fuseless and Fused Load Feeders", https://support.industry.siemens.com/cs/ww/en/view/39714188			

Type		3RT244.		3RT1456		3RT1466		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 $U_{s\,max}$	0.8 x $U_{s\,min}$ ... 1.1 x $U_{s\,max}$	0.7 x $U_{s\,min}$ ... 1.25 x $U_{s\,max}$	0.8 x $U_{s\,min}$ ... 1.1 x $U_{s\,max}$	0.7 x $U_{s\,min}$ ... 1.25 x $U_{s\,max}$	0.8 x $U_{s\,min}$ ... 1.1 x $U_{s\,max}$	0.7 x $U_{s\,min}$ ... 1.25 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[1)]	360	320	650	580	920	800
- Closed for DC operation	W	--	1.8	5.2	2.8	7.4	3.4	10	3.6

[1)] In the case of DC coils, increased starting currents (2.6 A on average) arise during the first 200 ms. For direct control from a PLC, we recommend special 3RT204.-.KB4. coupling contactors with adapted power consumption, suitable for a PLC output current of 2 A (see page 3/62).

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

Type		3RT244.		3RT1456			3RT1466			3RT1476		
		-.A	-.N	-.A	-.N/-.P	-.S	-.A	-.N/-.P	-.S	-.A	-.N/-.P	-.S
Size		S3		S6			S10			S12		
Control (continued)												
PLC control input acc. to IEC 60947-1												
• Version		--		--	Type 2	Type 1	--	Type 2	Type 1	--	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	s	--		--		2	--		2	--		2
Operating times for 1.0 x U_s [1] (Total break time = Opening delay + Arcing time)												
Conventional operating mechanism												
- Closing delay	ms	13 ... 50	--	25 ... 50	--		35 ... 50	--		50 ... 70	--	
- Opening delay	ms	10 ... 21	--	40 ... 60	--		50 ... 80	--		70 ... 100	--	
Solid-state operating mechanism												
• Actuated via A1/A2												
- Closing delay	ms	--	50 ... 70	--	100 ... 120	--		110 ... 130	--		125 ... 150	--
- Opening delay	ms	--	38 ... 57	--	80 ... 100	--		80 ... 100	--		80 ... 100	--
• Actuated via PLC input												
- Closing delay	ms	--		--	40 ... 60	--		50 ... 65	--		65 ... 80	--
- Opening delay	ms	--		--	80 ... 100	--		80 ... 100	--		80 ... 100	--
• Actuated via F-PLC input												
- Closing delay	ms	--		--		60 ... 75	--		60 ... 75	--		60 ... 75
- Opening delay	ms	--		--		115 ... 130	--		115 ... 130	--		115 ... 130
• Arcing time	ms	--		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).

Type			3RT2446	3RT2448	3RT1456	3RT1466	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	690
	At 60 °C up to 690 V	A	130	140	250	380	650[2]
	Up to 1 000 V	A	60	80	100	150	250
• Rated power for AC loads[1] With p.f. = 0.95 (at 60 °C)	At 230 V	kW	49	53	95	145	245
	400 V	kW	86	92	165	250	430
	500 V	kW	107	115	205	315	535
	690 V	kW	148	159	285	430	740
	1 000 V	kW	98	131	165	247	410
• Minimum conductor cross-section for loads with I_e	At 40 °C	mm^2	50	70	2 x 70	240	2 x 240
	At 60 °C	mm^2	50		120	240	2 x 240
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 slipring 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	55
Load rating with DC							
Utilization category DC-1, switching resistive loads (*L/R* ≤ 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	

1) Industrial furnaces and electric heaters with resistance heating, etc. (increased power consumption on heating up has been taken into account).

2) 600 A for 3RT1476-.N/-.P/-.S. contactor

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

Type			3RT2446 -.A	3RT2446 -.N	3RT2448 -.A/-.N	3RT1456 -.A	3RT1456 -.N/-.P	3RT1456 -.S	3RT1466 -.A	3RT1466 -.N/-.P	3RT1466 -.S	3RT1476 -.A	3RT1476 -.N/-.P	3RT1476 -.S
Size			S3			S6			S10			S12		
Rated data of main contacts (continued)														
Load rating with DC														
Utilization category DC-3/DC-5, shunt-wound and series-wound motors (*L/R* ≤ 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 frequency														
Switching frequency *z* in operating cycles/hour														
Contactors without overload relays														
• No-load switching frequency			5 000	--	1 000	2 000	1 000		2 000	1 000		2 000	1 000	500
• Switching frequency z during rated operation	I_e/AC-1 at 400 V	1/h	650			800		200	750		200	700		200
	I_e/AC-3 at 400 V	1/h	800			--								
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)		Screw terminals
• Solid	mm²	2 x (2.5 ... 16)[1])
• Stranded	mm²	2 x (6 ... 16)[1]); 2 x (10 ... 50)[1]); 1 x (10 ... 70)[1])
• Finely stranded with end sleeve (DIN 46228-1)	mm²	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 connectable)		
• Solid or stranded	mm²	2 x (0.5 ... 1.5)[1]); 2 x (0.75 ... 2.5)[1])
• Finely stranded with end sleeve (DIN 46228-1)	mm²	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; ∅ 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.

Type		3RT1456		3RT1466	3RT1476
Size		S6		S10	S12
Conductor cross-sections					
Main conductors (1 or 2 conductors can be connected)		Screw terminals			
With mounted box terminals	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 46228-1)	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 46228-1)	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 mm^2)					
 NSB0_00481					
• Finely stranded with end sleeve (DIN 46228-1)	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)	
Busbar connections					
• Connecting bar (max. width)	mm	17		25	
Cable lug connection		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 46228-1)	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 conductors[4] (1 or 2 conductors can be connected)		Spring-type terminals			
• Operating tool		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 46228-1)	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, use the 3RT1956-4EA1 terminal cover for conductor cross-sections from 95 mm^2 to keep the phase clearance, see page 3/112.

2) 3RT1466 and 3RT1476: When connecting cable lugs according to DIN 46234, the 3RT1966-4EA1 terminal cover must be used for conductor cross-sections of 240 mm^2 and more, as well as DIN 46235 for conductor cross-sections of 185 mm^2 and more, to keep the phase clearance, see page 3/112.

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. With conductor cross-sections ≤ 1 mm^2 an "insulation stop" must be used, see page 3/115.

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 AC-1, t_u: 40 °C				Auxiliary contacts			Rated control supply voltage U_s	SD	Screw terminals		PU (UNIT, SET, M)	PS*	PG
	Operational current I_e up to	Ratings of AC loads (p f. = 0.95) at			Ident. No.	Version				Article No.	Price per PU			
	690 V	230 V	400 V	690 V		NO	NC							
	A	kW	kW	kW				V	d					
For screw and snap-on mounting onto TH 35-15 and TH 75-15 standard mounting rails														
AC operation														
S3	**140**	53	92	159	**11**	1	1	24 AC, 50 Hz	5	**3RT2446-1AB00**		1	1 unit	41B
								110 AC, 50 Hz	5	**3RT2446-1AF00**		1	1 unit	41B
								230 AC, 50 Hz	1	**3RT2446-1AP00**		1	1 unit	41B
	160	61	105	182	**11**	1	1	24 AC, 50 Hz	X	**3RT2448-1AB00**		1	1 unit	41B
								110 AC, 50 Hz	X	**3RT2448-1AF00**		1	1 unit	41B
								230 AC, 50 Hz	X	**3RT2448-1AP00**		1	1 unit	41B
AC/DC operation														
With integrated coil circuit (varistor)														
S3	**140**	53	92	159	**11**	1	1	AC/DC 20 ... 33, 50 Hz	X	**3RT2446-1NB30**		1	1 unit	41B
								AC/DC 83 ... 155, 50 Hz	X	**3RT2446-1NF30**		1	1 unit	41B
								AC/DC 175 ... 280, 50 Hz	5	**3RT2446-1NP30**		1	1 unit	41B
	160	61	105	182	**11**	1	1	AC/DC 20 ... 33, 50 Hz	X	**3RT2448-1NB30**		1	1 unit	41B
								AC/DC 83 ... 155, 50 Hz	X	**3RT2448-1NF30**		1	1 unit	41B
								AC/DC 175 ... 280, 50 Hz	X	**3RT2448-1NP30**		1	1 unit	41B

Other voltages according to page 4/39 on request.

For accessories and spare parts, see page 3/71 onwards.

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

Sizes S6 to S12: AC/DC operation (50/60 Hz AC and DC)

- Operating mechanism with integrated coil circuit (varistor)
- For screw fixing
- Auxiliary and control conductors: Screw terminals
- Main conductors: Busbar connections

3RT145.-6A.36

3RT146.-6A.36

3RT147.-6A.36

3RT147.-6N.36

3RT147.-6P.35

Size	Rated data AC-1, I_u: 40 °C				Auxiliary contacts, lateral		Rated control supply voltage U_s	SD	Screw terminals		PU (UNIT, SET, M)	PS*	PG
	Operational current I_e up to	Ratings of AC loads (p f. = 0.95) at			Version				Article No.	Price per PU			
	690 V	400 V	500 V	690 V									
	A	kW	kW	kW	NO	NC	V AC/DC	d					
Conventional operating mechanism													
S6	**275**	180	225	310	2	2	110 ... 127	▶	**3RT1456-6AF36**		1	1 unit	41B
							220 ... 240	▶	**3RT1456-6AP36**		1	1 unit	41B
S10	**400**	263	329	454	2	2	110 ... 127	▶	**3RT1466-6AF36**		1	1 unit	41B
							220 ... 240	▶	**3RT1466-6AP36**		1	1 unit	41B
S12	**690**	454	568	783	2	2	110 ... 127	2	**3RT1476-6AF36**		1	1 unit	41B
							220 ... 240	▶	**3RT1476-6AP36**		1	1 unit	41B
Solid-state operating mechanism													
With 24 V DC control signal input e.g. for control by PLC													
S6	**275**	180	225	310	2	2	96 ... 127	5	**3RT1456-6NF36**		1	1 unit	41B
							200 ... 277	2	**3RT1456-6NP36**		1	1 unit	41B
S10	**400**	263	329	454	2	2	96 ... 127	5	**3RT1466-6NF36**		1	1 unit	41B
							200 ... 277	2	**3RT1466-6NP36**		1	1 unit	41B
S12	**690**	454	568	783	2	2	96 ... 127	5	**3RT1476-6NF36**		1	1 unit	41B
							200 ... 277	2	**3RT1476-6NP36**		1	1 unit	41B
For 24 V DC control signal input · with indication of remaining lifetime (RLT) e.g. for control by PLC													
S6	**275**	180	225	310	1	1	96 ... 127	5	**3RT1456-6PF35**		1	1 unit	41B
							200 ... 277	5	**3RT1456-6PP35**		1	1 unit	41B
S10	**400**	263	329	454	1	1	96 ... 127	5	**3RT1466-6PF35**		1	1 unit	41B
							200 ... 277	5	**3RT1466-6PP35**		1	1 unit	41B
S12	**690**	454	568	783	1	1	96 ... 127	5	**3RT1476-6PF35**		1	1 unit	41B
							200 ... 277	5	**3RT1476-6PP35**		1	1 unit	41B

Other voltages according to page 4/39 on request.

Accessories and spare parts, see page 3/71 onwards.

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

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

Sizes S6 to S12: AC/DC operation (50/60 Hz AC or DC)

- Operating mechanisms 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 and additional approval according to SUVA (on request)
- For screw fixing
- Auxiliary and control conductors: Screw terminals
- Main conductors: Busbar connections

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


3RT1456-6S.36


3RT1466-6S.36


3RT1476-6S.36


3RT1456-6S.36-3PA0


3RT1476-6S.36-3PA0

Size	Rated data according to IEC 60947-4-1 AC-1, t_u: 60 °C		Auxiliary contacts, lateral		Rated control supply voltage U_s	SD	Screw terminals		PU (UNIT, SET, M)	PS*	PG
	Operational current I_e up to	Ratings of AC loads (p f. = 0.95) at	Version				Article No.	Price per PU			
	500 V	400 V									
	A	kW	NO	NC	V AC/DC	d					
Solid-state operating mechanism											
With two removable laterally mounted auxiliary switches											
S6	**275**	105	2	2	96 ... 127	5	**3RT1456-6SF36**		1	1 unit	41B
					200 ... 277	5	**3RT1456-6SP36**		1	1 unit	41B
S10	**400**	151	2	2	96 ... 127	5	**3RT1466-6SF36**		1	1 unit	41B
					200 ... 277	5	**3RT1466-6SP36**		1	1 unit	41B
S12	**690**	261	2	2	96 ... 127	5	**3RT1476-6SF36**		1	1 unit	41B
					200 ... 277	5	**3RT1476-6SP36**		1	1 unit	41B
With two permanently laterally mounted auxiliary switches											
S6	**275**	105	2	2	96 ... 127	5	**3RT1456-6SF36-3PA0**		1	1 unit	41B
					200 ... 277	5	**3RT1456-6SP36-3PA0**		1	1 unit	41B
S10	**400**	151	2	2	96 ... 127	5	**3RT1466-6SF36-3PA0**		1	1 unit	41B
					200 ... 277	5	**3RT1466-6SP36-3PA0**		1	1 unit	41B
S12	**690**	261	2	2	96 ... 127	5	**3RT1476-6SF36-3PA0**		1	1 unit	41B
					200 ... 277	5	**3RT1476-6SP36-3PA0**		1	1 unit	41B

For accessories and spare parts, see page 3/71 onwards.

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

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.

For accessories and spare parts, see page 3/71 onwards.

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

Mountable 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

Application

The contactors are suitable:

- For switching resistive loads
- For isolating systems with ungrounded or poorly grounded neutral conductors
- For system transfers when alternative AC power supplies are used
- For use as contactors which only carry current and do not have to switch in case of inductive loads – e.g. variable-speed operating mechanisms
- For switching mixed loads in distribution systems (e.g. for supplying heaters, lamps, motors, PC power supply units) with p.f. > 0.8 according to IEC 60947-4-1, test conditions for utilization category AC-1

For a general description of 3RT contactor, sizes S00 to S3, see from page 3/14 onwards.

Technical specifications

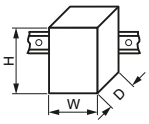
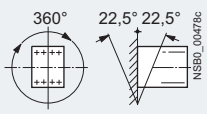
More information

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

- System Manual "SIRIUS Modular System – System Overview", https://support.industry.siemens.com/cs/WW/en/view/60311318
- Manual "SIRIUS – SIRIUS 3RT Contactors/Contactor Assemblies", https://support.industry.siemens.com/cs/WW/en/view/60306557
- Application Manual "Controls with IE3/IE4 Motors", https://support.industry.siemens.com/cs/ww/en/view/94770820

Type			3RT2316, 3RT2317	3RT2325 to 3RT2327	3RT2336, 3RT2337	3RT2344, 3RT2346, 3RT2348
Size			S00	S0	S2	S3
General data						
Dimensions (W x H x D)				(The values in brackets apply for DC operation)		
AC or DC operation						
• Basic units						
- Screw terminals		mm	45 x 58 x 73	60 x 85 x 97 (107)	75 x 114 x 130	96 x 140 x 152
- Spring-type terminals		mm	45 x 70 x 73	61 x 102 x 97 (107)	--	--
• Basic unit with mounted auxiliary switch block						
- Screw terminals		mm	45 x 58 x 117	60 x 85 x 141 (151)	75 x 114 x 174	96 x 140 x 196
- Spring-type terminals		mm	45 x 70 x 121	61 x 102 x 145 (155)	--	--
• Basic unit with mounted function module or solid-state time-delayed auxiliary switch block						
- Screw terminals		mm	45 x 58 x 147	60 x 85 x 171 (181)	75 x 114 x 204	96 x 140 x 226
- Spring-type terminals		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			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		°C	-25 ... +60			
• During storage		°C	-55 ... +80			
Degree of protection acc. to IEC 60529						
• On front			IP20 (screw terminals and spring-type terminals)			
• Connecting terminal			IP20 (screw terminals and spring-type terminals)		IP00 (for higher degree of protection, use additional terminal covers)	
Touch protection acc. to IEC 60529			Finger-safe (screw terminals and spring-type terminals)		Finger-safe for vertical touching from the front	

Type			3RT2316	3RT2317	3RT2325	3RT2326	3RT2327	3RT2336, 3RT2337	3RT2344	3RT2346	3RT2348
Size			S00		S0			S2	S3		
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	35		63	63 (80)[1]	63	160	250		
• Type of coordination "2"		A	20			20 (50)[1]	20	80	--	-- (160)[1]	--
• Weld-free		A	10		16			On request	On request		
Fuse links, operational class gR: SITOR, type 3NE											
• Type of coordination "2"		A	--						250		
Control											
Solenoid coil operating range											
• AC operation	At 50 Hz		0.8 ... 1.1 x U_s								
	At 60 Hz		0.85 ... 1.1 x U_s		0.8 ... 1.1 x U_s				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	59		
- Closed for DC operation		W	--					1	2.7		
• DC operation (closing = closed)		W	4		5.9			--			
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] The values in brackets apply for 3RT23 versions.6-1…0-4AA0.

[2] With size S00, DC operation: Operating times for 0.85 to 1.1 x U_s.

SIRIUS 3RT23 contactors, 4-pole

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 conductor cross-section for loads with I_e	At 40 °C	mm^2	2.5	4	10			16	35		50 (35)[1]	70
	At 60 °C	mm^2	2.5		6	10		16	35		50 (35)[1]	50
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 (32)[1]	15.5	-- (50)[1]	--		-- (95)[1]	--
	At 690 V	A	--			-- (21)[1]	--	-- (24)[1]	--		-- (58)[1]	--
• Rated power for slipring 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 versions.6-1…0-4AA0.

Data for North America

For technical specifications of 3RT contactors, see from page 3/48 onwards.

Selection and ordering data

AC operation

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

3RT231.-1A.00

3RT231.-2A.00

3RT232.-1A.00

3RT232.-2A.00

3RT233.-1A.00

3RT234.-1A.00

Rated data AC-1, I_u: 40/60 °C		Auxiliary contacts			Rated control supply voltage U_s	SD	Screw terminals		SD	Spring-type terminals	
Operational current I_e up to 690 V	Ratings of AC loads (p.f. = 0.95) at 50 Hz and **400 V**	Ident. No.	Version NO	Version NC			Article No.	Price per PU		Article No.	Price per PU
A	**kW**		NO	NC	V AC	d			d		
For screw fixing and snap-on mounting onto TH 35 standard mounting rail											
Size S00											
18 / 16	**12 / 11**	**--**	--	--	24, 50/60 Hz	2	**3RT2316-1AB00**		5	**3RT2316-2AB00**	
					110, 50/60 Hz	5	**3RT2316-1AF00**		5	**3RT2316-2AF00**	
					230, 50/60 Hz	2	**3RT2316-1AP00**		2	**3RT2316-2AP00**	
22 / 20	**14.5 / 13**	**--**	--	--	24, 50/60 Hz	2	**3RT2317-1AB00**		5	**3RT2317-2AB00**	
					110, 50/60 Hz	5	**3RT2317-1AF00**		5	**3RT2317-2AF00**	
					230, 50/60 Hz	▶	**3RT2317-1AP00**		2	**3RT2317-2AP00**	
Size S0											
35 / 30[1]	**22 / 20**	**11**	1	1	24, 50 Hz	5	**3RT2325-1AB00**		5	**3RT2325-2AB00**	
					110, 50 Hz	5	**3RT2325-1AF00**		5	**3RT2325-2AF00**	
					230, 50 Hz	5	**3RT2325-1AP00**		2	**3RT2325-2AP00**	
40 / 35[1]	**26 / 23**	**11**	1	1	24, 50 Hz	5	**3RT2326-1AB00**		5	**3RT2326-2AB00**	
					110, 50 Hz	5	**3RT2326-1AF00**		5	**3RT2326-2AF00**	
					230, 50 Hz	2	**3RT2326-1AP00**		2	**3RT2326-2AP00**	
50 / 42[1]	**33 / 28**	**11**	1	1	24, 50 Hz	5	**3RT2327-1AB00**		5	**3RT2327-2AB00**	
					110, 50 Hz	5	**3RT2327-1AF00**		5	**3RT2327-2AF00**	
					230, 50 Hz	2	**3RT2327-1AP00**		2	**3RT2327-2AP00**	
Size S2											
60 / 55	**36**	**11**	1	1	24, 50 Hz	5	**3RT2336-1AB00**			**--**	
					110, 50 Hz	5	**3RT2336-1AF00**			**--**	
					230, 50 Hz	▶	**3RT2336-1AP00**			**--**	
110 / 95	**63**	**11**	1	1	24, 50 Hz	5	**3RT2337-1AB00**			**--**	
					110, 50 Hz	5	**3RT2337-1AF00**			**--**	
					230, 50 Hz	▶	**3RT2337-1AP00**			**--**	
For screw and snap-on mounting onto TH 35-15 and TH 75-15 standard mounting rails											
Size S3 NEW											
110 / 100	**72**	**11**	1	1	24, 50 Hz	5	**3RT2344-1AB00**			**--**	
					110, 50 Hz	5	**3RT2344-1AF00**			**--**	
					230, 50 Hz	1	**3RT2344-1AP00**			**--**	
140 / 130	**92**	**11**	1	1	24, 50 Hz	5	**3RT2346-1AB00**			**--**	
					110, 50 Hz	5	**3RT2346-1AF00**			**--**	
					230, 50 Hz	1	**3RT2346-1AP00**			**--**	
160 / 140	**105**	**11**	1	1	24, 50 Hz	X	**3RT2348-1AB00**			**--**	
					110, 50 Hz	X	**3RT2348-1AF00**			**--**	
					230, 50 Hz	X	**3RT2348-1AP00**			**--**	

[1] Required conductor cross-section 10 mm².

Other voltages according to page 4/39 on request.
For accessories and spare parts, see page 3/71 onwards.

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

SIRIUS 3RT23 contactors, 4-pole

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-type terminals	
AC-2/AC-3, t_u: Up to 60° C		AC-1, t_u: 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 **400 V**	Operational current I_e up to 690 V		NO	NC	V AC	d			d		
A	**kW**	A										
For screw fixing and snap-on mounting onto TH 35 standard mounting rail												
Size S0												
32	**15**	40/35	**11**	1	1	230, 50 Hz	5	**3RT2326-1AP00-4AA0**			**--**	
Size S2												
50	**22**	60/55	**11**	1	1	230, 50 Hz	5	**3RT2336-1AP00-4AA0**			**--**	
For screw and snap-on mounting onto TH 35-15 and TH 75-15 standard mounting rails												
Size S3 NEW												
95	**45**	110/100	**11**	1	1	230, 50 Hz	5	**3RT2346-1AP00-4AA0**			**--**	

Other voltages according to page 4/39 on request.

For accessories and spare parts, see page 3/71 onwards.

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

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_u: 40/60 °C		Auxiliary contacts			Rated control supply voltage U_s	SD	Screw terminals	SD	Spring-type terminals
Operational current I_e up to	Ratings of AC loads (p.f. = 0.95) at 50 Hz and	Ident. No.	Version						
690 V	**400 V**						Article No. Price per PU		Article No. Price per PU
A	**kW**		NO	NC	V DC	d		d	
For screw fixing and snap-on mounting onto TH 35 standard mounting rail									
Size S00									
18 / 16	**12 / 11**	**--**	--	--	24	2	**3RT2316-1BB40**	▶	**3RT2316-2BB40**
					220	5	**3RT2316-1BM40**	5	**3RT2316-2BM40**
22 / 20	**14.5 / 13**	**--**	--	--	24	▶	**3RT2317-1BB40**	▶	**3RT2317-2BB40**
					220	5	**3RT2317-1BM40**	5	**3RT2317-2BM40**
Size S0									
35 / 30[1)]	**22 / 20**	**11**	1	1	24	2	**3RT2325-1BB40**	2	**3RT2325-2BB40**
					220	5	**3RT2325-1BM40**	5	**3RT2325-2BM40**
40 / 35[1)]	**26 / 23**	**11**	1	1	24	2	**3RT2326-1BB40**	2	**3RT2326-2BB40**
					220	5	**3RT2326-1BM40**	5	**3RT2326-2BM40**
50 / 42[1)]	**33 / 28**	**11**	1	1	24	2	**3RT2327-1BB40**	2	**3RT2327-2BB40**
					220	5	**3RT2327-1BM40**	5	**3RT2327-2BM40**

1) Required conductor cross-section 10 mm^2.

Other voltages according to page 4/39 on request.

For accessories and spare parts, see page 3/71 onwards.

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

SIRIUS 3RT23 contactors, 4-pole

AC/DC operation (50/60 Hz AC or DC)

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

3RT233.-1N.30

3RT234.-1N.30

Rated data AC-1, t_u: 40/60 °C		Auxiliary contacts			Rated control supply voltage U_s	SD	**Screw terminals**	SD	**Spring-type terminals**
Operational current I_e up to 690 V	Ratings of AC loads (p.f. = 0.95) at 50 Hz and **400 V**	Ident. No.	Version NO	Version NC			Article No. / Price per PU		Article No. / Price per PU
A	**kW**		NO	NC	V AC/DC	d		d	
For screw fixing and snap-on mounting onto TH 35 standard mounting rail									
Size S2									
With integrated coil circuit (varistor)									
60 / 55	**36**	**11**	1	1	20 ... 33	▶	**3RT2336-1NB30**		**--**
					175 ... 280	5	**3RT2336-1NP30**		**--**
110 / 95	**63**	**11**	1	1	20 ... 33	5	**3RT2337-1NB30**		**--**
					175 ... 280	5	**3RT2337-1NP30**		**--**
For screw and snap-on mounting onto TH 35-15 and TH 75-15 standard mounting rails									
Size S3 NEW									
With integrated coil circuit (varistor)									
110 / 100	**72**	**11**	1	1	20 ... 33	X	**3RT2344-1NB30**		**--**
					175 ... 280	X	**3RT2344-1NP30**		**--**
140 / 130	**92**	**11**	1	1	20 ... 33	X	**3RT2346-1NB30**		**--**
					175 ... 280	X	**3RT2346-1NP30**		**--**
160 / 140	**105**	**11**	1	1	20 ... 33	X	**3RT2348-1NB30**		**--**
					175 ... 280	X	**3RT2348-1NP30**		**--**

Other voltages according to page 4/39 on request.

For accessories and spare parts, see page 3/71 onwards.

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

AC/DC operation (50/60 Hz AC or DC)

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	SD	**Screw terminals**	SD	**Spring-type terminals**
AC-2/AC-3, t_u: Up to 60 °C		AC-1, t_u: 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 **400 V**	Operational current I_e up to 690 V		NO	NC					
A	**kW**	A				V AC/DC	d		d	
For screw fixing and snap-on mounting onto TH 35 standard mounting rail										
Size S2										
With integrated coil circuit (varistor)										
50	**22**	60/55	**11**	1	1	20 ... 33	5	**3RT2336-1NB30-4AA0**		**--**
For screw and snap-on mounting onto TH 35-15 and TH 75-15 standard mounting rails										
Size S3 NEW										
With integrated coil circuit (varistor)										
95	**45**	110/100	**11**	1	1	20 ... 33	X	**3RT2346-1NB30-4AA0**		**--**

Other voltages according to page 4/39 on request.

For accessories and spare parts, see page 3/71 onwards.

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

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 from page 3/71 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 from page 3/14 onwards.

Application

The contactors are suitable:

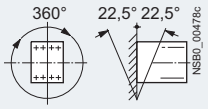
- For changing the polarity of hoisting gear motors
- For switching two separate loads

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	FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/16169/faq Manuals, see 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 4/16	See 3RT232., page 4/16	See 3RT233., page 4/16		See 3RT234., page 4/16
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						
• During operation	°C	-25 ... +60				
• During storage	°C	-55 ... +80				
Degree of protection acc. to IEC 60529						
• On front		IP20 (screw terminals and spring-type terminals)				
• Connecting terminal		IP20 (screw terminals and spring-type terminals)		IP00 (for higher degree of protection, use additional terminal covers)		
Touch protection acc. to IEC 60529		Finger-safe (screw terminals and spring-type terminals)		Finger-safe for vertical touching from the front		
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	35	63	125	160	250
• Type of coordination "2"	A	20	35	63	80	125
• Weld-free	A	10	16	--		

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_s[1] 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	50 ... 70
- Opening delay		ms	4 ... 14	4.5 ... 15	--	4 ... 16	--	10 ... 18	30 ... 55	11 ... 20	38 ... 57
• 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).

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 P.f. = 0.95 (at 60 °C)		At 230 V	kW	6	7.5		13.3		21	23	34	59
		400 V	kW	10.5	13		23		36	39	40	69
• Minimum conductor cross-section for loads with I_e		At 40 °C	mm^2	2.5	4		10		16	25	35	50
Utilization categories AC-2 and AC-3							AC[1]	DC[1]				
• Rated operational currents I_e (at 60 °C)	NO up to 400 V		A	9	12	16	25		35	41	65	80
	NC up to 400 V		A	9			25	20	35	41	65	80
• Rated power for slipring 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	37
	NC at 400 V		kW	4			11	7.5	18.5	22	30	37
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-5[2], 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	h^{-1}	--			5 000	--	5 000			
		DC	h^{-1}	--				1 500	--			
		AC/DC	h^{-1}	10 000			--		500		1 000	
• Switching frequency z during rated operation[3]	I_e/AC-1 at 400 V		h^{-1}	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 current paths are equal to 50% of the values for the NO contact current paths.

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

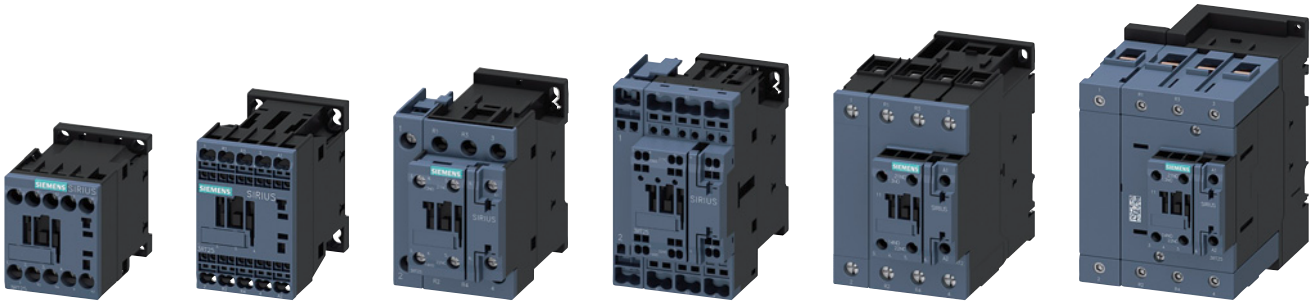
[4] The values in brackets apply for 3RT253.-.N.

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



3RT251.-1A.00 3RT251.-2A.00 3RT252.-1A.00 3RT252.-2A.00 3RT253.-1A.00 3RT254.-1A.00

Rated data			Auxiliary contacts			Rated control supply voltage U_s	SD	**Screw terminals**	SD	**Spring-type terminals**
AC-2/AC-3, t_u: Up to 60 °C		AC-1, t_u: 40/60 °C	Ident. No.	Version						
Operational current I_e up to	Ratings of three-phase motors at 50 Hz and	Operational current I_e up to						Article No. / Price per PU		Article No. / Price per PU
400 V	**400 V**	690								
A	**kW**	A		NO	NC	V AC	d		d	
For screw fixing and snap-on mounting onto TH 35 standard mounting rail										
Size S00										
9	**4**	18 / 16	**--**	--	--	24, 50/60 Hz	5	**3RT2516-1AB00**	5	**3RT2516-2AB00**
						110, 50/60 Hz	5	**3RT2516-1AF00**	5	**3RT2516-2AF00**
						230, 50/60 Hz	2	**3RT2516-1AP00**	2	**3RT2516-2AP00**
12/9[1]	**5.5/4[1]**	22 / 20	**--**	--	--	24, 50/60 Hz	5	**3RT2517-1AB00**	5	**3RT2517-2AB00**
						110, 50/60 Hz	5	**3RT2517-1AF00**	5	**3RT2517-2AF00**
						230, 50/60 Hz	▶	**3RT2517-1AP00**	2	**3RT2517-2AP00**
16/9[1]	**7.5/4[1]**	22 / 20	**--**	--	--	24, 50/60 Hz	5	**3RT2518-1AB00**	5	**3RT2518-2AB00**
						110, 50/60 Hz	5	**3RT2518-1AF00**	5	**3RT2518-2AF00**
						230, 50/60 Hz	2	**3RT2518-1AP00**	5	**3RT2518-2AP00**
Size S0										
25	**11**	40 / 35	**11**	1	1	24, 50 Hz	5	**3RT2526-1AB00**	5	**3RT2526-2AB00**
						110, 50 Hz	5	**3RT2526-1AF00**	5	**3RT2526-2AF00**
						230, 50 Hz	2	**3RT2526-1AP00**	2	**3RT2526-2AP00**
Size S2										
35	**18.5**	60 / 55	**11**	1	1	24, 50 Hz	2	**3RT2535-1AB00**		**--**
						110, 50 Hz	2	**3RT2535-1AF00**		**--**
						230, 50 Hz	2	**3RT2535-1AP00**		**--**
41	**22**	70 / 60	**11**	1	1	24, 50 Hz	5	**3RT2536-1AB00**		**--**
						110, 50 Hz	5	**3RT2536-1AF00**		**--**
						230, 50 Hz	2	**3RT2536-1AP00**		**--**
For screw and snap-on mounting onto TH 35-15 and TH 75-15 standard mounting rails										
Size S3 NEW										
65	**30**	100 / 90	**11**	1	1	24, 50 Hz	X	**3RT2544-1AB00**		**--**
						110, 50 Hz	X	**3RT2544-1AF00**		**--**
						230, 50 Hz	X	**3RT2544-1AP00**		**--**
80	**37**	125 / 105	**11**	1	1	24, 50 Hz	X	**3RT2545-1AB00**		**--**
						110, 50 Hz	X	**3RT2545-1AF00**		**--**
						230, 50 Hz	X	**3RT2545-1AP00**		**--**

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

Other voltages according to page 4/39 on request.

For accessories and spare parts, see page 3/71 onwards.

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

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

DC operation ⎓

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

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

3RT251.-1B.40

3RT251.-2B.40

3RT252.-1B.40

3RT252.-2B.40

Rated data			Auxiliary contacts			Rated control supply voltage U_s	SD	Screw terminals		SD	Spring-type terminals	
AC-2/AC-3, t_u: Up to 60 °C		AC-1, t_u: 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 **400 V**	Operational current I_e up to 690		NO	NC							
A	**kW**	A		NO	NC	V DC	d			d		
For screw fixing and snap-on mounting onto TH 35 standard mounting rail												
Size S00												
9	**4**	18 / 16	--	--	--	24	▶	**3RT2516-1BB40**		2	**3RT2516-2BB40**	
						220	5	**3RT2516-1BM40**		5	**3RT2516-2BM40**	
12/9[1]	**5.5/4[1]**	22 / 20	--	--	--	24	2	**3RT2517-1BB40**		2	**3RT2517-2BB40**	
						220	5	**3RT2517-1BM40**		5	**3RT2517-2BM40**	
16/9[1]	**7.5/4[1]**	22 / 20	--	--	--	24	2	**3RT2518-1BB40**		2	**3RT2518-2BB40**	
						220	5	**3RT2518-1BM40**		5	**3RT2518-2BM40**	
Size S0												
25 (20)[2]	**11 (7.5)[2]**	40 / 35	**11**	1	1	24	2	**3RT2526-1BB40**		2	**3RT2526-2BB40**	
						220	5	**3RT2526-1BM40**		5	**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 4/39 on request.

For accessories and spare parts, see page 3/71 onwards.

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

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	SD	**Screw terminals**	SD	**Spring-type terminals**	
AC-2/AC-3, t_u: Up to 60 °C		AC-1, t_u: 40/60 °C	Ident. No.	Version							
Operational current I_e up to	Ratings of three-phase motors at 50 Hz and	Operational current I_e up to						Article No. / Price per PU		Article No. / Price per PU	
400 V	**400 V**	690									
A	**kW**	A		NO	NC	V AC/DC	d		d		
For screw fixing and snap-on mounting onto TH 35 standard mounting rail											
Size S2											
With integrated coil circuit (varistor)											
35	**18.5**	60 / 55	**11**	1	1	20 ... 33	2	**3RT2535-1NB30**		**--**	
						83 ... 155	5	**3RT2535-1NF30**		**--**	
						175 ... 280	5	**3RT2535-1NP30**		**--**	
41	**22**	70 / 60	**11**	1	1	20 ... 33	2	**3RT2536-1NB30**		**--**	
						83 ... 155	5	**3RT2536-1NF30**		**--**	
						175 ... 280	5	**3RT2536-1NP30**		**--**	
For screw and snap-on mounting onto TH 35-15 and TH 75-15 standard mounting rails											
Size S3 NEW											
With integrated coil circuit (varistor)											
65	**30**	100 / 90	**11**	1	1	20 ... 33	X	**3RT2544-1NB30**		**--**	
						175 ... 280	X	**3RT2544-1NP30**		**--**	
80	**37**	125 / 105	**11**	1	1	20 ... 33	X	**3RT2545-1NB30**		**--**	
						175 ... 280	X	**3RT2545-1NP30**		**--**	

Other voltages according to page 4/39 on request.
For accessories and spare parts, see page 3/71 onwards.

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

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 from page 4/35 onwards. Details of deviating versions are available on request.

In sizes S00 and S0, the auxiliary switch block 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.

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

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

Technical specifications

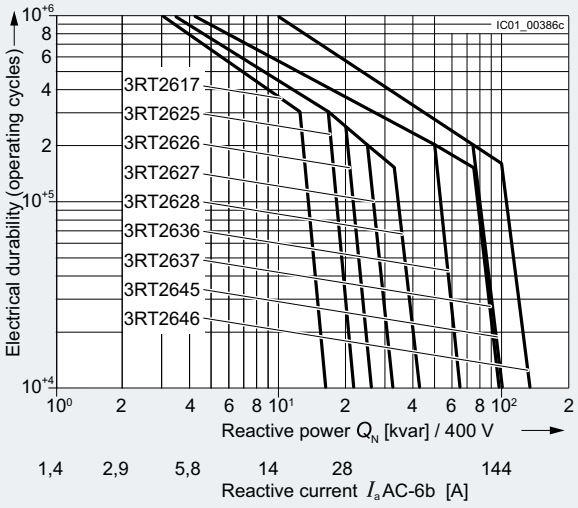
More information	
Technical specifications, see https://support.industry.siemens.com/cs/ww/en/ps/16171/td	Manuals, see https://support.industry.siemens.com/cs/ww/en/ps/16171/man

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.

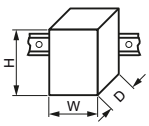
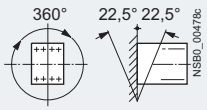
The rated operational current I_e in accordance with utilization category AC-6b (breaking of 1.35 times the rated operational current) is specified for a contact service life of approximately 150 000 to 200 000 operating cycles.



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 3/18 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 connecting cables 										
• AC 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	
• DC operation, AC/DC operation	mm	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 block	Operating cycles	3 million								
Electrical endurance For apparent power at 400 V	kvar	12.5	16.7	20	25	33	50	75		100
	Operating cycles	300 000	200 000			150 000	200 000	150 000	200 000	150 000
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								
• Connecting terminal		IP20					IP00 (for higher degree of protection, use additional terminal covers)			
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	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 characteristic 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.

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				
	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 3/114.

[2] With size S00, DC operation: Operating times at 0.85 to 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				

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			
Another auxiliary contact can be mounted laterally			--					No more than one lateral auxiliary switch block can be mounted			
Technical specifications including CSA and UL rated data of the auxiliary contacts, see "3RT20 contactors", from page 3/18 onwards.											
Rated data of the main contacts											
Load rating with AC											
Utilization category AC-6b Switching of AC capacitors											
• Rated operational current I_e for 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 °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	53	40
	500 V, 50/60 Hz	1/h	180		100		65	55	45	53	40
	600 V, 50/60 Hz	1/h	180		100		45	40	32	30	20
	690 V, 50/60 Hz	1/h	180	150	100	72	36	30	25	30	20
	1 000 V, 50/60 Hz	1/h	--							30	20
cULus and cULus rated data											
Rated insulation voltage		V AC	600								
Operational reactive power at AC-6b, 3-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.

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

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

1) Three-phase infeed terminal 3RV2925-5AB available, see page 3/110. With 3RT2628, the three-phase infeed terminal is included in the scope of delivery.

2) Three-phase infeed terminal 3RV2935-5A available, see page 3/110.

3) Single-phase infeed terminal 3RA2943-3L available, see page 3/110.

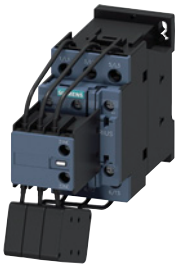
4) If two different conductor cross-sections are connected to one clamping point, both cross-sections must lie in one of the ranges specified.

Selection and ordering data

AC operation

Main, auxiliary and control conductors: Screw terminals

3RT2617-1A.05



3RT262.-1A.05

3RT2628-1A.05
with feeder terminal

Utilization category AC-6b Switching AC capacitors at an ambient temperature of 60 °C				Auxiliary contacts, unassigned Version		Rated control supply voltage U_s		SD	Screw terminals		PU (UNIT, SET, M)	PS*	PG
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										
kvar	**kvar**	kvar	kvar	NO	NC	V AC	Hz	d					
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	50/60	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	50/60	5	**3RT2617-1AB05**		1	1 unit	41B
						110		5	**3RT2617-1AF05**		1	1 unit	41B
						230		5	**3RT2617-1AP05**		1	1 unit	41B
Size S0[1)]													
3 ... 9.6	**6 ... 16.7**	7 ... 21	10 ... 29	1	2	24	50	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	50	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	50	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	50	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 3/110. With 3RT2628, the three-phase infeed terminal is included in the scope of delivery.

Other voltages according to page 4/39 on request.

For accessories and spare parts, see page 3/71 onwards.

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

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

[1] Three-phase infeed terminal 3RV2935-5A available, see page 3/110.

[2] Single-phase infeed terminal 3RA2943-3L available, see page 3/110.

Other voltages according to page 4/39 on request.

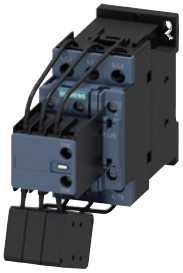
For accessories and spare parts, see page 3/71 onwards.

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

DC operation

Main, auxiliary and control conductors: Screw terminals

3RT2617-1B.45



3RT262.-1B.45

3RT2628-1N.35
with infeed terminal

Utilization category AC-6b Switching AC capacitors at an ambient temperature of 60 °C				Auxiliary contacts, unassigned Version		Rated control supply voltage U_s	SD	**Screw terminals**		PU (UNIT, SET, M)	PS*	PG
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									
kvar	**kvar**	kvar	kvar	NO	NC	V DC	d					
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	**3RT2617-1BB43**		1	1 unit	41B
						110	5	**3RT2617-1BF43**		1	1 unit	41B
0 … 7.2	**0 … 12.5**	0 … 15	0 … 21	0	2	24	5	**3RT2617-1BB45**		1	1 unit	41B
						110	5	**3RT2617-1BF45**		1	1 unit	41B
Size S0[1]												
3 … 9.6	**6 … 16.7**	7 … 21	10 … 29	1	2	24	5	**3RT2625-1BB45**		1	1 unit	41B
						110	5	**3RT2625-1BF45**		1	1 unit	41B
4 … 11.5	**7 … 20**	8 … 25	11 … 34	1	2	24	5	**3RT2626-1BB45**		1	1 unit	41B
						110	5	**3RT2626-1BF45**		1	1 unit	41B
5 … 14	**8 … 25**	10 … 31	14 … 43	1	2	24	5	**3RT2627-1BB45**		1	1 unit	41B
						110	5	**3RT2627-1BF45**		1	1 unit	41B
6 … 19	**11 … 33**	14 … 41	19 … 57	1	2	24	5	**3RT2628-1BB45**		1	1 unit	41B
						110	5	**3RT2628-1BF45**		1	1 unit	41B

[1] Three-phase infeed terminal 3RV2925-5AB available, see page 3/110. With 3RT2628, the three-phase infeed terminal is included in the scope of delivery.

Other voltages according to page 4/39 on request.

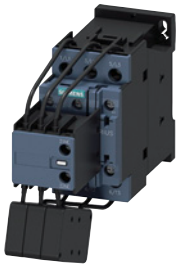
For accessories and spare parts, see page 3/71 onwards.

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

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

AC/DC operation (50/60 Hz AC or DC)

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

[1] Three-phase infeed terminal 3RV2925-5AB available, see page 3/110. With 3RT2628, the three-phase infeed terminal is included in the scope of delivery.

[2] Three-phase infeed terminal 3RV2935-5A available, see page 3/110.

[3] Single-phase infeed terminal 3RA2943-3L available, see page 3/110.

Other voltages according to page 4/39 on request.

For accessories and spare parts, see page 3/71 onwards.

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

Options

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

Delivery time on request

Rated control supply voltage U_s	Contactor type	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 operation[1]						
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 Hz[2]						
24 V AC		B0	C2	C2	C2	C2
42 V AC		D0	D2	D2	D2	--
48 V AC		H0	H2	H2	H2	--
110 V AC		F0	G2	G2	G2	--
220 V AC		N2	N2	N2	N2	N2
230 V AC		P0	L2	L2	L2	L2
Solenoid coils (for USA and Canada[3])						
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 Hz[4]	**60 Hz[5]**					
100 V AC	110 V AC	G6	G6	G6	G6	G6
200 V AC	220 V AC	N6	N6	N6	N6	N6
400 V AC	440 V AC	R6	R6	R6	R6	R6
DC operation[1]						
12 V DC		A4	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	3RT2325-1A**P0**0	Contactor with screw terminals; with solenoid coil for 50 Hz for rated control supply voltage of 230 V AC
	3RT2325-1A**G2**0	Contactor with screw terminals; with solenoid coil for 50/60 Hz for rated control supply voltage of 110 V AC
DC operation	3RT2526-2B**B4**0	Contactor with spring-type terminals; for rated control supply voltage of 24 V DC
	3RT2526-2B**G4**0	Contactor with spring-type 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 onwards.

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

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

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

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

Rated control supply voltage $U_{s\,min}$ ... $U_{s\,max}$[1]	Contactor type / Size	3RT2.2.-.N S0	Rated control supply voltage $U_{s\,min}$ ... $U_{s\,max}$[1]	Contactor type / Size	3RT2.3.-.N S2	3RT2.4.-.N 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 x $U_{s\,min}$ to 1.1 x $U_{s\,max}$.

Rated control supply voltage	Contactor type	3RT1456-.A, 3RT1466-.A, 3RT1476-.A	Rated control supply voltage	Contactor type	3RT1456-.N, 3RT1466-.N, 3RT1476-.N	3RT1456-.P, 3RT1456-.S, 3RT1466-.P, 3RT1466-.S, 3RT1476-.P, 3RT1476-.S
$U_{s\,min}$ ... $U_{s\,max}$	Sizes	S6, S10, S12	$U_{s\,min}$ ... $U_{s\,max}$	Sizes	S6, S10, S12	
Sizes S6 to S12						
AC/DC operation (50/60 Hz AC or DC)						
Conventional operating mechanism[1]			**Solid-state operating mechanism[2]**			
23 ... 26 V AC/DC		B3	21 ... 27.3 V AC/DC		B3	--
42 ... 48 V AC/DC		D3	96 ... 127 V AC/DC		F3	F3
110 ... 127 V AC/DC		F3	200 ... 277 V AC/DC		P3	P3
200 ... 220 V AC/DC		M3				
220 ... 240 V AC/DC		P3				
240 ... 277 V AC/DC		U3				
380 ... 420 V AC/DC		V3				
440 ... 480 V AC/DC		R3				
500 ... 550 V AC/DC		S3				
575 ... 600 V AC/DC		T3				

1) Operating range: 0.8 x $U_{s\,min}$ to 1.1 x $U_{s\,max}$.
2) Operating range: 0.7 x $U_{s\,min}$ to 1.25 x $U_{s\,max}$.

Overview

Standards

IEC/EN 60947-1, IEC/EN 60947-4-1

The 3TK20 miniature contactors are climate-proof, and the versions with screw terminals are finger-safe according to IEC 60529.

Connection methods

The miniature contactors are available in versions with screw terminals, 6.3 mm plug-in terminals and solder pin connections for soldering to printed circuit boards.

3TK20 miniature contactors with 6.3 mm x 0.8 mm flat connectors are coded and can be used in the plug-in base with solder pin connections for printed circuit boards (see page 3/145).

Ratings of three-phase motors

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

The power rating specifications of the contactors in kW are guide values for 4-pole standard motors at 50 Hz AC and specified voltage (e.g. 400 V). The actual starting and rated data of the motor to be switched must be considered when selecting the units.

Application

Contactors with plug-in terminals

The main area of application for the 3TK20 miniature contactors with flat connectors is in household equipment. These contactors are also suitable for simple electric controllers.

No auxiliary switch blocks can be retrofitted.

Technical specifications

More information	
Technical specifications, see https://support.industry.siemens.com/cs/ww/en/ps/16168/td FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/16168/faq	Manuals, see https://support.industry.siemens.com/cs/ww/en/ps/16168/man

Type	3TK20
Size	00

Contact endurance of the main contacts

The characteristic curves show the contact endurance of the contactors when switching inductive AC loads (AC-3) depending on the breaking current and rated operational voltage. It is assumed that the operating mechanisms are switched randomly, i.e. not synchronized with the phase angle of the supply system.

The rated operational current I_e in accordance with utilization category AC-4 (breaking 6 times the rated operational current) is determined for a contact service life of approximately 200 000 operating cycles.

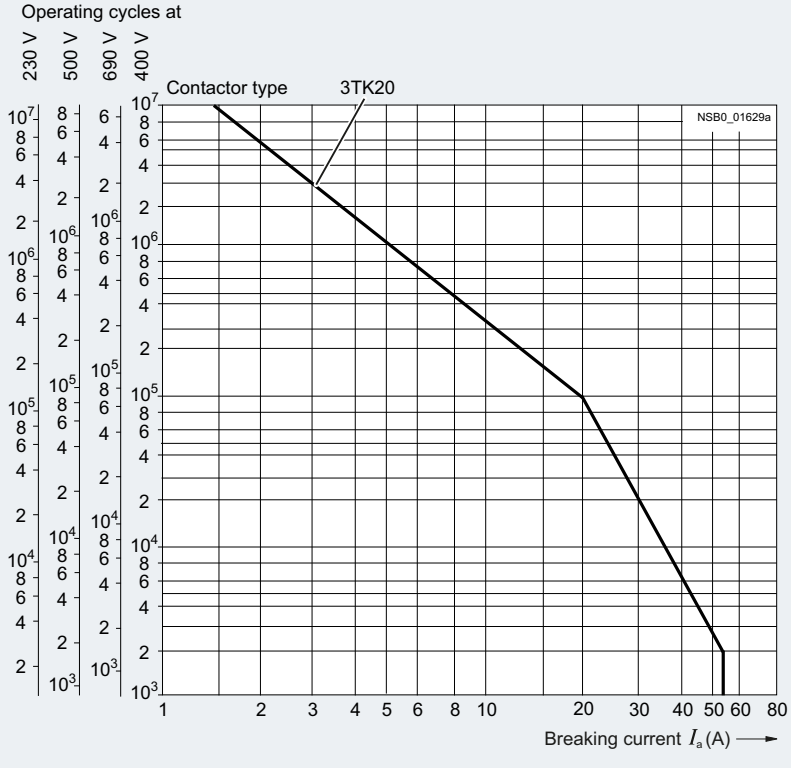
If a shorter contact endurance is sufficient, the rated operational current I_e/AC-4 can be increased.

If the contacts are used for mixed operation, i.e. normal switching (breaking the rated operational current according to utilization category AC-3) in combination with intermittent inching (breaking the rated operational current several times according to utilization category AC-4), the contact endurance can be calculated approximately from the following equation:

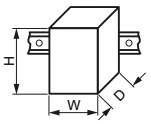
$$X = \frac{A}{1 + \frac{C}{100}\left(\frac{A}{B} - 1\right)}$$

Characters in the equation:

- X Contact endurance for mixed operation in operating cycles
- A Contact service life for normal operation ($I_a = I_e$) in operating cycles
- B Contact endurance for inching (I_a = multiple of I_e) in operating cycles
- C Inching operations as a percentage of total switching operations



3TK20 miniature contactors for resistive loads (AC-1), 4-pole

Type			**3TK20**
Size			**00**
General data			
Dimensions (W x H x D)		mm	45 x 48 x 63
Permissible mounting position	AC and DC operation		Any
Mechanical endurance			
• AC operation		Operating cycles	10 million
• DC operation			30 million
• Auxiliary switch block			10 million
Rated insulation voltage U_i (Pollution degree 3)			
• Screw terminals		V	690
• Flat connector 6.3 mm x 0.8 mm		V	500
• Solder pin connections		V	500
Rated impulse withstand voltage U_{imp} (Pollution degree 3)			
• Screw terminals		kV	6
• Flat connector 6.3 mm x 0.8 mm		kV	6
• Solder pin connections		kV	6
Protective separation between the coil and the main contacts According to IEC 60947-1, Appendix N		V	Up to 300
Permissible ambient temperature[1]			
• During operation		°C	-25 ... +55
• During storage		°C	-55 ... +80
Degree of protection acc. to IEC 60529			
• On front			IP20 (with screw terminals)
• Connecting terminal			IP20 (with screw terminals)
Touch protection acc. to IEC 60529			Finger-safe (for screw terminals)
Shock resistance			
• Rectangular pulse			
- AC operation		*g*/ms	8.3/5 and 5.2/10
- DC operation		*g*/ms	11.3/5 and 9.2/10
• Sine pulse			
- AC operation		*g*/ms	13/5 and 8/10
- DC operation		*g*/ms	17.4/5 and 12.9/10
Short-circuit protection			
Main circuit[2]			
• 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
- Type of coordination "2"[3]		A	10
- Weld-free		A	10
• Miniature circuit breaker with C characteristic		A	10
Auxiliary circuit			
Short-circuit test			
• With fuse links of operational class gG: DIAZED, type 5SB; NEOZED, type 5SE with short-circuit current I_k = 1 kA acc. to IEC 60947-5-1		A	6

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

2) According to excerpt from IEC 60947-4-1:
- Type of coordination "1"
Destruction of the contactor and the overload relay is permissible. The contactor and/or overload relay can be replaced if necessary.
- Type of coordination "2"
The overload relay must not suffer any damage. Contact welding on the contactor is permissible, however, if the contacts can be easily separated.

3) A short-circuit current of $I_q \leq 6$ kA applies to type of coordination "2".

Type		**3TK20**
Size		**00**
Control		
Solenoid coil operating range[1]		0.8 ... 1.1 x *U*
Solenoid coil power consumption (for cold coil and 1.0 x U_s)		
Standard version		
• AC operation, 50 Hz		
- Closing	VA	15
- P.f.		0.41
- Closed	VA	6.8
- P.f.		0.42
• AC operation, 60 Hz		
- Closing	VA	14.4
- P.f.		0.36
- Closed	VA	6.1
- P.f.		0.46
• AC operation, 50/60 Hz[1]		
- Closing	VA	16.5/13.2
- P.f.		0.43/0.38
- Closed	VA	8.0/5.4
- P.f.		0.48/0.42
For USA and Canada		
• AC operation, 50 Hz		
- Closing	VA	14.6
- P.f.		0.38
- Closed	VA	6.5
- P.f.		0.40
• AC operation, 60 Hz		
- Closing	VA	14.4
- P.f.		0.30
- Closed	VA	6.0
- P.f.		0.44
• DC operation (closing = closed)	W	3
Permissible residual current of the electronic circuit[2] (with 0 signal)		
• AC operation	mA	≤ 3 x (230 V/U_s)
• DC operation	mA	≤ 1 x (230 V/U_s)
Operating times for 1.0 x U_s[3]		
• AC operation		
- Closing delay	ms	5 ... 18
- Opening delay	ms	3 ... 21
- Dead interval		To use the 3TK20 AC-operated contactor in reversing duty an additional dead interval of 50 ms is required along with an NC contact interlock.
• DC operation		
- Closing delay	ms	19 ... 31
- Opening delay	ms	3 ... 4
• Arcing time	ms	10 ... 15

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

2) The 3TX4490-1J additional load module is recommended for higher residual currents (see page 3/114).

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

3TK20 miniature contactors for resistive loads (AC-1), 4-pole

Type			3TK20..-0...	3TK20..-3..., 3TK20..-6..., 3TK20..-7...
Size			00	
Rated data of the main contacts				
Load rating with AC				
Utilization category AC-1, switching resistive loads				
• Rated operational current I_e (at 40 °C)	Up to 400/380 V	A	18	
	690/660 V	A	18	--
• Rated operational current I_e (at 55 °C)	400/380 V	A	16	
	690/660 V	A	16	--
• Rated power for AC loads with p.f. = 1	At 230/220 V	kW	6.0	
	400/380 V	kW	10	
	500 V	kW	13	
	690/660 V	kW	17	--
• Minimum conductor cross-section for loads with I_e		mm^2	2.5	
Utilization categories AC-2 and AC-3				
• Rated operational current I_e	Up to 220 V	A	9.0	
	230 V	A	9.0	
	380 V	A	9.0	
	400 V	A	8.4	
	500 V	A	6.5	
	660 V	A	5.2	--
	690 V	A	5.2	--
• Rated power for motors with slipring or squirrel cage at 50 and 60 Hz	At 110 V	kW	1.2	
	115 V	kW	1.2	
	120 V	kW	1.3	
	127 V	kW	1.4	
	200 V	kW	2.2	
	220 V	kW	2.4	
	230 V	kW	2.5	
	240 V	kW	2.6	
	380 V	kW	4.0	
	400 V	kW	4.0	
	415 V	kW	4.0	
	440 V	kW	4.0	
	460 V	kW	4.0	
	500 V	kW	4.0	
	575 V	kW	4.0	--
	660 V	kW	4.0	--
	690 V	kW	4.0	--
• Power loss per conducting path	At I_e/AC-3	W	0.3	
Utilization category AC-4				
(Contact endurance approx. 200 000 operating cycles at $I_a = 6 \times I_e$)				
• Rated operational current I_e (max. permissible operational current I_e/AC-4 ≙ I_e/AC-3 up to 500 V, for reduced contact endurance and reduced switching frequency)	Up to 400 V	A	2.6	
	690 V	A	1.8	--
• Rated power for squirrel-cage motors at 50 and 60 Hz	At 110 V	kW	0.32	
	115 V	kW	0.33	
	120 V	kW	0.35	
	127 V	kW	0.37	
	200 V	kW	0.58	
	220 V	kW	0.64	
	230 V	kW	0.67	
	240 V	kW	0.70	
	380 V	kW	1.10	
	400 V	kW	1.15	
	415 V	kW	1.20	
	440 V	kW	1.27	
	460 V	kW	1.33	
	500 V	kW	1.45	
	575 V	kW	1.30	--
	660 V	kW	1.10	--
	690 V	kW	1.15	--

Type			3TK20
Size			00
Rated data of main contacts (continued)			
Load rating with DC			
Utilization category DC-1, switching resistive loads (*L/R* ≤ 1 ms) (contact endurance 0.1 x 10^6 operating cycles)			
• Rated operational currents I_e (at 55 °C)			
- 1 conducting path	Up to 24 V	A	16
	60 V	A	6
	110 V	A	2
	220/240 V	A	1
- 2 conducting paths in series	Up to 24 V	A	16
	60 V	A	16
	110 V	A	6
	220/240 V	A	2
- 3 conducting paths in series	Up to 24 V	A	16
	60 V	A	16
	110 V	A	16
	220/240 V	A	6
Utilization category DC-3/DC-5, shunt-wound and series-wound motors (*L/R* ≤ 15 ms)			
• Rated operational currents I_e (at 55 °C)			
- 1 conducting path	Up to 24 V	A	6
	60 V	A	3
	110 V	A	0.5
	220/240 V	A	0.1
- 2 conducting paths in series	Up to 24 V	A	10
	60 V	A	5
	110 V	A	2
	220/240 V	A	0.5
- 3 conducting paths in series	Up to 24 V	A	16
	60 V	A	16
	110 V	A	16
	220/240 V	A	2
Switching frequency			
Switching frequency *z* in operating cycles/hour			
• Contactors without overload relays for rated operation	No-load switching frequency	h^{-1}	10 000
Dependence of the switching frequency z' on the operational current I' and operational voltage U': $z' = z \cdot (I_e/I') \cdot (U_e/U')^{1.5} \cdot 1/h$	AC-1	h^{-1}	1 000
	AC-2	h^{-1}	500
	AC-3	h^{-1}	1 000
• Contactors with overload relays (mean value)		h^{-1}	15

3TK20 miniature contactors for resistive loads (AC-1), 4-pole

Type			3TK20
Size			00
Conductor cross-sections			
Main and auxiliary conductors (1 or 2 conductors connectable)			**Screw terminals**
• Solid		mm^2	2 x (0.5 ... 2.5), 1 x 4
• Finely stranded with end sleeve		mm^2	2 x (0.5 ... 1.5), 1 x 2.5
• AWG cables, solid or stranded		AWG	2 x (20 ... 14), 1 x 12
• Pin-end connector (DIN 46231)		mm^2	1 x 1 ... 2.5
• Terminal screw			M3
• Prescribed tightening torque for terminal screws		Nm lb.in	0.8 ... 1.3 7 ... 11
Main and auxiliary conductors (1 or 2 conductors connectable)			**Flat connectors**
• When using a plug-in sleeve 6.3 – 1		mm^2	0.5 ... 1
• Finely stranded with 6.3 – 2.5		mm^2	1 ... 2.5
			Solder pin connections (only for printed circuit boards)
• Solder pin cross-section		mm^2	0.8 x 1.2

Type			3TK20
Size			00
Rated data of the auxiliary contacts according to IEC 60947-5-1			
General data			
Standards			IEC 60947-5-1
Rated insulation voltage U_i (Pollution degree 3)		V	690
Conventional thermal current I_{th} = Rated operational current I_e/AC-12		A	10
Load rating with AC			
Rated operational current I_e/AC-15/AC-14			
• For rated operational voltage U_e	24 ... 230 V	A	4
	380 ... 400 V	A	3
	500 V	A	2
	660 V	A	1
	690 V	A	1
Load rating with DC			
Rated operational current I_e/DC-12			
• For rated operational voltage U_e	24 V	A	4
	48 V	A	2.2
	110 V	A	1.1
	125 V	A	1.1
	220 V	A	0.5
	440 V	A	--
	600 V	A	--
Rated operational current I_e/DC-13			
• For rated operational voltage U_e	24 V	A	2.1
	48 V	A	1.1
	110 V	A	0.52
	125 V	A	0.52
	220 V	A	0.27
	440 V	A	--
	600 V	A	--

Type			3TK20..-0...	3TK20..-3..., 3TK20..-6..., 3TK20..-7...
Size			00	
CSA and UL rated data				
Rated insulation voltage U_i		V AC	600	300
Uninterrupted current, open and enclosed		A	16	16 (10 for solder pin connection)
Maximum horsepower ratings (CSA- and UL approved values)				
• Rated power for three-phase motors at 60 Hz				
- Single-phase	At 115 V	hp	0.5	--
	200 V	hp	1	
	230 V	hp	1.5	1
	460/575 V	hp	--	
- Three-phase	At 115 V	hp	--	
	200 V	hp	3	3 (1 for 3TK20..-6)
	230 V	hp	3	3 (1 for 3TK20..-6)
	460/575 V	hp	5	--
CSA, UL and rated data of the auxiliary contacts				
Rated voltage, max.		V AC	600	
Auxiliary switch blocks, max.		V AC	300	
Switching capacity			A 600, Q 300	
Uninterrupted current at 240 V AC		A	10	

Selection and ordering data

AC operation ~ ***or DC operation*** ⎓

- Size 00
- AC-1: Operational current I_e = 16 A (at 55 °C)
- For screw fixing and snap-on mounting onto TH 35 standard mounting rail
- Screw terminals

Rated data Utilization categories AC-2 and AC-3					Main contacts		SD	Screw terminals		PU (UNIT, SET, M)	PS*	PG
Operational current I_e	Ratings of three-phase motors at 50 Hz and				Version			Article No.	Price per PU			
At 380 V	220 V	**400/ 380 V**	500 V	690/ 660 V	NO	NC						
A	kW	**kW**	kW	kW								
Miniature contactors with screw terminals												
AC operation, rated control supply voltage U_s = 50 Hz 230/220 V AC [1]												
9	2.5	**4**	4	4	4	--	20	**3TK2040-0AP0**		1	1 unit	41B
					3	1	20	**3TK2031-0AP0**		1	1 unit	41B
					2	2	15	**3TK2022-0AP0**		1	1 unit	41B
***DC operation,* rated control supply voltage U_s = 24 V DC**												
9	2.5	**4**	4	4	4	--	20	**3TK2040-0BB4**		1	1 unit	41B
					3	1	20	**3TK2031-0BB4**		1	1 unit	41B
					2	2	20	**3TK2022-0BB4**		1	1 unit	41B

3TK20..-0...

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

Plug-in base and release tool, see page 3/145.

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	3TK20
		Size	00
AC operation			
Solenoid coils for 50 and 60 Hz AC			
50 Hz	**60 Hz**		
24 V AC	29 V AC		B0
110 V AC	132 V AC		F0
230/220 V AC	276 V AC		P0[1]
Solenoid coils for AC 50/60 Hz			
230 V AC			L2
DC operation			
24 V DC			B4

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

Other voltages and delivery time on request.

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

3TK20 miniature contactors for resistive loads (AC-1), 4-pole

AC operation ~ ***or DC operation*** ⎓

- Size 00
- AC-1: Operational current I_e = 16 A (at 55 °C)
- For screw fixing and snap-on mounting onto TH 35 standard mounting rail (diagonal)
- Flat connectors or solder pin connection

Rated data Utilization categories AC-2 and AC-3					Main contacts		SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Operational current I_e	Ratings of three-phase motors at 50 Hz and				Version							
At 380 V	220 V	**400/ 380 V**	500 V	690/ 660 V								
A	kW	**kW**	kW	kW	NO	NC	d					
Miniature contactors with 6.3 mm x 0.8 mm flat connectors								**Flat connectors**				
AC operation, rated control supply voltage U_s = 50 Hz 230/220 V AC [1]												
For screw fixing and snap-on mounting onto TH 35 standard mounting rail												
9	2.5	**4**	4	--	4	--	20	**3TK2040-3AP0**		1	1 unit	41B
					3	1	20	**3TK2031-3AP0**		1	1 unit	41B
					2	2	15	**3TK2022-3AP0**		1	1 unit	41B
For screw fixing (diagonal)												
9	2.5	**4**	4	--	4	--	20	**3TK2040-7AP0**		1	1 unit	41B
					3	1	20	**3TK2031-7AP0**		1	1 unit	41B
					2	2	20	**3TK2022-7AP0**		1	1 unit	41B
***DC operation,* rated control supply voltage U_s = 24 V DC**												
For screw fixing and snap-on mounting onto TH 35 standard mounting rail												
9	2.5	**4**	4	--	4	--	20	**3TK2040-3BB4**		1	1 unit	41B
					3	1	20	**3TK2031-3BB4**		1	1 unit	41B
					2	2	20	**3TK2022-3BB4**		1	1 unit	41B
For screw fixing (diagonal)												
9	2.5	**4**	4	--	4	--	2	**3TK2040-7BB4**		1	1 unit	41B
					3	1	20	**3TK2031-7BB4**		1	1 unit	41B
					2	2	20	**3TK2022-7BB4**		1	1 unit	41B
Miniature contactors with solder pin connections for printed circuit boards								**Solder pin connections**				
AC operation, rated control supply voltage U_s = 50 Hz 230/220 V AC [1]												
For screw fixing (diagonal)												
9	2.5	**4**	4	--	4	--	20	**3TK2040-6AP0**		1	1 unit	41B
					3	1	20	**3TK2031-6AP0**		1	1 unit	41B
					2	2	20	**3TK2022-6AP0**		1	1 unit	41B
***DC operation,* rated control supply voltage U_s = 24 V DC**												
For screw fixing (diagonal)												
9	2.5	**4**	4	--	4	--	15	**3TK2040-6BB4**		1	1 unit	41B
					3	1	5	**3TK2031-6BB4**		1	1 unit	41B
					2	2	20	**3TK2022-6BB4**		1	1 unit	41B

3TK20..-3...

3TK20..-7...

3TK20..-6...

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

Plug-in base and release tool, see page 3/145.

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	3TK20
	Size	00
AC operation		
Solenoid coils for 50 and 60 Hz AC		
50 Hz	**60 Hz**	
24 V AC	29 V AC	B0
110 V AC	132 V AC	F0
230/220 V AC	276 V AC	P0[1]
Solenoid coils for AC 50/60 Hz		
230 V AC		L2
DC operation		
24 V DC		B4

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

Other voltages and delivery time on request.

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

Overview

Standards

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

The contactors are finger-safe according to IEC 60529 (exception: S3 series resistor). The auxiliary conductor and coil terminals are all spring-type terminals.

Ambient temperature

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

Performance range

3RT contactors are available in all sizes from S00 to S12 up to 250 kW or 500 A (AC-3 at 400 V).

Operating range of contactor operating mechanisms

Sizes S00 to S3

The solenoid coils of the 3RT2 contactors have an extended operating range from max. 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.

Sizes S6 to S12

The operating mechanism for the 3RT10 contactors features solid-state control of the contactor coil. Overvoltage damping of the operating mechanism coil is already integrated in the electronics. The operating mechanisms are powered via a supply voltage with an operating range of 0.7 to 1.25 x U_s, optionally also controlled depending on the chosen mode of operation. Alternatively, control is via the separate 24 to 110 V DC control signal input.

Three rated voltage ranges are available as direct voltage (DC):

- 24 V DC
- 72 V DC
- 110 V DC

Application

Besides standard approval in compliance with IEC 60974-4-1, 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 in comparison with the regular standard IEC 60497-4-1 or
- extended operating range of the solenoid coils or also
- increased resistance to mechanical oscillations and vibrations is warranted. The design of the terminals in the spring-type connection system also contributes toward vibration resistance.

3RT20 contactors with conventional coil

Control and auxiliary circuits

These contactors have an extended operating range from 0.7 to 1.25 x U_s; on size S00 the coils are fitted with suppressor diodes, on size S0 with varistors. An additional series resistor is not required.

Note:

An additional auxiliary switch block 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.

3RT201 contactors with series resistor

Control and auxiliary circuits

The solenoid coils of these contactors have an extended coil operating range from 0.7 to 1.25 x U_s and are fitted as standard with a surge suppressor (suppressor diode or varistor as preferred).

The DC solenoid systems of the contactors are modified (to holding excitation) by means of a series resistor.

3RT201 to 3RT204 as well as 3RT105 to 3RT107 contactors with solid-state operating mechanism, extended operating range

Control and auxiliary circuits

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

The contactors 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.

3RT105 to 3RT107 contactors come with an additional control connection (PLC-IN) for direct connection to controllers with a rated DC operating range of 24 V to 100 V as well as a selector switch for the mode of operation. The contactors can optionally be controlled either directly via A1/A2 or via the additional PLC-IN connection.

The possibility of mounting auxiliary switches is the same as that for equivalent standard contactors for switching motors in the matching size (see overview diagrams of the 3RT20 contactors from page 3/7 onwards).

Side-by-side mounting

With these contactor versions, side-by-side mounting is permitted at ambient temperatures up to 70 °C.

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 • System Manual "SIRIUS Modular System – System Overview", https://support.industry.siemens.com/cs/WW/en/view/60311318 • Manual "SIRIUS – SIRIUS 3RT Contactors/Contactor Assemblies", https://support.industry.siemens.com/cs/WW/en/view/60306557 • Application Manual "Controls with IE3/IE4 Motors", https://support.industry.siemens.com/cs/ww/en/view/94770820

Type			3RT2017	3RT201.-2XB4.-0LA2	3RT201.-2XF4.-0LA2	3RT202.	3RT202.-2XB40-0LA2	3RT202.-2XF40-0LA2
Size			S00			S0		
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]	-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 operating mechanism	Closing	W	2.8	--		4.5	--	
	Closed	W	2.8	--		4.5	--	
• Contactors with solid-state operating mechanism	Closing	W	--	4.0	4.5	--	6.7	13.2
	Closed	W	--	0.7	0.75	--	0.8	1.56

[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 distance 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 from page 3/18 onwards.

Type			3RT203.-3XB40-0LA2	3RT203.-3XF40-0LA2	3RT204.-3XB40-0LA2	3RT204.-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

All details and technical specifications not mentioned here are identical to those of the basic units, see from page 3/18 onwards.

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										
Operating range			0.7 ... 1.25							
Rated input control input		V DC	24 ... 110							
Power consumption of the solenoid coils										
• Contactors with solid-state operating mechanism	Closing	W	320			580			800	
	Closed	W	2.8			3.4			3.6	
Rated data of the main contacts										
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}	800			700			500	
	I_e/AC-2 at 400 V	h^{-1}	400	300		250	300	250	200	170
	I_e/AC-3 at 400 V	h^{-1}	1 000	750		500	700	500		420
	I_e/AC-4 at 400 V	h^{-1}	130							

[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 specifications and technical specifications not mentioned here, see https://support.industry.siemens.com/cs/ww/en/ps/16177/td.

4

Selection and ordering data

DC operation

Solenoid coil fitted with surge suppressor

3RT201.-2K.4.

3RT201.-2K.42-0LA0

Rated data according to IEC 60947-4-1 AC-2 and AC-3, t_u: 70 °C					Auxiliary contacts			Rated control supply voltage U_s	SD	**Spring-type terminals**		PU (UNIT, SET, M)	PS*	PG
Operational current I_e up to	Ratings of three-phase motors at				Ident. No.	Version				Article No.	Price per PU			
400 V	230 V	**400 V**	500 V	690 V		NO	NC							
A	kW	**kW**	kW	kW				V DC	d					
For screw fixing and snap-on mounting onto TH 35 standard mounting rail														
Size S00														
With conventional coil														
• fitted with suppressor diode (coupling contactors)														
12	3	**5.5**	5.5	5.5	**10**[1]	1	--	24	▶	**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	▶	**3RT2017-2KB42**		1	1 unit	41B
								110	5	**3RT2017-2KF42**		1	1 unit	41B
• Fitted with varistor														
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 series resistor														
• Fitted with suppressor diode														
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
• Fitted with varistor														
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 block. A clearance of 10 mm is required for side-by-side mounting at ambient temperatures > 60 °C.

2) One 4-pole auxiliary switch block 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.

For accessories and spare parts, see page 3/71 onwards.

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

DC operation

Solenoid coil fitted with varistor

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 AC-3						Auxiliary contacts			Rated control supply voltage U_s	SD	**Spring-type terminals**	PU (UNIT, SET, M)	PS*	PG
t_u: 70 °C	t_u: 60 °C					Ident. No.	Version							
Conventional thermal current I_{th} up to	Operational current I_e up to	Ratings of three-phase motors at												
690 V	400 V	230 V	**400 V**	500 V	690 V									
											Article No.	Price per PU		
A	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														
With solid-state operating mechanism, with integrated varistor														
18	12	3	**5.5**	5.5	5.5	**10**	1	--	24 ... 34	5	**3RT2017-2XB41-0LA2**	1	1 unit	41B
									72 ... 125	5	**3RT2017-2XF41-0LA2**	1	1 unit	41B
18	12	3	**5.5**	5.5	5.5	**01**	--	1	24 ... 34	5	**3RT2017-2XB42-0LA2**	1	1 unit	41B
									72 ... 125	5	**3RT2017-2XF42-0LA2**	1	1 unit	41B
18	16	4	**7.5**	10	11	**10**	1	--	24 ... 34	5	**3RT2018-2XB41-0LA2**	1	1 unit	41B
									72 ... 125	X	**3RT2018-2XF41-0LA2**	1	1 unit	41B
18	16	4	**7.5**	10	11	**01**	--	1	24 ... 34	5	**3RT2018-2XB42-0LA2**	1	1 unit	41B
									72 ... 125	X	**3RT2018-2XF42-0LA2**	1	1 unit	41B
Size S0														
With conventional operating mechanism (coupling contactors)														
--	17	4	**7.5**	10	11	**11**[1)]	1	1	24	2	**3RT2025-2KB40**	1	1 unit	41B
									110	5	**3RT2025-2KF40**	1	1 unit	41B
--	25	5.5	**11**	11	11	**11**[1)]	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	**11**[1)]	1	1	24	5	**3RT2027-2KB40**	1	1 unit	41B
									110	5	**3RT2027-2KF40**	1	1 unit	41B
With solid-state operating mechanism														
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 block. A clearance of 10 mm is required for side-by-side mounting at ambient temperatures > 60 °C.

For accessories and spare parts, see page 3/71 onwards.

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

SIRIUS 3RT contactors with extended operating range, 3-pole *IE3/IE4* ready

DC operation

Solenoid coil fitted with varistor

3RT203.-3X.40-0LA2

3RT204.-3X.40-0LA2

Rated data acc. to IEC 60077-2 / IEC 60947-4-1 AC-3						Auxiliary contacts			Rated control supply voltage U_s	SD	**Spring-type terminals** for auxiliary and control circuits	PU (UNIT, SET, M)	PS*	PG
t_u: 70 °C	t_u: 60 °C					Ident. No.	Version							
Conventional thermal current I_{th} up to	Operational current I_e up to	Ratings of three-phase motors at												
690 V	400 V	230 V	**400 V**	500 V	690 V						Article No.	Price per PU		
A	A	kW	**kW**	kW	kW		NO	NC	V DC	d				
For screw fixing and snap-on mounting onto TH 35 standard mounting rail														
Size S2														
With solid-state operating mechanism														
50	40	11	**18.5**	22	22	**11**	1	1	24	5	**3RT2035-3XB40-0LA2**	1	1 unit	41B
									110	5	**3RT2035-3XF40-0LA2**	1	1 unit	41B
55	50	15	**22**	30	22	**11**	1	1	24	5	**3RT2036-3XB40-0LA2**	1	1 unit	41B
									110	5	**3RT2036-3XF40-0LA2**	1	1 unit	41B
60	65	18.5	**30**	37	37	**11**	1	1	24	5	**3RT2037-3XB40-0LA2**	1	1 unit	41B
									110	5	**3RT2037-3XF40-0LA2**	1	1 unit	41B
75	80	22	**37**	37	45	**11**	1	1	24	5	**3RT2038-3XB40-0LA2**	1	1 unit	41B
									110	5	**3RT2038-3XF40-0LA2**	1	1 unit	41B
For screw and snap-on mounting onto TH 35-15 and TH 75-15 standard mounting rails														
Size S3														
With solid-state operating mechanism														
90	80	22	**37**	45	55	**11**	1	1	24	5	**3RT2045-3XB40-0LA2**	1	1 unit	41B
									110	5	**3RT2045-3XF40-0LA2**	1	1 unit	41B
95	95	22	**45**	55	75	**11**	1	1	24	5	**3RT2046-3XB40-0LA2**	1	1 unit	41B
									110	5	**3RT2046-3XF40-0LA2**	1	1 unit	41B
95	110	30	**55**	75	75	**11**	1	1	24	5	**3RT2047-3XB40-0LA2**	1	1 unit	41B
									110	5	**3RT2047-3XF40-0LA2**	1	1 unit	41B

For accessories and spare parts, see page 3/71 onwards.

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

IE3/IE4 ready **SIRIUS 3RT contactors with extended operating range, 3-pole**

DC operation ⎓

- Operating mechanism with integrated coil circuit (varistor)
- For screw fixing

3RT105.-2XB46-0LA2

3RT106.-2XB46-0LA2

3RT107.-2XB46-0LA2

Size	Rated data acc. to IEC 60077-2 t_u: 70 °C Conventional thermal current I_{th} up to 690 V	Rated data acc. to IEC 60947-4-1 AC-3 t_u: 60 °C Operational current I_e up to 400 V	Ratings of three-phase motors at 50 Hz and **400 V**	Auxiliary contacts, lateral Version NO	NC	Rated control supply voltage U_s	SD	**Spring-type terminals** Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	A	A	**kW**			V DC	d					
Solid-state operating mechanism												
With control signal input 24 ... 110 V DC e. g. for control by PLC												
S6	120	115	**55**	2	2	24	5	**3RT1054-2XB46-0LA2**		1	1 unit	41B
						72	5	**3RT1054-2XJ46-0LA2**		1	1 unit	41B
						110	5	**3RT1054-2XF46-0LA2**		1	1 unit	41B
	140	150	**75**	2	2	24	5	**3RT1055-2XB46-0LA2**		1	1 unit	41B
						72	5	**3RT1055-2XJ46-0LA2**		1	1 unit	41B
						110	5	**3RT1055-2XF46-0LA2**		1	1 unit	41B
	145	185	**90**	2	2	24	5	**3RT1056-2XB46-0LA2**		1	1 unit	41B
						72	5	**3RT1056-2XJ46-0LA2**		1	1 unit	41B
						110	5	**3RT1056-2XF46-0LA2**		1	1 unit	41B
S10	215	225	**110**	2	2	24	5	**3RT1064-2XB46-0LA2**		1	1 unit	41B
						72	5	**3RT1064-2XJ46-0LA2**		1	1 unit	41B
						110	5	**3RT1064-2XF46-0LA2**		1	1 unit	41B
	265	265	**132**	2	2	24	5	**3RT1065-2XB46-0LA2**		1	1 unit	41B
						72	5	**3RT1065-2XJ46-0LA2**		1	1 unit	41B
						110	5	**3RT1065-2XF46-0LA2**		1	1 unit	41B
	265	300	**160**	2	2	24	5	**3RT1066-2XB46-0LA2**		1	1 unit	41B
						72	5	**3RT1066-2XJ46-0LA2**		1	1 unit	41B
						110	5	**3RT1066-2XF46-0LA2**		1	1 unit	41B
S12	350	400	**200**	2	2	24	5	**3RT1075-2XB46-0LA2**		1	1 unit	41B
						72	5	**3RT1075-2XJ46-0LA2**		1	1 unit	41B
						110	5	**3RT1075-2XF46-0LA2**		1	1 unit	41B
	475	500	**250**	2	2	24	5	**3RT1076-2XB46-0LA2**		1	1 unit	41B
						72	5	**3RT1076-2XJ46-0LA2**		1	1 unit	41B
						110	5	**3RT1076-2XF46-0LA2**		1	1 unit	41B

For accessories and spare parts, see page 3/71 onwards.

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

SIRIUS 3RH2 contactor relays with extended operating range

Overview

DC operation

IEC/EN 60947-4-1

The contactor relays are finger-safe according to IEC 60529. The size S00 contactor relays have spring-type 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 coils are fitted with suppressor diodes as standard. An additional series resistor is not required.

Note:

An additional auxiliary switch block 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 excitation) 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 block (according to EN 50005) can be fitted 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.

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	4.5
	- Closed	W	--	0.7	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 distance 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 from page 5/4 onwards.

4

Selection and ordering data

DC operation

Solenoid coil with surge suppression

3RH2122-2K.40

3RH2122-2K.40-0LA0

Rated operational current I_e/AC-15/AC-14 t_u: 70 °C at				Contacts Ident. No. acc. to EN 50011	Version		Rated control supply voltage U_s	SD	**Spring-type terminals**	PU (UNIT, SET, M)	PS*	PG
230 V	400 V	500 V	690 V						Article No. / Price per PU			
A	A	A	A		NO	NC	V DC	d				
For screw fixing and snap-on mounting onto TH 35 standard mounting rail												
Size S00												
With conventional coil												
• Fitted with suppressor diode												
10	3	2	1	**22E**	2	2[1]	24	▶	**3RH2122-2KB40**	1	1 unit	41A
							110	2	**3RH2122-2KF40**	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
• Fitted with varistor												
10	3	2	1	**22E**	2	2[1]	24	5	**3RH2122-2LB40**	1	1 unit	41A
							110	2	**3RH2122-2LF40**	1	1 unit	41A
With series resistor												
• Fitted with suppressor diode												
10	3	2	1	**21X**	2	1[2]	24	5	**3RH2122-2KB40-0LA0**	1	1 unit	41A
							110	5	**3RH2122-2KF40-0LA0**	1	1 unit	41A
• Fitted with varistor												
10	3	2	1	**21X**	2	1[2]	24	2	**3RH2122-2LB40-0LA0**	1	1 unit	41A
							110	2	**3RH2122-2LF40-0LA0**	1	1 unit	41A
With solid-state operating mechanism, with integrated varistor												
10	3	2	1	**22E**	2	2[2]	24 ... 34	5	**3RH2122-2XB40-0LA2**	1	1 unit	41A
							72 ... 125	5	**3RH2122-2XF40-0LA2**	1	1 unit	41A

[1] It is not possible to mount an auxiliary switch block.

[2] 4-pole auxiliary switch block according to EN 50005 can be mounted.

Accessories, see page 3/71 onwards.

Other voltages according to page 3/69 on request.

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

3TH4 contactor relays, 8-pole

Overview

Standards

IEC/EN 60947-4-1

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		°C	-50 ... +70[1)]
• During storage		°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 ms	45 ... 80 30 ... 34
• Opening	OFF-delay (NO) ON-delay (NC)	ms ms	20 ... 30 22 ... 32
• Arcing time		ms	10

1) Side-by-side mounting with 10 mm distance.

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

Selection and ordering data

DC operation ⎓

Solenoid coil fitted with varistor

3TH4244-0L..

Contacts	Rated operational current I_e/AC-15/AC-14				Contacts[1] Ident. No. acc. to EN 50011	Version		Rated control supply voltage U_s	SD	**Screw terminals**		PU (UNIT, SET, M)	PS*	PG
	230 V	400 V	500 V	690 V						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														
8	**10**	6	4	2	**44E**	4	4	24	▶	**3TH4244-0LB4**		1	1 unit	41A
								110	▶	**3TH4244-0LF4**		1	1 unit	41A
8	**10**	6	4	2	**53E**	5	3	24	▶	**3TH4253-0LB4**		1	1 unit	41A
								110	▶	**3TH4253-0LF4**		1	1 unit	41A
8	**10**	6	4	2	**62E**	6	2	24	▶	**3TH4262-0LB4**		1	1 unit	41A
								110	▶	**3TH4262-0LF4**		1	1 unit	41A

[1] Contacts not extendable.

Other voltages according to page 5/22 on request.

For accessories, see page 5/23.

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

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 specifications and technical specifications not mentioned here are identical to those of the standard 3TC contactors, see page 4/62.

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.

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

Series resistor

The DC solenoid systems of the 3TC contactors must be modified (to hold-in 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 block 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 switch blocks each with 1 NO + 1 NC contact. Further auxiliary switch blocks cannot be fitted to 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 (3RT1317-1F.40). This contactor is automatically included in the scope of supply in the same packaging as the contactor.

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 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/16180/td	Manuals, see https://support.industry.siemens.com/cs/ww/en/ps/16180/man

Type		3TC44	3TC48	3TC52	3TC56
Size		2	4	8	12
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	130
• Closed	W	13	14	21	59

All details and technical specifications not mentioned here are identical to those of the basic units of the 3TC contactors, see page 4/62.

Selection and ordering data

DC operations ⎓

- 3TC44: For screw fixing and snap-on mounting onto 35 mm standard mounting rail
  3TC48 to 3TC56: For screw fixing
- Solenoid coil fitted with varistor

3TC48

Size	Utilization category	Rated operational current I_e at 750 V	Rated power of loads at 220 V	440 V	600 V	750 V	Auxiliary contacts[1] Version NO	NC	Rated control supply voltage U_s	SD	Screw terminals Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		A	kW	kW	kW	kW			V DC	d					
Contactors for switching DC voltage															
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
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 4/69 on request.

Accessories

For accessories, see basic units of the 3TC contactors, from page 4/69 onwards.

Spare parts for contactors with extended operating range

For contactors Size	Type	Remarks	Rated control supply voltage U_s V DC	SD d	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Arc chutes									
2	3TC4417-0L. .	With cutout for resistor mounting	--	5	**3TY2442-0B**		1	1 unit	41B
Solenoid coils									
2	3TC44	With series resistor, without varistor	24	15	**3TY6443-0LB4**		1	1 unit	41B
			110	15	**3TY6443-0LF4**		1	1 unit	41B
4	3TC48		24	15	**3TY6483-0LB4**		1	1 unit	41B
			110	15	**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 4/71.

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 two-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 4/64.

Auxiliary contacts

The contactors are equipped with two lateral auxiliary switch blocks each with 1 NO + 1 NC contact. On the contactors 3TC48 to 3TC56 with AC operation, a second auxiliary switch block 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 × 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 4/66.

Application

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

A version with an especially large actuating voltage is available for operation in electrically driven vehicles and in switchgear with a particularly large coil operating range (see page 4/71).

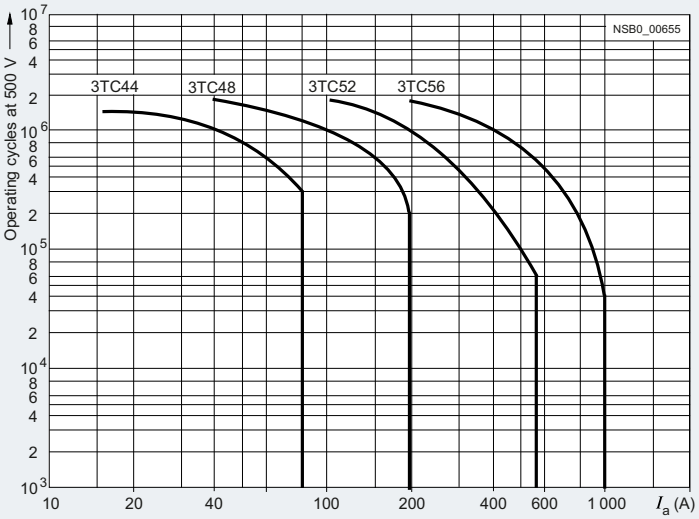
Technical specifications

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				
• For 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				
• For 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				
• For 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

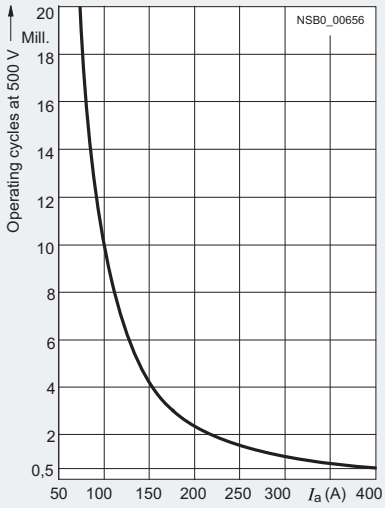
Type			3TC44 to 3TC56
CSA and UL rated data of the auxiliary contacts			
Rated voltage, max.		V AC	600
Switching capacity			A 600, P 600

Type	3TC44 to 3TC78

Contact endurance of the main contacts

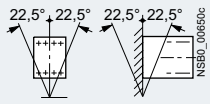


3TC44 to 3TC56 contactors



3TC74 and 3TC78 contactors

Legend for the diagrams:
I_a = breaking current

Contactor	Type		3TC44	3TC48	3TC52	3TC56
	Size		2	4	8	12
General data						
Dimensions (W x H x D)						
• DC operation		mm	70 x 85 x 141	100 x 183 x 180	135 x 238 x 232	160 x 279 x 310
• AC operation		mm	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		1 000	
Protective separation between the coil and the main contacts, acc. to IEC 60947-1, Appendix N		V	Up to 300		Up to 660	
Mirror contacts[1)] 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						
• Connecting terminals			IP00			
Touch protection acc. to IEC 60529			Finger-safe with terminal covers			
Shock resistance	Rectangular pulse	*g*/ms	7.5/5 and 3.4/10	10/5 and 5/10	12/5 and 5.5/10	12/5 and 5.6/10
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 block respectively.

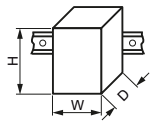
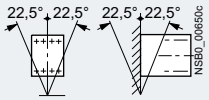
Rated data of the auxiliary contacts, see page 4/62.

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* ≤ 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* ≤ 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 connectable)			**Screw terminals**			
• 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 damped against voltage peaks. The 3TC44 contactors are not allowed to be fitted with diodes.

Rated data of the auxiliary contacts, see page 4/62.

Type			3TC74	3TC78
Design			1-pole contactors	2-pole contactors
General data				
Dimensions (H x W 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 4/63	
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		0.8 ... 1.2 x U_s	
	At U_c > 24 V		0.7 ... 1.2 x U_s	
• AC operation	At U_c = 24 V		0.7 ... 1.15 x U_s	
	At U_c > 24 V		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 Total break time = Opening delay + Arcing time			(The values apply up to and including 15 % undervoltage, 10 % overvoltage, as well as when the coil is cold and warm)	
• 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 4/62.

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* ≤ 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* ≤ 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 (1 or 2 conductors can be connected)			**Screw terminals**	
• 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 4/62.

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 110 V	220 V	440 V	600 V	750 V	Auxiliary contacts[3] Version NO	NC	Rated control supply voltage U_s	SD	Screw terminals Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		A	kW	kW	kW	kW	kW	NO	NC	V	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	▶	**3TC4417-0AB4**		1	1 unit	41B
										110 DC	▶	**3TC4417-0AF4**		1	1 unit	41B
										220 DC	▶	**3TC4417-0AM4**		1	1 unit	41B
For screw fixing																
4	DC-3, DC-5	75	6.5	13	27	38	45	2	2	24 DC	2	**3TC4817-0AB4**		1	1 unit	41B
										110 DC	2	**3TC4817-0AF4**		1	1 unit	41B
										220 DC	2	**3TC4817-0AM4**		1	1 unit	41B
8	DC-3, DC-5	220[4]	20	41	82	110	110	2	2	24 DC	15	**3TC5217-0AB4**		1	1 unit	41B
										110 DC	15	**3TC5217-0AF4**		1	1 unit	41B
										220 DC	10	**3TC5217-0AM4**		1	1 unit	41B
12	DC-3, DC-5	400	35	70	140	200	250	2	2	24 DC	15	**3TC5617-0AB4**		1	1 unit	41B
										110 DC	15	**3TC5617-0AF4**		1	1 unit	41B
										220 DC	15	**3TC5617-0AM4**		1	1 unit	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]	▶	**3TC4417-0BP0**		1	1 unit	41B
										110/110 AC	▶	**3TC4417-0BF0**		1	1 unit	41B
For screw fixing																
4	DC-3, DC-5	75	6.5	13	27	38	45	2	2	220 / 230 AC[5]	2	**3TC4817-0BP0**		1	1 unit	41B
										110 AC	15	**3TC4817-0BF0**		1	1 unit	41B
8	DC-3, DC-5	220[4]	20	41	82	110	110	2	2	220 / 230 AC[5]	2	**3TC5217-0BP0**		1	1 unit	41B
										110 AC	10	**3TC5217-0BF0**		1	1 unit	41B
12	DC-3, DC-5	400	35	70	140	200	250	2	2	220 / 230 AC[5]	15	**3TC5617-0BP0**		1	1 unit	41B
										110 AC	15	**3TC5617-0BF0**		1	1 unit	41B

[1] Permissible load for DC-1 utilization category, see detailed technical specifications in the Reference Manual "Switching Devices – Contactors and Contactor Assemblies", https://support.industry.siemens.com/cs/ww/en/view/35554359.

[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 × U_s; lower operating range limit according to IEC 60947.

Other rated control supply voltages according to page 4/69 on request.

Accessories, see page 4/69.

Spare parts, see page 4/71.

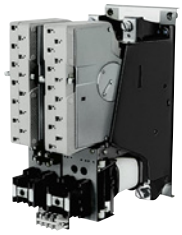
*** You can order this quantity or a multiple thereof.**
Illustrations are approximate

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

DC operation ⎓ or AC operation, 50 Hz ∿

For screw fixing

3TC74



3TC78

Size	Utilization category[1]	Operational current I_e	Ratings of DC motors at 110 V	220 V	440 V	600 V	750 V	1 200 V	1 500 V	Auxiliary contacts[2] Version NO	NC	Rated control supply voltage U_s	SD	Screw terminals Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		A	kW	kW	kW	kW	kW	kW	kW			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	15	**3TC7414-0EB**		1	1 unit	41B
												110 DC	15	**3TC7414-0EF**		1	1 unit	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	15	**3TC7814-0EB**		1	1 unit	41B
												110 DC	15	**3TC7814-0EF**		1	1 unit	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 "Switching Devices – Contactors and Contactor Assemblies", https://support.industry.siemens.com/cs/ww/en/view/35554359.

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

3) Upper operating range limit at 230 V AC: 1.14 x U_s.

Other rated control supply voltages according to page 4/69 on request.

Spare parts, see page 4/71.

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 × U_s; lower operating range limit according to IEC 60947.

[2)] Upper operating range limit at 230 V AC: 1.14 × U_s.

Accessories

For contactors		Version	Auxiliary switch block		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 blocks (for AC operation only)									
4	3TC48	2nd auxiliary switch block, left			20	**3TY6501-1K**	1	1 unit	41B
		1 1	53 61 / 54 62	--					
		2nd auxiliary switch block, right			20	**3TY6501-1L**	1	1 unit	41B
		1 1	--	71 83 / 72 84					
8 and 12	3TC52, 3TC56	2nd auxiliary switch block, left			20	**3TY6561-1K**	1	1 unit	41B
		1 1	53 61 / 54 62	--					
		2nd auxiliary switch block, right			20	**3TY6561-1L**	1	1 unit	41B
		1 1	--	71 83 / 72 84					
Solid-state compatible auxiliary switch blocks									
		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 block, left or right (replacement for 3TY6561-1U, 3TY6561-1V)			►	**3TY7561-1UA00**	1	1 unit	41B
		1 CO contact	51 / 52 54	61 / 62 64					

5TY7561-1.

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

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

For contactors Size	Type	Version	Rated control supply voltage U_s V AC	V DC	SD d	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Surge suppressors · Varistors										
2	3TC44[1]	**Varistors**[2] With line spacer, for mounting onto the coil terminal	24 ... 48	24 ... 70	2	**3TX7402-3G**		1	1 unit	41B
			48 ... 127	70 ... 150	2	**3TX7402-3H**		1	1 unit	41B
			127 ... 240	150 ... 250	2	**3TX7402-3J**		1	1 unit	41B
			240 ... 400	--	15	**3TX7402-3K**		1	1 unit	41B
			400 ... 600	--	15	**3TX7402-3L**		1	1 unit	41B
4	3TC48	**Varistors**[2] For sticking onto the contactor base or for mounting separately	24 ... 48	24 ... 70	2	**3TX7462-3G**		1	1 unit	41B
			48 ... 127	70 ... 150	5	**3TX7462-3H**		1	1 unit	41B
			127 ... 240	150 ... 250	2	**3TX7462-3J**		1	1 unit	41B
			240 ... 400	--	5	**3TX7462-3K**		1	1 unit	41B
			400 ... 600	--	5	**3TX7462-3L**		1	1 unit	41B
8 and 12	3TC52, 3TC56	**Varistors** For sticking onto the contactor base or for mounting separately	24 ... 48	--	2	**3TX7462-3G**		1	1 unit	41B
			48 ... 127	--	5	**3TX7462-3H**		1	1 unit	41B
			127 ... 240	--	2	**3TX7462-3J**		1	1 unit	41B
			240 ... 400	--	5	**3TX7462-3K**		1	1 unit	41B
			400 ... 600	--	5	**3TX7462-3L**		1	1 unit	41B
8 and 12	3TC52, 3TC56	**Varistors**[2] For separate screw fixing or snapping onto TH 35 standard mounting rail	--	24 ... 70	5	**3TX7522-3G**		1	1 unit	41B
			--	70 ... 150	5	**3TX7522-3H**		1	1 unit	41B
			--	150 ... 250	5	**3TX7522-3J**		1	1 unit	41B
Surge suppressors · RC elements										
4	3TC48	**RC elements** For lateral snapping onto auxiliary switch or TH 35 standard mounting rail	24 ... 48	--	15	**3TX7462-3R**		1	1 unit	41B
			--	24 ... 70	5	**3TX7522-3R**		1	1 unit	41B
			48 ... 127	--	2	**3TX7462-3S**		1	1 unit	41B
			--	70 ... 150	5	**3TX7522-3S**		1	1 unit	41B
			127 ... 240	--	2	**3TX7462-3T**		1	1 unit	41B
			--	150 ... 250	5	**3TX7522-3T**		1	1 unit	41B
			240 ... 400	--	2	**3TX7462-3U**		1	1 unit	41B
			400 ... 600	--	5	**3TX7462-3V**		1	1 unit	41B
8 and 12	3TC52, 3TC56	**RC elements** For lateral snapping onto auxiliary switch or TH 35 standard mounting rail	24 ... 48	--	5	**3TX7522-3R**		1	1 unit	41B
			48 ... 127	--	5	**3TX7522-3S**		1	1 unit	41B
			127 ... 240	--	5	**3TX7522-3T**		1	1 unit	41B
			240 ... 400	--	5	**3TX7522-3U**		1	1 unit	41B
			400 ... 600	--	5	**3TX7522-3V**		1	1 unit	41B
Surge suppressors · Diodes										
4 to 12	3TC48, 3TC52, 3TC56	**Diode assemblies**[3] (Diode and Zener diode) for DC solenoid system, for sticking onto the contactor base or for mounting separately	--	24 ... 250	2	**3TX7462-3D**		1	1 unit	41B

3TX7402-3.

3TX7462-3.

3TX7522-3.

3TX7462-3., 3TX7522-3.

3TX7462-3.

[1] The connection piece for mounting the surge suppressor must be bent slightly.

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

[3] Not for DC economy circuit.

For contactors Size	Type	Version	SD d	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Terminal covers								
6	3TC48	For protection against inadvertent contact with exposed busbar connections M6	5	**3TX6506-3B**		1	1 unit	41B
8 and 12	3TC52, 3TC56	Can be screwed on free screw end; covers one busbar connection (1 set = 6 units) M10	5	**3TX6546-3B**		1	1 unit	41B

3TX65.6-3B

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

Spare parts

For contactors Size	Type	Version	Auxiliary contacts NO	NC	Auxiliary switch block Left	Right	SD d	Screw terminals Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Auxiliary switch blocks												
		For lateral mounting										
2 and 4	3TC44, 3TC48	Auxiliary switch block (replacement for 3TY6 501-1A, 3TY6 501-1B)	1	1	13 21 14 22	31 43 32 44	20	**3TY6501-1AA00**		1	1 unit	41B
8 and 12	3TC52, 3TC56	Auxiliary switch block, left	1	1	13 21 14 22	--	20	**3TY6561-1A**		1	1 unit	41B
		Auxiliary switch block, right	1	1	--	31 43 32 44	20	**3TY6561-1B**		1	1 unit	41B
12	3TC74	Auxiliary switch block	4	4	13 21 31 43 14 22 32 44	53 61 71 83 54 62 72 84	2	**3TY2741-2J**		1	1 unit	41B
12	3TC78	Auxiliary switch block, left	2	2	13 21 31 43 14 22 32 44	--	20	**3TY2781-2C**		1	1 unit	41B
		Auxiliary switch block, right	2	2	--	53 61 71 83 54 62 72 84	15	**3TY2781-2D**		1	1 unit	41B


3TY6561-1A

For contactors Size	Type	Version	Rated control supply voltage U_s V AC/DC	SD d	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Surge suppressors · Varistors									
12	3TC7	For sticking onto the contactor base	24	15	**3TX2746-2F**		1	1 unit	41B
			110	10	**3TX2746-2G**		1	1 unit	41B

For contactors Size	Type	Version	SD d	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Solenoid coils								
		DC operation [1]						
2	3TC44	--		**3TY6443-0B..**				
4	3TC48			**3TY6483-0B..**				
8	3TC52			**3TY6523-0B..**				
12	3TC56			**3TY6563-0B..**				
		AC operation [1]						
2	3TC44	--		**3TY7403-0A..**				
4	3TC48			**3TY6483-0A..**				
8	3TC52			**3TY6523-0A..**				
12	3TC56			**3TY6566-0A..**				
Contacts with fixing parts								
		In order to ensure reliable operation of the contactors, only **original replacement contacts** should be used.						
2	3TC44	(1 set = 2 moving and 4 fixed switching elements)	5	**3TY2440-0A**		1	1 unit	41B
4	3TC48		5	**3TY2480-0A**		1	1 unit	41B
8	3TC52		5	**3TY2520-0A**		1	1 unit	41B
12	3TC56		5	**3TY2560-0A**		1	1 unit	41B
12	3TC7	Main contacts (1 set) for 3TC78: 2 units required per contactor	5	**3TY2740-0E**		1	1 unit	41B
Arc chutes								
2	3TC44	Arc chutes, 2-pole	15	**3TY2442-0A**		1	1 unit	41B
4	3TC48		15	**3TY2482-0A**		1	1 unit	41B
8	3TC52		15	**3TY2522-0A**		1	1 unit	41B
12	3TC56		15	**3TY2562-0A**		1	1 unit	41B
12	3TC7	For 3TC78: 2 units required per contactor	15	**3TY2742-0C**		1	1 unit	41B


3TY2520-0A


3TY2482-0A

[1] For rated control supply voltages, see page 4/69. The 10th and 11th digits of the article number must be supplemented accordingly.

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

Notes