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Switching Devices - Contactors and Contactor Assemblies - Special Applications



Price groups PG 41A, 41B Introduction Contactors for special applications SIRIUS 3RT.4 contactors for resistive loads (AC-1), 3-pole NEW SIRIUS 3RT23 contactors, 4-pole SIRIUS 3RT25 contactors, 4-pole, 2 NO + 2 NC SIRIUS 3RT26 contactors for capacitive loads (AC-6b), 3-pole 3TK20 miniature contactors for resistive loads (AC-1), 4-pole Contactors for railway applications - SIRIUS 3RT contactors with extended operating range, 3-pole NEW - SIRIUS 3RH2 contactor relays with extended operating range - 3TH4 contactor relays, 8-pole - 3TC contactors for switching DC voltage, 2-pole 3TC contactors for switching DC voltage, 1-pole and 2-pole 3TG10 power relays/miniature

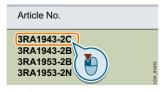
Note:

contactors

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

clickable

Click on an article number in the catalog PDF to call it up in the Industry Mall and you will have access to all the required information.



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

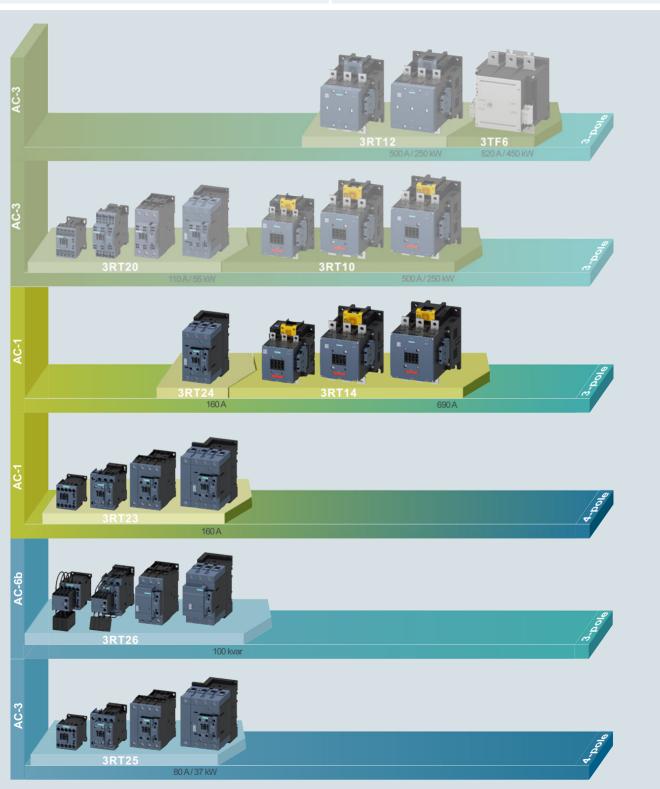
Switching Devices – Contactors and Contactor Assemblies

Contactors for Special Applications

Introduction

Overview

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



Overview of the 3RT and 3TF contactors

Switching Devices – Contactors and Contactor Assemblies

Contactors for Special Applications

Introduction









Size	S3	S6	S10	S12
Туре	3RT244.	3RT1456	3RT146.	3RT1476

туре		0111244.		3111 1430	3111 140.		3111 1470
3RT244, and 3RT145	to 3RT147 3	3-pole conta	ctors				
Туре		3RT2446	3RT2448	3RT1456	3RT1466	3RT1467	3RT1476
Number of main contacts	S	3 NO		3 NO	3 NO		3 NO
AC, AC/DC operation		(p. 4/14)		(p. 4/15, 4/16)	(p. 4/15, 4	1/16)	(p. 4/15, 4/16)
AC-1		•					•
<i>U</i> i	V	1 000					
<i>U</i> e	V	1 000					
I_{e} up to 690 V	40 °C A	140	160	275	400	500	690
	60 °C A	130	140	250	380	450	Standard operating mechanism: 650, solid-state operating mechanism: 600
Accessories for con	tactors				_		Special Specia
Auxiliary switch blocks	:	3RH29, 3RA2	28 (p. 3/94 3/101)	3RH19, 3RT1926			(p. 3/97, 3/99, 3/100, 3/102)
Functional modules (Di star-delta (wye-delta) s		3RA281.	(p. 3/106))			
Terminal covers		3RT2946-4E	44 (p. 3/118)	3RT1956-4EA.			(p. 3/118)
Box terminal blocks				3RT1955/56-4G			(p. 3/116)
Surge suppressors		3RT2936 ¹⁾ , 3RT2946	(p. 3/103, 3/104)	3RT1956-1C (RC ele	ment)		(p. 3/104)

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









Size		S00	S0		S2		S3		
Type		3RT231.	3RT232.		3RT233.		3RT234.		
4-pole 3RT23 contacto	ors								
Туре		3RT2316 3RT231	7 3RT2325 3F	RT2326 3RT2327	3RT2336	3RT2337	3RT2344	3RT2346	3RT2348
Number of main contacts		4 NO	4 NO		4 NO		4 NO		
AC, DC and AC/DC operat	ion	(p. 4/22, 4/24)	(p. 4/22 4/	/24)	(p. 4/22 4/	26)	(p. 4/22 4	1/26)	
AC-1							,		
<i>U</i> i	V	690							
U _e	V	690							
<i>I</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	5 42	55	95	100	130	140
AC-2 and AC-3									
$I_{\rm e}$ up to 400 V	А	9 12	15.5 15	5.5 15.5					
P at 400 V	kW	4 5.5	7.5 7.5	5 7.5	-				
							1		

Accessories for contactors						
Auxiliary switch blocks	3RH29, 3RA28					(p. 3/94 3/101)
Function modules (direct-on-line starting, star-delta (wye-delta) starting)	3RA281.					(p. 3/106)
Terminal covers	-		3RT2936-4EA4	(p. 3/118)	3RT2946-4EA4	(p. 3/118)
Surge suppressors	3RT2916	(p. 3/103, 3/104)	3RT2936 (p. 3/1	03, 3/104)	3RT2936 ¹⁾ , 3RT2946	(p. 3/103, 3/104)

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

Switching Devices - Contactors and Contactor Assemblies

Contactors for Special Applications

Introduction









Size			S00			S0	S2		S3	
Type			3RT251	l.		3RT252.	3RT253	l.	3RT254.	
4-pole 3RT25 contactors										
Туре			3RT251	16 3RT2517	3RT2518	3RT2526	3RT253	35 3RT2536	3RT2544	3RT2545
Number of main contacts			2 NO +	2 NC		2 NO + 2 NC	2 NO +	2 NC	2 NO + 2	2 NC
AC, DC and AC/DC operation			(p. 4/30), 4/31)		(p. 4/30, 4/31)	(p. 4/30	, 4/32)	(p. 4/30,	4/32)
AC-1			•				<u>.</u>			
<i>U</i> _i		V	690							
U _e		V	690							
I _e up to 690 V	40 °C	Α	18	22	22	40	60	70	100	125
	60 °C	Α	16	20	20	35	55	60	90	105
AC-2 and AC-3			•				<u> </u>			
I_{e} up to 400 V	NO	Α	9	12	16	25	35	41	65	80
	NC	Α	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. 3/94 3/101)
Function modules (direct-on-line starting, star-delta (wye-delta) starting)	3RA281.			(p. 3/106)
Terminal covers			3RT2936-4EA4 (p. 3/118)	3RT2946-4EA4 (p. 3/118)
Surge suppressors	3RT2916 (p. 3/103, 3/104)	3RT2926 (p. 3/103, 3/104)	3RT2936 (p. 3/103, 3/104)	3RT2936²⁾, 3RT2946 (p. 3/103, 3/104)

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

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

Further contactors

- For SIRIUS 3RT26 contactors for capacitive loads (AC-6b), 3-pole, see page 4/33
- For 3TC contactors for switching DC voltage, 1 and 2-pole, see page 4/65
- Contactors for railway applications
 - For SIRIUS 3RT contactors with extended operating range, 3-pole, see page 4/52
 - For SIRIUS 3RH2 contactor relays with extended operating range, see page 4/59
 - For 3TH4 contactor relays, 8-pole, see page 4/61
 - For 3TC contactors for switching DC voltage, 2-pole, see page 4/63



3TX4490

(p. 3/151)

Size Type			00 3TK20
4-pole 3TK miniature	contactors		
Туре			3TK20
Number of main contacts			4
AC, DC operation			(p. 4/50, 4/51)
AC-1			
I _e at 400 V	Up to 690 V	Α	18
AC-2 and AC-3			
I_{e} at 400 V		Α	8.4
P at 400 V		kW	4
At 127 V		kW	1.4
At 230 V		kW	2.5
At 500 V At 690 V		kW kW	4
Al 690 V		KVV	4
Accessories for conta	actors		

Auxiliary switch blocks
Terminal covers

Surge suppressors

Switching Devices – Contactors and Contactor Assemblies

Contactors for Special Applications

Introduction

Connection methods

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

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

Devices of the 3TK2 series are available with flat connectors and solder pin connections.

+	Screw terminals
$\stackrel{\circ}{\square}$	Spring-type terminals
00	Busbar connections
•	Flat connectors
Н	Solder pin connections
	The terminals are indicated in the corresponding tables by the symbols shown on orange backgrounds.

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

Overview

Standards

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

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 drives.

The accessories and spare parts of the 3RT contactors can also be used here, see from page 3/76 onwards.

For a general description of 3RT contactors, sizes S3 to S12, see from page 3/17 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 or DC operating mechanisms or as versions with a wide-range solid-state operating mechanism and a universal actuating voltage (AC or DC operation).

With an operating range from 0.8 to 1.1 x $U_{\rm S}$, 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:

- Standard operating mechanism with economy circuit for AC and DC operating mechanism (switchover from closing coil to holding coil)
- Solid-state operating mechanisms
 Overvoltage damping of the operating mechanism coil is
 already integrated in the electronics for contactors with
 solid-state operating mechanisms. The operating mechanisms are powered via a supply voltage with an operating
 range from 0.8 to 1.1 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.

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

Safety applications

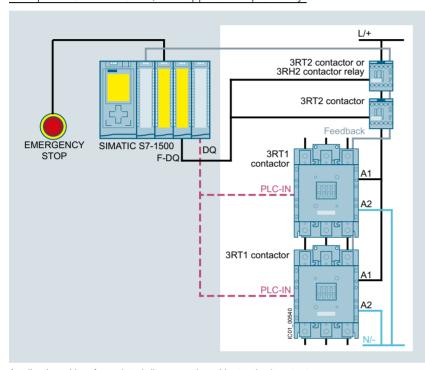
Contactors are a significant part of safety-related applications. They are generally the actuators that perform the switching operation leading to the safe disconnection of the corresponding application or system.

While contactors with smaller power ratings can be connected directly to the outputs of fail-safe controllers, implementing

safety-related applications with standard contactors with higher power is much more complicated and elaborate because of the necessary coupling links. Due to their fail-safe control input, the special versions with size S6 (3RT14..-.S) provide a much simpler way of doing this.

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

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

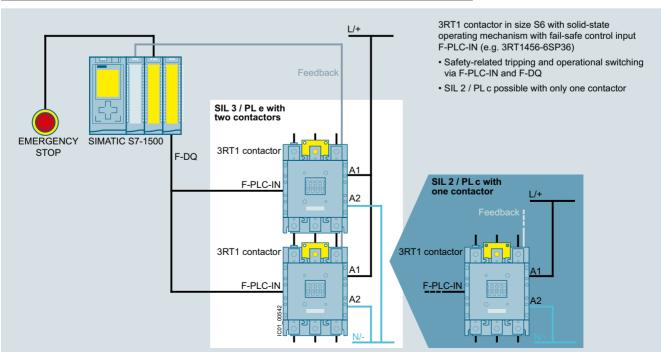


3RT1 contactor in size S6 with standard or solid-state operating mechanism with PLC-IN

- Safety-related tripping only possible via coupling links and F-DQ
- Standard operating mechanism: operational switching via coupling links and F-DQ
- Solid-state operating mechanism: operational switching with PLC-IN and DQ

Application with safety-related disconnection with standard contactors

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



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

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

Technical specifications

More information Technical specifications, see https://support.industry.siemens.com/cs/ww/en/ps/24229/td https://support.industry.siemens.com/cs/ww/en/ps/24229/man FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/24229/faq

Гуре		3RT2446, 3RT2448	3RT1456		3RT1467	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 2	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 2	251	160 x 214 x 271
Spring-type terminals Basic unit with mounted function module or solid-state time-delayed	mm	70 x 140 x 200				
auxiliary switch block - Screw/spring-type terminals	mm	70 x 140 x 226				
Permissible mounting position		360° 22,5° 22,5° №	22,5°,22	2.5° &		
The contactors are designed for operation on a vertical mounting surface.		Loo Ossa	90° 7777 90°	NSB0_064		
Jpright mounting position		NSB0_00477a				
Machanian I and war as		Special version required				
Mechanical endurance Basic units and basic units with mounted auxiliary switch block	Oper- ating	10 million				
Basic units with solid-state compatible auxiliary switch block	Oper- ating cycles	5 million				
Electrical endurance or utilization category AC-1, at $U_e = 400 \text{ V}$		0.5 million		(On request	0.5 million
Rated insulation voltage <i>U</i> i pollution degree 3)	V	1 000		-		
Rated impulse withstand voltage <i>U</i> 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 Removable auxiliary switch block		Yes 	 Yes			
Permissible ambient temperature						
During operation	°C	-25 +60				
During storage	°C	-55 +80				
Degree of protection acc. to IEC 60529		IDOO	IDOO (IDOO with how to	arminal/acuses		
On front Connecting terminal		IP20 IP00 (for higher degree of	IP00 (IP20 with box to	. ,		
Fouch protection acc. to IEC 60529		Finger-safe for vertical touching from the front	Finger-safe		ŕ	
Shock resistance						
Rectangular pulse - AC operation - DC operation		10.3/5 and 10.5/10 6.7/5 and 4.0/10	8.5/5 and 4.2/10 8.5/5 and 4.2/10			
Sine pulse - AC operation - DC operation		16.3/5 and 10.5/10 10.6/5 and 6.3/10	13.4/5 and 6.5/10 13.4/5 and 6.5/10			

Type Size		3RT2446, S3	3RT2448	3RT14	56	3RT1466 S10	3RT146	7 3RT14	76
Short-circuit protection		33		30		310		312	
Main circuit									
Version of the fuse link required for short-circuit protection of the main circuit									
- for type of coordination "1"		gG: 250 A (690 V, 10		gG: 35 (690 V,	5 A 100 kA)	gG: 500 A (690 V, 100 kA)	A On request	gG: 80 (690 V,	0 A 50 kA)
- for type of coordination "2"		gG: 250 A (690 V, 10		gG: 35 (690 V,	0 A 100 kA)	gG: 500 A (690 V, 100 kA)	A On request	gG: 71 (690 V,	0 A 100 kA)
Auxiliary circuit									
 Version of the fuse link required for short-circuit protection of the auxiliary switch 	Α	Fuse gG:	10						
 Miniature circuit breaker version required for short-circuit protection of the auxiliary switch 	Α	On reques	st						
Short-circuit protection for contactors with overload relays		See Config	guration Mar	nual for load	d feeders				
Short-circuit protection for fuseless load feeders			ad feeders, f ration Manua						
Туре		3RT2446,	3RT2448 N	3RT1456 A	N/P/S	3RT1466, 3	RT1467 N/P/S	3RT1476 A	N/P/S
Size		S3		S6	,,	S10	,,	S12	,,
Control									
Solenoid coil operating range (AC/DC)		0.8	0.8 x <i>U</i> _{s mi}	_n 1.1 x <i>U</i> ,	s max				
·		1.1 x <i>U</i> _s							
Power consumption of the solenoid coils (for cold coil and $1.0 \times U_{\rm S}$)									
AC operation, 50 Hz, standard version									
- Closing - P.f.	VA	296 0.61							
- Closed - P.f.	VA	19 0.38							
• AC operation, 50/60 Hz, standard version									
- Closing - P.f.	VA	348/296							
- P.T. - Closed - P.f.	VA	0.62/0.55 25/18 0.35/0.41	 						
AC operation, 50/60 Hz, for USA/Canada									
- Closing	VA	326/326							
- P.f. - Closed - P.f.	VA	0.62/0.55 22/22 0.38/0.4	 						
AC/DC operation		, -							
- Closing for AC operation	VA		163	300	280		530	830	750
- P.f.				0.9	0.8		0.8	0.9	0.8
Closed for AC operationP.f.	VA		3.1	5.8 0.8	4.8 0.6		8.5 0.4	9.2 0.9	9 0.4

Туре			3RT2446, 3RT2448	3RT1456	3RT1466, 3RT1467	3RT1476
Size			S3	S6	S10	S12
Control (continued)						
Type of PLC control input according	ng to IEC 60947-1					
Solid-state operating mechanism						
• Version	3RT14N/P/S	3		Type 1		
Rated voltage		V DC		24		
Operating range		V DC		17 30		
Power consumption		mΑ		≤30		
Recovery time after mains failure, typical	3RT14S	S		2		
Operating times for 1.0 x $U_s^{1)}$ (Total break time = Opening delay + Arcing time)						
Standard operating mechanism	3RT.4A					
Closing delayOpening delay		ms ms	13 50 10 21	25 50 40 60	35 50 50 80	50 70 70 100
Solid-state operating mechanism						
 Actuated via A1/A2 	3RT.4N/P					
Closing delayOpening delay		ms ms	50 70 38 57	100 120 80 100	110 130	125 150
Actuated via PLC input	3RT14N/P					
Closing delayOpening delay		ms ms		40 60 80 100	50 65	65 80
Actuated via F-PLC input	3RT14S					
Closing delayOpening delay		ms ms		60 75 115 130		
Arcing time		ms	10 20	10 15		

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

Type Size		3RT2446 S3	3RT2448	3RT1456 S6	3RT1466 S10	3RT1467	3RT1476 S12
Rated data of the main contacts					0.0		V.1
Load rating with AC		•					
Utilization category AC-1,							
 witching resistive loads Rated operational currents I_e 	At 40 °C up to 690 V A At 60 °C up to 690 V A	140 130	160 140	275 250	400 380	500 450	690 Standard operating mechanism: 650, solid-state operating mech- anism: 600
$ \hbox{\bf \bullet } \hbox{Minimum conductor cross-section} $ for loads with $I_{\rm e}$	Up to 1 000 V A At 40 °C mm ² At 60 °C mm ²	60 50 50	80 70	100 2 x 70 120	150 240 240	 300 300	250 2 x 240 2 x 240
Utilization categories AC-2 and AC-3 With an electrical endurance of 1.3 million		30		120	240	300	2 / 240
$ullet$ Rated operational currents $I_{ m e}$	Up to 400 V A Up to 690 V A	44 44		97 97	138 138		170 170
Rated power for slipring or squirrel-cage motors at 50 and 60 Hz	At 230 V kW 400 V kW 500 V kW 690 V kW	12.7 22 29.9 38.2		30 55 55 90	37 75 90 132		55 90 110 160
Power loss per conducting path	At I _e /AC-1 W			20	27	42	55
Load rating with DC							
Utilization category DC-1, switching resistive loads (<i>L/R</i> ≤ 1 ms)							
 Rated operational currents I_e (at 60 °C) 1 conducting path 	Up to 24 V A	130	140	250	380		500
- i conducting patri	60 V A 110 V A	80 12	140	250 18	380 33		500
	220 V A 440 V A 600 V A	2.5 0.8 0.48		3.4 0.8 0.5	3.8 0.9 0.6		
- 2 conducting paths in series	Up to 24 V A 60 V A 110 V A	130 130 130	140 140 140	250 250 250	380 380 380		500 500 500
	220 V A 440 V A 600 V A	13 2.4 1.3		20 3.2 1.6	380 4 2		500
- 3 conducting paths in series	Up to 24 V A 60 V A 110 V A	130 130 130	140 140 140	250 250 250	380 380 380		500 500 500
	220 V A 440 V A 600 V A	130 6 3.4	140	250 11.5 4	380 11 5.2		500
Utilization category DC-3/DC-5, shunt-wound and series-wound motors	(<i>L/R</i> ≤ 15 ms)						
 Rated operational currents I_e (at 60 °C) 		_					
- 1 conducting path	Up to 24 V A 60 V A 110 V A	6 3 1.25		250 7.5 2.5	380 11 3		500
	220 V A 440 V A 600 V A	0.35 0.15 0.1		0.6 0.17 0.12	0.18 0.125		
- 2 conducting paths in series	Up to 24 V A 60 V A 110 V A	130 130 130	140 140 140	250 250 250 2.5	380 380 380		500 500 500
	220 V A 440 V A 600 V A	1.75 0.42 0.27		0.65 0.37			
- 3 conducting paths in series	Up to 24 V A 60 V A 110 V A	130 130 130	140 140 140	250 250 250	380 380 380		500 500 500
	220 V A 440 V A 600 V A	4 0.8 0.45		250 1.4 0.75	380		500

	3RT2446	3RT2448	3RT1456	3RT1466, 3RT1467	3RT1476	
	S3		S6	S10	S12	
1/h 1/h	5 000	1 000	 2 000			
1/h 1/h			1 000 1 000		500	
/ 1/h	650					
/ 1/h			600			
/ 1/h			350			
	3RT2446,	3RT2448				
	S3					
	⊕ Scre	w terminal	s			
mm^2	,	,				
mm^2				x (10 70) ¹⁾		
		,	,			
AWG	2 x (10	1/0) ¹⁾ ; 1 x (10 2/0) ¹⁾			
Nm						
mm^2	2 x (0.5	1.5) ¹⁾ ; 2 x ((0.75 2.5)	1)		
mm^2						
AWG	3 2 x (20 16) ¹⁾ ; 2 x (18 14) ¹⁾					
Nm						
	1/h	1/h 5 000 1/h 1/h 1/h 1/h 1/h / 1/h 650 / 1/h / 1/h / 1/h 3RT2446, S3 Scre mm² 2 x (2.5 mm² 2 x (2.5 AWG 2 x (10 Hexagon s Nm 4.5 6 (4) mm² 2 x (0.5 AWG 2 x (20 M3 (for Po	1/h 5 000 1 000 1/h 1/h 1/h 1/h 1/h / 1/h 650 / 1/h 3RT2446, 3RT2448 S3 Screw terminal	1/h 5 000 1 000 1/h 2 000 1/h 1 000 1/h 1 000 1 1 000 / 1/h 650 / 1/h 600 / 1/h 350	1/h 5 000 1 000 1/h 1/h 1/h 1 1 000 1 1 000 7 1/h 650 7 1/h 600 8 3RT2446, 3RT2448 83 Screw terminals mm² 2 x (2.5 16)¹¹ (2 x (10 50)¹¹; 1 x (10 70)¹¹ (2 x (2.5 35)¹¹; 1 x (2.5 50)¹¹ (2 x (10 1/0)¹²; 1 x (10 70)¹¹ (2 x (2.5 35)¹²; 1 x (10 2/0)¹¹ (2 x (10 1/0)¹²; 2 x (0.75 2.5)¹¹ (2 x (0.5 1.5)¹¹; 2 x (0.75 2.5)¹¹ (2 x (20 1.5)¹¹; 2 x (18 14)¹¹ (2 x (20 16)¹¹; 2 x (18 14)¹¹ (3 (for Pozidriv size 2; Ø 5 6)	

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

Туре			3RT1456		3RT1466, 3RT1467	3RT1476
Size			S6		S10	S12
Conduc	tor cross-sections					
Main con	ductors Inductors can be connected)		Screw terminals			
•	nted box terminals	Type	3RT1955-4G	3RT1956-4G	3RT1966-40	3
vviiii iiiou	Terminal screws	турс		M10 (hexagon socket, A/F 4)		_
	Tightening torque	Nm	10 12	10 12	20 22	1011 300KCt, 7 VI
	rigitioning torque	lb.in	90 110	90 110	180 195	
Front clar	mping point connected					
鼠。	• Finely stranded with end sleeve (DIN 46228-1)		16 70	16 120	70 240	
00477	Finely stranded without end sleeveStranded	mm ² mm ²	16 70 16 70	16 120 16 120	70 240 95 300	
	AWG cables, solid or stranded	AWG	6 2/0	6 250 kcmil	3/0 600 k	cmil
z	Ribbon cable conductors	mm	Min. 3 x 9 x 0.8,	Min. 3 x 9 x 0.8,	Min. 6 x 9 x	
	(Number x Width x Thickness)		max. 6 x 15.5 x 0.8	max. 10 x 15.5 x 0.8	max. 20 x 2	
Rear clan	nping point connected					
品。	• Finely stranded with end sleeve (DIN 46228-1)		16 70	16 120	120 185	
848	Finely stranded without end sleeveStranded	mm ² mm ²	16 70 16 70	16 120 16 120	120 185 120 240	
O ŝ	AWG cables, solid or stranded	AWG	6 2/0	6 250 kcmil	250 500 1	komil
	Ribbon cable conductors	mm	Min. 3 x 9 x 0.8,	Min. 3 x 9 x 0.8,	Min. 6 x 9 x	
	(Number x Width x Thickness)		max. 6 x 15.5 x 0.8	max. 10 x 15.5 x 0.8	max. 20 x 2	
	nping points connected a cross-section 16 mm²)					
	• Finely stranded with end sleeve (DIN 46228-1)		Max. 1 x 50, 1 x 70	Max. 1 x 95, 1 x 120	,	max. 2 x 185
┪┪	Finely stranded without end sleeveStranded	mm ² mm ²	Max. 1 x 50, 1 x 70 Max. 1 x 50, 1 x 70	Max. 1 x 95, 1 x 120 Max. 1 x 95, 1 x 120		max. 2 x 185 max. 2 x 240
O ISBO_004	AWG cables, solid or stranded	AWG	Max. 2 x 1/0	Max. 2 x 3/0	Min. 2 x 2/0 max. 2 x 50	,
	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)		0 x 24 x 0.5)
Busbar co	onnections					
	Connecting bar (max. width)	mm	17		25	
	- Bore diameter	mm	9		11	
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 k	cmil
	Terminal screws		M8 x 25 (A/F 13)		M10 x 30 (A	VF 17)
	- Tightening torque	Nm Ib. in	10 14		14 24 124 210	
Auvilian	conductors	lb.in	90 124		124 210	
	inductors can be connected)					
	• Solid	mm ²	2 x (0.5 1.5) ³⁾ ; 2 x (0.75 max. 2 x (0.75 4) ³⁾	. 2.5) ³⁾ acc. to IEC 60947;		
	• 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 screwsTightening torque	Nm	M3 (Pozidriv size 2) 0.8 1.2			
	4	lb.in	7 10.3			
	conductors ⁴⁾ Inductors can be connected)		Spring-type terminals			
. 5. 2 50	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 	mm²	2 x (0.25 2.5)			

- Finely stranded without end sleeve
 AWG cables, solid or stranded
 AWG
- ¹⁾ 3RT1456: When connecting cable lugs according to DIN 46235, use the 3RT1956-4EA1 terminal cover for conductor cross-sections from 95 mm² to keep the phase clearance, see page 3/118.
- 2) 3RT1466, 3RT1467 and 3RT1476: When connecting cable lugs according to DIN 46234 for conductor cross-sections larger than 240 mm² and according to DIN 46235 for conductor cross-sections larger than 185 mm², the 3RT1966-4EA1 terminal cover is required to maintain phase separation, see page 3/118.
- $2 \times (0.25 \dots 2.5)$ $2 \times (24 \dots 14)$ the 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 mm² an "insulation stop" must be used, see page 3/121.

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 d AC-1, t _u 40 °C		Auxiliary co	ontacts		Rated conf	trol supply voltage $U_{\rm S}$	SD	Screw terminals		PU (UNIT, SET, M)	PS*	PG
	Operation	onal current	Ident. No.	Version	on	50 Hz AC	50 Hz AC or DC						
	I _e up to			,l	Ļ				Article No.	Price per PU			
	690 V	690 V)						, F			
	Α			NO	NC	V	V	d					
	screw an		n mounting	g onto	TH 35	5-15 and Th	H 75-15 standard						
AC	operatio	7											
S3	140	130	11	1	1	24		5	3RT2446-1AB00		1	1 unit	41B
						110 230		5 2	3RT2446-1AF00 3RT2446-1AP00		1 1	1 unit 1 unit	41B 41B
	160	140	11	1	1	24		5	3RT2448-1AB00		1	1 unit	41B
						110 230		5 5	3RT2448-1AF00 3RT2448-1AP00		1 1	1 unit 1 unit	41B 41B
AC/	DC opera	ition							02.10 00		·		
With	integrate	d coil circui	t (varistor)										
S3	140	130	11	1	1		20 33	2	3RT2446-1NB30		1	1 unit	41B
							83 155 175 280	5 5	3RT2446-1NF30 3RT2446-1NP30		1	1 unit 1 unit	41B 41B
	160	140	11	1	1		20 33	5	3RT2448-1NB30		1	1 unit	41B
	100	140	• •	'	1		83 155	5	3RT2448-1NF30		1	1 unit	41B
							175 280	5	3RT2448-1NP30		1	1 unit	41B

Other voltages according to page 4/42 on request.

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

Sizes S6 to S12: AC/DC operation

- Operating mechanism with integrated coil circuit (varistor)
- For screw fixing
 Auxiliary and control conductors: Screw terminals
- Main conductors: Busbar connections; a connection kit with screws, spring washer and nut is enclosed.











3RT1466-6A.36

3RT1476-6A.36

3RT1476-6N.36

3RT1476-6P.35

Size	Rated data		Auxilia		Rated control	SD	Screw terminals	(1)	PU	PS*	PG
	AC-1, t _u :		contac	cts, lateral	supply voltage U _s			•	(UNIT, SET, M)		
	40 °C	60 °C							JL I, IVI)		
	Operational oup to	current I _e	Versio	n	50/60 Hz AC or DC						
	690 V	690 V	\	7			Article No.	Price per PU			
	A	A	NO	NC	V	d					
Stan	dard operatin	g mechanism		-							
S6	275	250	2	2	110 127 220 240	>	3RT1456-6AF36 3RT1456-6AP36		1 1	1 unit 1 unit	41B 41B
S10	400	380	2	2	110 127 220 240	5	3RT1466-6AF36 3RT1466-6AP36		1 1	1 unit 1 unit	41B 41B
	500	450	2	2	110 127 220 240	NEW 5 NEW 5	3RT1467-6AF36 3RT1467-6AP36		1 1	1 unit 1 unit	41B 41B
S12	690	650	2	2	110 127 220 240	2	3RT1476-6AF36 3RT1476-6AP36		1 1	1 unit 1 unit	41B 41B
Solid	-state operat	ing mechanis	sm								

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

S6	275	250	2	2	96 127 200 277	5 5	3RT1456-6NF36 3RT1456-6NP36	1 1	1 unit 1 unit	41B 41B
S10	400	380	2	2	96 127 200 277	5 5	3RT1466-6NF36 3RT1466-6NP36	1 1	1 unit 1 unit	41B 41B
	500	450	2	2	110 127 220 240	NEW 5 NEW 5	3RT1467-6NF36 3RT1467-6NP36	1 1	1 unit 1 unit	41B 41B
S12	690	650	2	2	96 127 200 277	5 2	3RT1476-6NF36 3RT1476-6NP36	1 1	1 unit 1 unit	41B 41B

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

•	, ,	•								
S6	275	250	1	1	96 127 200 277	5	3RT1456-6PF35 3RT1456-6PP35	1	1 unit 1 unit	41B 41B
					200 211	ΰ	3H11430-0FF33	1	1 UI III	410
S10	400	380	1	1	96 127	5	3RT1466-6PF35	1	1 unit	41B
					200 277	5	3RT1466-6PP35	1	1 unit	41B
	500	450	2	2	110 127	NEW 5	3RT1467-6PF35	1	1 unit	41B
					220 240	<i>NEW</i> 5	3RT1467-6PP35	1	1 unit	41B
S12	690	650	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 4/43 on request.

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

Sizes S6 to S12: AC/DC operation

- Solid-state operating mechanism (with integrated varistor) 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; a connection kit with screws, spring washer and nut is enclosed.

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











3RT1456-6S.36

-6S.36 3

3RT1476-6S.36

3RT1456-6S.36-3PA0

3RT1476-6S.36-3PA0

Size	Rated data a IEC 60947-4 AC-1, t _u :	-1	Auxiliary contacts		Rated control supply voltage $U_{\rm S}$	SD	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
	40 °C	60 °C									
	Operational	current I _e	Version		50/60 Hz AC or DC						
	up to	690 V	1	 			Article No.	Price per PU			
	Α	А	NO	NC	V	d					

Solid-State operating mechanism

With	two remo	vable latera	lly moun	ted aux	iliary switches					
S6	275	250	2	2	96 127 200 277	5 5	3RT1456-6SF36 3RT1456-6SP36	1 1	1 unit 1 unit	41B 41B
S10	400	380	2	2	96 127 200 277	5 5	3RT1466-6SF36 3RT1466-6SP36	1 1	1 unit 1 unit	41B 41B
	500	450	2	2	96 127 200 277	NEW 5 NEW 5	3RT1467-6SF36 3RT1467-6SP36	1 1	1 unit 1 unit	41B 41B
S12	690	650	2	2	96 127 200 277	5 5	3RT1476-6SF36 3RT1476-6SP36	1 1	1 unit 1 unit	41B 41B
With	two perm	anently late	rally mou	unted a	uxiliary switches					
S6	275	250	2	2	96 127 200 277	5 5	3RT1456-6SF36-3PA0 3RT1456-6SP36-3PA0	1 1	1 unit 1 unit	41B 41B
S10	400	380	2	2	96 127 200 277	5 5	3RT1466-6SF36-3PA0 3RT1466-6SP36-3PA0	1 1	1 unit 1 unit	41B 41B
	500	450	2	2	96 127 200 277	NEW 5 NEW 5	3RT1467-6SF36-3PA0 3RT1467-6SP36-3PA0	1 1	1 unit 1 unit	41B 41B
S12	690	650	2	2	96 127 200 277	5 5	3RT1476-6SF36-3PA0 3RT1476-6SP36-3PA0	1 1	1 unit 1 unit	41B 41B

SIRIUS 3RT23 contactors, 4-pole

Overview

Standards

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

In sizes S0 to S3, the 3RT23 contactors have two auxiliary contacts with 1 NO and 1 NC.

Connection methods

Main circuit

- Sizes S00 and S0: screw or spring-type terminals, spring-type terminals with convenient plug-in design for device connectors
- Sizes S2 and S3: screw terminals with box terminal; direct connection to the connecting bar possible with cable lugs for S3 when the box terminal is removed.

Auxiliary/control circuit

Sizes S00 to S3: Screw or spring-type terminals

Operating mechanism types

Sizes S00 to S3

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

With an operating range between 0.8 to 1.1 x U_s , control typically takes place via the control supply voltage connection A1 - A2.

Mounting of additional auxiliary contacts

Size S00

Four auxiliary contacts, including no more than three NC

Sizes S0 to S3

Four additional auxiliary contacts, including no more than two $\ensuremath{\mathsf{NC}}$

Accessories and spare parts

See from page 3/76 onwards

Application

The contactors are suitable:

- · For switching resistive loads
- For disconnecting from power systems (with neutral conductor to be switched)
- 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. upstream of frequency converters for variable-speed drives
- 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 contactors, sizes S00 to S3, see from page 3/17 onwards.

SIRIUS 3RT23 contactors, 4-pole

Technical specifications

More information	
Technical specifications, see https://support.industry.siemens.com/cs/ww/en/ps/16165/td	Manuals, see https://support.industry.siemens.com/cs/ww/en/ps/16165/man
FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/16165/faq	

T		OPTOMO OPTOM	ODTOOG +- ODTOGG	ODTOOC ODTOC	OPTOMA OPTOMA OPTOMA
Type		, -	3RT2325 to 3RT2327		3RT2344, 3RT2346, 3RT2348
Size		S00	S0	S2	S3
General data					
Dimensions (W x H x D)			(The values in brackets apply for DC opera-		
AC or DC operation			tion)		
Basic units Screw terminals Spring-type terminals Basic unit with mounted	mm mm	45 x 58 x 73 45 x 70 x 73	60 x 85 x 97 (107) 61 x 102 x 97 (107)	75 x 114 x 130	96 x 140 x 152
auxiliary switch block - Screw terminals - Spring-type terminals	mm mm	45 x 58 x 117 45 x 70 x 121	60 x 85 x 141 (151) 61 x 102 x 145 (155)	75 x 114 x 174	96 x 140 x 196
Basic unit with mounted function module or solid-state time-delayed auxiliary switch block					
- Screw terminals - Spring-type terminals	mm mm	45 x 58 x 147 45 x 70 x 147	60 x 85 x 171 (181) 61 x 102 x 171 (181)	75 x 114 x 204	96 x 140 x 226
Permissible mounting position					
The contactors are designed for operation on a vertical mounting surface.		360° 22,5° 22,5	NSB0_00778c		
Upright mounting position		NSB0_00477a Special ver	sion required		
Mechanical endurance	Oper- ating cycles	30 million	10 million		
Electrical endurance at $I_{\rm e}/{\rm AC}$ -1	Oper- ating cycles	Approx. 0.5 million			
Rated insulation voltage <i>U</i> _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 frontConnecting terminal		IP20 (screw terminal: IP20 (screw terminal: terminals)	s and spring-type termin s and spring-type		ree of protection, use additional
Touch protection acc. to IEC 60529		Finger-safe (screw te terminals)	rminals and spring-type	Finger-safe for vertice	cal touching from the front

SIRIUS 3RT23 contactors, 4-pole

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

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

SIRIUS 3RT23 contactors, 4-pole

Туре		3RT2316 3RT2317	3RT2325 3RT2326, 3RT2327	3RT2336, 3RT2337	3RT2344, 3RT2346, 3RT2348
Size		S00	S0	S2	S3
Control					
Solenoid coil operating range					
 AC operation 	At 50 Hz	0.8 1.1 x U _s	00 1141		0.05 1.1 v. / /
DC operation	At 60 Hz At 50 °C	0.85 1.1 x <i>U</i> _s 0.8 1.1 x <i>U</i> _s	0.8 1.1 x <i>U</i> _s		0.85 1.1 x <i>U</i> _s
DC operation	At 60 °C	0.85 1.1 x U _s			
 AC/DC operation 				0.8 1.1 x <i>U</i> _s	
Power consumption of the soleno (for cold coil and $1.0 \times U_s$)	oid coils				
AC operation, 50 Hz, standard ve	ersion				
- Closing - P.f.	VA		77 0.82	190 0.72	296 0.61
- Closed - P.f.	VA		9.8 0.25	16 0.37	19 0.38
AC operation, 50/60 Hz, standard	d version				
- Closing - P.f.	VA	27/24.3 37/33 0.8/0.75	81/79 0.72/0.74	210/188 0.69/0.65	348/296 0.62/0.55
- Closed - P.f.	VA	4.2/3.3 5.7/4.4 0.25/0.25	10.5/8.5 0.25/0.28	17.2/16.5 0.36/0.39	25/18 0.35/0.41
 AC operation, 60 Hz, USA, Canad 	da	, .			
- Closing - P.f.	VA	31.7 43 0.77	87 0.76	188 0.67	326 0.55
- Closed - P.f.	VA	4.8 6.5 0.25	9.4 0.28	16.5 0.37	22 0.4
 AC/DC operation 					
Closing for AC operationP.f.	VA			40 0.95	151 0.95
Closed for AC operationP.f.	VA			2 0.95	3.5 0.95
Closing for DC operationClosed for DC operation	W W			23 1	59 2.7
 DC operation (closing = closed) 	W	4	5.9		
Operating times for 0.8 1.1 x U, Total break time = Opening delay + Arcing time	1) s -				
AC operation					
Closing delayOpening delay	ms ms	8 35 8 33 3.5 14 4 15	9 38 8 40 4 16 4 16	10 80 10 18	13 50 10 21
DC operation					
Closing delayOpening delay	ms ms	30 100 7 13	50 170 15 17.5		
 AC/DC operation 					
Closing delayOpening delay	ms ms	 		35 110 30 55	50 70 38 57
Arcing time	ms	10 15	10	10 20	
and the second s					

 $^{^{1)}}$ With size S00, DC operation: Operating times at 0.85 to 1.1 x $U_{\rm S}.$

SIRIUS 3RT23 contactors, 4-pole

Type				3RT2317		3RT2326	3RT2327		3RT2337	3RT2344	3RT2346	3RT234
Size Rated data of the main of	contacts		S00		S0			S2		S3		
Load rating with AC	Contacts											
Utilization category AC-1,												
switching resistive loadsRated operational	At 40 °C, up to	Α	18	22	35	40	50	60	110	110	140	160
currents $I_{\rm e}$	690 V										$(110)^{1)}$	
	At 60 °C, up to 690 V	Α	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 400 V	kW kW	6 10.5	7.5 13	11 20	13 23	16 28	21 36	36 63	38 72	49 92	53 105
 Minimum conductor cross-section for loads with I_e 	At 40 °C At 60 °C	mm ² mm ²		4	10 6	10		16 16	35 35		50 (35) ¹⁾ 50 (35) ¹⁾	70 50
Utilization categories AC-2	and AC-3					_						
 Rated operational currents I_e (at 60 °C) 	At 400 V At 690 V	A A	9	12	15.5	15.5 (25) ¹⁾ (21) ¹⁾	15.5 	38 (50) ¹⁾ (24) ¹⁾	38		(95) ¹⁾ (58) ¹⁾	
 Rated power for slipring or squirrel-cage motors at 50 and 60 Hz 	At 230 V 400 V 690 V	kW kW kW	2.2 4 	3 5.5	4 7.5	4 (7.5) ¹⁾ 7.5 (15) ¹⁾ (18.5) ¹⁾	4 7.5 	(15) ¹⁾ (22) ¹⁾ (22) ¹⁾	 		(22) ¹⁾ (45) ¹⁾ (55) ¹⁾	
Load rating with DC												
Utilization category DC-1, switching resistive loads (L	/R ≤ 1 ms)											
• Rated operational currents	•											
- 1 conducting path	Up to 24 V 60 V 110 V 220 V 440 V	A A A A	16 16 2.1 0.8 0.6	20 20	30 4.5 1 0.4	35	42	55 23		70	80 60 9 2 0.6	
- 2 conducting paths in series	Up to 24 V 60 V 110 V	A A A	16 16 12	20 20	30 30 30	35 35 35	42 42 42	55 55 45		70 70 70	80 80 80	
	220 V 440 V	A A	1.6 0.8		1			5			10 1.8	
- 3 conducting paths in series	Up to 24 V 60 V 110 V 220 V 440 V	A A A A	16 16 16 16 1.3	20 20 20 20 20	30 30 30 30 2.9	35 35 35 35	42 42 42 42	55 55 55 45		70 70 70 70	80 80 80 80 4.5	
- 4 conducting paths in series	Up to 24 V 60 V 110 V 220 V 440 V	A A A A	16 16 16 16 1.3	20 20 20 20	30 30 30 30 2.9	35 35 35 35	42 42 42 42	55 55 55 45	65 65 55 3.5	70 70 70 70 2.9	80 80 80 80 4.5	
Utilization category DC-3/Do shunt-wound and series-wo (<i>L/R</i> ≤ 15 ms)	C-5,				2.0				0.0			
Rated operational currents	I _e (at 60 °C)											
- 1 conducting path	Up to 24 V 60 V 110 V 220 V 440 V	A A A A	16 0.5 0.15 	20	5 2.5 1 0.09			0.1		6 0.15	6.5	
- 2 conducting paths in series	Up to 24 V 60 V 110 V 220 V 440 V	A A A A	16 5 0.35 	20	30 30 15 3 0.27	35 35	42 42	45 45 25 5		70 70 70 70 7	80 80 80	
- 3 conducting paths in series	Up to 24 V 60 V 110 V 220 V 440 V	A A A A	16 16 16 1.5 0.2	20 20 20	30 30 30 10 0.6	35 35 35	42 42 42	45 45 45 25		70 70 70 35 0.8	80 80 80	
- 4 conducting paths in series	Up to 24 V 60 V 110 V 220 V 440 V	A A A	16 16 16 1.5 0.2	20 20 20	30 30 30 30 30 0.6	35 35 35 35	42 42 42 42	45 45 45 25		70 70 70 70 70 0.8	80 80 80 80	

 $^{^{\}rm 1)}$ The values in brackets apply for 3RT23.6-1...0-4AA0. versions.

Data for North America

For technical specifications of 3RT contactors, see from page 3/53 onwards.

SIRIUS 3RT23 contactors, 4-pole

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, t _u : 40 / 60 °C	Auxiliary c	ontact	S	Rated control :	supply voltage	SD	Screw terminals	+	SD	Spring-type terminals	[
Operational current I _e	Ident. No.	Versi	on	50/60 Hz AC	50 Hz AC						
up to 690 V		\	 				Article No.	Price per PU		Article No.	Pr per
A		NO	NC	V	V	d			d		
For carou fixing an	d onen on	100.011	ntina	anta TU 25 at	ondord						

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

Size S00									
18 / 16	-			24		2	3RT2316-1AB00	5	3RT2316-2AB00
				110		5	3RT2316-1AF00	5	3RT2316-2AF00
				230		2	3RT2316-1AP00	5	3RT2316-2AP00
22 / 20				24		2	3RT2317-1AB00	5	3RT2317-2AB00
				110		5	3RT2317-1AF00	5	3RT2317-2AF00
				230		>	3RT2317-1AP00	5	3RT2317-2AP00
Size S0									
35 / 30 ¹⁾	11	1	1		24	5	3RT2325-1AB00	5	3RT2325-2AB00
					110	5	3RT2325-1AF00	X	3RT2325-2AF00
					230	5	3RT2325-1AP00	2	3RT2325-2AP00
40 / 35 ¹⁾	11	1	1		24	5	3RT2326-1AB00	5	3RT2326-2AB00
					110	5	3RT2326-1AF00	X	3RT2326-2AF00
					230	2	3RT2326-1AP00	2	3RT2326-2AP00
50 / 42 ¹⁾	11	1	1		24	5	3RT2327-1AB00	5	3RT2327-2AB00
					110	5	3RT2327-1AF00	5	3RT2327-2AF00
					230	2	3RT2327-1AP00	2	3RT2327-2AP00
Size S2									
60 / 55	11	1	1		24	5	3RT2336-1AB00		
					110	5	3RT2336-1AF00		
					230	>	3RT2336-1AP00		
110 / 95	11	1	1		24	5	3RT2337-1AB00		
					110	5	3RT2337-1AF00		-
					230	>	3RT2337-1AP00		
					200		01112007 TAT 00		

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

Standard mour	itilig rails					4	
Size S3							_
110 / 100	11	1	1	 24	5		3RT2344-1AB00
				 110	5		3RT2344-1AF00
				 230	2		3RT2344-1AP00
140 / 130	11	1	1	 24	5		3RT2346-1AB00
				 110	5		3RT2346-1AF00
				 230	2		3RT2346-1AP00
160 / 140	11	1	1	 24	5		3RT2348-1AB00
				 110	5		3RT2348-1AF00
				 230	5		3RT2348-1AP00

¹⁾ Required conductor cross-section 10 mm².

Other voltages according to page 4/42 on request. Accessories and spare parts, see page 3/76 onwards.

SIRIUS 3RT23 contactors, 4-pole

AC operation ~

C operation ---

Version for AC-3 motor loads

 $\begin{array}{ll} PU \text{ (UNIT, SET, M)} = 1 \\ PS^* & = 1 \text{ unit} \\ PG & = 41B \end{array}$







3RT2336-1AP00-4AA0



3RT2346-1AP00-4AA0

Rated data AC-2/AC-3, t _{ii} : Up to 60 °C	AC-1, t ₁ : 40 / 60 °C	Auxiliary c	ontacts	Rated control supply voltage $U_{\rm S}$	SD	Screw terminals	SD	Spring-type terminals	<u></u>
Operational current I _e	Operational current I _P	Ident. No.	Version	50 Hz AC		Article No. Price		Article No.	Price
up to 400 V	up to 690 V		\			per Pl		Article No.	per PU
Α	Α		NO NC	V	d		d		

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

Size	S0
------	----

32	40 / 35	11	1	1	230	5	3RT2326-1AP00-4AA0	-
Size S2								
50	60 / 55	11	1	1	230	5	3RT2336-1AP00-4AA0	

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

Size S3

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

Other voltages according to page 4/42 on request.

SIRIUS 3RT23 contactors, 4-pole

DC operation

PU (UNIT, SET, M) = 1 PS* = 1 PG = 4 = 1 unit = 41B









3H I	123	11	B.40)
------	-----	----	------	---

3RT231.-2B.40

3RT232.-1B.40

3RT232.-2B.40

Rated data AC-1, t _u : 40 / 60 °C
Operational current $I_{\rm e}$ up to
690 V
٨

Auxiliary conta	acts		Rated control supply voltage U_s	SD
Ident. No.	Version		DC	
	\	7		
	NO	NC	V	d
a-on mounti	na onta	7 TH 25	standard	

Screw terminals	+	S
Article No.	Price per PU	
		_

SD	Spring-type terminals	<u></u>
	Article No.	Price per PU

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

mounting rail								
Size S00						-		
18 / 16				24 220	2 5	3RT2316-1BB40 3RT2316-1BM40	5	3RT2316-2BB40 3RT2316-2BM40
22 / 20				24 220	5	3RT2317-1BB40 3RT2317-1BM40	5	3RT2317-2BB40 3RT2317-2BM40
Size S0								
35 / 30 ¹⁾	11	1	1	24 220	2 5	3RT2325-1BB40 3RT2325-1BM40	2 5	3RT2325-2BB40 3RT2325-2BM40
40 / 35 ¹⁾	11	1	1	24 220	2 5	3RT2326-1BB40 3RT2326-1BM40	2 X	3RT2326-2BB40 3RT2326-2BM40
50 / 42 ¹⁾	11	1	1	24 220	2 5	3RT2327-1BB40 3RT2327-1BM40	2 X	3RT2327-2BB40 3RT2327-2BM40

¹⁾ Required conductor cross-section 10 mm².

Other voltages according to page 4/42 on request.

SIRIUS 3RT23 contactors, 4-pole

AC/DC operation

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







3B	T234	_1N	130

Rated data AC-1, t _U : 40 / 60 °C	Auxiliary co		Rated control supply voltage $U_{\rm s}$	SD	Screw terminals	⊕ S	Spring-type terminal	s 🚃
Operational current I _e	Ident. No.	Version	50/60 Hz AC or DC					
up to		\			Article No.	Price per PU	Article No.	Price per PU
690 V) (·		·
A		NO NC	V	d		d		

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

Size S2

With integrated of	coil circuit (variste	or)					
60 / 55	11	1	1	20 33 175 280	2 5	3RT2336-1NB30 3RT2336-1NP30	
110 / 95	11	1	1	20 33	5	3RT2337-1NB30	-

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

Size S3

With integrated of	coil circuit (varist	or)					
110 / 100	11	1	1	20 33 175 280	X 5	3RT2344-1NB30 3RT2344-1NP30	-
140 / 130	11	1	1	20 33 175 280	5 5	3RT2346-1NB30 3RT2346-1NP30	-
160 / 140	11	1	1	20 33 175 280	5 5	3RT2348-1NB30 3RT2348-1NP30	

Other voltages according to page 4/42 on request.

SIRIUS 3RT23 contactors, 4-pole

AC/DC operation

Version for AC-3 motor loads

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



3RT2336-1NB30-4AA0



3RT2346-1NB30-4AA0

Rated data		Auxiliary c	ontac	ts	Rated control supply voltage $U_{\rm s}$	SD	Screw terminals		SD	Spring-type terminals	<u> </u>
AC-2/AC-3, t _u : Up to 60 °C	AC-1, c t _u : 40/60 °C	Ident. No.	Versi	ion	50/60 Hz AC or DC						
Operational current $I_{\rm e}$ up to	Operational current I_e up to		\	7			Article No.	Price per PU		Article No.	Price per PU
400 V	690 V										
Α	Α		NO	NC	V	d			d		

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

Size S2

With integrated coil circuit (varistor) 60/55 5 50 11 1 1 20 ... 33

3RT2336-1NB30-4AA0

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

Size S3

With integrated coil circuit (varistor)

95 110/100 11 1 1 20 ... 33 5 3RT2346-1NB30-4AA0

Other voltages according to page 4/42 on request.

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 3/76 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 3/17 onwards.

Use of 3RT contactors with IE3/IE4 motors

Note:

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

For more information, see page 1/7.

Application

The contactors are suitable:

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

Note:

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

Technical specifications

More information Technical specifications, see Manual

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

Туре		3RT2516 to 3RT2518	3RT2526	3RT2535	3RT2536	3RT2544, 3RT2545
Size		S00	S0	S2		S3
General data						
Dimensions (W x H x D)		See 3RT231., page 4/18	See 3RT232., page 4/18	See 3RT233., page 4/18		See 3RT234., page 4/18
Permissible mounting position						
The contactors are designed for operation on a vertical mounting surface.		360° 22,5° 22,5°	NSB0_00478c			
Upright mounting position		NSB0_00477a Special version require	ed			
Mechanical endurance	Operating cycles	30 million	10 million			
Electrical endurance at I _e /AC-1	Operating cycles	Approx. 0.5 million				
Rated insulation voltage <i>U</i> _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 a terminals)	and spring-type		ree of protect	ion, use additional terminal
Touch protection acc. to IEC 60529		Finger-safe (screw terr spring-type terminals)	minals and	Finger-safe for	vertical touch	ing from the front

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

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

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

Туре			3RT2516	3RT2517	3RT2518	3RT25	26	3RT2535	3RT2536	3RT2544	3RT2545
Size			S00			S0		S2		S3	
Rated data of the ma	in contacts										
Load rating with AC											
Utilization category AC- switching resistive load											
 Rated operational currents I_e 	At 40 °C up to 690 V At 60 °C up to 690 V	A A	18 16	22 20		40 35		60 55	70 60	100 90	125 105
 Rated power for AC loads P.f. = 0.95 (at 60 °C) 	At 230 V 400 V	kW kW	6 10.5	7.5 13		13.3 23		21 36	23 39	34 40	59 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	C-2 and AC-3					AC1)	DC ¹⁾				
 Rated operational currents I_e (at 60 °C) 	NO up to 400 V NC up to 400 V	A A	9	12	16	25 25	20	35 35	41 41	65 65	80 80
• Rated power for slipring or squirrel-cage motors	NO at 230 V NC at 230 V	kW kW	2.2 2.2	3	4	5.5 5.5		11 11		18.5 18.5	22 22
at 50 and 60 Hz	NO at 400 V NC at 400 V	kW kW	4 4	5.5	7.5	11 11	7.5	18.5 18.5	22 22	30 30	37 37
Load rating with DC											
Utilization category DC- switching resistive loads											
• Rated operational curre	nts I _e (at 60 °C)										
- 1 conducting path	Up to 24 V 60 V 110 V 220 V 440 V	A A A A	16 16 2.1 0.8 0.6	20 20		35 20 4.5 1 0.4		55 23	60	100 60 9 2 0.6	
- 2 conducting paths in series	Up to 24 V 60 V 110 V 220 V 440 V	A A A A	16 16 12 1.6 0.8	20 20		35 35 35 5		55 45 45		100 100 100 10 1.8	
Utilization category DC- shunt-wound and series (<i>L/R</i> ≤ 15 ms)	3/DC-5 ²⁾ , -wound motors										
Rated operational curre	nts I _e (at 60 °C)										
- 1 conducting path	Up to 24 V 60 V 110 V 220 V	A A A	16 0.5 0.15 0.75	20		5 2.5 1		35 6		40	
- 2 conducting paths in series	440 V Up to 24 V 60 V 110 V 220 V 440 V	A A A A A	 16 5 0.35 	20		0.09 35 35 15 3 0.27		0.1 55 45 25 5		0.15 100 100 100 7 0.42	
Switching frequency	110 V	••				0.27				JL	
Switching frequency z in											
Contactors without overlo No-load switching frequency	AC DC AC/DC	1/h 1/h 1/h	 10 000			5 000	 1 500	5 000 500		1 000	
 Switching frequency z during rated operation³⁾ 	I _e /AC-1 at 400 V	1/h	1 000					1 200 (350) ⁴⁾	1 000 (350) ⁴⁾	900	

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.
 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.

patris are equal to 50% of the values is in a second of the switching frequency z' on the operational current I' and operational voltage U': $Z' = z \cdot (I_{\theta}/I') \cdot (U_{\theta}/U)^{1.5} \cdot 1/h.$

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

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

Selection and ordering data

AC operation ~

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

 $\begin{array}{ll} PU \text{ (UNIT, SET, M)} = 1 \\ PS^* & = 1 \text{ unit} \\ PG & = 41B \end{array}$













3RT251.-1A.00

3RT251.-2A.00

3RT252.-1A.00

3RT252.-2A.00

3RT253.-1A.00

3RT254.-1A.00

Rated dat	ta		Auxilia	,	Rated control voltage $U_{\rm s}$	supply	SD	Screw terminals	(SD	Spring-type terminals	<u></u>
AC-2/AC- t_u : Up to 6		AC-1, t _u : 40/60 °C		Version	50/60 Hz AC	50 Hz AC						
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										
Α	kW	Α		NO NC	V	V	d			d		

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

moun	ting rail										
Size S	800										
9	4	18 / 16				24 110 230	 	5 5 2	3RT2516-1AB00 3RT2516-1AF00 3RT2516-1AP00	5 5 5	3RT2516-2AB00 3RT2516-2AF00 3RT2516-2AP00
12/9 ¹⁾	5.5/4 ¹⁾	22 / 20				24 110 230	 	5 5 •	3RT2517-1AB00 3RT2517-1AF00 3RT2517-1AP00	5 5 5	3RT2517-2AB00 3RT2517-2AF00 3RT2517-2AP00
16/9 ¹⁾	7.5/4 ¹⁾	22 / 20				24 110 230	 	5 5 5	3RT2518-1AB00 3RT2518-1AF00 3RT2518-1AP00	5 5 5	3RT2518-2AB00 3RT2518-2AF00 3RT2518-2AP00
Size S	80										
25	11	40 / 35	11	1	1		24 110 230	5 5 2	3RT2526-1AB00 3RT2526-1AF00 3RT2526-1AP00	5 5 2	3RT2526-2AB00 3RT2526-2AF00 3RT2526-2AP00
Size S	2										
35	18.5	60 / 55	11	1	1	 	24 110 230	2 2 2	3RT2535-1AB00 3RT2535-1AF00 3RT2535-1AP00		
41	22	70 / 60	11	1	1		24 110 230	5 5 2	3RT2536-1AB00 3RT2536-1AF00 3RT2536-1AP00		

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

Stant	aaru mounti	ing rails							
Size	S3							_	
65	30	100 / 90	11	1	1	 24	5	3RT2544-1AB00	
						 110 230	5 5	3RT2544-1AF00 3RT2544-1AP00	
80	37	125 / 105	11	1	1	 24	5	3RT2545-1AB00	
						 110	5	3RT2545-1AF00	
						 230	5	3RT2545-1AP00	

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

Other voltages according to page 4/42 on request. Accessories and spare parts, see page 3/76 onwards.

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* PG = 1 unit = 41B









10	3RT2512B.40	3RT252

Rated dat	a		Auxilia contac			Rated control supply voltage U_s	SD
AC-2/AC- t _u : Up to 6		AC-1, t _u : 40/60 °C		Vers	ion	DC	
Opera- tional current I _e up to	Ratings of three- phase motors at 50 Hz and	Operational current I_e up to		\	7		
400 V	400 V	690					
A	kW	Α		NO	NC	V	d

52.-1B.40 3RT252,-2B,40

Screw terminals	+	SD	Spring-type terminals
Article No.	Price per PU		Article No.

Article No. Price per PU

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

Size S00

9	4	18 / 16				24 220	5	3RT2516-1BB40 3RT2516-1BM40	2 5	3RT2516-2BB40 3RT2516-2BM40
12/9 ¹⁾	5.5/4 ¹⁾	22 / 20	-			24 220	2 5	3RT2517-1BB40 3RT2517-1BM40	2 5	3RT2517-2BB40 3RT2517-2BM40
16/9 ¹⁾	7.5/4 ¹⁾	22 / 20	-			24 220	5 5	3RT2518-1BB40 3RT2518-1BM40	2 5	3RT2518-2BB40 3RT2518-2BM40
Size S0	1									
25 (20) ²⁾	11 (7.5) ²⁾	40 / 35	11	1	1	24 220	2 5	3RT2526-1BB40 3RT2526-1BM40	2 5	3RT2526-2BB40 3RT2526-2BM40

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

Other voltages according to page 4/42 on request. Accessories and spare parts, see page 3/76 onwards.

Value in brackets for NC contact (the deviating value for the NC contact applies only for devices with DC operation).

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

AC/DC operation

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

 $\begin{array}{ll} PU \text{ (UNIT, SET, M)} = 1 \\ PS^* & = 1 \text{ unit} \\ PG & = 41B \end{array}$





3RT253.-1N.30

Rated data		Auxiliary contacts		Rated control supply voltage $U_{\rm s}$	SD	Screw terminals		SD	Spring-type terminals	$\stackrel{\circ}{\square}$	
AC-2/AC-3 t _u : Up to 6		AC-1, t _u : 40/60 °C		Version	50/60 Hz AC or DC						
tional	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									
Α	kW	Α		NO NC	V	d			d		

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

Size S2

With i	ntegrated coil o	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

With in	tegrated co	il circuit (varistor)							
65	30	100 / 90	11	1	1	20 33 175 280	5 5	3RT2544-1NB30 3RT2544-1NP30	-
80	37	125 / 105	11	1	1	20 33 175 280	5 5	3RT2545-1NB30 3RT2545-1NP30	

Other voltages according to page 4/42 on request.

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 4/38 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

3RT26

S00 ... S3

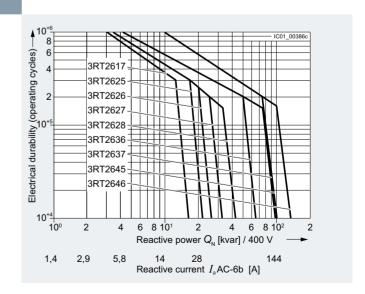
https://support.industry.siemens.com/cs/ww/en/ps/16171/man

Type Size

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 $I_{\rm e}$ in accordance with utilization category AC-6b (breaking of 1.35 times the rated operational current) is specified for a contact endurance of approximately 150 000 to 200 000 operating cycles.



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

All technical specifications not mentioned in the table below are identical to those of the 3RT20 contactors: $\frac{1}{2} \frac{1}{2} \frac{1}{2$

- 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 3/23 onwards.

		0070047	0070005	0DT0000	0DT000T	0070000	0070000	0070007	0070045	0DT0040
Type		3RT2617		3R12626	3RT2627	3R12628	3RT2636	3RT2637		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		360°	22,5° 22,5°	8						
The contactors are designed for operation on a vertical mounting surface.				NSB0_0047						
Mechanical endurance										
Basic units with mounted auxiliary switch block	Operat- ing cycles	3 million								
Electrical endurance For apparent power at 400 V	kvar Operat- ing cycles	12.5 300 000	16.7 200 000	20	25	33 150 000	50 200 000	75 150 000	200 000	100 150 000
Rated insulation voltage <i>U</i> _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 operation¹⁾ 	°C	-25 +60)							
During storage	°C	-55 +80)							
Degree of protection acc. to IEC 60529										
• On front		IP20								
Connecting terminal		IP20					IP00 (for hi	gher degree nal terminal	of protecti covers)	on,
Touch protection acc. to IEC 60529		Finger-safe	е				Finger-safe	for vertical	touching fro	om the fron
Shock resistance										
Rectangular pulse	<i>g</i> /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	1/10	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 an	d 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"	Α	25 40	32 80	40 80	50 100	63 100	100 160	160 200		200 250
Auxiliary circuit										
• With fuse links of operational class gG: DIAZED, type 5SB; NEOZED, type 5SE With short-circuit current $I_{\rm k}$ = 1 kA acc. to IEC 60947-5-1	Α	10								
• With miniature circuit breakers with C characteristic with short-circuit current $I_{\rm k}=400~{\rm A}$	Α	10								
1) A clearance of 10 mm is required for side by	, aida ma	unting		2) Only	applies for	main aurrar	at nother oth	onvios II - I	200 1/: 11	6 1/1/

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

0.8 1.1 x U _s 0.85 1.1 x U _s 0.8 1.1 x U _s 0.8 1.1 x U _s	77 0.82		 	S3
0.85 1.1 x U_s 0.8 1.1 x U_s	77 0.82			
0.85 1.1 x U_s 0.8 1.1 x U_s	77 0.82			
0.85 1.1 x U_s 0.8 1.1 x U_s	77 0.82			
	0.82			
 	0.82			
 	0.82			
 	0.82			
	9.8		190 0.72 16	296 0.61 19
	0.25		0.37	0.38
49 0.8	81/79		210/188	348/296
0.8 7.8	0.72/0.74 10.5/8.5		0.69/0.65 17.2/16.5	0.62/0.55 25/18
0.25	0.25/0.28		0.36/0.39	0.35/0.41
4	5.9			
4	5.9			
41)	7			
•				
10	10			
8 33 4 15	9 38 4 16	8 40	10 80 10 18	15 25 11 20
30 100 7 13	55 80 16 17	50 170 15 18	 	
10 15				
	4 ¹⁾ 10 ¹⁾ 8 33 4 15 30 100 7 13 10 15	4 ¹⁾ 7 10 ¹⁾ 16 8 33 9 38 4 15 4 16 30 100 55 80 7 13 16 17 10 15	4 ¹⁾ 7 10 ¹⁾ 16 8 33 9 38 8 40 4 15 4 16 30 100 55 80 50 170 7 13 16 17 15 18 10 15	4 ¹⁾ 7

¹⁾ Size S00: The 3RT2916-1GA00 additional load module is recommended for higher residual currents, see page 3/120.

 $^{^{2)}}$ With size S00, DC operation: Operating times at 0.85 to 1.1 x $U_{\rm S}.$

			-				
Type			3RT2621NB35	3RT2621NF35	3RT2621NP35	3RT2631N.35	3RT2641N.35
Size			S0			S2	S3
Control							
Solenoid coil operating range							
 AC/DC operation (50/60 Hz AC or DC) 				0.7 1.3 x <i>U</i> _s		0.8 1.1 x <i>U</i> _s	
Power consumption of the solenoid conforced coil and 1.0 \times $U_{\rm S}$)	oils						
• AC operation, 50/60 Hz, standard vers	sion						
- Closing		VA	6.6/6.7	11.9/12.0	12.7/14.7	110	163
- P.f. - Closed		VA	0.98/0.98 1.9/2.0	1.6/1.8	3.9/4.3	0.95 2.5	 3.1
- Closed - P.f.		VA	0.86/0.82	0.79/0.74	0.51/0.56	0.95	J. I
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 currer the electronics (with 0 signal)	nt of						
• 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 + Arc	ing time						
AC/DC operation							
- Closing delay for 0.8 for 1.0 x	- 5	ms	50 70 			30 100 30 70	50 70
- Opening delay		ms	35 45			30 55	38 57
Arcing time		ms	10 15				

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

Type Size			3RT2617 S00	3RT2625 S0	3RT2626	3RT2627	3RT2628	3RT2636 S2	3RT2637	3RT2645 S3	3RT2646
Auxiliary circuit			500	50				32		33	
Auxiliary contacts (unassign	1 NO + 1 NC, 2 NC	1 NO + 2	NC		1 NO + 1	NC, 2 NC					
Another auxiliary contact can be mounted laterally							nan one late be mounted		switch		
Technical specifications inclurated data of the auxiliary corcontactors", from page 3/23 c	ntacts, see "3RT20										
Rated data of the main of	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 temperatureUp to 1 000 V at ambient temperature	40 °C 60 °C 60 °C	Α	18.9 18 	25.3 24	30.2 29	37.8 36	50 47.6	75.8 72.2	113.4 108	113 54	151 144 68
Rated operational reactive power at rated operational voltage	230 V, 50/60 Hz 400 V, 50/60 Hz 500 V, 50/60 Hz 690 V, 50/60 Hz 1 000 V, 50/60 Hz	kvar kvar kvar	0 7.2 0 12.5 0 15 0 21	3 9.6 6 16.7 7 21 10 29	4 11.5 7 20 8 25 11 34	5 14 8 25 10 31 14 43	6 19 11 33 14 41 19 57	10 29 17 50 21 63 29 86	14 43 25 75 31 94 43 129	31 94	19 57 33 100 41 125 57 172 41 125
Switching frequency											
No-load switching frequency	AC operation DC operation	1/h 1/h	500 500					500 ²⁾ 500 ²⁾			
Max. switching frequency z at $T_u = 60 ^{\circ}\text{C}^{1)}$ in operating cycles/hour											
• At $I_{\rm e}$ /AC-6b and at	230 V, 50/60 Hz 400 V, 50/60 Hz 480 V, 50/60 Hz 500 V, 50/60 Hz 600 V, 50/60 Hz 690 V, 50/60 Hz 1 000 V, 50/60 Hz	1/h 1/h 1/h 1/h 1/h	180 180 180 180 180 180	150	100 100 100 100 100 100	72	70 65 45 36	60 55 40 30	100 / 80 ³⁾ 50 45 32 25	200 100 / 80 ³⁾ 53 53 30 30	150 80 / 60 ⁴⁾ 40 40 20 20 20
® and ® rated data											
Rated insulation voltage		V AC	600								
Operational reactive power at AC-6b, 3-phase, at operational voltage	110 120 V 200 208 V 220 230 V 460 480 V 575 600 V	kvar kvar kvar	3.4 6.2 6.9 14	4.6 8.3 9.2 18 23	5.5 10 11 22 27	6.3 11 13 25 31	8.3 15 17 33 41	14 25 27 55 69	19 34 38 75 94	20 37 41 82 103	25 45 50 100 125
Short-circuit protection	At 600 V		5		-	-		10			
Fuse for main circuit	Class RK5		40	80			100	250			
1) Specifications for worst cas	se scenario higher	switchir	na frequenc	V	3) Opera	ating cycles	/h: 100 with	AC operati	on: 80 with	AC/DC one	ration

¹⁾ Specifications for worst case scenario, higher switching frequency

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

Operating cycles/h: 100 with AC operation; 80 with AC/DC operation.
 Operating cycles/h: 80 with AC operation; 60 with AC/DC operation.

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

Туре		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 termi	nals				
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; Ø 5 6)	M4 (for Pozidriv size 2; Ø 5 6)	M8	M6 (for Pozidriv size : Ø 5 6)	2;	M8 (Inbus size 4)
Tightening torque	Nm Ib.in	0.8 1.2 7 10.3	2 2.5 18 22	3 4 27 36	3 4.5 27 40		4.5 6 40 53
Auxiliary conductors (1 or 2 conductors can be connected)							
Solid or stranded	mm ²	2 x (0.5 1.5) 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 Ø 5 6)). -,				
Tightening torque	Nm Ib.in	0.8 1.2 7 10.3					

 ³⁻phase infeed terminal 3RV2925-5AB available, see page 3/116. With 3RT2628, the three-phase infeed terminal is included in the scope of supply.

^{2) 3-}phase infeed terminal 3RV2935-5A available, see page 3/116.

^{3) 1-}phase infeed terminal 3RA2943-3L available, see page 3/116.

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

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

Selection and ordering data

AC operation ~

Main, auxiliary and control conductors: Screw terminals







3RT262.-1A.05



3RT2628-1A.05 with infeed terminal

Switching	AC capacite ient tempera	ors	°C	Auxilia contac unass	cts, igned	voltage U _s		SD	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
Capacitor operational At 230 V	rating at al voltage 50 At 400 V	0/60 Hz At 500 V	At 690 V	Versio	h 	50 Hz AC	50/60 Hz AC		Article No.	Price per PU			
kvar	kvar	kvar	kvar	NO	NC	V	V	d					
For scre	w fixing a	ınd snap-d	on mounti	ng ont	o TH 35	standard	mounting ra	il					
Size S00)												
0 7.2	0 12.5	0 15	0 21	1	1	 	24 110 230	5 5 •	3RT2617-1AB03 3RT2617-1AF03 3RT2617-1AP03		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
0 7.2	0 12.5	0 15	0 21	0	2	 	24 110 230	5 5 5	3RT2617-1AB05 3RT2617-1AF05 3RT2617-1AP05		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
Size S01)												
3 9.6	6 16.7	7 21	10 29	1	2	24 110 230	 	5 5 5	3RT2625-1AB05 3RT2625-1AF05 3RT2625-1AP05		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
4 11.5	7 20	8 25	11 34	1	2	24 110 230	 	5 5 5	3RT2626-1AB05 3RT2626-1AF05 3RT2626-1AP05		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
5 14	8 25	10 31	14 43	1	2	24 110 230	 	5 5 •	3RT2627-1AB05 3RT2627-1AF05 3RT2627-1AP05		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
6 19	11 33	14 41	19 57	1	2	24 110 230		5 5 5	3RT2628-1AB05 3RT2628-1AF05 3RT2628-1AP05		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B

³⁻phase infeed terminal 3RV2925-5AB available, see page 3/116. With 3RT2628, the three-phase infeed terminal is included in the scope of delivery.

Other voltages according to page 4/42 on request. Accessories and spare parts, see page 3/76 onwards.

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

AC operation ~

Main, auxiliary and control conductors: Screw terminals







3D.	T264	- 1	Λ	NE.

			3RT2631/	4.05				3RT2641A.05				
Switching	AC capacitorient temperat	'S		Auxili conta unass Versio	cts, signed	Rated control supply voltage $U_{\rm S}$	SD	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
	al voltage 50/			1	7			Article No.	Price per PU			
At 230 V	At 400 V	At 500 V	At 690 V	1	1							
kvar	kvar	kvar	kvar	NO	NC	V	d					
		id snap-on	mounting	onto 1	TH 35 st	andard mounting ra	II					
Size S21	,											
10 29	17 50	21 63	29 86	1	1	24	5	3RT2636-1AB03		1	1 unit	41B
						110 230	5	3RT2636-1AF03 3RT2636-1AP03		1 1	1 unit 1 unit	41B 41B
10 29	17 50	21 63	29 86	0	2	24	5	3RT2636-1AB05		1	1 unit	41B
10 23	17 50	21 00	23 00	U	۷	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	5	3RT2637-1AB03		1	1 unit	41B
						110 230	5 5	3RT2637-1AF03 3RT2637-1AP03		1 1	1 unit 1 unit	41B 41B
14 43	25 75	31 94	43 129	0	2	24	5	3RT2637-1AB05		1	1 unit	41B
14 40	23 73	31 34	45 129	U	2	110	5	3RT2637-1AB05		1	1 unit	41B
						230	5	3RT2637-1AP05		1	1 unit	41B
		p-on moun	ting onto 1	TH 35-1	15 and T	H 75-15 standard						
mountin												
Size S3 ²												
14 43	25 75	31 94	43 129	1	1	24 110	5 5	3RT2645-1AB03		1	1 unit	41B 41B
						230	5 5	3RT2645-1AF03 3RT2645-1AP03		1 1	1 unit 1 unit	41B 41B
14 43	25 75	31 94	43 129	0	2	24	5	3RT2645-1AB05		1	1 unit	41B
0		0101	.0 120	Ü	_	110	5	3RT2645-1AF05		i	1 unit	41B
						230	5	3RT2645-1AP05		1	1 unit	41B
19 57	33 100	41 125	57 172	1	1	24	5	3RT2646-1AB03		1	1 unit	41B
						110 230	5 5	3RT2646-1AF03 3RT2646-1AP03		1 1	1 unit 1 unit	41B 41B
19 57	33 100	41 125	57 172	0	2	24	5	3RT2646-1AB05		1	1 unit	41B
19 5/	JJ 100	41 123	JI 1/2	U	۷	110	5	3RT2646-1AF05		1	1 unit	41B 41B
						230	5	3RT2646-1AP05		1	1 unit	41B

Other voltages according to page 4/42 on request.

Accessories, see page 3/76 onwards.

^{1) 3-}phase infeed terminal 3RV2935-5A available, see page 3/116.
2) 1-phase infeed terminal 3RA2943-3L available, see page 3/116.

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

DC operation

Main, auxiliary and control conductors: Screw terminals







3RT262.-1B.45



3RT2628-1B.45 with infeed terminal

Switching	AC capacitorient tempera	ors	С	Auxilia conta unass Versio	cts, signed	Rated control supply voltage $U_{\rm S}$	SD	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
Capacitor operational At 230 V	rating at al voltage 50 At 400 V)/60 Hz At 500 V	At 690 V	1	<u></u>			Article No.	Price per PU			
kvar	kvar	kvar	kvar	NO	NC	٧	d					
For scre	w fixing a	nd snap-c	on mounti	ng ont	o TH 3	5 standard mounting r	ail					
Size S00)											
0 7.2	0 12.5	0 15	0 21	1	1	24 110	5 5	3RT2617-1BB43 3RT2617-1BF43		1 1	1 unit 1 unit	41B 41B
0 7.2	0 12.5	0 15	0 21	0	2	24 110	5 5	3RT2617-1BB45 3RT2617-1BF45		1	1 unit 1 unit	41B 41B
Size S01)											
3 9.6	6 16.7	7 21	10 29	1	2	24 110	5 5	3RT2625-1BB45 3RT2625-1BF45		1 1	1 unit 1 unit	41B 41B
4 11.5	7 20	8 25	11 34	1	2	24 110	5 5	3RT2626-1BB45 3RT2626-1BF45		1 1	1 unit 1 unit	41B 41B
5 14	8 25	10 31	14 43	1	2	24 110	5 5	3RT2627-1BB45 3RT2627-1BF45		1 1	1 unit 1 unit	41B 41B
6 19	11 33	14 41	19 57	1	2	24 110	5 5	3RT2628-1BB45 3RT2628-1BF45		1 1	1 unit 1 unit	41B 41B

³⁻phase infeed terminal 3RV2925-5AB available, see page 3/116. With 3RT2628, the three-phase infeed terminal is included in the scope of supply.

Other voltages according to page 4/42 on request. Accessories, see page 3/76 onwards.

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

AC/DC operation

Main, auxiliary and control conductors: Screw terminals









3RT2621	N.35				628-1N.3 nfeed ter			3RT2631N.35		3RT26411	N.35	
Switching	AC capacite ient tempera		С	Auxili conta unass Versi	icts, signed	Rated control supply voltage $U_{\rm S}$ 50/60 Hz AC or DC	SD	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG
Capacitor operational At 230 V	al voltage 50)/60 Hz At 500 V	At 690 V	Y	7			Article No.	Price per PU			
kvar	kvar	kvar	kvar	NO	NC	V	d					
For scre	w fixing a	nd snap-c	on mountii	ng on	to TH 35	standard mounting r	rail					
Size S01)											
3 9.6	6 16.7	7 21	10 29	1	2	21 28 95 130 200 280	5 5 5	3RT2625-1NB35 3RT2625-1NF35 3RT2625-1NP35		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
4 11.5	7 20	8 25	11 34	1	2	21 28 95 130 200 280	5 5 5	3RT2626-1NB35 3RT2626-1NF35 3RT2626-1NP35		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
5 14	8 25	10 31	14 43	1	2	21 28 95 130 200 280	5 5 5	3RT2627-1NB35 3RT2627-1NF35 3RT2627-1NP35		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
6 19	11 33	14 41	19 57	1	2	21 28 95 130 200 280	5 5 5	3RT2628-1NB35 3RT2628-1NF35 3RT2628-1NP35		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
Size S22)											
10 29	17 50	21 63	29 86	0	2	20 33 83 155 175 280	5 5 5	3RT2636-1NB35 3RT2636-1NF35 3RT2636-1NP35		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
14 43	25 75	31 94	43 129	0	2	20 33 83 155 175 280	5 5 5	3RT2637-1NB35 3RT2637-1NF35 3RT2637-1NP35		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
mountin	g rails	ap-on mou	unting ont	o TH 3	35-15 ar	nd TH 75-15 standard						
Size S33)											
14 43	25 75	31 94	43 129	0	2	20 33 83 155 175 280	5 5 5	3RT2645-1NB35 3RT2645-1NF35 3RT2645-1NP35		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
19 57	33 100	41 125	57 172	0	2	20 33 83 155 175 280	5 5 5	3RT2646-1NB35 3RT2646-1NF35 3RT2646-1NP35		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B

¹⁾ 3-phase infeed terminal 3RV2925-5AB available, see page 3/116. With 3RT2628, the three-phase infeed terminal is included in the scope

Other voltages according to page 4/42 on request. Accessories, see page 3/76 onwards.

²⁾ 3-phase infeed terminal 3RV2935-5A available, see page 3/116.

^{3) 1-}phase infeed terminal 3RA2943-3L available, see page 3/116.

SIRIUS 3RT23 to 3RT26, 3RT14 contactors

Options

Rated control supply voltages for 3RT2 contactors, possible on request (change of the 10th and 11th digits of the Article No.)

Delivery time on request

Rated control supply voltage $U_{\rm S}$	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 a	and 60 Hz ²⁾)					
24 V AC 42 V AC 48 V AC 110 V AC 230 V AC 240 V AC 400 V AC		B0 D0 H0 F0 P0 V0	B0 D0 F0 P0 V0	B0 D0 F0 P0 U0 V0	B0 D0 H0 F0 P0 U0 V0	B0 F0 P0
Solenoid coils for 50 and	l 60 Hz ²⁾					
24 V AC 42 V AC 48 V AC 110 V AC 220 V AC 230 V AC		B0 D0 H0 F0 N2 P0	C2 D2 H2 G2 N2 L2	C2 D2 H2 G2 N2 L2	C2 D2 H2 G2 N2 L2	C2 N2 L2
Solenoid coils (for USA a	and Canada ³⁾)					
50 Hz 60						
	V AC V AC	K6 P6	K6 P6	K6 P6	K6 P6	
Solenoid coils (for Japan 50/60 Hz ⁴⁾ 60	n) Hz ⁵⁾					
200 V AC 220 400 V AC 440	V AC V AC V AC	G6 N6 R6	G6 N6 R6	G6 N6 R6	G6 N6 R6	G6 N6 R6
DC operation ¹⁾						
12 V DC 24 V DC 42 V DC 48 V DC 60 V DC 110 V DC 125 V DC 220 V DC 230 V DC		A4 B4 D4 W4 F4 G4 M4 P4	A4 B4 D4 W4 F4 G4 M4	 	 	 B4 F4
Evamples						

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 3RT2325-1AG20 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

- At 50 Hz: 0.8 to 1.1 x U_s,
- At 60 Hz: 0.85 to 1.1 x U_s

- Size S00:
 - At 50 Hz: 0.85 to 1.1 x U_s,
- at 60 Hz: 0.8 to 1.1 x $U_{\rm S}$
- 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 $U_{\rm s}$, at 60 Hz: 0.85 to 1.1 x $U_{\rm s}$
- ⁵⁾ Coil operating range at 60 Hz: 0.8 to 1.1 x $U_{\rm s}$.

Rated control supply	Contactor	3RT2.2N	Rated control supply	Contactor	3RT2.3N	3RT2.4N
voltage	type		voltage	type		
<i>U</i> _{s min} <i>U</i> _{s max} 1)	Size	S0	<i>U</i> _{s min} <i>U</i> _{s max} 1)	Size	S2	S3
Sizes S0 to S3						

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

none operation (cores in	- / 10 0/ 20/				
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 $U_{\rm S~min}$ to 1.1 x $U_{\rm S~max}$

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

³⁾ Coil operating range

SIRIUS 3RT23 to 3RT26, 3RT14 contactors

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

Delivery time on request

Rated control supply voltage	type	3RT145A, 3RT146A, 3RT147A	Rated control supply voltage	type	3RT145N, 3RT146N, 3RT147N	3RT145P, 3RT145S, 3RT146P, 3RT146S, 3RT147P, 3RT147S
U _{s min} U _{s max}	Sizes	S6 to S12	U _{s min} U _{s max}	Sizes	S6 to S12	_

Sizes S6 to S12

AC/DC operation (50/60 Hz AC or DC) an	d operating range 0.	.8 x U _{s min} 1.1 x U _{s max}
--	----------------------	--

Standard operating mechanism		Solid-state operating mechanism		
23 26 V AC/DC 42 48 V AC/DC 110 127 V AC/DC 200 220 V AC/DC 220 240 V AC/DC		21 27.3 V AC/DC 96 127 V AC/DC 200 277 V AC/DC	B3 F3 P3	 F3 P3
240 277 V AC/DC 380 420 V AC/DC 440 480 V AC/DC 500 550 V AC/DC 575 600 V AC/DC	U3 V3 R3 S3 T3			

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

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 3/151).

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, se

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 $I_{\rm e}$ in accordance with utilization category AC-4 (breaking 6 times the rated operational current) is determined for a contact endurance of approximately 200 000 operating cycles.

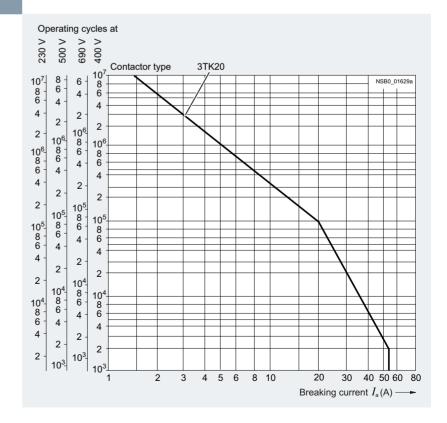
If a shorter contact endurance is sufficient, the rated operational current $I_{\rm e}/{\rm AC}$ -4 can be increased.

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:

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



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

Туре		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 operationDC operationAuxiliary switch block	Operat- ing cycles	10 million 30 million 10 million
Rated insulation voltage <i>U</i> _i (Pollution degree 3)		
 Screw terminals Flat connector 6.3 mm x 0.8 mm Solder pin connections 	V V V	690 500 500
Rated impulse withstand voltage <i>U</i> _{imp} (Pollution degree 3)		
 Screw terminals Flat connector 6.3 mm x 0.8 mm Solder pin connections 	kV kV kV	6 6 6
Protective separation between coil and main contacts According to IEC 60947-1, Appendix N	V	Up to 300
Permissible ambient temperature ¹⁾		
During operation During storage	°C	-25 +55 -55 +80
Degree of protection acc. to IEC 60529		
On front Connecting terminal		IP20 (with screw terminals) IP20 (with screw terminals)
Touch protection acc. to IEC 60529		Finger-safe (with screw terminals)
Shock resistance		
Rectangular pulse		
- AC operation - DC operation	g/ms g/ms	8.3/5 and 5.2/10 11.3/5 and 9.2/10
Sine pulse		
- AC operation - DC operation	g/ms g/ms	13/5 and 8/10 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" Type of coordination "2"³⁾ Weld-free 	A A A	25 10 10
Miniature circuit breaker with C characteristic	Α	10
Auxiliary circuit		
Short-circuit test		
• With fuse links of operational class gG: DIAZED, type 5SB; NEOZED, type 5SE with short-circuit current $I_{\rm k}=$ 1 kA acc. to IEC 60947-5-1	Α	6
1) A 1: 1 50/00 11 11		

Applies to 50/60 Hz coil: At 50 Hz, 1.1 x $U_{\rm s}$, 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
- ³⁾ A short-circuit current of $I_{\rm q} \le 6$ kA applies to type of coordination "2".

Type		3TK20
Size		00
Control		
Solenoid coil operating range ¹⁾		0.8 1.1 x <i>U</i>
Solenoid coil power consumption (for cold coil and $1.0 \times U_{\rm S}$)		
Standard version		
 AC operation, 50 Hz Closing P.f. Closed P.f. 	VA VA	15 0.41 6.8 0.42
• AC operation, 60 Hz - Closing - P.f Closed - P.f.	VA VA	14.4 0.36 6.1 0.46
 AC operation, 50/60 Hz¹⁾ Closing P.f. Closed P.f. 	VA VA	16.5/13.2 0.43/0.38 8.0/5.4 0.48/0.42
For USA and Canada • AC operation, 50 Hz - Closing - P.f. - Closed - P.f.	VA VA	14.6 0.38 6.5 0.40
 AC operation, 60 Hz Closing P.f. Closed P.f. DC operation (closing = closed) 	VA VA W	14.4 0.30 6.0 0.44
Permissible residual current of the electronic circuit ²⁾	•••	•
(with 0 signal)AC operationDC operation	mA mA	≤ 3 × (230 V/U _s) ≤ 1 × (230 V/U _s)
Operating times for 1.0 x $U_s^{(3)}$,
AC operation Closing delay Opening delay Dead interval	ms ms	5 18 3 21 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 Opening delay	ms ms	19 31 3 4
Arcing time 1) Applies to 50/00 Hz asily.	ms	10 15
1) Applies to 50/60 Hz coil:		3) The OFF-delay times of the NO contacts and the ON-delay times of the

Applies to 50/60 Hz coil: At 50 Hz, $1.1 \times U_s$, with side-by-side mounting and 100% ON period the max ambient temperature is $+40 \,^{\circ}$ C.

²⁾ The 3TX4490-1J additional load module is recommended for higher residual currents (see page 3/120).

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).

Size					
Rated operational current I_a	Туре			3TK200	
Load rating with AC Utilization category AC-1, switching resistive loads Stated operational current I _R (at 40 °C)				00	
Utilization category AC-1, switching resistive loads • Rated operational current I _Q (at 40 °C) • Rated operational current I _Q (at 55 °C) • Rated operational current I _Q (at 55 °C) • Rated operational current I _Q (at 55 °C) • Rated operational current I _Q (at 55 °C) • Rated operational current I _Q (at 55 °C) • Minimum conductor cross-section for loads with I _Q • Rated operational current I _Q • Power loads of the I Control					
• Rated operational current I ₆ (at 40 °C)	_				
• Rated operational current I ₆ (at 55 °C)				40	
• Rated power for AC loads with p.f. = 1 • Minimum conductor cross-section for loads with I₀ ■	• Hated operational current $I_{\rm e}$ (at 40 °C)				
with p.f. = 1	 Rated operational current I_e (at 55 °C) 				
Minimum conductor cross-section for loads with I ₀		400/380 V	kW	10	
Vilization categories AC-2 and AC-3 • Rated operational current I₂					
 • Rated operational current I₆ ■ 230 V A 9.0 ■ 380 V A 9.0 ■ 380 V A 9.0 ■ 400 V A 8.4 ■ 500 V A 6.5 ■ 690 V A 5.2 ■ 690 V A 5.2 ■ 7 ■ 800 V A 5.2 ■ 800 V A 5.2 ■ 150 V W 1.2 ■ 150 V W 1.2 ■ 150 And 60 Hz ■ 150 V W 1.2 ■ 120 V W 1.3 ■ 120 V W 2.2 ■ 200 V W 2.2 ■ 200 V W 2.2 ■ 200 V W 2.4 ■ 380 V W 4.0 ■ 415 V W 4.0 ■ 415 V W 4.0 ■ 460 V W 4.0 ■ 460 V W 4.0 ■ 575 V W 4.0 ■ 660 V W 4.0 ■ 7 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	\bullet Minimum conductor cross-section for loads with $I_{\rm e}$		mm ²	2.5	
230 V A 9.0	_				
• Rated power for motors with slipring or squirrel cage at 50 and 60 Hz • Rated power for motors with slipring or squirrel cage 115 V kW 1.2 xit 50 and 60 Hz 120 V kW 1.3 xit 50 and 60 Hz 120 V kW 1.4 xit 50 and 60 Hz 120 V kW 1.4 xit 50 and 60 Hz 120 V kW 1.4 xit 50 and 60 Hz 120 V kW 2.2 xit 50 kW 2.6 xit 50 Adv 1 kW 2.6 xit 50 Adv 1 kW 4.0 xit 50 Adv 1 kW 6.3 xit 50 Adv 60 Hz xit 50 Adv 1 kW 6.3 xit 50 Adv 60 Hz xit 50 Adv 1 kW 6.3 xit 50 Adv 60 Hz xit 50 Adv 1 kW 6.3 xit 50 Adv 60 Hz xit 50 Adv 1 kW 6.3 xit 50 Adv 60 Hz xit 50 Adv 1 kW 6.3 xit 50 Adv 60 Hz xit 50 Adv 1 kW 6.3 xit 50 Adv 60 Hz	Rated operational current I _e	230 V	Α	9.0	
Rated power for motors		500 V			
with slipring or squirrel cage at 50 and 60 Hz					
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	with slipring or squirrel cage	115 V	kW	1.2	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	4.00 4.4 00 12	127 V 200 V	kW kW	1.4 2.2	
240 V kW 2.6					
A15 V kW				2.6	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		415 V	kW	4.0	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		460 V 500 V	kW kW	4.0 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 Up to 400 V A 2.6 (max. permissible operational current $I_e/AC-3$ up to 500 V, for reduced contact endurance and reduced switching frequency) • Rated power for squirrel-cage motors At 110 V kW 0.32 at 50 and 60 Hz 115 V kW 0.35 127 V kW 0.37 200 V kW 0.58 220 V kW 0.64 230 V kW 0.64 230 V kW 0.70 380 V kW 1.10 400 V kW 1.15		660 V	kW	4.0	
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 $\cong I_e$ /AC-3 up to 500 V, for reduced contact endurance and reduced switching frequency) 4 t 110 V kW 0.32 at 50 and 60 Hz • Rated power for squirrel-cage motors at 50 and 60 Hz At 110 V kW 0.33 at 20 V kW 0.35 at 50 kW 0.64 0.37 at 50 kW 0.64 220 V kW 0.64 230 V kW 0.67 at 240 V kW 0.70 at 380 V kW 1.10 at 20 V kW 1.15	Power loss per conducting path				
(Contact endurance approx. 200 000 operating cycles at $I_a = 6 \times I_e$) • Rated operational current I_e		At 1 _e /AO-3	v v	0.0	
 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) Rated power for squirrel-cage motors at 50 and 60 Hz At 110 V kW 0.32 at 50 and 60 Hz At 110 V kW 0.33 at 50 and 60 Hz At 110 V kW 0.35 at 50 and 60 Hz At 110 V kW 0.37 at 50 and 60 Hz At 110 V kW 0.37 at 50 and 60 Hz At 110 V kW 0.37 at 50 and 60 Hz At 110 V kW 0.37 at 50 and 60 Hz At 110 V kW 0.37 at 50 and 60 Hz At 110 V kW 0.37 at 50 and 60 Hz At 110 V kW 0.37 at 50 and 60 Hz At 110 V kW 0.37 at 50 and 60 Hz At 110 V kW 0.37 at 50 and 60 Hz At 110 V kW 0.37 at 50 and 60 Hz At 110 V kW 0.37 at 50 and 60 Hz At 110 V kW 0.37 at 50 and 60 Hz At 110 V kW 0.37 at 50 and 60 Hz At 110 V kW 0.37 at 50 and 60 Hz At 110 V kW 0.37 at 50 and 60 Hz At 110 V kW 0.32 at 50 and 60 Hz At 110 V kW 0.32 at 50 and 60 Hz At 110 V kW 0.32 at 50 and 60 Hz At 110 V kW 0.32 at 50 and 60 Hz At 110 V kW 0.32 at 50 and 60 Hz At 110 V kW 0.32 at 50 and 60 Hz At 110 V kW 0.32 at 50 and 60 Hz At 110 V kW 0.32 at 50 and 60 Hz At 110 V kW 0.32 at 50 and 60 Hz At 110 V kW 0.32 at 50 and 60 Hz At 110 V kW 0.32 at 50 and 60 Hz At 110 V kW 0.32 at 50 and 60 Hz At 110 V kW 0.32 at 50 and 60 Hz At 110 V kW 0.32 at 50 and 60 Hz At 110 V kW 0.32 at 50 and 60 Hz At 110 V kW 0.32 at 50 and 60 Hz At 110 V kW 0.32 at 50 and 60 Hz At 110 V kW 0.32 at 50 at	• •	$I_{e} = 6 \times I_{e}$			
at 50 and 60 Hz 115 V kW 0.33 120 V kW 0.35 127 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	• Rated operational current I_e (max. permissible operational current $I_e/AC-4 \cong I_e/AC-3$ up to 500 V, for reduced contact	Up to 400 V			-
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	 Rated power for squirrel-cage motors at 50 and 60 Hz 	115 V	kW	0.33	
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		127 V	kW	0.37	
240 V kW 0.70 380 V kW 1.10 400 V kW 1.15		220 V	kW	0.64	
		240 V 380 V	kW	0.70	
440 V kW 1.27		415 V	kW	1.20	
460 V kW 1.33		460 V	kW	1.33	
575 V kW 1.30		575 V	kW	1.30	
660 V kW 1.10 690 V kW 1.15					

Туре			3TK20
Size			00
Rated data of the main contacts (continued)			
Load rating with DC			
Utilization category DC-1, switching resistive loads ($L/R \le 1$ 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 60 V 110 V 220/240 V	A A A	16 6 2 1
- 2 conducting paths in series	Up to 24 V 60 V 110 V 220/240 V	A A A	16 16 6 2
- 3 conducting paths in series	Up to 24 V 60 V 110 V 220/240 V	A A A	16 16 16 6
Utilization category DC-3/DC-5,			
shunt-wound and series-wound motors ($L/R \le 15$ ms)			
 Rated operational currents I_e (at 55 °C) 			
- 1 conducting path	Up to 24 V 60 V 110 V 220/240 V	A A A	6 3 0.5 0.1
- 2 conducting paths in series	Up to 24 V 60 V 110 V 220/240 V	A A A	10 5 2 0.5
- 3 conducting paths in series	Up to 24 V 60 V 110 V 220/240 V	A A A	16 16 16 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 AC-2 AC-3	h ⁻¹ h ⁻¹ h ⁻¹	1 000 500 1 000
Contactors with overload relays (mean value)		h ⁻¹	15

	_		
Туре			3TK20
Size			00
Conductor cross-sections			
Main and auxiliary conductors (1 or 2 conductors connectable)			Screw terminals
• Solid	n	mm ²	2 x (0.5 2.5), 1 x 4
Finely stranded with end sleeve	n	mm ²	2 x (0.5 1.5), 1 x 2.5
AWG cables, solid or stranded	A	AWG	2 x (20 14), 1 x 12
Pin-end connector (DIN 46231)	n	mm ²	1 x 1 2.5
Terminal screw			M3
Prescribed tightening torque for terminal screws		Vm b.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	n	mm ²	0.5 1
• Finely stranded with 6.3 – 2.5		nm ²	1 2.5
- mory diamaga with 0.0 - 2.0			, Solder pin connections
			(only for printed circuit boards)
Solder pin cross-section	n	mm ²	0.8 x 1.2
Туре			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 <i>U</i> _i (Pollution degree 3)	٧	/	690
Conventional thermal current I_{th} = Rated operational current I_{e} /AC-12	A	4	10
Load rating with AC			
Rated operational current I _e /AC-15/AC-14			
66		4 4 4	4 3 2 1 1
Load rating with DC			
Rated operational current I _e /DC-12			
. 2 11 12 22 44	24 V A 48 V A 10 V A 25 V A 20 V A 40 V A	4 4 4 4	4 2.2 1.1 1.1 0.5
Rated operational current I _e /DC-13			
• For rated operational voltage $U_{\rm e}$	24 V A 48 V A 10 V A 25 V A 20 V A 40 V A	4 4 4 4	2.1 1.1 0.52 0.52 0.27

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

Туре			3TK200	3TK203, 3TK206, 3TK207
Size			00	
⊕ and ⊕ rated data				
Rated insulation voltage U _i		V AC	600	300
Uninterrupted current, open and enclosed		Α	16	16 (10 for solder pin connection)
Maximum horsepower ratings (@ and @ approved values)				
 Rated power for three-phase motors at 60 Hz 				
- Single-phase	At 115 V 200 V 230 V 460/575 V	hp hp hp hp	0.5 1 1.5	1
- Three-phase	At 115 V 200 V 230 V 460/575 V	hp hp hp hp	3 3 5	3 (1 for 3TK206) 3 (1 for 3TK206)
⑤, ⑥ and ঝ rated data of the auxiliary contacts				
Rated voltage, max.		V AC	600	
Auxiliary switch blocks, max.		VAC	300	
Switching capacity			A 600, Q 300	
Uninterrupted current at 240 V AC		Α	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 categ	gories AC-	-2 and AC	C-3		Main contac	cts	SD	Screw terminals	+	PU PS* (UNIT, SET, M)	PS*	PG
				hase moto	se motors		n				SET, M)		
	current I _e	at 50 Hz	and			1	1		Article No.	Price			
	At 380 V	220 V	400/ 380 V	500 V	690/ 660 V	\	7			per PU			
	Α	kW	kW	kW	kW	NO	NC	d					
ure contact	ors with scre	w termir	nals							•			

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

dadaa Propos

Miniatu

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	20	3TK2022-0AP0	1	1 unit	41B
DC operation	n, rated	control	supply	voltage	U _s = 24	4 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

 $^{^{1)}}$ Operating range at AC-1 and 220 V: 0.85 to 1.15 \times $U_{\rm S}$; lower operating range limit according to IEC 60947.

Plug-in base and release tool, see page 3/151.

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

Delivery time on request

Rated control sup	oly Contactor type	3TK20
voltage U _s	Size	00
AC operation		
Solenoid coils fo	r 50 and 60 Hz AC	
50 Hz	60 Hz	
24 V AC	29 V AC	B0
110 V AC	132 V AC	FO
230/220 V AC	276 V AC	P0 ¹⁾
Solenoid coils fo	r 50/60 Hz AC	
230 V AC		L2
DC operation		
24 V DC		B4

 $^{^{1)}}$ Operating range at AC-1 and 220 V: 0.85 to 1.15 \times $U_{\rm S};$ lower operating range limit according to IEC 60947.

Other voltages and delivery time on request.

1 unit

1 unit

1 unit

1 unit

1 unit

1 unit

41B

41B 41B

41R

41B

41B

41B

Contactors for Special Applications

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

AC operation or DC operation

- 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 categ	Rated data Itilization categories AC-2 and AC-3		Main contac	cts	SD	Article No.	Price per PU	PU (UNIT,	PS*	PG		
Operational current I _e	Ratings at 50 Hz	of three-p and	hase mot	ors	Versio	n				SET, M)		
At 380 V	220 V	400/ 380 V	500 V	690/ 660 V	\ \	7						
А	kW	kW	kW	kW	NO	NC	d					

Miniature contactors with 6.3 mm x 0.8 mm flat connectors

CCCC.	
66661	

3TK20..-3...

AC operation,	untad control		valtana II	- FO H- 220/2	20 1/ 401)
AC Operation,	rateu control	Suppiy	vonaye os	= 30 HZ 230/22	LUVAC

For screw	w fixing and g rail	snap-on	mountir	ng onto T	H 35 sta	ındard		
9	2.5	4	4		4 3 2	 1 2	20 20 20	3TK2040-3AP0 3TK2031-3AP0 3TK2022-3AP0
For screv	พ fixing (diaดู	gonal)						
9	2.5	4	4		4		20	3TK2040-7AP0

4

		7/1
200		10
666	1	

3TK20..-7...

DC operation, rated control supply voltage $U_s = 24 \text{ V}$
For screw fixing and snap-on mounting onto TH 35 standard
mounting rail

9	2.5	4	4	 4 3 2	 1 2	X 20 X	3TK2040-3BB4 3TK2031-3BB4 3TK2022-3BB4	1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
For screv	v fixing (diaç	gonal)								
9	2.5	4	4	 4		5	3TK2040-7BB4	1	1 unit	41B
				3	1	20	3TK2031-7BB4	1	1 unit	41B

20

20 20

20

Miniature contactors with solder pin connections for printed circuit boards

Solder pin	Щ
connections	

3TK2022-7BB4

Flat connectors

3TK2031-7AP0

3TK2022-7AP0



3TK20..-6...

AC operation, rated control supply voltage $U_s = 50 \text{ Hz } 230/220 \text{ V AC}^{-1}$ For screw fixing (diagonal)

2 2 20 3TK2022-6AP0			
	1	1 unit	41B
3 1 20 3TK2031-6AP0	1	1 unit	41B
9 2.5 4 4 4 20 3TK2040-6AP0	1	1 unit	41B

operation, rated control supply voltage $U_s = 24 \text{ V DC}$ For screw fixing (diagonal)

9	2.5	4	4	 4		5	3TK2040-6BB4	1	1 unit	41B
				3	1	2	3TK2031-6BB4	1	1 unit	41B
				2	2	20	3TK2022-6BB4	1	1 unit	41B

 $^{^{1)}}$ Operating range at AC-1 and 220 V: 0.85 to 1.15 \times $U_{\rm S};$ lower operating range limit according to IEC 60947.

Plug-in base and release tool, see page 3/151.

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

Delivery time on request

Rated control suppolated $U_{\rm S}$	oly Contactor type Size	
AC operation		
Solenoid coils fo	r 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 fo	r 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 \times $U_{\rm S}$; lower operating range limit according to IEC 60947.

Other voltages and delivery time on request.

Contactors for Railway Applications

SIRIUS 3RT contactors with extended operating range, 3-pole

Overview

Standards

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

Performance range

Sizes S00 to S3

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

Sizes S6 to S12

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

Application

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

Thus, their suitability for increased requirements such as an

- extended temperature range compared to the IEC 60947-4-1 product standard or
- extended operating range of the 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.

Versions

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

Operating range of contactor operating mechanisms

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

This operating mechanism version has an operating range from 0.7 to 1.25 x $U_{\rm S}$ in the temperature range -40 to 70 °C. Overvoltage damping of the contactor coil with a varistor circuit is already implemented.

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

Auxiliary switches

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

Ambient temperature

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

Side-by-side mounting

Up to an ambient temperature of 60 °C, these device versions can be mounted side by side. Above 60 °C, a clearance of at least 10 mm must be provided.

Technical specifications

More information	
Technical specifications, see https://support.industry.siemens.com/cs/ww/en/ps/16177/td FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/16177/faq	Manuals, see https://support.industry.siemens.com/cs/ww/en/ps/16177/man

Туре			3RT2017	3RT201 2XB40LA2	3RT201 2XF40LA2	3RT202.	3RT202 2XB40-0LA2	3RT202 2XF40-0LA2
Size			S00			S0		
General data								
Upright mounting position								
Contactors with series resistorContactors with conventional coil			•	on (on request) on (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	$U_{\rm s}$				
Power consumption of the solenoid c	oils		For cold coil	and 1.0 x <i>U</i> _s				
Contactors with series resistor	Closing Closed	W W	13 4.0					
Contactors with conventional coil	Closing Closed	W W	2.8 2.8			4.5 4.5		
Contactors with solid-state operating mechanism	Closing Closed	W		4.0	4.5 0.75		6.7 0.8	13.2 1.56

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 3/23 onwards.

Contactors for Special Applications Contactors for Railway Applications

SIRIUS 3RT contactors with extended operating range, 3-pole

Туре			3RT2033XB40- 0LA2	3RT2033XF40- 0LA2	3RT2043XB40- 0LA2	3RT2043XF40- 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 <i>U</i> _S			
Power consumption of the solenoid co	oils		For cold coil and 1.0	x U _s		
Contactors with solid-state operating mechanism	Closing Closed	W W	23		76 1.8	64 1.0

All details and technical specifications not mentioned here are identical to those of the basic units, see from page 3/23 onwards.

Туре		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	5						
Control input rated voltage	V DC	24 110							
Power consumption									
 Contactor operating mechanism at A1/A2 	Closing W Closed W	320 2.8			580 3.4			800 3.6	
Rated data of the main contact	s								
Switching frequency									
Switching frequency z in operating of	ycles/hour								
Contactors without overload relays									
No-load switching frequency									
- Contactors with solid-state operati	ng mechanism 1/h	1 000			700			500	
• Switching frequency z during rated	operation ¹⁾								
Contactors with solid-state operating mechanism	$I_{\rm e}/{\rm AC}$ -1 at 400 V h ⁻¹ $I_{\rm e}/{\rm AC}$ -2 at 400 V h ⁻¹ $I_{\rm e}/{\rm AC}$ -3 at 400 V h ⁻¹ $I_{\rm e}/{\rm AC}$ -4 at 400 V h ⁻¹	800 400 1 000 130	300 750		700 250 500	300 700	250 500	500 200	170 420
1)									

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

For all details and technical specifications not mentioned here, \sec

https://support.industry.siemens.com/cs/ww/en/ps/16177/td.

Туре		3RT1456X.46-0LA2	3RT1466X.46-0LA2	3RT1467X.46-0LA2	3RT1476X.46-0LA2
Size		S6	S10		S12
General data					
Ambient temperature					
During operation	°C	-40 +70			
During storage	°C	-55 +80			
Control					
Control version of the switch operating mechanism		PLC-IN or standard A	1 - A2 (can be set)		
Actuated via A1/A2					
Rated control supply voltage	V DC	24, 72 or 110			
Operating range		0.7 1.25			
Actuated via PLC input					
• Type of PLC control input according to IEC 60947-1		Type 1			
Rated voltage	V DC	24 110			
Operating range		0.7 1.25			
Consumed current at PLC control input according to IEC 60947-1, maximum	mA	2			

Contactors for Railway Applications

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

Selection and ordering data

DC operation

Solenoid coil fitted with surge suppressor





3RT201.-2K.4.

3RT201.-2K.42-0LA0

41B

41B

41B

41B

41B

1 unit

1 unit

1 unit

1 unit

1 unit

Rated data		g to IEC	60947-4	4-1	Auxiliary o	contac	ts	Rated control	SD	Spring-type terminals	<u></u>	PU (UNIT,	PS*	PG
AC-2 and At t_u : 70 °C	C-3,							supply voltage U _s				SET, M)		
Operational	Rating				Ident. No.	Vers	ion							
current $I_{\rm e}$ up to	three-p at	ohase m	otors			,l	Ļ			Article No.	Price per PU			
400 V	230 V	400 V	500 V	690 V)	1				F			
А	kW	kW	kW	kW		NO	NC	V DC	d					
For screw rail	fixing	and sn	ap-on i	mountii	ng onto Ti	H 35 s	standa	ard mounting						
Size S00														
With conve	ntional c	oil												
• Fitted with	suppres	sor diod	e (coup	ling cont	actors)									
12	3	5.5	5.5	5.5	10 ¹⁾	1		24 110	5	3RT2017-2KB41 3RT2017-2KF41		1 1	1 unit 1 unit	41B 41B
12	3	5.5	5.5	5.5	01 ¹⁾		1	24 110	5	3RT2017-2KB42 3RT2017-2KF42		1 1	1 unit 1 unit	41B 41B
• Fitted with	varistor													
12	3	5.5	5.5	5.5	10 ¹⁾	1		24 110	5 5	3RT2017-2LB41 3RT2017-2LF41		1 1	1 unit 1 unit	41B 41B
12	3	5.5	5.5	5.5	01 ¹⁾		1	24 110	5 5	3RT2017-2LB42 3RT2017-2LF42		1 1	1 unit 1 unit	41B 41B
With series	resistor	ı												
• Fitted with	suppres	sor diod	е											
12	3	5.5	5.5	5.5	2)		1 ³⁾	24 110	5 5	3RT2017-2KB42-0LA0 3RT2017-2KF42-0LA0		1 1	1 unit 1 unit	41B 41B
16	4	7.5	10	11	2)		1 ³⁾	24	5	3RT2018-2KB42-0LA0		1	1 unit	41B

13)

1³⁾

24

110

24

110

5

5

5.5

11

__2)

__2)

Accessories and spare parts, see page 3/76 onwards.

3RT2018-2KF42-0LA0

3RT2017-2LB42-0LA0

3RT2017-2LF42-0LA0

3RT2018-2LB42-0LA0 3RT2018-2LF42-0LA0

Fitted with varistor

3

12

16

5.5

7.5

5.5

10

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.

Contactors for Special Applications Contactors for Railway Applications

IE3/IE4 ready

SIRIUS 3RT contactors with extended operating range, 3-pole

DC operation

Solenoid coil fitted with varistor









3RT201.-2X.41-0LA2

3RT201.-2X.42-0LA2

3RT202.-2K.40

3RT202.-2X.40-0LA2

Rated data ad	acc. to PIEC 60947-4-1			Auxiliary contacts		Rated control	SD	Spring-type terminals	<u></u>	PU (UNIT,	PS*	PG			
		7-4-1							supply				SET, M)		
	AC-3								voltage U _s						
t _u : 70 °C	<i>t</i> _u : 60 °C														
tional	Opera- tional	motors	s of thr at	ee-pha	ase	Ident. No.	Vers	ion							
	current $I_{\rm e}$ up to						1				Article No.	Price per PU			
·							\'	7							
690 V	400 V	230 V	400 V	500 V	690 V		ı								
Α	Α	kW	kW	kW	kW		NO	NC	V DC	d					

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

Size S00

3126 30	,,,													
With sol	id-state op	erating n	nechan	ism, wi	ith inte	grated v	aristor							
18	12	3	5.5	5.5	5.5	10	1		24 34 72 125	5 5	3RT2017-2XB41-0LA2 3RT2017-2XF41-0LA2	1 1	1 unit 1 unit	41B 41B
18	12	3	5.5	5.5	5.5	01		1	24 34 72 125	5 5	3RT2017-2XB42-0LA2 3RT2017-2XF42-0LA2	1 1	1 unit 1 unit	41B 41B
18	16	4	7.5	10	11	10	1		24 34 72 125	5 5	3RT2018-2XB41-0LA2 3RT2018-2XF41-0LA2	1 1	1 unit 1 unit	41B 41B
18	16	4	7.5	10	11	01		1	24 34 72 125	5 5	3RT2018-2XB42-0LA2 3RT2018-2XF42-0LA2	1 1	1 unit 1 unit	41B 41B
Size S0)													
With cor	nventional o	operating	g mech	anism	(coupli	ng conta	actors)							
	17	4	7.5	10	11	11 ¹⁾	1	1	24 110	2 5	3RT2025-2KB40 3RT2025-2KF40	1 1	1 unit 1 unit	41B 41B
	25	5.5	11	11	11	11 ¹⁾	1	1	24 110	2 5	3RT2026-2KB40 3RT2026-2KF40	1 1	1 unit 1 unit	41B 41B
	32	7.5	15	18.5	18.5	11 ¹⁾	1	1	24 110	5 5	3RT2027-2KB40 3RT2027-2KF40	1 1	1 unit 1 unit	41B 41B
With sol	id-state op	erating n	nechan	ism										
30	17	4	7.5	10	11	11	1	1	24 110	5 5	3RT2025-2XB40-0LA2 3RT2025-2XF40-0LA2	1 1	1 unit 1 unit	41B 41B
30	25	5.5	11	11	11	11	1	1	24 110	5 5	3RT2026-2XB40-0LA2 3RT2026-2XF40-0LA2	1 1	1 unit 1 unit	41B 41B
36	32	7.5	15	18.5	18.5	11	1	1	24 110	5 5	3RT2027-2XB40-0LA2 3RT2027-2XF40-0LA2	1 1	1 unit 1 unit	41B 41B
38	38	7.5	18.5	18.5	18.5	11	1	1	24 110	5 5	3RT2028-2XB40-0LA2 3RT2028-2XF40-0LA2	1 1	1 unit 1 unit	41B 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 $^{\circ}{\rm C}.$

Accessories and spare parts, see page 3/76 onwards.

Contactors for Railway Applications

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

DC operation

Solenoid coil fitted with varistor







Rated data a IEC 60077-2 t _u : 70 °C		7-4-1				Auxiliary contacts			Rated control supply voltage $U_{\rm s}$	SD	Spring-type terminals for auxiliary and control circuits		PU (UNIT, SET, M)	PS*	PG
Conventional thermal current	Operational current I_e	motors		ree-pha	ase	Ident. No.	Versi	on			Article No.	Price			
I _{th} up to	up to	220 V	400 V	500 V	690 V		\	<u> </u>				per PU			
A	400 V	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 sol	id-state ope	erating m	echan	ism										
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	24 110	5 5	3RT2036-3XB40-0LA2 3RT2036-3XF40-0LA2	1 1	1 unit 1 unit	41B 41B
60	65	18.5	30	37	37	11	1	1	24 110	5 5	3RT2037-3XB40-0LA2 3RT2037-3XF40-0LA2	1 1	1 unit 1 unit	41B 41B
75	80	22	37	37	45	11	1	1	24 110	5 5	3RT2038-3XB40-0LA2 3RT2038-3XF40-0LA2	1 1	1 unit 1 unit	41B 41B

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

Size S3

With soli	d-state ope	rating r	nechar	nism										
90	80	22	37	45	55	11	1	1	24 110	5 5	3RT2045-3XB40-0LA2 3RT2045-3XF40-0LA2	1 1	1 unit 1 unit	41B 41B
95	95	22	45	55	75	11	1	1	24 110	5 5	3RT2046-3XB40-0LA2 3RT2046-3XF40-0LA2	1 1	1 unit 1 unit	41B 41B
95	110	30	55	75	75	11	1	1	24 110	5 5	3RT2047-3XB40-0LA2 3RT2047-3XF40-0LA2	1 1	1 unit 1 unit	41B 41B

Accessories and spare parts, see page 3/76 onwards.

Contactors for Special Applications Contactors for Railway Applications

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

DC operation

- Operating mechanism with integrated coil circuit (varistor)
- For screw fixing
 Auxiliary and control conductors: Spring-type terminals
- Main conductors: Busbar connections; a connection kit with screws, spring washer and nut is enclosed.







3RT105.-2X.46-0LA2

3RT106.-2X.46-0LA2

3RT107.-2X.46-0LA2

Size	Rated data acc. to		Auxilia		Rated control	SD	Spring-type terminals	∞	PU	PS*	PG
	IEC 60077-2	IEC 60947-4-1	contac		supply voltage U _s				(UNIT, SET, M)		
		AC-3	iaterai		Os				OL 1, 1VI)		
	t _u : 70 °C	t _u : 60 °C									
	Conventional thermal	Operational	Versio	n							
	current I_{th} up to	current I_e up to	\I	Ļ			Article No.	Price per PU			
	690 V	400 V	1	ſ				·			
	A	А	NO	NC	V DC	d					

O 11 1 1 1			
Solid-state of	nerating	ımacha	niem
JUIIU-State C			

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

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

Accessories and spare parts, see page 3/76 onwards.

Contactors for Railway Applications

SIRIUS 3RT contactors with extended operating range, 3-pole

DC operation

- Operating mechanism with integrated coil circuit (varistor)
- For screw fixing
 Auxiliary and control conductors: Spring-type terminals
- Main conductors: Busbar connections; a connection kit with screws, spring washer and nut is enclosed.







3RT1456-2X.46-0LA2

3RT146.-2X.46-0LA2

3RT1476-2X.46-0LA2

3RT1476-2XJ46-0LA2 3RT1476-2XF46-0LA2

Size	Rated data acc. to		Auxil	ary	Rated control	SD	Spring-type terminals	<u> </u>	PU	PS*	PG
	IEC 60077-2	IEC 60947-4-1 AC-1	conta		supply voltage $U_{\rm s}$				(UNIT, SET, M)		
	t _u : 70 °C	t _u : 40 °C									
	Conventional	Operational	Versi	on							
	thermal current I_{th} up to	current $I_{\rm e}$ up to	l l	4			Article No.	Price per PU			
	690 V	400 V	Ì	ſ							
	A	Α	NO	NC	V DC	d					
Solid	d-state operating n	nechanism									
	control signal inp		9				-				
S6	190	275	2	2	24 72 110	5 5 5	3RT1456-2XB46-0LA2 3RT1456-2XJ46-0LA2 3RT1456-2XF46-0LA2		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
S10	330	400	2	2	24 72 110	5 5 5	3RT1466-2XB46-0LA2 3RT1466-2XJ46-0LA2 3RT1466-2XF46-0LA2		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
	330	500	2	2	24 72 110	5 5 5	3RT1467-2XB46-0LA2 3RT1467-2XJ46-0LA2 3RT1467-2XF46-0LA2		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
S12	520	690	2	2	24 72	5 5	3RT1476-2XB46-0LA2 3RT1476-2XJ46-0LA2		1	1 unit 1 unit	41B 41B

110

Accessories and spare parts, see page 3/76 onwards.

1 unit

41B

Contactors for Special Applications Contactors for Railway Applications

SIRIUS 3RH2 contactor relays with extended operating range

Overview

Standards

IEC/EN 60947-5-1

The contactor relays are finger-safe according to IEC 60529. The size S00 contactor relays have spring-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 $1.25 \times U_{\rm s}$ 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 $U_{\rm s}$; the solenoid 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 \le 70 °C.

Contactor relays with series resistor

Control and auxiliary circuits

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

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

A 4-pole auxiliary switch 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 $^{\circ}\text{C}.$

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 $U_{\rm S}$ 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 $U_{\rm s}$ 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	Manuals, see https://support.industry.siemens.com/cs/ww/en/ps/16174/man
FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/16174/faq	

Contactor relays		Туре	3RH212K, -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 <i>U</i> _s		
Power consumption of the solenoid c	oils		For cold coil and 1.0 x $U_{\rm S}$		
Contactors with series resistor	ClosingClosed	W W	13 4		
Contactors with conventional coil	ClosingClosed	W W	2.8 2.8		
Contactors with solid-state operating mechanism	ClosingClosed	W W		4 0.7	4.5 0.75

^{1) 3}RH21...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.

Contactors for Railway Applications

SIRIUS 3RH2 contactor relays with extended operating range

Contacts

Ident. No.

acc. to EN 50011

690 V

Version

Selection and ordering data

DC operation

Rated operational current

I_e/AC-15/AC-14 t_u: 70 °C at

230 V 400 V

Solenoid coil with surge suppression

500 V





PG

H2 ⁻		

H2122-2K.40	3

	311112122-211.40		011112122	-ZIV.40-UL/
SD	Spring-type terminals	<u></u>	PU (UNIT, SET, M)	PS*
	Article No.	Price per PU		

Α	Α	Α	Α		NO	NC	V DC	d				
For s	screw fi	xing and	l snap-o	n mounting	g onto Ti	H 35 st	tandard m	ounting rail				
Size	S00								_			
With	conventi	onal coil										
• Fitte	ed with su	ppressor	diode									
10	3	2	1	22E	2	2 ¹⁾	24 110	2	3RH2122-2KB40 3RH2122-2KF40	1 1	1 unit 1 unit	41A 41A
				31E	3	1 ¹⁾	24	>	3RH2131-2KB40	1	1 unit	41A
				40E	4	O ¹⁾	24	5	3RH2140-2KB40	1	1 unit	41A
• Fitte	ed with va	ristor										
10	3	2	1	22E	2	2 ¹⁾	24 110	5 2	3RH2122-2LB40 3RH2122-2LF40	1 1	1 unit 1 unit	41A 41A
With	series re	sistor										
• Fitte	ed with su	ppressor	diode									
10	3	2	1	21X	2	1 ²⁾	24 110	5 5	3RH2122-2KB40-0LA0 3RH2122-2KF40-0LA0	1 1	1 unit 1 unit	41A 41A
• Fitte	ed with va	ristor										
10	3	2	1	21X	2	1 ²⁾	24 110	2 2	3RH2122-2LB40-0LA0 3RH2122-2LF40-0LA0	1 1	1 unit 1 unit	41A 41A
With	solid-sta	te operati	ing mecha	anism, with i	ntegrated	varisto	or					
10	3	2	1	22E	2	2 ²⁾	24 34 72 125	5 5	3RH2122-2XB40-0LA2 3RH2122-2XF40-0LA2	1 1	1 unit 1 unit	41A 41A

Rated control

supply voltage

Accessories, see page 3/76 onwards.

Other voltages according to page 3/74 on request.

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

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

Contactors for Special Applications Contactors for Railway Applications

3TH4 contactor relays, 8-pole

Overview

Standards

IEC/EN 60947-5-1

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

Ambient temperature

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

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

Application

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

Control and auxiliary circuits

The solenoid coils of the contactor relays have an extended coil operating range from 0.7 to 1.25 x $U_{\rm s}$ 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	Manuals, see https://support.industry.siemens.com/cs/ww/en/ps/16176/man
FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/16176/faq	

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 <i>U</i> _s
Power consumption of the solenoid color For cold coil: Closing = Closed	ils (for cold coil and 1.0 x U _s)	W	5.2
Permissible residual current of the elec	tronics (with 0 signal)		
DC operation			\leq 10 mA x (24 V/ $U_{\rm S}$)
Operating times for 1.0 x U _s (Total break time = OFF-delay + Arcing tir	ne)		
• 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.

Contactors for Railway Applications

3TH4 contactor relays, 8-pole

Selection and ordering data

DC operation

Solenoid coil fitted with varistor



3TH4244-0L

Contacts	Rated operational current I_e /AC-15/AC-14 230 V 400 V 500 V 690 V		Contacts ¹⁾ Ident. No. acc. to EN 50011	Version	on	Rated control supply voltage $U_{\rm s}$	SD	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG		
						\	7			Article No.	Price per PU			
Number	Α	Α	Α	Α		NO	NC	V DC	d					
For scre	ew fixir	ng and	snap-o	n mou	nting onto	TH 35	stand	lard mounting rai	I					
8	10	6	4	2	44E	4	4	24 110	X	3TH4244-0LB4 3TH4244-0LF4		1 1	1 unit 1 unit	41A 41A
8	10	6	4	2	53E	5	3	24 110	X	3TH4253-0LB4 3TH4253-0LF4		1 1	1 unit 1 unit	41A 41A
8	10	6	4	2	62E	6	2	24 110	X	3TH4262-0LB4 3TH4262-0LF4		1	1 unit 1 unit	41A 41A

¹⁾ Contacts not extendable.

Other voltages according to page 5/22 on request.

Accessories, see page 5/23.

Contactors for Special Applications Contactors for Railway Applications

3TC contactors for switching DC voltage, 2-pole

Overview

Standards

IEC/EN 60947-4-1

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

All details and technical specifications not mentioned here are identical to those of the standard 3TC contactors, see page 4/65.

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 holding coil) by means of a series resistor. This series resistor is supplied separately packed with the contactors.

With types 3TC48, the series resistor must be attached onto the right-hand side of the auxiliary switch 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 $U_{\rm S}$ 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									
Туре		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	$U_{\rm S}$							
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 4/65.

Contactors for Railway Applications

3TC contactors for switching DC voltage, 2-pole

Selection and ordering data

DC operation

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



3TC48

Size	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$					Auxiliary contacts ¹⁾ Version		Rated control supply voltage $U_{\rm S}$	SD	Screw terminals	+	PU (UNIT, SET, M)	PS*	PG	
		750 V	220 V	440 V	600 V	750 V	1	7			Article No.	Price per PU			
		Α	kW	kW	kW	kW	NO	NC	V DC	d					
Con	tactors for	switching	DC vo	oltage											
2	DC-1 DC-3/DC-5	32 7.5	7 5	14 9	19.2 9	24 4	2	1 ²⁾	24 110	5 10	3TC4417-0LB4 3TC4417-0LF4		1 1	1 unit 1 unit	41B 41B
4	DC-1 DC-3/DC-5	75 75	16.5 13	33 27	45 38	56 45	2	1 ²⁾	24 110	15 15	3TC4817-0LB4 3TC4817-0LF4		1 1	1 unit 1 unit	41B 41B
8	DC-1 DC-3/DC-5	170 170	48 41	97 82	132 110	165 110	2	1 ²⁾	24 110	15 15	3TC5217-0LB4 3TC5217-0LF4		1 1	1 unit 1 unit	41B 41B
12	DC-1 DC-3/DC-5	400 400	88 70	176 140	240 200	300 250	2	1 ²⁾	24 110	15 15	3TC5617-0LB4 3TC5617-0LF4		1	1 unit 1 unit	41B 41B

¹⁾ The number of auxiliary contacts cannot be increased.

Other rated control supply voltages according to page 4/72 on request.

Accessories

Accessories, see basic units of the 3TC contactors, from page 4/72 onwards.

Spare parts for contactors with extended operating range

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

All spare parts not mentioned here are identical to those of the basic units of the 3TC contactors, see page 4/74.

²⁾ One NC contact used for series resistor.

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

Overview

3TC4 and 3TC5

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

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

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

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

One contactor conducting path can switch full power up to 220 V. For voltages over 220 V, the two conducting paths are to be switched in series, see "Rated data of the main contacts", page 4/67.

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 $1.2 \times U_c$.

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 4/69.

Application

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

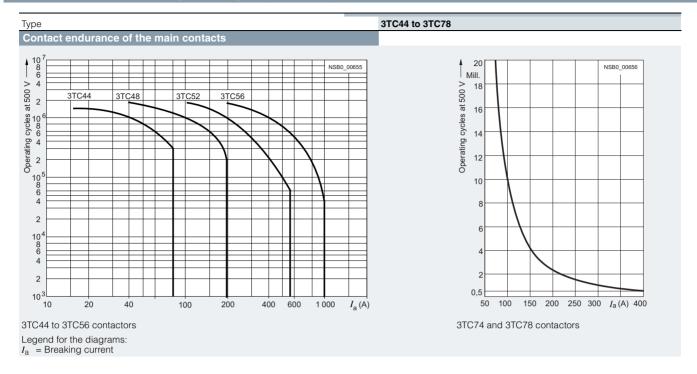
A version with an especially large actuating voltage is available for operation in electrically driven vehicles and in switchgear with a particularly large coil operating range (see page 4/74).

Technical specifications

Туре			3TC4 and 3TC7	3TC5
Rated data of the auxiliary contacts				
Rated insulation voltage <i>U</i> _i (pollution degree 3)		V	690	
Conventional thermal current I_{th} = rated operational current I_e /AC-12		А	10	10
AC load				
Rated operational current I _e /AC-15/AC-14				
$ullet$ For rated operational voltage $U_{ m e}$	24 V 110 V 125 V 220 V 230 V 380 V 400 V 500 V 660 V	AAAA AAAAA	10 10 10 6 5.6 4 3.6 2.5 2.5	10 10 10 6 5.6 4 3.6 2.5 2.5
DC load				
Rated operational current I _e /DC-12				
• For rated operational voltage $U_{\rm e}$	24 V 60 V 110 V 125 V 220 V 440 V 600 V	A A A A A	10 10 3.2 2.5 0.9 0.33 0.22	10 10 8 6 2 0.6 0.4
Rated operational current I _e /DC-13				
$ullet$ For rated operational voltage $U_{ m e}$	24 V 48 V 110 V 125 V 220 V 440 V 600 V	A A A A A A	10 5 1.14 0.98 0.48 0.13 0.07	10 5 2.4 2.1 1.1 0.32 0.21

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

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



Contactor Typ Siz		3TC44 2	3TC48 4	3TC52 8	3TC56 12
General data					
Dimensions (W x H x D) • DC operation • AC operation	mm mm	70 x 85 x 141 70 x 85 x 100		135 x 238 x 232 135 x 238 x 200	160 x 279 x 310 160 x 279 x 251
Permissible mounting position The contactors are designed for operation on a vertical mounting surface.		22,5°, 22,5°	22,5° 09900 098N		
Mechanical endurance Operating cycle	es	10 million			
Electrical endurance		See the endurance	ce 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, Appen	dix 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 t	terminal covers		
Shock resistance Rectangular pulse	<i>g</i> /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"	Α	50	160	250	400
Type of coordination "2"	Α	35	63	80	250
Auxiliary circuit (short-circuit current $I_k \le 1$ kA)					
 Fuse links, operational class gG: DIAZED, type 5SB; NEOZED, type 5SE 	Α	16			
Miniature circuit breaker with C characteristic	Α	10			
1) For 3TC44, one NC contact each must be connected in series for the right and left auxiliary switch block respectively.	nt Ra	ted data of the	auxiliary conta	cts, see page 4	/65.

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

Туре			3TC44	3TC48	3TC52	3TC56
Size			2	4	8	12
Control						
Solenoid coil operating range			0.8 1.1 x <i>U</i> _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 - Closed	VA/p.f.	68/0.86	300/0.5	640/0.48	1780/0.3
- Ac operation, 30 Hz con	- Closed	VA/p.f.	10/0.29	26/0.24	46/0.23	121/0.22
AC operation, 60 Hz coil	ClosingClosed	VA/p.f. VA/p.f.	95/0.79 12/0.3	365/0.45 35/0.26	730/0.38 56/0.24	2140/0.3 140/0.29
 AC operation, 50/60 Hz coil 	- Closing	VA/p.f.	79/73/0.83/0.78			
	at 50 Hz/60 Hz - 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)	at 00 112/00 112		(The values appl	v up to and inclu	ding 20% underv	roltage
Total break time = Opening delay + Arcing time					the coil is cold a	
DC operation	- Closing delay	ms	35 190	90 380	120 400	110 400
A.O	- Opening delay ¹⁾	ms	10 25	17 28	22 35	40 110
AC operation	 Closing delay Opening delay¹⁾ 	ms ms	10 40 5 25	20 50 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	` ,	_				
 Rated operational currents I_e (at 55 °C) 	Up to <i>U</i> _e 750 V	Α	32	75	220	400
Minimum conductor cross-section		mm ²	6	25	95	240
• Rated power at $U_{\rm e}$	At 220 V	kW	7	16.5	48	88
(≤ 220 V DC: one conducting path,	440 V	kW	14	33	97	176
> 220 V DC: two conducting paths in series)	600 V 750 V	kW kW	19.2 24	45 56	132 165	240 300
Utilization category DC-3 and DC-5,	7.00 V			-0	.00	555
Shunt-wound and series-wound motors (L/R	≤ 15 ms)					
Rated operational currents <i>I</i> _e (at EE 80)	Up to 220 V	A	32	75 75	220	400
(at 55 °C)	440 V 600 V	A A	29 21	75 75	220 220	400 400
	750 V	A	7.5	75	170	400
• Rated power at U_e	At 110 V	kW	2.5	6.5	20	35
(≤ 220 V DC: one conducting path,> 220 V DC: two conducting paths in series)	220 V 440 V	kW kW	5 9	13 27	41 82	70 140
2 LEG V 20. two defiduoting patrio in defies)	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		4				
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 term			
• Solid		mm ²	2 x (2.5 10)	2 x (6 16)		
• Finely stranded with end sleeve		mm ²	2 x (1.5 4)		0. 460	0 150
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)		05 (0 /05 -
Busbars Tamaia di annone		mm	 NAE	15 x 2.5	25 x 4	2 x (25 x 3
• Terminal screw			M5	M6	M10	
Auxiliary conductors (1 or 2 conductors connectable)						
• Solid		mm^2	2 x (1 2.5)			
Finely stranded with end sleeve		mm ²	2 x (0.75 1.5)			
The opening delay times can increase if the co	entactor coils are attaches		ited data of the	auvilion (aas-t-	oto occ soss	AICE

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

Rated data of the auxiliary contacts, see page 4/65.

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

Type			3TC74	3TC78
Design			1-pole contactors	2-pole contactors
General data			- pero comunicio	- poio communic
Dimensions (W x H x D)		mm	78 x 352 x 276	160 x 366 x 290
Permissible mounting position The contactors are designed for operation on a vertion mounting surface.	cal		22.5°, 22.5°, 22.5°, 26.5°, 20.	
Mechanical endurance		Oper- ating cycles	30 million	
Electrical endurance			See page 4/66	
Rated insulation voltage <i>U</i> _i (pollution degree 3)		V	1 500	
Rated impulse withstand voltage $U_{\rm imp}$		kV	8	
Protective separation between the coil and the ma acc. to IEC 60947-1, Appendix N	in contacts	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"		Α	630	
Type of coordination "2"		Α	500	
Auxiliary circuit (Short-circuit current $I_k \le 1 \text{ kA}$)				
 Fuse links, operational class gG: DIAZED, type 5SB; NEOZED, type 5SE 		А	16	
Miniature circuit breaker with C characteristic		Α	10	
Control				
Solenoid coil operating range				
DC operation	At $U_{\rm c} = 24 \text{ V}$		0.8 1.2 x U _s	
	At $U_{\rm c} > 24 \text{ V}$		0.7 1.2 x U _s	
AC operation	At $U_{\rm C} = 24 \text{ V}$		0.7 1.15 x U _s	
	At $U_{\rm c} > 24 \text{ V}$		0.7 1.14 x <i>U</i> _s	
Power consumption of the solenoid coils (for cold	0,	14:		
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 include 10% overvoltage, as well as when	
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 4/65.

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

Туре			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) 		Α	500	
Minimum conductor cross-section		mm^2	2 x 150	
Rated power	At 220 V	kW	110	
(≤ 750 V DC: one conducting path, > 750 V DC: two conducting paths in series)	440 V 600 V	kW kW	220 300	
> 130 V DC. two conducting paths in series)	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 750 V	A A	≤ 13 ≤ 15	
	≤ 800 V	Α		≤ 7
	1 200 V	Α		≤ 13
	1 500 V	Α		≤ 15
Utilization category DC-3 and DC-5, Shunt-wound and series-wound motors (<i>L/R</i> ≤ 15 ms)				
 Rated operational current I_e (at 55 °C) 		Α	400	
• Rated power at U_e	At 110 V	kW	35	
(≤ 220 V DC: one conducting path, > 220 V DC: two conducting paths in series)	220 V 440 V	kW kW	70 140	
· · · · · · · · · · · · · · · ·	600 V	kW	200	
	750 V 1 200 V	kW kW	250	400
	1 500 V	kW		500
Permissible rated current for regenerative braking at 110 600 V		Α	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 connectable)				
• 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 4/65.

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

Selection and ordering data

DC operation ==== or AC operation, 50 Hz





												3TC44		3TC48		
Size	Utilization category ¹⁾	Operational current $I_e^{(2)}$	DC m	DC motors				Auxiliary contacts ³⁾ Version Rated control SD supply voltage U _s				Screw terminals		PU (UNIT, SET, M)	PS*	PG
		1e	110 V	/ 220 V	/ 440 \	/ 600 V	/ 750 V	. \	7			Article No.	Price per PU			
		Α	kW	kW	kW	kW	kW	NO	NC	V	d					
3TC4	4 to 3TC56	2-pole	cont	actor	s · Op	eratio	nal vo	oltage	e up t	o 750 V						
DC of	peration															
For sc	rew fixing a	nd snap	-on m	ountin	g onto	TH 35	stand	ard m	ountin	ıg rail						
2	DC-3, DC-5	32	2.5	5	9	9	4	2	2	24 DC 110 DC 220 DC	> > >	3TC4417-0AB4 3TC4417-0AF4 3TC4417-0AM4		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
For sc	rew fixing															
4	DC-3, DC-5	75	6.5	13	27	38	45	2	2	24 DC 110 DC 220 DC	2 2 2	3TC4817-0AB4 3TC4817-0AF4 3TC4817-0AM4		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
8	DC-3, DC-5	220 ⁴⁾	20	41	82	110	110	2	2	24 DC 110 DC	15 15	3TC5217-0AB4 3TC5217-0AF4		1	1 unit 1 unit	41B 41B

										220 DC	>	3TC4417-0AM4	1	1 unit	41B
Fors	screw fixing														
4	DC-3, DC-5	75	6.5	13	27	38	45	2	2	24 DC 110 DC 220 DC	2 2 2	3TC4817-0AB4 3TC4817-0AF4 3TC4817-0AM4	1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
8	DC-3, DC-5	220 ⁴⁾	20	41	82	110	110	2	2	24 DC 110 DC 220 DC	15 15 10	3TC5217-0AB4 3TC5217-0AF4 3TC5217-0AM4	1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
12	DC-3, DC-5	400	35	70	140	200	250	2	2	24 DC 110 DC 220 DC	15 15 15	3TC5617-0AB4 3TC5617-0AF4 3TC5617-0AM4	1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
AC	operation,	50 Hz													

AC	operation,	50 Hz
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	p = : a : : : : ; ;														
For s	crew fixing a	and snap	o-on m	ountir	ng onto	TH 35	stand	lard m	ountir	ng rail					
2	DC-3, DC-5	32	2.5	5	9	9	4	2	2	220/230 AC ⁵⁾ 110/110 AC	2	3TC4417-0BP0 3TC4417-0BF0	1 1	1 unit 1 unit	41B 41B
For s	crew fixing														
4	DC-3, DC-5	75	6.5	13	27	38	45	2	2	220/230 AC ⁵⁾ 110 AC	2	3TC4817-0BP0 3TC4817-0BF0	1 1	1 unit 1 unit	41B 41B
8	DC-3, DC-5	220 ⁴⁾	20	41	82	110	110	2	2	220/230 AC ⁵⁾ 110 AC	2 10	3TC5217-0BP0 3TC5217-0BF0	1 1	1 unit 1 unit	41B 41B
12	DC-3, DC-5	400	35	70	140	200	250	2	2	220/230 AC ⁵⁾ 110 AC	15 15	3TC5617-0BP0 3TC5617-0BF0	1 1	1 unit 1 unit	41B 41B

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

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

Contactor Type	Rated operati	
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.

Other rated control supply voltages according to page 4/72 on request.

Accessories, see page 4/72 onwards.

Spare parts, see page 4/74.

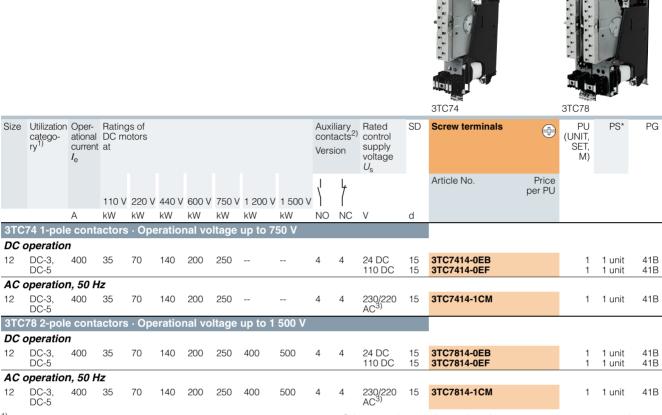
⁴⁾ At > 600 V: $I_{\rm e} = 170$ A.

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

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

DC operation === or AC operation, 50 Hz

For screw fixing



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

Other rated control supply voltages according to page 4/72 on request.

Spare parts, see page 4/74.

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 $U_{\rm S}$

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

Options

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

Delivery time on request

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

 $^{^{1)}}$ Operating range at 220 V AC: 0.85 to 1.15 \times $U_{\rm S}$; lower operating range limit according to IEC 60947.

Accessories

Accessories											
	For contactors		or contactors Version Aux Auxiliary Left contacts		witch block Right			+	PU (UNIT, SET, M)	PS*	PG
			\				Article No.	Price per PU			
	Size	Type	NO NC			d					
Second auxi	liary swit	ch block	s (for AC op	eration only	/)						
	4	3TC48	2nd auxiliary 1 1	switch block, 53 61 + 54 62	left 	20	3TY6501-1K		1	1 unit	41B
			2nd auxiliary 1 1	switch block, 	right [71] 83	20	3TY6501-1L		1	1 unit	41B
	8 and 12	3TC52, 3TC56	2nd auxiliary 1 1	switch block, 53 61 + 54 62	left 	20	3TY6561-1K		1	1 unit	41B
			2nd auxiliary 1 1	switch block,	right 71 83 2 4 72 84	20	3TY6561-1L		1	1 unit	41B
Solid-state c	ompatible	e auxilia	ry switch blo	ocks							
- Park	2 and 4	3TC44, 3TC48	solid-state of $I_{e/}$ AC-14 and 2^{nd} auxiliary	ircuits with rate d DC-13 of 1 switch block,	ospheres and in ed operational currents . 300 mA at 3 60 V left or right 1U, 3TY6561-1V)	5	3TY7561-1UA00		1	1 unit	41B

5TY7561-1.

1 CO contact

²⁾ Upper operating range limit at 230 V AC: 1.14 \times $U_{\rm S}$.

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

			Rated cont voltage U _s	rol supply	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	
	Size	Туре		V AC	V DC	d					
Surge suppressors	s · Varisto	rs									
	2	3TC44 ¹⁾	Varistors ²⁾ With line spacer, for mounting onto the coil terminal			2 2 2 20 20	3TX7402-3G 3TX7402-3H 3TX7402-3J 3TX7402-3K 3TX7402-3L		1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41B 41B 41B 41B 41B
3TX7402-3.	4	3TC48	Varistors ²⁾ For sticking onto the contactor base or for mounting separately	24 48 48 127 127 240 240 400 400 600		2 5 2 5 5	3TX7462-3G 3TX7462-3H 3TX7462-3J 3TX7462-3K 3TX7462-3L		1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41B 41B 41B 41B 41B
	8 and 12	3TC52, 3TC56	Varistors For sticking onto the contactor base or for mounting separately	24 48 48 127 127 240 240 400 400 600		2 5 2 5 5	3TX7462-3G 3TX7462-3H 3TX7462-3J 3TX7462-3K 3TX7462-3L		1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41B 41B 41B 41B 41B
3TX7462-3.	8 and 12	3TC52, 3TC56	Varistors ²⁾ For separate screw fixing or snapping onto TH 35 standard mounting rail		24 70 70 150 150 250	5 5 5	3TX7522-3G 3TX7522-3H 3TX7522-3J		1 1 1	1 unit 1 unit 1 unit	41B 41B 41B
3TX7522-3.											
Surge suppressors	s · RC elen	nents									
	4	3TC48	RC elements For lateral	24 48	 24 70	20	3TX7462-3R 3TX7522-3R		1 1	1 unit	41B 41B
			snapping onto auxiliary switch or	48 127	 70 150	5 2 5	3TX7462-3S 3TX7522-3S		1 1	1 unit 1 unit 1 unit	41B 41B 41B
Title-u C-dys.F			TH 35 standard mounting rail	127 240 		2	3TX7462-3T 3TX7522-3T		1	1 unit 1 unit	41B 41B
11 5				240 400 400 600		2 5	3TX7462-3U 3TX7462-3V		1 1	1 unit 1 unit	41B 41B
3TX7462-3., 3TX7522-3.	8 and 12	3TC52, 3TC56	RC elements For lateral snapping onto auxiliary switch or TH 35 standard mounting rail	24 48 48 127 127 240 240 400 400 600		5 5 5 5 5	3TX7522-3R 3TX7522-3S 3TX7522-3T 3TX7522-3U 3TX7522-3V		1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	41B 41B 41B 41B 41B
Surge suppressors	s · Diodes										
3TX7462-3.	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
1) The connection piece	e for mountir	ng the sur	ge suppressor must l	be bent	2) Includ		e peak value of the al	ternating vo	Itage on the	DC side.	

slightly.

³⁾ Not for DC economy circuit.

	For contactors		Version	ion SD		Price per PU	PU (UNIT, SET, M)	PS*	PG
	Size	Type		d					
Terminal covers									
4.4	6	3TC48	For protection against inadvertent con- Me	5 5	3TX6506-3B		1	1 unit	41B
	8 and 12	3TC52, 3TC56	tact with exposed busbar connections M: Can be screwed on free screw end; covers one busbar connection (1 set = 6 units)	10 5	3TX6546-3B		1	1 unit	41B
3TX6546-3B									

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

Spare	parts
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Spare parts	5												
	For conta	ctors	Version		diliary tacts	Auxiliary swi	tch block Right	SD	Screw terminals		PU (UNIT, SET, M)	PS*	PG
				\I	}				Article No.	Price per PU			
	Size	Type		NO	NC			d					
Auxiliary s	witch blo	cks											
44	For late	ral mou	nting						-				
	2 and 4	3TC44, 3TC48	Auxiliary switch block (replacement for 3TY6501-1A, 3TY6501-1B)	1	1	13 21 7 14 22	31 43	20	3TY6501-1AA00		1	1 unit	41B
	8 and 12		Auxiliary switch block, left	1	1	13 21 7 14 22		20	3TY6561-1A		1	1 unit	41B
3TY6561-1A			Auxiliary switch block, right	1	1		31 43 2 44	20	3TY6561-1B		1	1 unit	41B
	12	3TC74	Auxiliary switch block	4	4	13 21 31 43 	53 61 71 83 	5	3TY2741-2J		1	1 unit	41B
	12	3TC78	Auxiliary switch block, left	2	2	13 21 31 43		20	3TY2781-2C		1	1 unit	41B
			Auxiliary switch block, right	2	2	14 22 32 44 	53 61 71 83 	15	3TY2781-2D		1	1 unit	41B
	For conta	otoro	Version			Rated contro	al cupply	SD	Article No.	Price	PU (UNIT,	PS*	PG
	1 Of Corta	Ciors	VEISION			voltage U_s	or supply	30	Article No.	per PU	SET, M)	13	ru
	Size	Type				V AC/DC		d					
Surge supp	pressors	· Varist	ors										
	12	3TC7	For sticking onto contactor base	the		24 110		15 10	3TX2746-2F 3TX2746-2G		1 1	1 unit 1 unit	41B 41B
	For conta		Version					SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	Size	Туре						d					
Solenoid c		1\											
	DC oper 2 4 8 12	3TC44 3TC48 3TC52 3TC56							3TY6443-0B 3TY6483-0B 3TY6523-0B 3TY6563-0B				
	AC oper	ration ¹⁾											
	2 4 8 12	3TC44 3TC48 3TC52 3TC56							3TY7403-0A 3TY6483-0A 3TY6523-0A 3TY6566-0A				
Contacts w	vith fixing	parts									_ _ _		
			reliable operation o										
	, ,	3TC44	(1 set = 2 moving				lements)	5	3TY2440-0A		1	1 unit	41B
3TY2520-0A	2 4 8 12	3TC48 3TC52 3TC56	(1 30t = 2 moving	gana	I T IIAC	ou switching c	лоттотта	5 5 5	3TY2480-0A 3TY2520-0A 3TY2560-0A		1 1 1	1 unit 1 unit 1 unit 1 unit	41B 41B 41B
	12	3TC7	Main contacts (1		uuirod	nor contacts:	,	5	3TY2740-0E		1	1 unit	41B
Arc chutes			For 3TC78: 2 unit	is rec	uirea	per contactor							
Aire citates	2	3TC44	Arc chutes, 2-pol	le.				15	3TY2442-0A		1 1	1 unit	41B
	4	3TC48	, 511dt05, 2 p01					15	3TY2482-0A		1	1 unit	41B
	8 12	3TC52 3TC56						15 15	3TY2522-0A 3TY2562-0A		1 1	1 unit 1 unit	41B 41B
	12	3TC7	for 3TC78: 2 units	s req	uired	per contactor		15	3TY2742-0C		1	1 unit	41B
3TY2482-0A													

¹⁾ For rated control supply voltages, see page 4/72. The 10th and 11th digits of the article number must be supplemented accordingly.