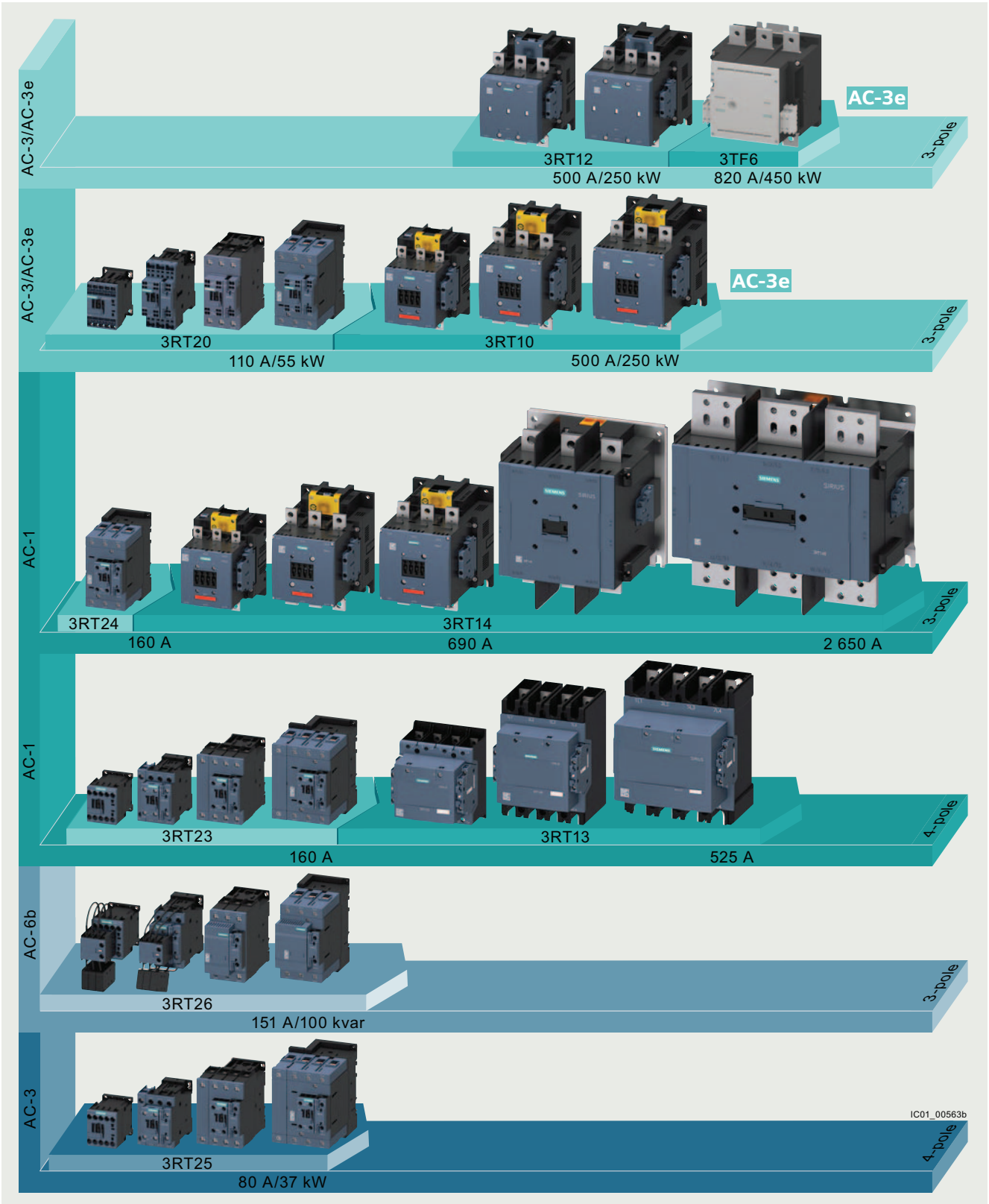
4

Overview



Overview of the 3RT and 3TF contactors

More information	
Homepage, see www.siemens.com/sirius	Conversion tool, see www.siemens.com/conversion-tool
SiePortal, see www.siemens.com/product?3RT_3TK_3TC	TIA Selection Tool Cloud (TST Cloud), see www.siemens.com/tstcloud/?node=Contactor




Size			**S3**			**S6**	**S10**		**S12**	
Type			3RT244.			3RT1456	3RT146.		3RT1476	
3-pole 3RT244 and 3RT145 to 3RT147 contactors										
Type			**3RT2446**	**3RT2448**		**3RT1456**	**3RT1466**	**3RT1467**	**3RT1476**	
Number of main contacts			3 NO			3 NO	3 NO		3 NO	
AC, AC/DC operation			(p. 4/16)			(p. 4/17, 4/18)	(p. 4/17, 4/18)		(p. 4/17, 4/18)	
AC-1										
U_i		V	1 000							
U_e		V	690							
I_e **up to 690 V**	**40 °C**	**A**	**140**	**160**		**275**	**400**	**500**	**690**	
	60 °C	A	130	140		250	380	450	Standard operating mechanism: 650, solid-state operating mechanism: 600	

Accessories for contactors		
Auxiliary switches	**3RH29, 3RA28** (p. 3/88 ... 3/97)	**3RH19, 3RP25** (p. 3/91, 3/93, 3/96, 10/44)
Function modules (direct-on-line starting, star-delta (wye-delta) starting)	**3RA28** (p. 3/101)	**--**
Terminal covers	**3RT2946-4EA4** (p. 3/115)	**3RT1956-4EA.** (p. 3/115)
Box terminal blocks	**--**	**3RT1955-4G, 3RT19.6-4G** (p. 3/113)
Surge suppressors	**3RT2936, 3RT2946** (p. 3/98, 3/99)	**3RT1956-1C** (RC element) (p. 3/99)




Type			3RT1481, 3RT1482			3RT1483	3RT1485, 3RT1486		3RT1487	
3-pole 3RT148 contactors										
Type			**3RT1481**	**3RT1482**		**3RT1483**	**3RT1485**	**3RT1486**	**3RT1487**	
Number of main contacts			3 NO							
AC/DC operation			(p. 4/19)							
AC-1										
U_i		V	1 000							
U_e		V	1 000							
I_e	**40 °C**	**A**	**900**	**1 050**		**1 260**	**1 700**	**2 100**	**2 650**	

Accessories for contactors			
Second auxiliary switch, lateral	**3RH1981-1JA11** (p. 4/19)		
Spare parts for contactors			
First auxiliary switch, lateral	**3RH1981-1DA11** (p. 4/20)		
Phase barriers	**3RT1983-4AA1** (p. 4/20)	**3RT1987-4AA1** (p. 4/20)	
Withdrawable coils	**3RT1982-5A.31** (p. 4/20)	**3RT1983-5AP31** (p. 4/20)	**3RT1987-5AP31** (p. 4/20)

Introduction

Size		**S00**		**S0**			**S2**		**S3**			
Type		3RT231.		3RT232.			3RT233.		3RT234.			
4-pole 3RT23 contactors												
Type		**3RT2316**	**3RT2317**	**3RT2325**	**3RT2326**	**3RT2327**	**3RT2336**	**3RT2337**	**3RT2344**	**3RT2346**	**3RT2348**	
Number of main contacts		4 NO		4 NO			4 NO		4 NO			
AC, DC and AC/DC operation		(p. 4/29, 4/31)		(p. 4/29 ... 4/31)			(p. 4/29 ... 4/33)		(p. 4/29 ... 4/33)			
AC-1												
U_i	V	690										
U_e	V	690										
I_e up to 690 V	**40 °C A**	**18**	**22**	**35**	**40**	**50**	**60**	**110**	**110**	**140**	**160**	
	60 °C A	16	20	30	35	42	55	95	100	130	140	
AC-3												
I_e up to 400 V	A	9	12	15.5	15.5	15.5	--	--	--	--	--	
P at 400 V	**kW**	**4**	**5.5**	**7.5**	**7.5**	**7.5**	**--**	**--**	**--**	**--**	**--**	
Accessories for contactors												
Auxiliary switches		**3RH29, 3RA28**										(p. 3/88 ... 3/97)
Function modules (direct-on-line starting, star-delta (wye-delta) starting)		**3RA28**										(p. 3/101)
Terminal covers		**--**					**3RT2936-4EA4**	(p. 3/115)	**3RT2946-4EA4**			(p. 3/115)
Surge suppressors		**3RT2916**	(p. 3/98, 3/99)				**3RT2936**	(p. 3/98, 3/99)	**3RT2936, 3RT2946**			(p. 3/98, 3/99)

Size		**S6**			**S10**			**S12**				
Type		3RT1355			3RT136.			3RT137.				
4-pole 3RT13 contactors												
Type		**3RT1355**			**3RT1363**	**3RT1364**		**3RT1373**	**3RT1374**	**3RT1375**		
Number of main contacts		4 NO			4 NO			4 NO				
AC/DC operation		(p. 4/34)			(p. 4/34)			(p. 4/34)				
AC-1												
U_i	V	1 000										
U_e	V	690			1 000							
I_e	40 °C A	200			275	350		400	500	525		
Accessories for contactors												
Second auxiliary switch, lateral		**3RH1951-1SA11**										(p. 4/35)
Terminal covers		**3RT1956-4EB10**	(p. 4/35)		**3RT1966-4EB10**		(p. 4/35)	**3RT1976-4EB10**				(p. 4/35)
Mechanical interlocks		**3RA1954-3A**										(p. 4/35)
Bus connectors offset		**--**			**3RT1966-4D**		(p. 4/35)	**3RT1976-4D**				(p. 4/35)
Spare parts for contactors												
First auxiliary switch, lateral		**3RH1951-1TA11**										(p. 4/35)




Size			**S00**			**S0**	**S2**		**S3**	
Type			3RT251.			3RT252.	3RT253.		3RT254.	
4-pole 3RT25 contactors										
Type			**3RT2516**	**3RT2517**	**3RT2518**	**3RT2526**	**3RT2535**	**3RT2536**	**3RT2544**	**3RT2545**
Number of main contacts			2 NO + 2 NC			2 NO + 2 NC	2 NO + 2 NC		2 NO + 2 NC	
AC, DC and AC/DC operation			(p. 4/39, 4/40)			(p. 4/39, 4/40)	(p. 4/39, 4/41)		(p. 4/39, 4/41)	
AC-1										
U_i		V	690							
U_e		V	690							
I_e up to 690 V	**40 °C**	**A**	**18**	**22**	**22**	**40**	**60**	**70**	**100**	**125**
	60 °C	A	16	20	20	35	55	60	90	105
AC-3										
I_e up to 400 V	NO	A	9	12	16	25	35	41	65	80
	NC	A	9	9	9	25 (20)[1]	35	41	65	80
P										
at 400 V	**NO**	**kW**	**4**	**5.5**	**7.5**	**11**	**18.5**	**22**	**30**	**37**
	NC	**kW**	**4**	**4**	**4**	**11 (7.5)[1]**	**18.5**	**22**	**30**	**37**
at 230 V	NO	kW	2.2	3/2.2	4/2.2	5.5	11	11	18.5	22
	NC	kW	2.2	3/2.2	4/2.2	5.5	11	11	18.5	22
Accessories for contactors										
Auxiliary switches			**3RH29, 3RA28**							(p. 3/88 ... 3/97)
Function modules (direct-on-line starting, star-delta (wye-delta) starting)			**3RA28**							(p. 3/101)
Terminal covers			**--**				**3RT2936-4EA4** (p. 3/115)		**3RT2946-4EA4** (p. 3/115)	
Surge suppressors			**3RT2916** (p. 3/98, 3/99)			**3RT2926** (p. 3/98, 3/99)	**3RT2936** (p. 3/98, 3/99)		**3RT2936, 3RT2946** (p. 3/98, 3/99)	

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

Further contactors

- SIRIUS 3RT26 contactors for capacitive loads (AC-6b), 3-pole, see page 4/42 onwards
- 3TC contactors for switching DC voltage, 1-pole and 2-pole, see page 4/71 onwards
- Contactors for railway applications
  - SIRIUS 3RT contactors with extended operating range, 3-pole, see page 4/54 onwards
  - SIRIUS 3RH2 contactor relays with extended operating range, see page 4/63 onwards
  - 3TH4 contactor relays, 8-pole, see page 4/66 onwards
  - 3TC contactors for switching DC voltage, 2-pole, see page 4/68 onwards

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-loaded terminals both for the main as well as for the auxiliary and control circuits
  - Sizes S2 and S3: screw terminals (complete devices) or spring-loaded terminals (auxiliary circuit only)
- 3RT13 contactors, sizes S6 to S12: Busbar connections (partly with bus connectors offset), auxiliary and control circuits with screw terminals
- 3RT14 contactors: Busbar connections

Screw terminals

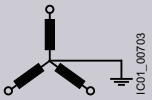
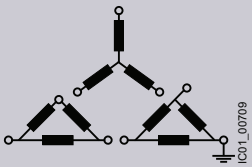
Spring-loaded terminals

Busbar connections

The connection method is indicated in the corresponding tables by the symbols shown on orange backgrounds.

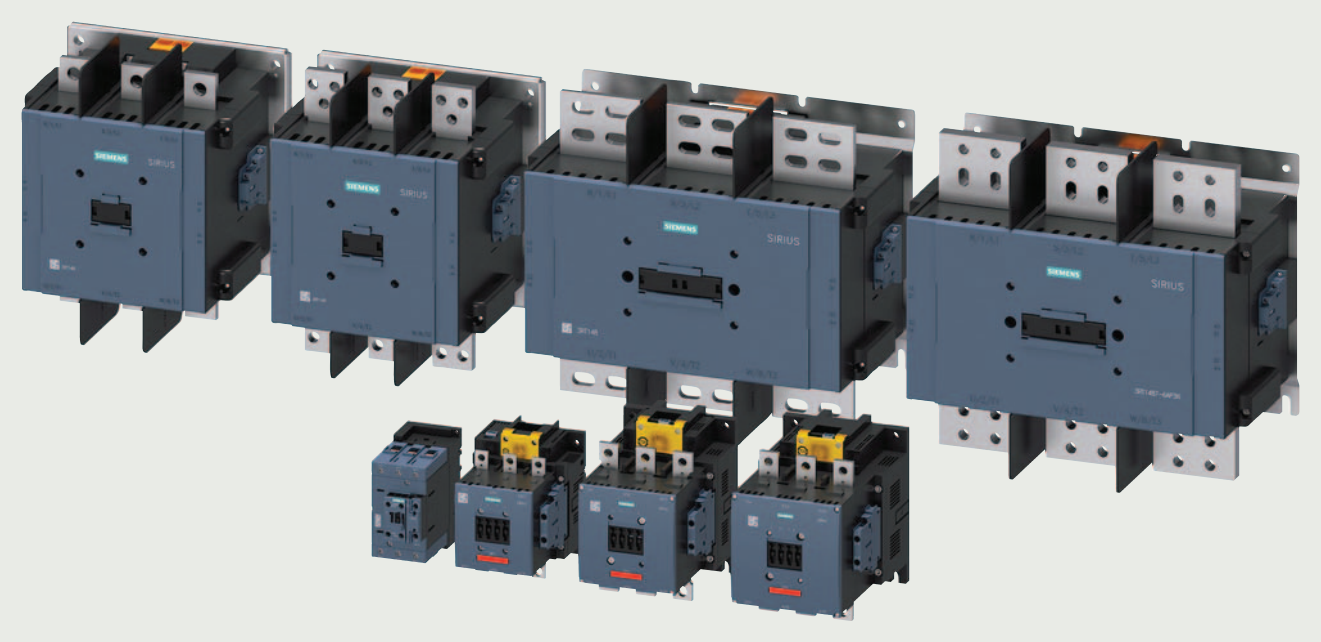
Voltage data

The data for 3-phase power systems according to IEC 60947-4-1 are valid for the following line system configurations:

Voltage U_e	Line system configurations	
	Three-phase four-wire systems	Three-phase three-wire systems
		
V	V	V
230	--	230
400	230/400	400
440	260/440	440
500	--	500
690	400/690	690 (only from size S3)
1 000	--	1 000

-- Not specified

Overview



3-pole AC-1 contactors
top row: 3RT148 contactors
bottom row: 3RT244, 3RT145 to 3RT147 contactors

Standards

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

Contactors with increased tamper protection

Increased tamper protection is ensured either by using our contactor versions with factory-installed, permanently mounted auxiliary switches which are protected against mechanical external actuation (e.g. 3RT14..-.....-3PA0 contactors), or by using the 3RT1926-4MA10 sealable cover as an accessory, (see page 3/115).

Protecting connections against short circuit, overload and overvoltage

All connections must generally be protected against overload and short circuits using suitable measures. Different constraints must be considered depending on the type of connection:

Short-circuit and overload protection of main connections

For information on the protection of a free-standing contactor, see the technical product data sheet.

For more information on device combinations such as contactor with overload relay or contactor with circuit breaker as motor feeder, refer to

- Digital Configuration Manual for load feeders
- Configuration Manual for load feeders

Short-circuit and overload protection of auxiliary connections

For information on the protection of auxiliary contacts, see the technical product data sheet

Short-circuit and overload protection of control supply voltage or supply voltage connections

First of all, the relevant standards and regulations for configuring control cabinets and the parts and components installed in them must be taken into account, for example for cable dimensioning.

One possible protection for these circuits could be the selection of a suitable power supply, i.e. one with a current-limiting function. In the selection of the source and the connecting cable, the load characteristics of the contactor must be considered (short-time inrush current peaks for solid-state contactor operating mechanisms, switch-on power, holding power). The same applies to the selection of suitable protective devices.

If there are further switching elements in the circuit, such as the auxiliary contact system of an overload relay that operates the contactor, the short-circuit protection necessary for this must also be considered.

For further recommendations, e.g. the use of miniature circuit breakers or circuit breakers for equipment in control circuits, see Control cabinet tip – Selecting and dimensioning suitable power supplies quickly and reliably.

Short-circuit and overload protection of contactors with digital input

A typical rated current of 20 mA applies to these inputs based on the PLC input types according to IEC 60947-4-1. The inputs can be protected accordingly.

- Contactors with PLC and F-PLC inputs:
  - For 3RT14..-.S and 3RT14..-.N, marked with +/-
- Supply voltage connections A1 - A2:
  - For 3RT14..-.N, protection based on the load characteristics must be employed.
    For information on power consumption, see the technical product data sheet.
  - For 3RT14..-.S, protection is already integrated.

Short-circuit and overload protection of other connections

The 3RT14..-.P contactor version with remaining lifetime indicator (RLT) also has additional connections H1 - H2 and R1 - R2.

If A1 - A2 is already protected, further protection of H1 - H2 is not required.

For protection specifications for protecting R1 - R2, see the technical product data sheet.

Protection against overvoltage at the control supply voltage connection

3RT244 contactors supplied without a coil circuit can be retrofitted with RC elements, varistors, diodes or diode assemblies (combination of diode and Zener diode for short break times) for damping switching overvoltages in the coil and can be ordered separately as accessories, see page 3/98 onwards.

3RT14 contactors are already equipped with coil damping (varistor).

Note:

The break times of the contactor, the opening delay times of the NO contacts and the closing delay times of the NC contacts increase in the event of damping.

For more information about influencing the time response using damping, see Equipment Manual.

Connection methods

Main circuit

- 3RT244 contactors:
  Screw terminals with box terminal;
  direct connection to the connecting bar possible with cable lugs when the box terminal is removed.
- 3RT145 to 3RT147 contactors:
  Screw terminals with connecting bars that the cables can be connected to using either cable lugs or flexible or rigid busbars. Alternatively, box terminals are available as accessories.
- 3RT148 contactors:
  Screw terminals with connecting bars

Auxiliary and control circuits

- 3RT24, 3RT145 to 3RT147:
  Screw or spring-loaded terminals
- 3RT148:
  Screw terminals

Electromagnetic compatibility (EMC)

The contactors comply with the conditions for environment A according to IEC 60947-1.

Note:

When the contactors are used in an environment with frequency converters, the configuration notes must be observed, see Equipment Manual.

Contact reliability of the auxiliary contacts

If voltages ≤ 110 V and currents ≤ 100 mA are to be switched, the auxiliary contacts of the 3RT contactors or 3RH contactor relays should be used as they guarantee a high level of contact reliability.

These auxiliary contacts are particularly suitable for solid-state circuits with currents ≥ 1 mA at a voltage ≥ 17 V.

Operating mechanism types

3RT244 contactors

The 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_S, control takes place via the control supply voltage connection A1 - A2.

3RT145 to 3RT147 contactors

The contactors 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 control and/or operating mechanism versions are available:

- 3RT14..-.A contactors:
  Standard operating mechanism for AC and DC operation (power consumption reduced from closing power to holding power)
- 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 following versions are available:
  - 3RT14..-.N contactors:
    With two operating modes: Direct control or via PLC input (24 V DC)
  - 3RT14..-.P contactors:
    Control via PLC input (24 V DC) only, but with additional remaining lifetime indicator (RLT)
  - 3RT14..-.S contactors:
    Control via fail-safe PLC input (24 V DC) only, for simplification of safety applications

3RT148 contactors

The contactors are equipped with a solid-state operating mechanism for AC/DC control; coil damping is integrated. The operating range is 0.85 to 1.1 x U_S.

Replacing solenoid coils, operating mechanisms or spare contacts

3RT244 contactors

Solenoid coil or spare contact replacement is possible.

3RT145 to 3RT147 contactors

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

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

3RT148 contactors

The operating mechanisms are removable and can be replaced simply by unlocking and pulling them out.

Fitting auxiliary contacts and mounting additional auxiliary switches

Features in the delivery state

- 3RT244 contactors:
  Two auxiliary contacts (1 NO + 1 NC) are integrated in the basic unit.
- 3RT14 contactors:
  These contactors are supplied with two laterally mounted auxiliary switches with two contacts each (2 NO + 2 NC).

Expansion possibilities

All basic units can be expanded using auxiliary switches; the permissible configuration must be observed.

For detailed information about the fitting of auxiliary switches for 3RT244 contactors, see pages 3/80 to 3/87.

Accessories and spare parts

- 3RT244 and 3RT145 to 3RT147 contactors, see Basic units, page 3/69 onwards
- 3RT148 contactors, see page 4/19 onwards

Connection of contactors to fail-safe control modules

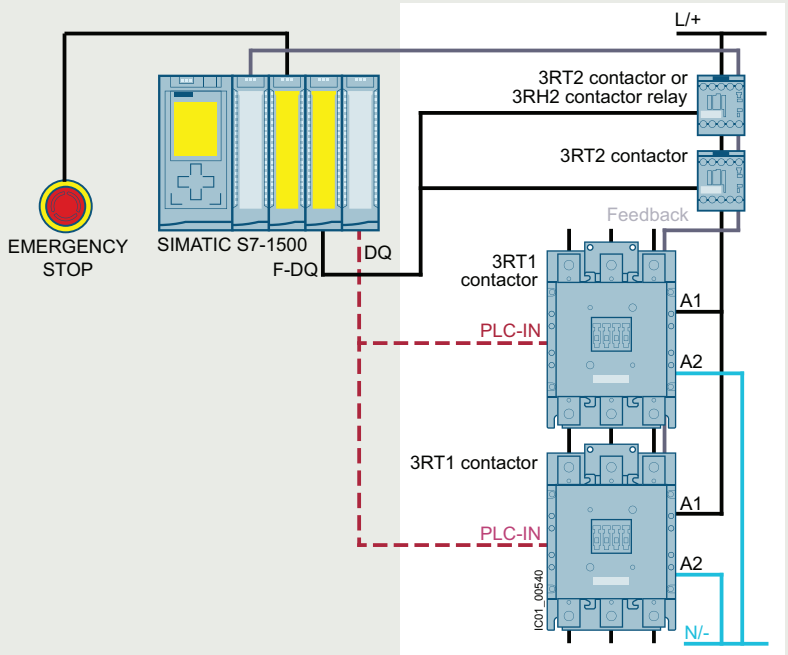
While contactors with smaller power ratings can be connected directly to the outputs of fail-safe controllers, implementing safety-related applications with standard contactors with higher power is much more complicated and elaborate because of the necessary coupling links.

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

For more information, see

- Safety technology, page 11/1 onwards
- Guide of use for contactors in safety applications

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

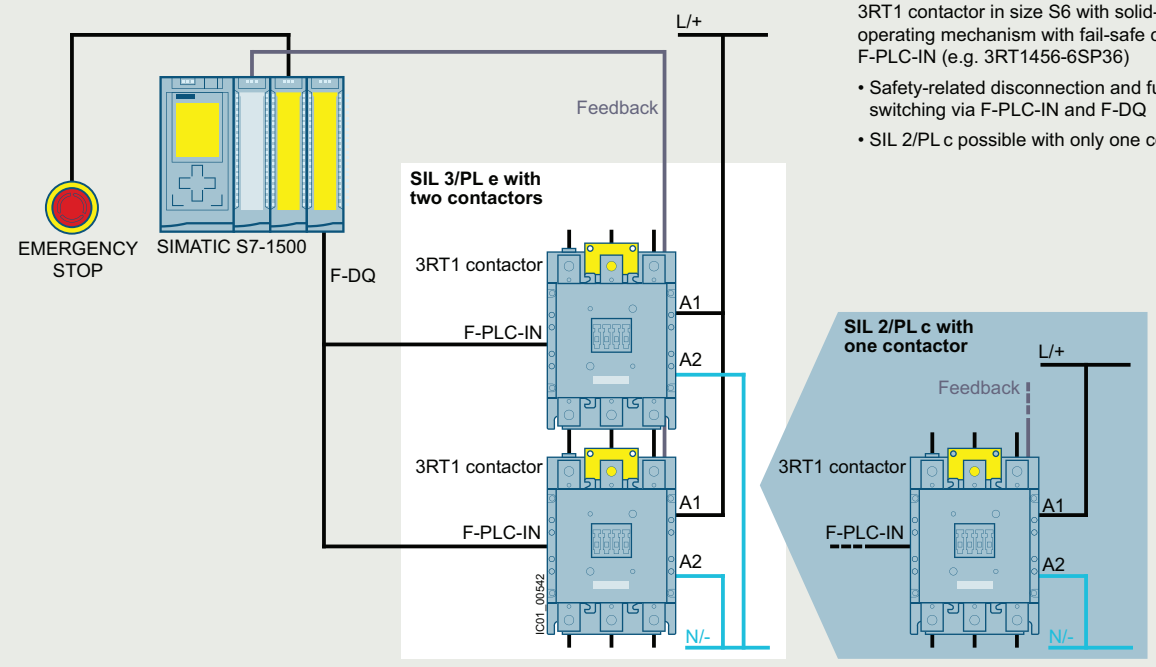


3RT1 contactor in size S6 with standard or solid-state operating mechanism with PLC-IN

- Safety-related disconnection only possible via coupling links and F-DQ
- Standard operating mechanism: functional 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 using the example of a 3RT145 contactor

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



3RT1 contactor in size S6 with solid-state operating mechanism with fail-safe control input F-PLC-IN (e.g. 3RT1456-6SP36)

- Safety-related disconnection and functional switching via F-PLC-IN and F-DQ
- SIL 2/PL c possible with only one contactor

Application with safety-related disconnection with contactors with fail-safe control using the example of a 3RT145 contactor

SIRIUS 3RT.4 contactors for weak or non-inductive loads (AC-1), 3-pole up to 2 650 A

Graphic overviews with mountable accessories

- 3RT244 contactors, see page 3/11
- 3RT145 to 3RT147 contactors, see page 3/12 onwards
- 3RT148 contactors, see following graphic

1 3RT1481 to 3RT1487 contactors
(3RT1487 contactor is shown)

Can be mounted on side of contactor
2 3RH1981-1JA11 second auxiliary switch

3RT1481 to 3RT1487 contactors with mountable accessories

Application

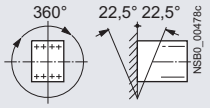
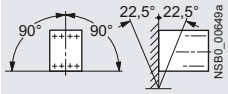
The 3RT.4 contactors can be used for the following applications:

- For switching weak or non-inductive loads (AC-1)
- Disconnecting loads or power generation plants from the grid (e.g. wind turbines or photovoltaic systems)
- Disconnecting frequency converters from the grid

Technical specifications

More information

Technical specifications, see https://support.industry.siemens.com/cs/ww/en/ps/24229/td
FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/24229/faq
Manuals, see https://support.industry.siemens.com/cs/ww/en/ps/24229/man
Guide of use for contactors in safety applications, see https://support.industry.siemens.com/cs/ww/en/view/109807687

Type		3RT2446, 3RT2448	3RT1456	3RT1466	3RT1467	3RT1476
Size		S3	S6	S10		S12
General data						
Dimensions (W x H x D)						
• Basic units - Screw/spring-loaded terminals	mm	70 x 140 x 152	120 x 172 x 170	145 x 210 x 202		160 x 214 x 225
• Basic unit with mounted auxiliary switch - Screw terminals	mm	70 x 140 x 196	120 x 172 x 217	145 x 210 x 251		160 x 214 x 271
- Spring-loaded terminals	mm	70 x 140 x 200	--			
• Basic unit with mounted function module or solid-state time-delay auxiliary switch - Screw/spring-loaded terminals	mm	70 x 140 x 226	--			
Permissible mounting position The contactors are designed for operation on a vertical mounting surface.						
Upright mounting position		 Special version required	--			
Mechanical endurance						
• Basic units and basic units with mounted auxiliary switch	Operating cycles	10 million				
• Basic units with solid-state compatible auxiliary switch	Operating cycles	5 million	--			
Electrical endurance for utilization category AC-1, at U_e = 400 V	Operating cycles	0.5 million			0.35 million	0.5 million
Rated insulation voltage U_i (pollution degree 3)	V	1 000				
Rated impulse withstand voltage U_{imp}	kV	6	8			
Protective separation between the coil and the main contacts according to IEC 60947-1, Annex N	V	690				
Mirror contacts according to IEC 60947-4-1, Annex F A mirror contact is an auxiliary NC contact that cannot be closed simultaneously with an NO main contact.						
• Integrated auxiliary switches		Yes	--			
• Removable auxiliary switches		--	Yes			
Permissible ambient temperature						
• During operation	°C	-25 ... +60				
• During storage	°C	-55 ... +80				
Short-circuit protection						
Main circuit						
• Version of the fuse link required for short-circuit protection of the main circuit						
- For type of coordination "1"		gG: 250 A (690 V, 100 kA)	gG: 355 A (690 V, 100 kA)	gG: 500 A (690 V, 100 kA)		gG: 800 A (690 V, 50 kA)
- For type of coordination "2"		gG: 250 A (690 V, 100 kA)	gG: 350 A (690 V, 100 kA)	gG: 500 A (690 V, 100 kA)		gG: 710 A (690 V, 100 kA)
Auxiliary circuit						
• Version of the fuse link required for short-circuit protection of the auxiliary switch	A	Fuse gG: 10				
• Version of the miniature circuit breaker required for short-circuit protection of the auxiliary switch	A	On request				
Short-circuit protection for contactors with overload relays		See • Digital Configuration Manual for load feeders • Configuration Manual for load feeders				
Short-circuit protection for fuseless load feeders		See • 3RA2 load feeders, page 8/6 onwards • Digital Configuration Manual for load feeders • Configuration Manual for load feeders				

SIRIUS 3RT.4 contactors for weak or non-inductive loads (AC-1), 3-pole up to 2 650 A

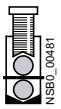
Type			3RT2446, 3RT2448		3RT1456		3RT1466, 3RT1467		3RT1476	
			-.A	-.N	-.A	-.N/-.P/-.S	-.A	-.N/-.P/-.S	-.A	-.N/-.P/-.S
Size			S3		S6		S10		S12	
Control										
Solenoid coil operating range (AC/DC)			0.8 ... 1.1 x U_s	0.8 x $U_{s\,min}$ ... 1.1 x $U_{s\,max}$						
Power consumption of the solenoid coils (for cold coil and 1.0 x U_s)										
• AC operation, 50 Hz, standard version	Closing	VA	296	--						
	P.f.		0.61	--						
	Closed	VA	19	--						
	P.f.		0.38	--						
• AC operation, 50/60 Hz, standard version	Closing	VA	348/296	--						
	P.f.		0.62/0.55	--						
	Closed	VA	25/18	--						
	P.f.		0.35/0.41	--						
• AC operation, 50/60 Hz, for USA/Canada	Closing	VA	326/326	--						
	P.f.		0.62/0.55	--						
	Closed	VA	22/22	--						
	P.f.		0.38/0.4	--						
• AC/DC operation	Closing for AC operation	VA	--	163	300	280	590	530	830	750
	P.f.		--		0.9	0.8	0.9	0.8	0.9	0.8
	Closed for AC operation	VA	--	3.1	5.8	4.8	6.7	8.5	9.2	9
	P.f.		--		0.8	0.6	0.9	0.4	0.9	0.4
	Closing for DC operation	W	--	76	360	320	650	580	920	800
	Closed for DC operation	W	--	1.8	5.2	2.8	7.4	3.4	10	3.6
Type of PLC control input according to IEC 60947-1										
• Solid-state operating mechanism	3RT14..-.N/-.P		--		Type 2					
	3RT14..-.S		--		Type 1					
• Rated voltage		V DC	--		24					
• Operating range		V DC	--		17 ... 30					
• Power consumption		mA	--		≤ 30					
• Recovery time after power failure, typical (applicable only for fail-safe version 3RT14..-.S)		s	--		2					

Type			3RT2446	3RT2448	3RT1456	3RT1466	3RT1467	3RT1476
Size			S3		S6	S10		S12
Rated data of the main contacts								
Load rating with AC								
Utilization category AC-1								
• Rated operational currents I_e	At 40 °C up to 690 V	A	140	160	275	400	500	690
	At 60 °C up to 690 V	A	130	140	250	380	450	Standard operating mechanism: 650, solid-state operating mechanism: 600
	At 40 °C up to 1 000 V	A	60	80	--			
	At 60 °C up to 1 000 V	A	60	80	--			
• Minimum cross-section in the main circuit at maximum AC-1 rated value		mm^2	50	70	140	240	300	480
Power loss per main conducting path	At I_e/AC-1/40 °C	W	9.8	12.8	28.8	35.2	35.2	61.9

Type		3RT2446, 3RT2448
Size		S3
Conductor cross-sections		
Main conductors (1 or 2 conductors can be connected)		Screw terminals
• Solid	mm^2	2 x (2.5 ... 16)[1]
• Stranded	mm^2	2 x (6 ... 16)[1]; 2 x (10 ... 50)[1]; 1 x (10 ... 70)[1]
• Finely stranded with end sleeve (DIN 46228)	mm^2	2 x (2.5 ...35)[1]; 1 x (2.5 ... 50)[1]
• AWG cables, solid or stranded	AWG	2 x (10 ... 1/0)[1]; 1 x (10 ... 2/0)[1]
• Terminal screws		Hexagon socket, A/F 4
- Tightening torque	Nm	4.5 ... 6 (40 ... 53 lb.in)
Auxiliary conductors and control conductors (1 or 2 conductors can be connected)		
• Solid or stranded	mm^2	2 x (0.5 ... 1.5)[1]; 2 x (0.75 ... 2.5)[1]
• Finely stranded with end sleeve (DIN 46228)	mm^2	2 x (0.5 ... 1.5)[1]; 2 x (0.75 ... 2.5)[1]
• AWG cables, solid or stranded	AWG	2 x (20 ... 16)[1]; 2 x (18 ... 14)[1]
• Terminal screws		M3 (for Pozidriv size 2; ∅ 5 ... 6 mm)
- Tightening torque	Nm	0.8 ... 1.2 (7 ... 10.3 lb.in)

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

SIRIUS 3RT.4 contactors for weak or non-inductive loads (AC-1), 3-pole up to 2 650 A

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

1) 3RT1456: When connecting cable lugs according to DIN 46235, use the 3RT1956-4EA1 terminal cover for conductor cross-sections from 95 mm^2 to maintain the phase clearance, see page 3/115.

2) 3RT1466, 3RT1467 and 3RT1476: When connecting cable lugs according to DIN 46234 for conductor cross-sections larger than 240 mm^2 and according to DIN 46235 for conductor cross-sections larger than 185 mm^2, the 3RT1966-4EA1 terminal cover is required to maintain the phase clearance, see page 3/115.

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. outer diameter of the conductor insulation: 3.6 mm. On spring-loaded terminals with conductor cross-sections ≤ 1 mm^2 an insulation stop is recommended, see page 3/118.

SIRIUS 3RT.4 contactors for weak or non-inductive loads (AC-1), 3-pole up to 2 650 A

Article number		3RT1481-6A.36	3RT1482-6A.36	3RT1483-6AP36	3RT1485-6AP36	3RT1486-6AP36	3RT1487-6AP36
General data							
Dimensions							
• Width	mm	285			431		
• Height	mm	352			403		
• Depth	mm	250			246		
Mounting position		For vertical mounting surface can be rotated ± 30°, for vertical mounting surface can be tilted ± 30° forward or backward					
Installation altitude at height above sea level, maximum	m	2 000					
Insulation voltage at pollution degree 3							
• Of the main circuit	V	1 000					
• Of the auxiliary circuit	V	600					
Impulse withstand voltage							
• Of the main circuit	kV	8					
• Of the auxiliary circuit	kV	6					
Product function, mirror contact according to IEC 60947-4-1		Yes					
Ambient temperature							
• During operation	°C	-25 ... +55					
• During storage	°C	-40 ... +80					
Short-circuit protection							
Version of the fuse link required							
• For short-circuit protection of the main circuit for type of coordination 2		aR: 1 000 A (1 000 V, 30 kA)	aR: 1 100 A (1 000 V, 42 kA)	aR: 1 400 A (1 000 V, 42 kA)	aR: 2 200 A (1 000 V, 42 kA)	aR: 2 500 A (1 000 V, 42 kA)	aR: 2 800 A (1 000 V, 50 kA)
• For short-circuit protection of the auxiliary switch		gG: 16 A (600 V, 1 kA)					

SIRIUS 3RT.4 contactors for weak or non-inductive loads (AC-1), 3-pole up to 2 650 A

Article number		3RT1481-6AF36	6AP36	3RT1482-6AF36	6AP36	3RT1483-6AP36	3RT1485-6AP36	3RT1486-6AP36	3RT1487-6AP36
Control circuit/control									
Operating range factor of the control supply voltage, rated value of the solenoid coil									
• At AC at 50 Hz		0.85 ... 1.1							
• At AC at 60 Hz		0.85 ... 1.1							
• At DC		0.85 ... 1.1							
Solenoid coil closing for DC	W	1 400	2 000	1 400	2 000	2 700	2 800		
Closing apparent power of the solenoid coil for AC									
• At 50 Hz	VA	1 000				1 700	1 800		
• At 60 Hz	VA	1 000				1 700	1 800		
Solenoid coil closed for DC	W	6	7	6	7	8	11		
Closed apparent power of the solenoid coil for AC									
• At 50 Hz	VA	18	23	18	23	20	33		
• At 60 Hz	VA	18	23	18	23	20	33		
Main circuit									
Operational current at AC-1									
• Up to 690 V									
- At an ambient temperature of 40 °C	A	900		1 050		1 260	1 700	2 100	2 650
- At an ambient temperature of 55 °C	A	900		1 050		1 260	1 700	2 100	2 650
• Up to 1 000 V									
- At an ambient temperature of 40 °C	A	900		1 050		1 260	1 700	2 100	2 650
- At an ambient temperature of 55 °C	A	900		1 050		1 260	1 700	2 100	2 650
Type of electrical connection for the main circuit		Busbar connections							
Minimum cross-section in the main circuit for max. AC-1 rated value	mm^2	600		800		1 000	1 500	2 000	3 000

Article number		3RT1481-6A.36, 3RT1482-6A.36	3RT1483-6AP36	3RT1485-6AP36, 3RT1486-6AP36	3RT1487-6AP36
Conductor cross-sections					
Control circuit/control					
Type of connectable conductor cross-sections for auxiliary contacts					
• Solid		2x (1 ... 2.5 mm^2)			
• Solid or stranded		2x (1 ... 2.5 mm^2)			
• Finely stranded with end sleeve		2x (1 ... 2.5 mm^2)			
Main circuit					
Width of connecting bar	mm	40	50	103	
Thickness of connecting bar	mm	10	13	10	20
Diameter of hole	mm	17	13	15	13

SIRIUS 3RT.4 contactors for weak or non-inductive loads (AC-1), 3-pole up to 2 650 A

Selection and ordering data

Size S3: AC operation or AC/DC operation

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

3RT244.-1...0

Size	Rated data AC-1, t_u: 40 °C Operational current I_e up to **690 V** **A**	Rated data AC-1, t_u: 60 °C Operational current I_e up to 690 V A	Auxiliary contacts Ident. No.	Auxiliary contacts Version NO	Auxiliary contacts Version NC	Rated control supply voltage U_s 50 Hz AC V	Rated control supply voltage U_s 50 Hz AC or DC V	**Screw terminals** Article No.	**Screw terminals** Price per PU	PU (UNIT, SET, M)	PS*	PG
For screw and snap-on mounting on TH 35-15 and TH 75-15 DIN rails												
AC operation												
S3	**140**	130	**11**	1	1	24	--	**3RT2446-1AB00**		1	1 unit	41B
						110	--	**3RT2446-1AF00**		1	1 unit	41B
						230	--	**3RT2446-1AP00**		1	1 unit	41B
	160	140	**11**	1	1	24	--	**3RT2448-1AB00**		1	1 unit	41B
						110	--	**3RT2448-1AF00**		1	1 unit	41B
						230	--	**3RT2448-1AP00**		1	1 unit	41B
AC/DC operation												
With integrated coil circuit (varistor integrated in electronics at factory)												
S3	**140**	130	**11**	1	1	--	20 ... 33	**3RT2446-1NB30**		1	1 unit	41B
						--	83 ... 155	**3RT2446-1NF30**		1	1 unit	41B
						--	175 ... 280	**3RT2446-1NP30**		1	1 unit	41B
	160	140	**11**	1	1	--	20 ... 33	**3RT2448-1NB30**		1	1 unit	41B
						--	83 ... 155	**3RT2448-1NF30**		1	1 unit	41B
						--	175 ... 280	**3RT2448-1NP30**		1	1 unit	41B

Other voltages according to page 4/52 on request.
Accessories and spare parts, see page 3/69 onwards.

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

SIRIUS 3RT.4 contactors for weak or non-inductive loads (AC-1), 3-pole up to 2 650 A

Sizes S6 to S12: AC/DC operation

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


3RT1456-6A.36


3RT1466-6A.36


3RT1476-6A.36


3RT1476-6N.36


3RT1476-6P.35

Size	Rated data AC-1, t_u: 40 °C	60 °C	Auxiliary contacts, lateral		Rated control supply voltage U_s	Screw terminals		PU (UNIT, SET, M)	PS*	PG
	Operational current I_e up to		Version		50/60 Hz AC or DC					
	690 V	690 V	NO	NC		Article No.	Price per PU			
	A	A			V					
Standard operating mechanisms for AC and DC operation (power consumption reduced from closing power to holding power)										
With integrated coil circuit (varistor integrated at factory)										
S6	**275**	250	2	2	110 ... 127	**3RT1456-6AF36**		1	1 unit	41B
					220 ... 240	**3RT1456-6AP36**		1	1 unit	41B
S10	**400**	380	2	2	110 ... 127	**3RT1466-6AF36**		1	1 unit	41B
					220 ... 240	**3RT1466-6AP36**		1	1 unit	41B
	500	450	2	2	110 ... 127	**3RT1467-6AF36**		1	1 unit	41B
					220 ... 240	**3RT1467-6AP36**		1	1 unit	41B
S12	**690**	650	2	2	110 ... 127	**3RT1476-6AF36**		1	1 unit	41B
					220 ... 240	**3RT1476-6AP36**		1	1 unit	41B
Solid-state operating mechanisms										
With 24 V DC control signal input e.g. for control by PLC										
With integrated coil circuit (varistor integrated in electronics at factory)										
S6	**275**	250	2	2	96 ... 127	**3RT1456-6NF36**		1	1 unit	41B
					200 ... 277	**3RT1456-6NP36**		1	1 unit	41B
S10	**400**	380	2	2	96 ... 127	**3RT1466-6NF36**		1	1 unit	41B
					200 ... 277	**3RT1466-6NP36**		1	1 unit	41B
	500	450	2	2	96 ... 127	**3RT1467-6NF36**		1	1 unit	41B
					200 ... 277	**3RT1467-6NP36**		1	1 unit	41B
S12	**690**	650	2	2	96 ... 127	**3RT1476-6NF36**		1	1 unit	41B
					200 ... 277	**3RT1476-6NP36**		1	1 unit	41B
With 24 V DC control signal input · with remaining lifetime indicator (RLT) e.g. for control by PLC										
With integrated coil circuit (varistor integrated in electronics at factory)										
S6	**275**	250	1	1	96 ... 127	**3RT1456-6PF35**		1	1 unit	41B
					200 ... 277	**3RT1456-6PP35**		1	1 unit	41B
S10	**400**	380	1	1	96 ... 127	**3RT1466-6PF35**		1	1 unit	41B
					200 ... 277	**3RT1466-6PP35**		1	1 unit	41B
	500	450	1	1	96 ... 127	**3RT1467-6PF35**		1	1 unit	41B
					200 ... 277	**3RT1467-6PP35**		1	1 unit	41B
S12	**690**	650	1	1	96 ... 127	**3RT1476-6PF35**		1	1 unit	41B
					200 ... 277	**3RT1476-6PP35**		1	1 unit	41B

Other voltages according to page 4/53 on request.
Accessories and spare parts, see page 3/69 onwards.

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

SIRIUS 3RT.4 contactors for weak or non-inductive loads (AC-1), 3-pole up to 2 650 A

Sizes S6 to S12: AC/DC operation

- Certified and fail-safe 24 V DC control input with max. 20 mA, e.g. for control via the fail-safe output module of a controller (F-PLC) or safety relay
- Achievable Safety Integrity Level (SIL) according to IEC 62061 and Performance Level (PL) according to ISO 13849-1 with corresponding fault diagnostics:
  - With one contactor: SIL 2 or PL c
  - With two contactors in series: SIL 3 or PL e
  - Fail-safe applications can be implemented using this contactor.
- Version with removable lateral auxiliary switches or permanently mounted auxiliary switches
- For screw fixing
- Auxiliary and control conductors: Screw terminals
- Main conductors: Busbar connections; a terminal parts kit with screws, spring washers and nuts is enclosed.

For more information, see
- Safety technology, page 11/1 onwards
- Guide of use for contactors in safety applications


3RT1456-6S.36


3RT1466-6S.36


3RT1476-6S.36


3RT1456-6S.36-3PA0


3RT1476-6S.36-3PA0

Size	Rated data according to IEC 60947-4-1 AC-1, t_u: 40 °C	60 °C	Auxiliary contacts, lateral		Rated control supply voltage U_s	Screw terminals		PU (UNIT, SET, M)	PS*	PG
	Operational current I_e up to		Version		50/60 Hz AC or DC					
	690 V	690 V	NO	NC	V	Article No.	Price per PU			
	A	A								
Solid-state operating mechanisms										
With two removable laterally mounted auxiliary switches										
With integrated coil circuit (varistor integrated in electronics at factory)										
S6	**275**	250	2	2	96 ... 127	**3RT1456-6SF36**		1	1 unit	41B
					200 ... 277	**3RT1456-6SP36**		1	1 unit	41B
S10	**400**	380	2	2	96 ... 127	**3RT1466-6SF36**		1	1 unit	41B
					200 ... 277	**3RT1466-6SP36**		1	1 unit	41B
	500	450	2	2	96 ... 127	**3RT1467-6SF36**		1	1 unit	41B
					200 ... 277	**3RT1467-6SP36**		1	1 unit	41B
S12	**690**	650	2	2	96 ... 127	**3RT1476-6SF36**		1	1 unit	41B
					200 ... 277	**3RT1476-6SP36**		1	1 unit	41B
With two permanently laterally mounted auxiliary switches										
With integrated coil circuit (varistor integrated in electronics at factory)										
S6	**275**	250	2	2	96 ... 127	**3RT1456-6SF36-3PA0**		1	1 unit	41B
					200 ... 277	**3RT1456-6SP36-3PA0**		1	1 unit	41B
S10	**400**	380	2	2	96 ... 127	**3RT1466-6SF36-3PA0**		1	1 unit	41B
					200 ... 277	**3RT1466-6SP36-3PA0**		1	1 unit	41B
	500	450	2	2	96 ... 127	**3RT1467-6SF36-3PA0**		1	1 unit	41B
					200 ... 277	**3RT1467-6SP36-3PA0**		1	1 unit	41B
S12	**690**	650	2	2	96 ... 127	**3RT1476-6SF36-3PA0**		1	1 unit	41B
					200 ... 277	**3RT1476-6SP36-3PA0**		1	1 unit	41B

Accessories and spare parts, see page 3/69 onwards.

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

SIRIUS 3RT.4 contactors for weak or non-inductive loads (AC-1), 3-pole up to 2 650 A

AC/DC operation ≂

- Solid-state operating mechanisms
- Version with two laterally mounted auxiliary switches (2 NO + 2 NC each)
- For screw fixing
- Auxiliary and control conductors: Screw terminals
- Main conductors: Busbar connections

3RT1481-6A.36, 3RT1482-6A.36

3RT1483-6AP36

3RT1485-6AP36, 3RT1486-6AP36

3RT1487-6AP36

Rated data according to IEC 60947-4-1	Auxiliary contacts, lateral		Rated control supply voltage U_s		**Busbar connections**	PU (UNIT, SET, M)	PS*	PG
AC-1, t_u: 40 °C	Version		50/60 Hz AC	DC	Article No.		Price per PU	
Operational current I_e up to **1 000 V**								
A	NO	NC	V	V				
Solid-state operating mechanisms								
With integrated coil circuit								
900	2	2	100 ... 127 200 ... 240	100 ... 110 200 ... 220	**3RT1481-6AF36** **3RT1481-6AP36**	1 1	1 unit 1 unit	41B 41B
1 050	2	2	100 ... 127 200 ... 240	100 ... 110 200 ... 220	**3RT1482-6AF36** **3RT1482-6AP36**	1 1	1 unit 1 unit	41B 41B
1 260	2	2	100 ... 240	100 ... 220	**3RT1483-6AP36**	1	1 unit	41B
1 700	2	2	100 ... 240	100 ... 220	**3RT1485-6AP36**	1	1 unit	41B
2 100	2	2	100 ... 240	100 ... 220	**3RT1486-6AP36**	1	1 unit	41B
2 650	2	2	100 ... 240	100 ... 220	**3RT1487-6AP36**	1	1 unit	41B

Accessories, see next table; spare parts, see page 4/20.

Accessories

Graphic overviews for 3RT148 contactors with mountable accessories, see page 4/10.

More information

Manuals, see https://support.industry.siemens.com/cs/ww/en/ps/24229/man

For contactors	Auxiliary contacts Version				**Screw terminals**	PU (UNIT, SET, M)	PS*	PG
					Article No.		Price per PU	
Type	NO	NC	Left	Right				
Second auxiliary switch (1 NO + 1 NC)								
Lateral mounting on the right and/or the left								
3RT148.	1	1	61 53 62 54	71 83 72 84	**3RH1981-1JA11**	1	1 unit	41B

3RH1981-1JA11

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

SIRIUS 3RT.4 contactors for weak or non-inductive loads (AC-1), 3-pole up to 2 650 A

Spare parts

For contactors	Auxiliary contacts				Rated control supply voltage U_s		Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	Version				50/60 Hz AC	DC					
Type	NO	NC	Left	Right	V	V					
First auxiliary switch (1 NO + 1 NC)											
	Lateral mounting on the right and/or the left						**Screw terminals**				
3RT148.	1	1	21 13	31 43	--	--	**3RH1981-1DA11**		1	1 unit	41B
Phase barriers											
	(1 set = 4 units)										
3RT1481 ... 3RT1483	--	--	--	--	--	--	**3RT1983-4AA1**		1	1 unit	41B
3RT1485 ... 3RT1487	--	--	--	--	--	--	**3RT1987-4AA1**		1	1 unit	41B
Withdrawable coils · AC/DC operation											
3RT1481, 3RT1482	--	--	--	--	100 ... 127	100 ... 110	**3RT1982-5AF31**		1	1 unit	41B
	--	--	--	--	200 ... 240	200 ... 220	**3RT1982-5AP31**		1	1 unit	41B
3RT1483	--	--	--	--	100 ... 240	100 ... 220	**3RT1983-5AP31**		1	1 unit	41B
3RT1485 ... 3RT1487	--	--	--	--	100 ... 240	100 ... 220	**3RT1987-5AP31**		1	1 unit	41B


3RH1981-1DA11


3RT1983-4AA1


3RT1987-4AA1


3RT1982-5A.31, 3RT1983-5AP31


3RT1987-5AP31

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

Overview

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

Standards

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

Protecting connections against short circuit, overload and overvoltage

All connections must generally be protected against overload and short circuits using suitable measures. Different constraints must be considered depending on the type of connection:

Short-circuit and overload protection of main connections

For information on the protection of a free-standing contactor, see the technical product data sheet.

For more information on device combinations such as contactor with overload relay or contactor with circuit breaker as motor feeder, refer to

- Digital Configuration Manual for load feeders
- Configuration Manual for load feeders

Short-circuit and overload protection of auxiliary connections

For information on the protection of auxiliary contacts, see the technical product data sheet.

Short-circuit and overload protection of control supply voltage or supply voltage connections

First of all, the relevant standards and regulations for configuring control cabinets and the parts and components installed in them must be taken into account, for example for cable dimensioning.

One possible protection for these circuits could be the selection of a suitable power supply, i.e. one with a current-limiting function. In the selection of the source and the connecting cable, the load characteristics of the contactor must be considered (short-time inrush current peaks for solid-state contactor operating mechanisms, switch-on power, holding power). The same applies to the selection of suitable protective devices.

If there are further switching elements in the circuit, such as the auxiliary contact system of an overload relay that operates the contactor, the short-circuit protection necessary for this must also be considered.

For further recommendations, e.g. the use of miniature circuit breakers or circuit breakers for equipment in control circuits, see Control cabinet tip – Selecting and dimensioning suitable power supplies quickly and reliably.

Protection against overvoltage at the control supply voltage connection

3RT23 contactors supplied without a coil circuit can be retrofitted with RC elements, varistors, diodes or diode assemblies (combination of diode and Zener diode for short break times) for damping switching overvoltages in the coil and can be ordered separately as accessories, see page 3/98 onwards.

3RT13 contactors are already equipped with coil damping (varistor).

Note:

The break times of the contactor, the opening delay times of the NO contacts and the closing delay times of the NC contacts increase in the event of damping.

For more information about influencing the time response using damping, see Equipment Manual.

Connection methods

Main circuit

- 3RT231 and 3RT232 contactors:
  Screw terminals or spring-loaded terminals;
  spring-loaded terminals with convenient plug-in design for device connectors
- 3RT233 and 3RT234 contactors:
  Screw terminals with box terminal;
  direct connection to the connecting bar possible with cable lugs for 3RT234 when the box terminal is removed.
- 3RT135 to 3RT137 contactors:
  Screw terminals with connecting bars that the cables can be connected to using either cable lugs or flexible or rigid busbars.
- 3RT136 and 3RT137 contactors:
  These can be fitted with bus connectors offset, see page 4/35.

Auxiliary and control circuits

Screw terminals

Electromagnetic compatibility

The contactors fulfill the requirements for environment category A.

Note:

When the contactors are used in an environment with frequency converters, the configuration notes must be observed, see Equipment Manual.

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

Contact reliability of the auxiliary contacts

If voltages ≤ 110 V and currents ≤ 100 mA are to be switched, the auxiliary contacts of the 3RT contactors or 3RH contactor relays should be used as they guarantee a high level of contact reliability.

These auxiliary contacts are particularly suitable for solid-state circuits with currents ≥ 1 mA at a voltage ≥ 17 V.

Motor protection

3RT23 contactors

For protection against overload, 3RU2 thermal overload relays (see page 7/87 onwards) or 3RB3 electronic overload relays (see pages 7/99, 7/101 and 7/103) can be mounted on the 3RT23 contactors.

3RT13 contactors

For protection against overload, 3RB2 electronic overload relays (see pages 7/100, 7/102 and 7/104) can be mounted on the 3RT13 contactors.

Operating mechanism types

3RT23 contactors

The 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).

Control takes place via the control supply voltage connection A1 - A2 with varying operating ranges (see the technical product data sheet for further details).

3RT13 contactors

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

The operating range with DC control is between 0.8 x $U_{s\ min}$ and 1.1 x $U_{s\ max}$, and with AC control between 0.85 x $U_{s\ min}$ and 1.1 x $U_{s\ max}$.

Replacing solenoid coils, operating mechanisms or spare contacts

3RT23 contactors

Solenoid coil replacement is possible. Only the contacts for 3RT233 contactors can be replaced.

3RT13 contactors

It is not possible to change the operating mechanism or contacts.

Fitting auxiliary contacts and mounting additional auxiliary switches

Features in the delivery state

- 3RT23 contactors
  - 3RT231 contactor:
    An auxiliary contact is integrated in the basic unit.
  - 3RT232 to 3RT234 contactors:
    The basic units contain two integrated auxiliary contacts (1 NO + 1 NC).
- 3RT13 contactors
  These contactors are supplied with two laterally mounted auxiliary switches.

Expansion possibilities

All basic units can be expanded using auxiliary switches; the permissible configuration must be observed.

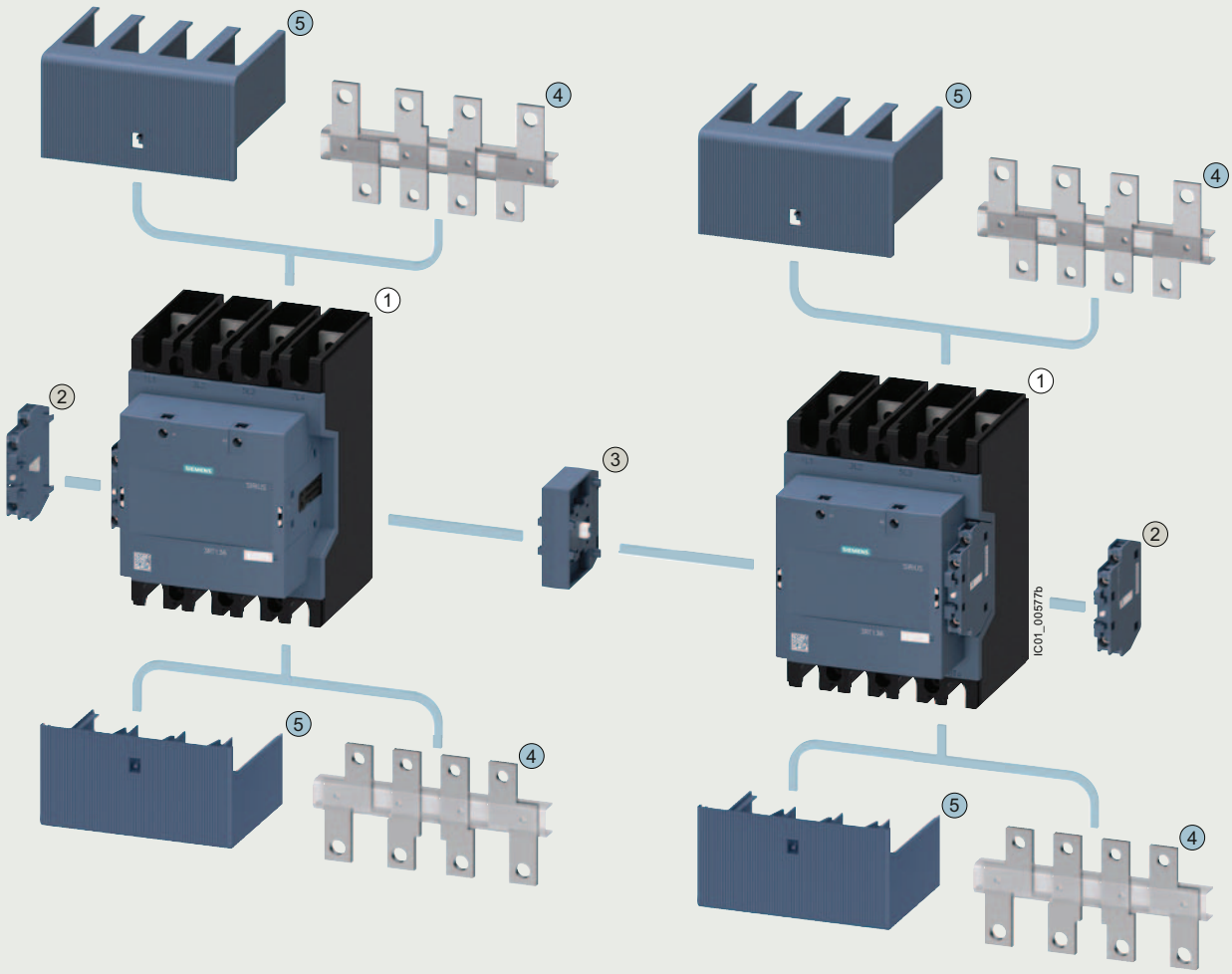
For detailed information about the fitting of auxiliary switches for 3RT23 contactors, see pages 3/80 to 3/87.

Accessories and spare parts

- 3RT231 to 3RT234 contactors, see page 3/69 onwards
- 3RT135 to 3RT137 contactors, see page 4/35

Graphic overview with mountable accessories

- 3RT23 contactors, see page 3/8 onwards
- 3RT135 to 3RT137 contactors, see following graphic



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

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

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

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

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

◯ Same accessories for sizes S6 to S12
◯ Different accessories depending on size

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

3RT135 to 3RT137 contactors with mountable accessories

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

Application

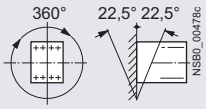
The 3RT.3 contactors can be used for the following applications:

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

We additionally offer special versions of the 3RT23 contactors for switching motor-driven loads (AC-3).

Technical specifications

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

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

Type	3RT2316, 3RT2317	3RT2325, 3RT2326	3RT2326-1...0-4AA0	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)			
• Version of the miniature circuit breaker required for short-circuit protection of the auxiliary switch	6 A (230 V, 400 A, C characteristic)			

Type	3RT2336, 3RT2337		3RT2344, 3RT2346	3RT2346-1...0-4AA0	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: 10 A (690 V, 1 kA)				
• Version of the miniature circuit breaker required for short-circuit protection of the auxiliary switch	6 A (230 V, 400 A, C characteristic)				

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

Type			3RT2316	3RT2317	3RT2325	3RT2326, 3RT2327	3RT2336, 3RT2337	3RT2344, 3RT2346, 3RT2348
Size			S00		S0		S2	S3
Control								
Solenoid coil operating range								
• AC operation	At 50 Hz		0.8 ... 1.1 x U_s					
	At 60 Hz		0.85 ... 1.1 x U_s		0.8 ... 1.1 x U_s			
• DC operation	At 50 °C		0.8 ... 1.1 x U_s				--	
	At 60 °C		0.85 ... 1.1 x U_s				--	
• AC/DC operation			--				0.8 ... 1.1 x U_s	
Power consumption of the solenoid coils (for cold coil and 1.0 x U_s)								
• AC operation, 50 Hz, standard version								
- Closing		VA	--		77		190	296
- P.f.			--		0.82		0.72	0.61
- Closed		VA	--		9.8		16	19
- P.f.			--		0.25		0.37	0.38
• AC operation, 50/60 Hz, standard version								
- Closing		VA	27/24.3	37/33	81/79		210/188	348/296
- P.f.			0.8/0.75		0.72/0.74		0.69/0.65	0.62/0.55
- Closed		VA	4.2/3.3	5.7/4.4	10.5/8.5		17.2/16.5	25/18
- P.f.			0.25/0.25		0.25/0.28		0.36/0.39	0.35/0.41
• AC operation, 60 Hz, USA, Canada								
- Closing		VA	31.7	43	87		188	326
- P.f.			0.77		0.76		0.67	0.55
- Closed		VA	4.8	6.5	9.4		16.5	22
- P.f.			0.25		0.28		0.37	0.4
• AC/DC operation								
- Closing for AC operation		VA	--				40	151
- P.f.			--				0.95	0.95
- Closed for AC operation		VA	--				2	3.5
- P.f.			--				0.95	0.95
- Closing for DC operation		W	--				23	76
- Closed for DC operation		W	--				1	2.7
• DC operation (closing = closed)		W	4		5.9		--	--[1]

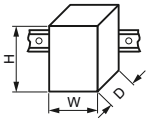
[1] In the case of AC/DC coils, increased pickup currents (6.5 A on average) arise during the first 200 ms.

Type			3RT2316	3RT2317	3RT2325	3RT2326	3RT2327	3RT2336	3RT2337	3RT2344	3RT2346	3RT2348
Size			S00		S0			S2		S3		
Rated data of the main contacts												
Load rating with AC												
Utilization category AC-1												
• Rated operational currents I_e	At 40 °C, up to 690 V	A	18	22	35	40	50	60	110	110	140 (110)[1]	160
	At 60 °C, up to 690 V	A	16	20	30	35	42	55	95	100	130 (100)[1]	140
• Rated power for three-phase loads P.f. = 0.95 (at 60 °C)	at 230 V	kW	6	7.5	11	13	16	21	36	38	49	53
	400 V	kW	10.5	13	20	23	28	36	63	72	92	105
• Minimum cross-section in the main circuit at maximum AC-1 rated value		mm^2	2.5	4	10			16	35		50 (35)[1]	70
Power loss per main conducting path												
• At I_e/AC-1	At 40 °C	W	1.1	1.6	1.8	2.4	3	3.2	9.7	7.3	11.8	15.4
• At I_e/AC-3	At 400 V	W	--	--	--	(2.6)[1]	--	(4.3)[1]	--	--	(6.8)[1]	--

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

Data for North America

Technical specifications of 3RT contactors, see page 3/44 onwards.

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

Article number		3RT1355-				3RT1363-				3RT1364-			
		6AE36	6AF36	6AP36	6AR36	6AE36	6AF36	6AP36	6AR36	6AE36	6AF36	6AP36	6AR36
Size		S6				S10							
Control circuit/control													
Operating range factor of the control supply voltage, rated value of the solenoid coil													
• At AC at 50 Hz		0.85 ... 1.1											
• At AC at 60 Hz		0.85 ... 1.1											
• At DC		0.8 ... 1.1											
Solenoid coil closing for DC	W	210	130	135	205		130	190		205	130	190	
Closing apparent power of the solenoid coil for AC													
• At 50 Hz	VA	225	170	130	205	165	175	220	185	165	175	220	185
• At 60 Hz	VA	225	170	130	205	165	175	220	185	165	175	220	185
Solenoid coil closed for DC	W	2.5		3	4	2.5			4	2.5			4
Closed apparent power of the solenoid coil for AC													
• At 50 Hz	VA	5.5	4	6	16	6	4	7	16	6	4	7	16
• At 60 Hz	VA	5.5	4	6	16	6	4	7	16	6	4	7	16
Main circuit													
Operational current at AC-1													
• Up to 690 V													
- At an ambient temperature of 40 °C	A	200				275				350			
- At an ambient temperature of 60 °C	A	175				250				300			
• Up to 1 000 V													
- At an ambient temperature of 40 °C	A	--				250				275			
- At an ambient temperature of 60 °C	A	--				225				250			

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

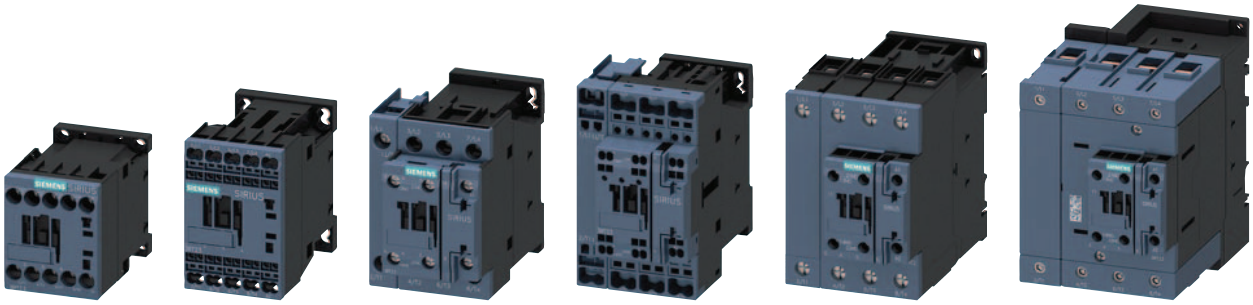
Article number		3RT1373-				3RT1374-				3RT1375-			
		6AE36	6AF36	6AP36	6AR36	6AE36	6AF36	6AP36	6AR36	6AE36	6AF36	6AP36	6AR36
Size		S12											
Control circuit/control													
Operating range factor of the control supply voltage, rated value of the solenoid coil													
• At AC at 50 Hz		0.85 ... 1.1											
• At AC at 60 Hz		0.85 ... 1.1											
• At DC		0.8 ... 1.1											
Solenoid coil closing for DC	W	400	360	410	600	400	360	410	600	400	360	410	600
Closing apparent power of the solenoid coil for AC													
• At 50 Hz	VA	475	340	385	420	475	340	385	420	475	340	385	420
• At 60 Hz	VA	475	340	385	420	475	340	385	420	475	340	385	420
Solenoid coil closed for DC	W	3.5	2.5	4.5	4.7	3.5	2.5	4.5	4.7	3.5	2.5	4.5	4.7
Closed apparent power of the solenoid coil for AC													
• At 50 Hz	VA	8.5	17	17.5	21	8.5	17	17.5	21	8.5	17	17.5	21
• At 60 Hz	VA	8.5	17	17.5	21	8.5	17	17.5	21	8.5	17	17.5	21
Main circuit													
Operational current at AC-1													
• Up to 690 V													
- At an ambient temperature of 40 °C	A	400				500				525			
- At an ambient temperature of 60 °C	A	350				400				425			
• Up to 1 000 V													
- At an ambient temperature of 40 °C	A	350				375				400			
- At an ambient temperature of 60 °C	A	300				325				350			

Article number		3RT1355-6A.36	3RT1363-6A.36	3RT1364-6A.36	3RT1373-6A.36	3RT1374-6A.36	3RT1375-6A.36
Size		S6	S10		S12		
Conductor cross-sections							
Type of electrical connection for the main circuit		Connecting bar		Connecting bar, bus connectors offset > 275 A required	Connecting bar	Connecting bar, bus connectors offset > 450 A required	
Minimum cross-section in the main circuit at maximum AC-1 rated value	mm^2	95	150	240		300	370

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 contacts			Rated control supply voltage U_s		Screw terminals		Spring-loaded terminals	
Operational current I_e up to 690 V	Ident. No.	Version		50/60 Hz AC	50 Hz AC	Article No.	Price per PU	Article No.	Price per PU
A		NO	NC	V	V				
For screw and snap-on mounting on TH 35 DIN rail									
Size S00									
18/16	**--**	--	--	24	--	**3RT2316-1AB00**		**3RT2316-2AB00**	
				110	--	**3RT2316-1AF00**		**3RT2316-2AF00**	
				230		**3RT2316-1AP00**		**3RT2316-2AP00**	
22/20	**--**	--	--	24	--	**3RT2317-1AB00**		**3RT2317-2AB00**	
				110	--	**3RT2317-1AF00**		**3RT2317-2AF00**	
				230	--	**3RT2317-1AP00**		**3RT2317-2AP00**	
Size S0									
35/30[1]	**11**	1	1	--	24	**3RT2325-1AB00**		**3RT2325-2AB00**	
				--	110	**3RT2325-1AF00**		**3RT2325-2AF00**	
				--	230	**3RT2325-1AP00**		**3RT2325-2AP00**	
40/35[1]	**11**	1	1	--	24	**3RT2326-1AB00**		**3RT2326-2AB00**	
				--	110	**3RT2326-1AF00**		**3RT2326-2AF00**	
				--	230	**3RT2326-1AP00**		**3RT2326-2AP00**	
50/42[1]	**11**	1	1	--	24	**3RT2327-1AB00**		**3RT2327-2AB00**	
				--	110	**3RT2327-1AF00**		**3RT2327-2AF00**	
				--	230	**3RT2327-1AP00**		**3RT2327-2AP00**	
Size S2									
60/55	**11**	1	1	--	24	**3RT2336-1AB00**		**--**	
				--	110	**3RT2336-1AF00**		**--**	
				--	230	**3RT2336-1AP00**		**--**	
110/95	**11**	1	1	--	24	**3RT2337-1AB00**		**--**	
				--	110	**3RT2337-1AF00**		**--**	
				--	230	**3RT2337-1AP00**		**--**	
For screw and snap-on mounting on TH 35-15 and TH 75-15 DIN rails									
Size S3									
110/100	**11**	1	1	--	24	**3RT2344-1AB00**		**--**	
				--	110	**3RT2344-1AF00**		**--**	
				--	230	**3RT2344-1AP00**		**--**	
140/130	**11**	1	1	--	24	**3RT2346-1AB00**		**--**	
				--	110	**3RT2346-1AF00**		**--**	
				--	230	**3RT2346-1AP00**		**--**	
160/140	**11**	1	1	--	24	**3RT2348-1AB00**		**--**	
				--	110	**3RT2348-1AF00**		**--**	
				--	230	**3RT2348-1AP00**		**--**	

[1] Required conductor cross-section 10 mm^2.

Other voltages according to page 4/52 on request.
Accessories and spare parts, see page 3/69 onwards.

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

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

AC operation

Version for AC-3 motor loads

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

3RT2326-1AP00-4AA0

3RT2336-1AP00-4AA0

3RT2346-1AP00-4AA0

Rated data		Auxiliary contacts			Rated control supply voltage U_s	Screw terminals		Spring-loaded terminals	
AC-3/AC-3e, t_u: up to 60 °C	AC-1, t_u: 40/60 °C					Article No.	Price per PU	Article No.	Price per PU
Operational current I_e up to 400 V	Operational current I_e up to 690 V	Ident. No.	Version		50 Hz AC				
			NO	NC					
A	A				V				
For screw and snap-on mounting on TH 35 DIN rail									
Size S0									
32	40/35	**11**	1	1	230	**3RT2326-1AP00-4AA0**		--	
Size S2									
50	60/55	**11**	1	1	230	**3RT2336-1AP00-4AA0**		--	
For screw and snap-on mounting on TH 35-15 and TH 75-15 DIN rails									
Size S3									
95	110/100	**11**	1	1	230	**3RT2346-1AP00-4AA0**		--	

Other voltages according to page 4/52 on request.

Accessories and spare parts, see page 3/69 onwards.

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

DC operation

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


3RT231.-1B.40


3RT231.-2B.40


3RT232.-1B.40


3RT232.-2B.40

Rated data AC-1, t_u: 40/60 °C Operational current I_e up to 690 V	Auxiliary contacts Ident. No.	Version NO	 NC	Rated control supply voltage U_s DC	Screw terminals Article No.	 Price per PU	Spring-loaded terminals Article No.	 Price per PU
A				V				
For screw and snap-on mounting on TH 35 DIN rail								
Size S00								
18/16	**--**	--	--	24 220	**3RT2316-1BB40** **3RT2316-1BM40**		**3RT2316-2BB40** **3RT2316-2BM40**	
22/20	**--**	--	--	24 220	**3RT2317-1BB40** **3RT2317-1BM40**		**3RT2317-2BB40** **3RT2317-2BM40**	
Size S0								
35/30[1)]	**11**	1	1	24 220	**3RT2325-1BB40** **3RT2325-1BM40**		**3RT2325-2BB40** **3RT2325-2BM40**	
40/35[1)]	**11**	1	1	24 220	**3RT2326-1BB40** **3RT2326-1BM40**		**3RT2326-2BB40** **3RT2326-2BM40**	
50/42[1)]	**11**	1	1	24 220	**3RT2327-1BB40** **3RT2327-1BM40**		**3RT2327-2BB40** **3RT2327-2BM40**	

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

Other voltages according to page 4/52 on request.

Accessories and spare parts, see page 3/69 onwards.

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

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

AC/DC operation ≂

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

3RT233.-1N.30

3RT234.-1N.30

Rated data AC-1, t_u: 40/60 °C Operational current I_e up to 690 V	Auxiliary contacts Ident. No.	Version		Rated control supply voltage U_s 50/60 Hz AC or DC	Screw terminals Article No.	Price per PU	Spring-loaded terminals Article No.	Price per PU
A		NO	NC	V				
For screw and snap-on mounting on TH 35 DIN rail								
Size S2								
With integrated coil circuit (varistor integrated in electronics at factory)								
60/55	**11**	1	1	20 ... 33	**3RT2336-1NB30**		--	
				175 ... 280	**3RT2336-1NP30**		--	
110/95	**11**	1	1	20 ... 33	**3RT2337-1NB30**		--	
				175 ... 280	**3RT2337-1NP30**		--	
For screw and snap-on mounting on TH 35-15 and TH 75-15 DIN rails								
Size S3								
With integrated coil circuit (varistor integrated in electronics at factory)								
110/100	**11**	1	1	20 ... 33	**3RT2344-1NB30**		--	
				175 ... 280	**3RT2344-1NP30**		--	
140/130	**11**	1	1	20 ... 33	**3RT2346-1NB30**		--	
				175 ... 280	**3RT2346-1NP30**		--	
160/140	**11**	1	1	20 ... 33	**3RT2348-1NB30**		--	
				175 ... 280	**3RT2348-1NP30**		--	

Other voltages according to page 4/52 on request.

Accessories and spare parts, see page 3/69 onwards.

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

AC/DC operation

Version for AC-3 motor loads

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

3RT2336-1NB30-4AA0

3RT2346-1NB30-4AA0

Rated data		Auxiliary contacts			Rated control supply voltage U_s	**Screw terminals**		**Spring-loaded terminals**	
AC-3/AC-3e, t_u: up to 60 °C	AC-1, t_u: 40/60 °C	Ident. No.	Version		50/60 Hz AC or DC	Article No.	Price per PU	Article No.	Price per PU
Operational current I_e up to 400 V	Operational current I_e up to 690 V		NO	NC					
A	A				V				
For screw and snap-on mounting on TH 35 DIN rail									
Size S2									
With integrated coil circuit (varistor integrated in electronics at factory)									
50	60/55	**11**	1	1	20 ... 33	**3RT2336-1NB30-4AA0**		--	
For screw and snap-on mounting on TH 35-15 and TH 75-15 DIN rails									
Size S3									
With integrated coil circuit (varistor integrated in electronics at factory)									
95	110/100	**11**	1	1	20 ... 33	**3RT2346-1NB30-4AA0**		--	

Other voltages according to page 4/52 on request.

Accessories and spare parts, see page 3/69 onwards.

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

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

Sizes S6 to S12: AC/DC operation

- Solid-state operating mechanisms
- Version with two laterally mounted auxiliary switches (2 NO + 2 NC each)
- For screw fixing
- Auxiliary and control circuits: Screw terminals
- Main conductors: Busbar connections; a terminal parts kit is enclosed.

3RT1355-6A.36

3RT1363-6A.36

3RT1373-6A.36

Size	Rated data AC-1, t_u: 40 °C Operational current I_e at 690 V	Auxiliary contacts, lateral Version		Operating range 0.85 ... 1.1 x U_s Rated control supply voltage U_s 50/60 Hz AC	Operating range 0.8 ... 1.1 x U_s Rated control supply voltage U_s DC	Busbar connections Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	A	NO	NC	V	V					
Solid-state operating mechanisms										
With integrated coil circuit (varistor integrated in electronics at factory)										
S6	200	2	2	24 ... 60	20 ... 60	**3RT1355-6AE36**		1	1 unit	41B
				48 ... 130	48 ... 130	**3RT1355-6AF36**		1	1 unit	41B
				100 ... 250	100 ... 250	**3RT1355-6AP36**		1	1 unit	41B
				250 ... 500	250 ... 500	**3RT1355-6AR36**		1	1 unit	41B
S10	275	2	2	24 ... 60	20 ... 60	**3RT1363-6AE36**		1	1 unit	41B
				48 ... 130	48 ... 130	**3RT1363-6AF36**		1	1 unit	41B
				100 ... 250	100 ... 250	**3RT1363-6AP36**		1	1 unit	41B
				250 ... 500	250 ... 500	**3RT1363-6AR36**		1	1 unit	41B
	350	2	2	24 ... 60	20 ... 60	**3RT1364-6AE36**		1	1 unit	41B
				48 ... 130	48 ... 130	**3RT1364-6AF36**		1	1 unit	41B
				100 ... 250	100 ... 250	**3RT1364-6AP36**		1	1 unit	41B
				250 ... 500	250 ... 500	**3RT1364-6AR36**		1	1 unit	41B
S12	400	2	2	24 ... 60	20 ... 60	**3RT1373-6AE36**		1	1 unit	41B
				48 ... 130	48 ... 130	**3RT1373-6AF36**		1	1 unit	41B
				100 ... 250	100 ... 250	**3RT1373-6AP36**		1	1 unit	41B
				250 ... 500	250 ... 500	**3RT1373-6AR36**		1	1 unit	41B
	500	2	2	24 ... 60	20 ... 60	**3RT1374-6AE36**		1	1 unit	41B
				48 ... 130	48 ... 130	**3RT1374-6AF36**		1	1 unit	41B
				100 ... 250	100 ... 250	**3RT1374-6AP36**		1	1 unit	41B
				250 ... 500	250 ... 500	**3RT1374-6AR36**		1	1 unit	41B
	525	2	2	24 ... 60	20 ... 60	**3RT1375-6AE36**		1	1 unit	41B
				48 ... 130	48 ... 130	**3RT1375-6AF36**		1	1 unit	41B
				100 ... 250	100 ... 250	**3RT1375-6AP36**		1	1 unit	41B
				250 ... 500	250 ... 500	**3RT1375-6AR36**		1	1 unit	41B

Depending on the operational current, bus connectors offset must be used for sizes S10 and S12, see page 4/35:

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

Accessories and spare parts, see page 4/35 onwards.

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

Accessories

Graphic overview for 3RT135 to 3RT137 contactors with mountable accessories, see page 4/23.

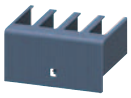
More information

Equipment Manual, see
https://support.industry.siemens.com/cs/ww/en/view/60306557

For contactors Type	Auxiliary contacts Version NO	NC	Left	Right	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Second auxiliary switch (1 NO + 1 NC)									
	Lateral mounting on the right and/or the left, 2-pole				**Screw terminals**				
3RT135 ... 3RT137	1	1	53 61 / 54 62	71 83 / 72 84	**3RH1951-1SA11**		1	1 unit	41B
Terminal covers									
	Two units required per contactor (1 set = 2 units)								
	Either bus connectors offset or terminal covers can be used.								
3RT135	--	--	--	--	**3RT1956-4EB10**		1	1 unit	41B
3RT136	--	--	--	--	**3RT1966-4EB10**		1	1 unit	41B
3RT137	--	--	--	--	**3RT1976-4EB10**		1	1 unit	41B
Bus connectors offsets									
	(Two units required per contactor)								
	Either terminal covers or bus connectors offset can be used.								
3RT136	--	--	--	--	**3RT1966-4D**		1	1 unit	41B
3RT137	--	--	--	--	**3RT1976-4D**		1	1 unit	41B
Mechanical interlocks for contactor assemblies									
	Enables two 3RT13 contactors of the same size (S6, S10 and S12) to be interlocked with each other. The laterally mounted auxiliary switches of the contactor must be removed beforehand.								
	The mechanical interlock cannot be used in conjunction with the bus connectors offset.								
3RT135 ... 3RT137	--	--	--	--	**3RA1954-3A**		1	1 unit	41B


3RH1951-1SA11


3RT1956-4EB10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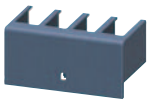
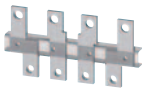
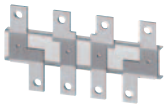

3RT1976-4EB10


3RT1966-4D


3RT1976-4D


3RA1954-3A

Spare parts

For contactors Type	Auxiliary contacts Version NO	NC	Left	Right	Screw terminals Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
First auxiliary switch (1 NO + 1 NC)									
	Lateral mounting on the right and/or the left, 2-pole								
3RT135 ... 3RT137	1	1	13 21 / 14 22	31 43 / 32 44	**3RH1951-1TA11**		1	1 unit	41B


3RH1951-1TA11

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

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

Overview

Standards

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

Protecting connections against short circuit, overload and overvoltage

All connections must generally be protected against overload and short circuits using suitable measures. Different constraints must be considered depending on the type of connection:

Short-circuit and overload protection of main connections

For information on the protection of a free-standing contactor, see the technical product data sheet.

For more information on device combinations such as contactor with overload relay or contactor with circuit breaker as motor feeder, refer to

- Digital Configuration Manual for load feeders
- Configuration Manual for load feeders

Short-circuit and overload protection of auxiliary connections

For information on the protection of auxiliary contacts, see the technical product data sheet.

Short-circuit and overload protection of control supply voltage or supply voltage connections

First of all, the relevant standards and regulations for configuring control cabinets and the parts and components installed in them must be taken into account, for example for cable dimensioning.

One possible protection for these circuits could be the selection of a suitable power supply, i.e. one with a current-limiting function. In the selection of the source and the connecting cable, the load characteristics of the contactor must be considered (short-time inrush current peaks for solid-state contactor operating mechanisms, switch-on power, holding power). The same applies to the selection of suitable protective devices.

If there are further switching elements in the circuit, such as the auxiliary contact system of an overload relay that operates the contactor, the short-circuit protection necessary for this must also be considered.

For further recommendations, e.g. the use of miniature circuit breakers or circuit breakers for equipment in control circuits, see Control cabinet tip – Selecting and dimensioning suitable power supplies quickly and reliably.

Protection against overvoltage at the control supply voltage connection

3RT25 contactors supplied without a coil circuit can be retrofitted with RC elements, varistors, diodes or diode assemblies (combination of diode and Zener diode for short break times) for damping switching overvoltages in the coil and can be ordered separately as accessories, see page 3/98 onwards.

Note:

The break times of the contactor, the opening delay times of the NO contacts and the closing delay times of the NC contacts increase in the event of damping.

For more information about influencing the time response using damping, see Equipment Manual.

Replacing solenoid coils or spare contacts

Solenoid coil or contact replacement is possible.

Fitting auxiliary contacts and mounting additional auxiliary switches

Features in the delivery state

The basic units 3RT252 to 3RT254 contain two integrated auxiliary contacts (1 NO + 1 NC).

Expansion possibilities

All basic units can be expanded using auxiliary switches; the permissible configuration must be observed.

For detailed information about the fitting of auxiliary switches for 3RT25 contactors, see pages 3/80 to 3/87.

Accessories

The accessories for the 3-pole SIRIUS 3RT2 contactors can also be used for the 4-pole versions, see page 3/69 onwards.

Application

The contactors are suitable:

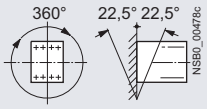
- For pole-changing of hoisting gear motors
- For switching two separate loads

Note:

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

Technical specifications

More information	
Technical specifications, see https://support.industry.siemens.com/cs/ww/en/ps/16169/td FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/16169/faq	Manuals, see https://support.industry.siemens.com/cs/ww/en/ps/16169/man

Type		3RT2516 to 3RT2518	3RT2526	3RT2535	3RT2536	3RT2544, 3RT2545
Size		S00	S0	S2		S3
General data						
Dimensions (W x H x D)		See 3RT231., page 4/24	See 3RT232., page 4/24	See 3RT233., page 4/24		See 3RT234., page 4/24
Permissible mounting position The contactors are designed for operation on a vertical mounting surface.						
Upright mounting position		 Special version required				
Mechanical endurance	Operating cycles	30 million	10 million			
Electrical endurance at I_e/AC-1	Operating cycles	Approx. 0.5 million				
Rated insulation voltage U_i (pollution degree 3)	V	690				
Protective separation between the coil and the main contacts according to IEC 60947-1, Annex N	V	400				690
Permissible ambient temperature						
• During operation	°C	-25 ... +60				
• During storage	°C	-55 ... +80				
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)				
• Version of the miniature circuit breaker required for short-circuit protection of the auxiliary switch		6 A (230 V, 400 A, C characteristic)				

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

Type			3RT2516-1A	3RT2517-1A, 3RT2518-1A	3RT2516-1B, 3RT2517-1B, 3RT2518-1B	3RT2526-1A	3RT2526-1B	3RT253.-1A	3RT253.-1N	3RT254.-1A	3RT254.-1N
Size			S00			S0		S2		S3	
Control											
Type of operating mechanism			AC		DC	AC	DC	AC	AC/DC	AC	AC/DC
Solenoid coil operating range											
• AC operation	At 50 Hz		0.8 ... 1.1 x U_s		--	0.8 ... 1.1 x U_s	--	0.8 ... 1.1 x U_s	--	0.8 ... 1.1 x U_s	--
	At 60 Hz		0.85 ... 1.1 x U_s		--	0.8 ... 1.1 x U_s	--	0.8 ... 1.1 x U_s	--	0.8 ... 1.1 x U_s	--
• DC operation	Up to 50 °C		--		0.8 ... 1.1 x U_s	--	0.8 ... 1.1 x U_s	--			
	Up to 60 °C		--		0.85 ... 1.1 x U_s	--	0.8 ... 1.1 x U_s	--			
• AC/DC operation			--						0.8 x $U_{s\,min}$ ... 1.1 x $U_{s\,max}$	--	0.8 x $U_{s\,min}$ ... 1.1 x $U_{s\,max}$
Power consumption of the solenoid coils (for cold coil and 1.0 x U_s)											
• AC operation, 50/60 Hz, standard version											
- Closing		VA	27/24.3	37/33	--	81/79	--	210/188	110	348/296	--
- P.f.			0.8/0.75		--	0.72/0.74	--	0.69/0.65	0.95	0.62/0.55	--
- Closed		VA	4.2/3.3	5.7/4.4	--	10.5/8.5	--	17.2/16.5	2.5	25/18	--
- P.f.			0.25/0.25		--	0.25/0.28	--	0.36/0.39	0.95	0.35/0.41	--
• DC operation											
- Closing		W	--		4	--	5.9	23	70	--	76
- Closed		W	--		4	--	5.9	1	1.5	--	1.8

Type				3RT2516	3RT2517	3RT2518	3RT2526		3RT2535	3RT2536	3RT2544	3RT2545
Size				S00			S0		S2		S3	
Rated data of the main contacts												
Load rating with AC												
Utilization category AC-1												
• Rated operational currents I_e	At 40 °C up to 690 V		A	18	22		40		60	70	100	125
	At 60 °C up to 690 V		A	16	20		35		55	60	90	105
• Rated power for three-phase loads P.f. = 0.95 (at 60 °C)		at 230 V	kW	6	7.5		13.3		21	23	34	59
		400 V	kW	10.5	13		23		36	39	40	69
• Minimum cross-section in the main circuit at maximum AC-1 rated value			mm^2	2.5	4		10		16	25	35	50
Utilization category AC-3							AC[1]	DC[1]				
• Rated operational currents I_e (at 60 °C)	NO up to 400 V		A	9	12	16	25		35	41	65	80
	NC up to 400 V		A	9			25	20	35	41	65	80
• Rated power for slip-ring or squirrel-cage motors at 50 Hz and 60 Hz	NO at 230 V		kW	2.2	3	4	5.5		11		18.5	22
	NC at 230 V		kW	2.2			5.5		11		18.5	22
	NO at 400 V		kW	4	5.5	7.5	11		18.5	22	30	37
	NC at 400 V		kW	4			11	7.5	18.5	22	30	37

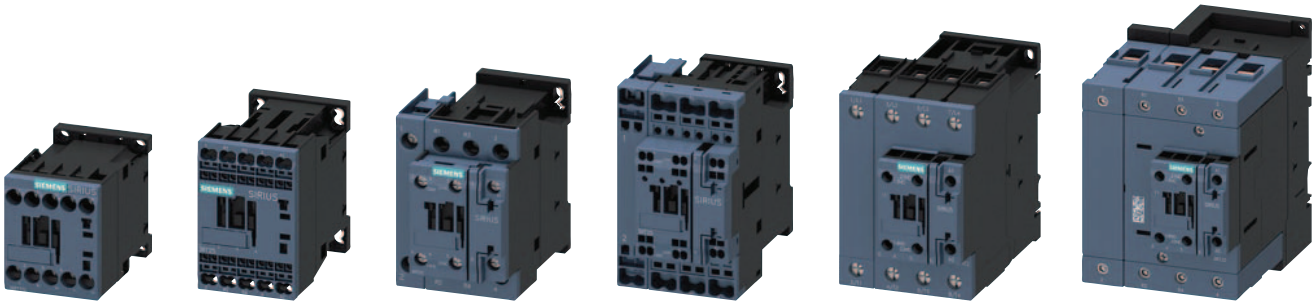
[1] Values for devices with AC and DC operation: For 3RT2526 with DC operation, different values apply to AC-3 for the NC.

Selection and ordering data

AC operation

Single device for pole-changing (not suitable for reversing operation)

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



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

Rated data			Auxiliary contacts			Rated control supply voltage U_s		Screw terminals		Spring-loaded terminals	
AC-3, t_u: up to 60 °C		AC-1, t_u: 40/60 °C	Ident. No.	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 V									
A	**kW**	A		NO	NC	V	V				
For screw and snap-on mounting on TH 35 DIN rail											
Size S00											
9	**4**	18/16	**--**	--	--	24	--	**3RT2516-1AB00**		**3RT2516-2AB00**	
						110	--	**3RT2516-1AF00**		**3RT2516-2AF00**	
						230	--	**3RT2516-1AP00**		**3RT2516-2AP00**	
12/9[1]	**5.5/4[1]**	22/20	**--**	--	--	24	--	**3RT2517-1AB00**		**3RT2517-2AB00**	
						110	--	**3RT2517-1AF00**		**3RT2517-2AF00**	
						230	--	**3RT2517-1AP00**		**3RT2517-2AP00**	
16/9[1]	**7.5/4[1]**	22/20	**--**	--	--	24	--	**3RT2518-1AB00**		**3RT2518-2AB00**	
						110	--	**3RT2518-1AF00**		**3RT2518-2AF00**	
						230	--	**3RT2518-1AP00**		**3RT2518-2AP00**	
Size S0											
25	**11**	40/35	**11**	1	1	--	24	**3RT2526-1AB00**		**3RT2526-2AB00**	
						--	110	**3RT2526-1AF00**		**3RT2526-2AF00**	
						--	230	**3RT2526-1AP00**		**3RT2526-2AP00**	
Size S2											
35	**18.5**	60/55	**11**	1	1	--	24	**3RT2535-1AB00**		**--**	
						--	110	**3RT2535-1AF00**		**--**	
						--	230	**3RT2535-1AP00**		**--**	
41	**22**	70/60	**11**	1	1	--	24	**3RT2536-1AB00**		**--**	
						--	110	**3RT2536-1AF00**		**--**	
						--	230	**3RT2536-1AP00**		**--**	
For screw and snap-on mounting on TH 35-15 and TH 75-15 DIN rails											
Size S3											
65	**30**	100/90	**11**	1	1	--	24	**3RT2544-1AB00**		**--**	
						--	110	**3RT2544-1AF00**		**--**	
						--	230	**3RT2544-1AP00**		**--**	
80	**37**	125/105	**11**	1	1	--	24	**3RT2545-1AB00**		**--**	
						--	110	**3RT2545-1AF00**		**--**	
						--	230	**3RT2545-1AP00**		**--**	

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

Other voltages according to page 4/52 on request.
Accessories and spare parts, see page 3/69 onwards.

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

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

DC operation

Single device for pole-changing (not suitable for reversing operation)

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


3RT251.-1B.40


3RT251.-2B.40


3RT252.-1B.40


3RT252.-2B.40

Rated data			Auxiliary contacts			Rated control supply voltage U_s	Screw terminals		Spring-loaded terminals	
AC-3, t_u: up to 60 °C		AC-1, t_u: 40/60 °C	Ident. No.	Version		DC				
Operational current I_e up to 400 V	Ratings of three-phase motors at 50 Hz and **400 V**	Operational current I_e up to 690 V		NO	NC	V	Article No.	Price per PU	Article No.	Price per PU
A	**kW**	A								
For screw and snap-on mounting on TH 35 DIN rail										
Size S00										
9	**4**	18/16	**--**	--	--	24 220	**3RT2516-1BB40** **3RT2516-1BM40**		**3RT2516-2BB40** **3RT2516-2BM40**	
12/9[1]	**5.5/4[1]**	22/20	**--**	--	--	24 220	**3RT2517-1BB40** **3RT2517-1BM40**		**3RT2517-2BB40** **3RT2517-2BM40**	
16/9[1]	**7.5/4[1]**	22/20	**--**	--	--	24 220	**3RT2518-1BB40** **3RT2518-1BM40**		**3RT2518-2BB40** **3RT2518-2BM40**	
Size S0										
25 (20)[2]	**11 (7.5)[2]**	40/35	**11**	1	1	24 220	**3RT2526-1BB40** **3RT2526-1BM40**		**3RT2526-2BB40** **3RT2526-2BM40**	

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

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

Other voltages according to page 4/52 on request.
Accessories and spare parts, see page 3/69 onwards.

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

AC/DC operation

Single device for pole-changing (not suitable for reversing operation)

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

3RT253.-1N.30

3RT254.-1N.30

Rated data			Auxiliary contacts			Rated control supply voltage U_s	**Screw terminals**		**Spring-loaded terminals**	
AC-3, t_u: up to 60 °C		AC-1, t_u: 40/60 °C	Ident. No.	Version		50/60 Hz AC or DC	Article No.	Price per PU	Article No.	Price per PU
Operational current I_e up to 400 V	Ratings of three-phase motors at 50 Hz and **400 V**	Operational current I_e up to 690 V		NO	NC	V				
A	**kW**	A								
For screw and snap-on mounting on TH 35 DIN rail										
Size S2										
With integrated coil circuit (varistor integrated in electronics at factory)										
35	**18.5**	60/55	**11**	1	1	20 ... 33 83 ... 155 175 ... 280	**3RT2535-1NB30** **3RT2535-1NF30** **3RT2535-1NP30**		**--** **--** **--**	
41	**22**	70/60	**11**	1	1	20 ... 33 83 ... 155 175 ... 280	**3RT2536-1NB30** **3RT2536-1NF30** **3RT2536-1NP30**		**--** **--** **--**	
For screw and snap-on mounting on TH 35-15 and TH 75-15 DIN rails										
Size S3										
With integrated coil circuit (varistor integrated in electronics at factory)										
65	**30**	100/90	**11**	1	1	20 ... 33 175 ... 280	**3RT2544-1NB30** **3RT2544-1NP30**		**--** **--**	
80	**37**	125/105	**11**	1	1	20 ... 33 175 ... 280	**3RT2545-1NB30** **3RT2545-1NP30**		**--** **--**	

Other voltages according to page 4/52 on request.
Accessories and spare parts, see page 3/69 onwards.

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

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

Overview

Standards

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

Function

The 3RT26 contactors are special versions of the 3RT2, designed for switching capacitive loads (AC-6b) up to 100 kvar at 400 V.

Characteristic components of the 3RT26 contactors are the precharging resistors switched on via leading auxiliary contacts, which are closed before the main contacts. This limits the peak charging current of capacitive loads and thus minimizes negative impacts on the power supply network.

The 3RT26 contactors are suitable for switching choked or unchoked capacitors in reactive current compensation systems and are also used to switch converters.

Protecting connections against short circuit, overload and overvoltage

All connections must generally be protected against overload and short circuits using suitable measures. Different constraints must be considered depending on the type of connection:

Short-circuit and overload protection of main connections

For information on the protection of a free-standing contactor, see the technical product data sheet.

For more information on device combinations such as contactor with overload relay or contactor with circuit breaker as motor feeder, refer to

- Digital Configuration Manual for load feeders
- Configuration Manual for load feeders

Short-circuit and overload protection of auxiliary connections

For information on the protection of auxiliary contacts, see the technical product data sheet.

Short-circuit and overload protection of control supply voltage or supply voltage connections

First of all, the relevant standards and regulations for configuring control cabinets and the parts and components installed in them must be taken into account, for example for cable dimensioning.

One possible protection for these circuits could be the selection of a suitable power supply, i.e. one with a current-limiting function. In the selection of the source and the connecting cable, the load characteristics of the contactor must be considered (short-time inrush current peaks for solid-state contactor operating mechanisms, switch-on power, holding power). The same applies to the selection of suitable protective devices.

If there are further switching elements in the circuit, such as the auxiliary contact system of an overload relay that operates the contactor, the short-circuit protection necessary for this must also be considered.

For further recommendations, e.g. the use of miniature circuit breakers or circuit breakers for equipment in control circuits, see Control cabinet tip – Selecting and dimensioning suitable power supplies quickly and reliably.

Protection against overvoltage at the control supply voltage connection

3RT26 contactors supplied without a coil circuit can be retrofitted with RC elements, varistors, diodes or diode assemblies (combination of diode and Zener diode for short break times) for damping switching overvoltages in the coil and can be ordered separately as accessories, see page 3/98 onwards.

Note:

The break times of the contactor, the opening delay times of the NO contacts and the closing delay times of the NC contacts increase in the event of damping.

For more information about influencing the time response using damping, see Equipment Manual.

Fitting auxiliary contacts and mounting additional auxiliary switches

Features in the delivery state

- 3RT261 contactors:
  The basic units are equipped with a 4-pole front-mounted auxiliary switch with one freely accessible contact. The other three contacts are assigned to the precharging resistors. The basic unit contains additional free auxiliary contacts (1 NO + 1 NC or 2 NO, depending on the version).
- 3RT262 contactors:
  The basic units are equipped with a 4-pole front-mounted auxiliary switch with one freely accessible contact. The other three contacts are assigned to the precharging resistors. The basic unit contains two additional free auxiliary contacts (1 NO + 1 NC).
- 3RT263 and 3RT264 contactors:
  The auxiliary contacts for the resistors are already integrated in the basic units, which do not have any additional integrated and freely assignable auxiliary contacts. A 2-pole lateral auxiliary switch is already mounted on the left (depending on the version, 1 NO + 1 NC or 2 NC).

Expansion possibilities

All 3RT263 and 3RT264 contactors can be expanded using lateral auxiliary switches; the permissible configuration must be observed.

Type Size	3RT261 S00	3RT262 S0	3RT263, 3RT264 S2, S3
Number of unassigned auxiliary contacts as delivered from the factory	2	3	2
Number of expansion auxiliary contacts that can be fitted	0	0	2

Conductor cross-sections

In order to connect the required minimum cross-section, the use of 3RV2935-5A 3-phase infeed terminal may be necessary for 3RT263 contactors and of 3RA2943-3L 1-phase infeed terminal for 3RT264 contactors, see page 3/113. These infeed terminals enable the clamping of larger cross-sections than the device connection itself actually allows.

For 3RT2628 contactors, this infeed terminal is included in the scope of supply and is mounted on the contactor.

Technical specifications

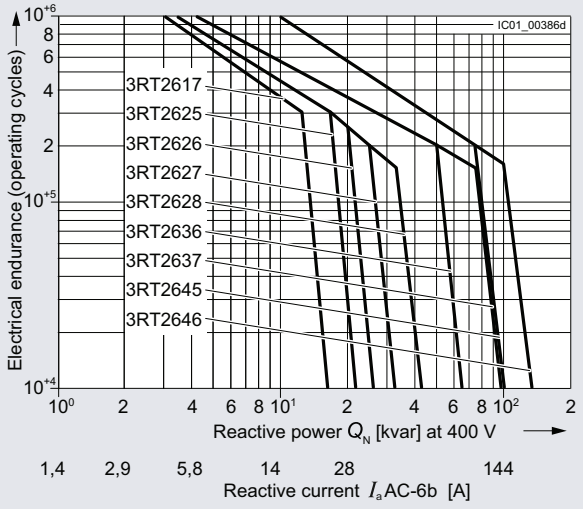
More information	
Technical specifications, see https://support.industry.siemens.com/cs/ww/en/ps/16171/td	Manuals, see https://support.industry.siemens.com/cs/ww/en/ps/16171/man

Type	**3RT26**
Size	**S00 to S3**

Contact endurance of the main contacts

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

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

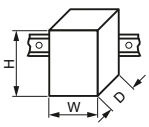
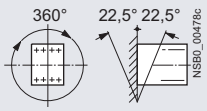


SIRIUS 3RT26 contactors for capacitive loads (AC-6b), 3-pole

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

- 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 3/25 onwards.

Type		3RT2617	3RT2625	3RT2626	3RT2627	3RT2628	3RT2636	3RT2637	3RT2645	3RT2646
Size		S00	S0				S2		S3	
General data										
Dimensions (W x H x D) including auxiliary switches and connecting cables										
• AC operation	mm	45 x 125 x 120	45 x 135 x 155			45 x 150 x 155	65 x 114 x 130		80 x 140 x 152	
• DC operation, AC/DC operation	mm	45 x 125 x 120	45 x 135 x 165			45 x 150 x 165	65 x 114 x 130		80 x 140 x 152	
Permissible mounting position The contactors are designed for operation on a vertical mounting surface.										
Mechanical endurance										
Basic units with mounted auxiliary switch	Operating cycles	3 million								
Electrical endurance For apparent power at 400 V	kvar	12.5	16.7	20	25	33	50	75		100
	Operating cycles	300 000	200 000			150 000	200 000	150 000	200 000	150 000
Rated insulation voltage U_i (pollution degree 3)	V	690							1 000[2]	
Rated impulse withstand voltage U_{imp}	kV	6							8[2]	
Protective separation between the coil and the main contacts according to IEC 60947-1, Annex N	V	400							690	
Permissible ambient temperature										
• During operation[1]	°C	-25 ... +60								
• During storage	°C	-55 ... +80								
Short-circuit protection										
Main circuit Fuse links, operational class gG: LV HRC, type 3NA; DIAZED, type 5SB; NEOZED, type 5SE according to IEC 60947-4-1										
• Type of coordination "1"	A	25 ... 40	32 ... 80	40 ... 80	50 ... 100	63 ... 100	100 ... 160	160 ... 200		200 ... 250
Auxiliary circuit										
• With fuse links of operational class gG: DIAZED, type 5SB; NEOZED, type 5SE With short-circuit current I_k = 1 kA according to IEC 60947-5-1	A	10								
• With miniature circuit breakers with C characteristic with short-circuit current I_k = 400 A	A	10								

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

[2] Only applies for main conducting paths, otherwise U_i = 690 V; U_{imp} = 6 kV.

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

Type			3RT2617-1A, -1B	3RT2625-1A, -1B, 3RT2626-1A, -1B, 3RT2627-1A, -1B, 3RT2628-1A, -1B	3RT2636-1A, 3RT2637-1A	3RT2645-1A, 3RT2646-1A
Size			S00	S0	S2	S3
Control						
Solenoid coil operating range						
• AC operation	50 Hz		0.8 ... 1.1 x U_s			
	60 Hz		0.85 ... 1.1 x U_s	0.8 ... 1.1 x U_s		
• DC operation	At 50 °C		0.8 ... 1.1 x U_s		--	
	At 60 °C		0.85 ... 1.1 x U_s	0.8 ... 1.1 x U_s	--	
Power consumption of the solenoid coils (for cold coil and 1.0 x U_s)						
• AC operation, 50 Hz, standard version						
- Closing		VA	--	77	190	296
- P.f.			--	0.82	0.72	0.61
- Closed		VA	--	9.8	16	19
- P.f.			--	0.25	0.37	0.38
• AC operation, 50/60 Hz, standard version						
- Closing		VA	49	81/79	210/188	348/296
- P.f.			0.8	0.72/0.74	0.69/0.65	0.62/0.55
- Closed		VA	7.8	10.5/8.5	17.2/16.5	25/18
- P.f.			0.25	0.25/0.28	0.36/0.39	0.35/0.41
• DC operation						
- Closing		W	4	5.9	--	
- Closed		W	4	5.9	--	

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

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

Type			3RT2617	3RT2625	3RT2626	3RT2627	3RT2628	3RT2636	3RT2637	3RT2645	3RT2646
Size			S00	S0				S2		S3	
Auxiliary circuit											
Auxiliary contacts (unassigned)			1 NO + 1 NC, 2 NC	1 NO + 2 NC				1 NO + 1 NC, 2 NC			
Further auxiliary switches, laterally mountable			--					No more than one lateral auxiliary switch can be mounted			
Technical specifications including CSA and UL rated data of the auxiliary contacts, see 3RT20 contactors, page 3/25 onwards.											
Rated data of the main contacts											
Load rating with AC											
Utilization category AC-6b Switching of AC capacitors											
• Rated operational current I_e at AC-6b											
- Up to 690 V at ambient temperature	40 °C	A	18.9	25.3	30.2	37.8	50	75.8	113.4	113	151
	60 °C	A	18	24	29	36	47.6	72.2	108		144
- Up to 1 000 V at ambient temperature	60 °C	A	--							54	68
• Rated operational reactive power at rated operational voltage	230 V, 50/60 Hz	kvar	7.2	9.6	11.5	14	19	29	43		57
	400 V, 50/60 Hz	**kvar**	**12.5**	**16.7**	**20**	**25**	**33**	**50**	**75**		**100**
	500 V, 50/60 Hz	kvar	15	21	25	31	41	63	94		125
	690 V, 50/60 Hz	kvar	21	29	34	43	57	86	129		172
	1 000 V, 50/60 Hz	kvar	--							94	125
• Minimum cross-section in the main circuit for max. AC-6b rated value			See • Product data sheets of the relevant capacitor contactors and capacitors • Operating instructions and manuals, https://support.industry.siemens.com/cs/ww/en/ps/16171/man								
cULus rated data											
Rated insulation voltage		V AC	600								
Operational reactive power at AC-6b, 3-phase, at operational voltage	110 ... 120 V	kvar	3.4	4.6	5.5	6.3	8.3	14	19	20	25
	200 ... 208 V	kvar	6.2	8.3	10	11	15	25	34	37	45
	220 ... 230 V	kvar	6.9	9.2	11	13	17	27	38	41	50
	460 ... 480 V	kvar	14	18	22	25	33	55	75	82	100
	575 ... 600 V	kvar	17	23	27	31	41	69	94	103	125
Short-circuit protection	At 600 V	kA	5					10			
Fuse for main circuit	Class RK5	A	40	80			100	250			

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

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

[1] 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

3RT2617-1A.05

3RT262.-1A.05

3RT2628-1A.05
with infeed terminal

Utilization category AC-6b Switching AC capacitors at an ambient temperature of 60 °C				Auxiliary contacts, unassigned		Rated control supply voltage U_s		Screw terminals		PU (UNIT, SET, M)	PS*	PG
				Version		50 Hz AC	50/60 Hz AC					
Capacitor rating at operational voltage 50/60 Hz								Article No.	Price per PU			
at 230 V	**at 400 V**	at 500 V	at 690 V									
kvar	**kvar**	kvar	kvar	NO	NC	V	V					
For screw and snap-on mounting on TH 35 DIN rail												
Size S00												
7.2	**12.5**	15	21	1	1	--	24	**3RT2617-1AB03**		1	1 unit	41B
						--	110	**3RT2617-1AF03**		1	1 unit	41B
						--	230	**3RT2617-1AP03**		1	1 unit	41B
7.2	**12.5**	15	21	0	2	--	24	**3RT2617-1AB05**		1	1 unit	41B
						--	110	**3RT2617-1AF05**		1	1 unit	41B
						--	230	**3RT2617-1AP05**		1	1 unit	41B
Size S0												
9.6	**16.7**	21	29	1	2	24	--	**3RT2625-1AB05**		1	1 unit	41B
						110	--	**3RT2625-1AF05**		1	1 unit	41B
						230	--	**3RT2625-1AP05**		1	1 unit	41B
11.5	**20**	25	34	1	2	24	--	**3RT2626-1AB05**		1	1 unit	41B
						110	--	**3RT2626-1AF05**		1	1 unit	41B
						230	--	**3RT2626-1AP05**		1	1 unit	41B
14	**25**	31	43	1	2	24	--	**3RT2627-1AB05**		1	1 unit	41B
						110	--	**3RT2627-1AF05**		1	1 unit	41B
						230	--	**3RT2627-1AP05**		1	1 unit	41B
19	**33**	41	57	1	2	24	--	**3RT2628-1AB05**		1	1 unit	41B
						110	--	**3RT2628-1AF05**		1	1 unit	41B
						230	--	**3RT2628-1AP05**		1	1 unit	41B

Other voltages according to page 4/52 on request.
Accessories and spare parts, see page 3/69 onwards.

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

AC operation

Main, auxiliary and control conductors: Screw terminals

3RT263.-1A.05

3RT264.-1A.05

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

Other voltages according to page 4/52 on request.
Accessories, see page 3/69 onwards.

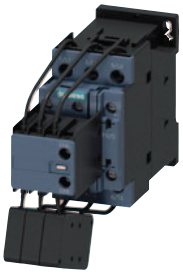
*** You can order this quantity or a multiple thereof.**
Illustrations are approximate

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

DC operation ⎓

Main, auxiliary and control conductors: Screw terminals

3RT2617-1B.45



3RT262.-1B.45

3RT2628-1B.45
with infeed terminal

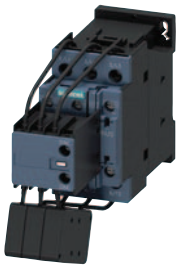
Utilization category AC-6b Switching AC capacitors at an ambient temperature of 60 °C				Auxiliary contacts, unassigned		Rated control supply voltage U_s	**Screw terminals**	PU (UNIT, SET, M)	PS*	PG
				Version		DC				
Capacitor rating at operational voltage 50/60 Hz							Article No.			
at 230 V	**at 400 V**	at 500 V	at 690 V					Price per PU		
kvar	**kvar**	kvar	kvar	NO	NC	V				
For screw and snap-on mounting on TH 35 DIN rail										
Size S00										
7.2	**12.5**	15	21	1	1	24	**3RT2617-1BB43**	1	1 unit	41B
						110	**3RT2617-1BF43**	1	1 unit	41B
7.2	**12.5**	15	21	0	2	24	**3RT2617-1BB45**	1	1 unit	41B
						110	**3RT2617-1BF45**	1	1 unit	41B
Size S0										
9.6	**16.7**	21	29	1	2	24	**3RT2625-1BB45**	1	1 unit	41B
						110	**3RT2625-1BF45**	1	1 unit	41B
11.5	**20**	25	34	1	2	24	**3RT2626-1BB45**	1	1 unit	41B
						110	**3RT2626-1BF45**	1	1 unit	41B
14	**25**	31	43	1	2	24	**3RT2627-1BB45**	1	1 unit	41B
						110	**3RT2627-1BF45**	1	1 unit	41B
19	**33**	41	57	1	2	24	**3RT2628-1BB45**	1	1 unit	41B
						110	**3RT2628-1BF45**	1	1 unit	41B

Other voltages according to page 4/52 on request.
Accessories, see page 3/69 onwards.

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

AC/DC operation

Main, auxiliary and control conductors: Screw terminals



3RT262.-1N.35

3RT2628-1N.35
with infeed terminal

3RT263.-1N.35

3RT264.-1N.35

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

Other voltages according to page 4/52 on request.
Accessories, see page 3/69 onwards.

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

Options

Rated control supply voltages for 3RT2 contactors, possible on request (change of the 10th and 11th digits of the article number)

Delivery time on request

Rated control supply voltage U_s	Contactor type	3RT231, 3RT251	3RT232, 3RT252	3RT233, 3RT253	3RT234, 3RT244, 3RT254	3RT2617, 3RT262, 3RT263, 3RT264
	Size	S00	S0	S2	S3	S00 to S3
Sizes S00 to S3						
AC operation[1]						
Solenoid coils for 50 Hz (exception: Size S00: 50 Hz and 60 Hz[2])						
24 V AC		B0	B0	B0	B0	B0
42 V AC		D0	D0	D0	D0	--
48 V AC		H0	--	--	H0	--
110 V AC		F0	F0	F0	F0	F0
230 V AC		P0	P0	P0	P0	P0
240 V AC		--	--	U0	U0	--
400 V AC		V0	V0	V0	V0	--
Solenoid coils for 50 Hz and 60 Hz[2]						
24 V AC		B0	C2	C2	C2	C2
42 V AC		D0	D2	D2	D2	--
48 V AC		H0	H2	H2	H2	--
110 V AC		F0	G2	G2	G2	--
220 V AC		N2	N2	N2	N2	N2
230 V AC		P0	L2	L2	L2	L2
Solenoid coils (for USA and Canada[3])						
50 Hz	**60 Hz**					
110 V AC	120 V AC	K6	K6	K6	K6	--
220 V AC	240 V AC	P6	P6	P6	P6	--
Solenoid coils (for Japan)						
50/60 Hz[4]	**60 Hz[5]**					
100 V AC	110 V AC	G6	G6	G6	G6	G6
200 V AC	220 V AC	N6	N6	N6	N6	N6
400 V AC	440 V AC	R6	R6	R6	R6	R6
DC operation[1]						
12 V DC		A4	A4	--	--	--
24 V DC		B4	B4	--	--	B4
42 V DC		D4	D4	--	--	--
48 V DC		W4	W4	--	--	--
60 V DC		--	--	--	--	--
110 V DC		F4	F4	--	--	F4
125 V DC		G4	G4	--	--	--
220 V DC		M4	M4	--	--	--
230 V DC		P4	--	--	--	--

Examples

AC operation	3RT2325-1A**P0**0	Contactor with screw terminals; with solenoid coil for 50 Hz for rated control supply voltage 230 V AC
	3RT2325-1A**G2**0	Contactor with screw terminals; with solenoid coil for 50/60 Hz for rated control supply voltage 110 V AC
DC operation	3RT2526-2B**B4**0	Contactor with spring-loaded terminals; for rated control supply voltage 24 V DC
	3RT2526-2B**G4**0	Contactor with spring-loaded terminals; for rated control supply voltage 125 V DC

1) For deviating coil voltages and operating ranges of sizes S00 and S0, a SITOP 24 V DC power supply with wide-range input can be used for the coil control, see page 15/1 or Catalog KT 10.1.

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

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

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

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

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

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

Rated control supply voltages for 3RT14 contactors, possible on request (change of the 10th and 11th digits of the article number)

Delivery time on request

Rated control supply voltage	**Contactor type**	**3RT145.-.A, 3RT146.-.A, 3RT147.-.A**	Rated control supply voltage	**Contactor type**	**3RT145.-.N, 3RT146.-.N, 3RT147.-.N**	**3RT145.-.P, 3RT145.-.S, 3RT146.-.P, 3RT146.-.S, 3RT147.-.P, 3RT147.-.S**
$U_{s\,min}$ to $U_{s\,max}$	**Sizes**	**S6 to S12**	$U_{s\,min}$ to $U_{s\,max}$	**Sizes**	**S6 to S12**	
Sizes S6 to S12						
AC/DC operation (50/60 Hz AC or DC) and operating range 0.8 x $U_{s\,min}$ to 1.1 x $U_{s\,max}$						
Standard operating mechanisms			**Solid-state operating mechanisms**			
23 ... 26 V AC/DC		B3	21 ... 27.3 V AC/DC		B3	--
42 ... 48 V AC/DC		D3	96 ... 127 V AC/DC		F3	F3
110 ... 127 V AC/DC		F3	200 ... 277 V AC/DC		P3	P3
200 ... 220 V AC/DC		M3				
220 ... 240 V AC/DC		P3				
240 ... 277 V AC/DC		U3				
380 ... 420 V AC/DC		V3				
440 ... 480 V AC/DC		R3				
500 ... 550 V AC/DC		S3				
575 ... 600 V AC/DC		T3				

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

Overview

Standards

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

Performance range

Sizes S00 to S3

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

Sizes S6 to S12

- 3RT10 contactors for motor loads (AC-3 and AC-3e) from 55 kW to 500 A/250 kW
- 3RT14 contactors for weak or non-inductive loads (AC-1) up to 690 A

Application

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

Thus, their suitability for increased requirements such as an

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

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_s in the temperature range -40 to 70 °C.

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

Protecting connections against short circuit, overload and overvoltage

All connections must generally be protected against overload and short circuits using suitable measures. Different constraints must be considered depending on the type of connection:

Short-circuit and overload protection of main connections

For information on the protection of a free-standing contactor, see the technical product data sheet.

For more information on device combinations such as contactor with overload relay or contactor with circuit breaker as motor feeder, refer to

- Digital Configuration Manual for load feeders
- Configuration Manual for load feeders

Short-circuit and overload protection of auxiliary connections

For information on the protection of auxiliary contacts, see the technical product data sheet.

Short-circuit and overload protection of control supply voltage or supply voltage connections

First of all, the relevant standards and regulations for configuring control cabinets and the parts and components installed in them must be taken into account, for example for cable dimensioning.

One possible protection for these circuits could be the selection of a suitable power supply, i.e. one with a current-limiting function. In the selection of the source and the connecting cable, the load characteristics of the contactor must be considered (short-time inrush current peaks for solid-state contactor operating mechanisms, switch-on power, holding power). The same applies to the selection of suitable protective devices.

If there are further switching elements in the circuit, such as the auxiliary contact system of an overload relay that operates the contactor, the short-circuit protection necessary for this must also be considered.

For further recommendations, e.g. the use of miniature circuit breakers or circuit breakers for equipment in control circuits, see Control cabinet tip – Selecting and dimensioning suitable power supplies quickly and reliably.

Short-circuit and overload protection of contactors with digital input

A typical rated current of 20 mA applies to these inputs based on the PLC input types according to IEC 60947-4-1.

The inputs can be protected accordingly (for 3RT1...-.X contactors, marked with IN+/IN-). The supply voltage connections A1 - A2 must be protected based on the load characteristics.

For information on power consumption, see the technical product data sheet.

Protection against overvoltage at the control supply voltage connection

3RT contactors are already equipped with coil damping (varistor).

Note:

The break times of the contactor, the opening delay times of the NO contacts and the closing delay times of the NC contacts increase in the event of damping.

For more information about influencing the time response using damping, see Equipment Manual.

Fitting auxiliary contacts and mounting additional auxiliary switches

Features in the delivery state

- 3RT20 contactors:
  - 3RT201 contactors:
    An auxiliary contact is integrated in the basic unit.
  - 3RT202 to 3RT204 contactors:
    The basic units contain two integrated auxiliary contacts (1 NO + 1 NC).
- 3RT10 and 3RT14 contactors:
  These contactors are supplied with two laterally mounted auxiliary switches. The fitting of auxiliary switches is possible on the front and on the side.

Expansion possibilities

All basic units (with the exception of coupling contactors in size S00) can be expanded using auxiliary switches; the permissible configuration must be observed.

Detailed information about the fitting of auxiliary switches for 3RT20 contactors, see pages 3/80 to 3/87.

Ambient temperature

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

Side-by-side mounting

Contactors with conventional operating mechanism

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

Contactors with series resistor

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

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

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

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

Technical specifications

More information	
Technical specifications, see https://support.industry.siemens.com/cs/ww/en/ps/16177/td	Manuals, see https://support.industry.siemens.com/cs/ww/en/ps/16177/man
FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/16177/faq	Guide of use for contactors in safety applications, see https://support.industry.siemens.com/cs/ww/en/view/109807687

Type			3RT2017	3RT2017-2XB4.-0LA2	3RT2017-2XF4.-0LA2	3RT2018-2XB4.-0LA2	3RT2018-2XF4.-0LA2	3RT202.	3RT202.-2XB40-0LA2	3RT202.-2XF40-0LA2
Size			S00					S0		
General data										
Upright mounting position										
• Contactors with series resistor			Special version (on request)							
• Contactors with conventional coil			Special version (on request)							
Ambient temperature										
• During operation		°C	-40 ... +70[1]	-40 ... +70						
• During storage		°C	-55 ... +80							
Control										
Solenoid coil operating range	DC		0.7 ... 1.25 x U_s							
Power consumption of the solenoid coils			For cold coil and 1.0 x U_s							
• Contactors with series resistor	Closing	W	13	--						
	Closed	W	4.0	--						
• Contactors with conventional coil	Closing	W	2.8	--				4.5	--	
	Closed	W	2.8	--				4.5	--	
• Contactors with solid-state operating mechanism	Closing	W	--	4.0	4.5	4.0	4.5	--	6.7	13.2
	Closed	W	--	0.95	0.75	0.95	0.75	--	1.4	1.3
Rated data of the main contacts										
Load rating with AC										
Minimum cross-section in the main circuit										
• At maximum AC-1 rated value		mm^2	4					10		
• At maximum I_{th} rated value		mm^2	--	4				--	10	

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

All details and technical specifications not mentioned here are identical to those of the basic units, see page 3/25 onwards.

Type			3RT2035-3XB40-0LA2	3RT2035-3XF40-0LA2	3RT2036-3XB40-0LA2	3RT2036-3XF40-0LA2	3RT2037-3XB40-0LA2	3RT2037-3XF40-0LA2	3RT2038-3XB40-0LA2	3RT2038-3XF40-0LA2	3RT204.-3XB40-0LA2	3RT204.-3XF40-0LA2
Size			S2								S3	
General data												
Ambient temperature												
• During operation		°C	-40 ... +70									
• During storage		°C	-55 ... +80									
Control												
Solenoid coil operating range	DC		0.7 ... 1.25 x U_s									
Power consumption of the solenoid coils			For cold coil and 1.0 x U_s									
• Contactors with solid-state operating mechanism	Closing	W	23								76	64
	Closed	W	1								1.8	1.0
Rated data of the main contacts												
Load rating with AC												
Minimum cross-section in the main circuit												
• At maximum AC-1 rated value		mm^2	16		25				35		50	
• At maximum I_{th} rated value		mm^2	16		25				35		50	

All details and technical specifications not mentioned here are identical to those of the basic units, see page 3/25 onwards.

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

Type		3RT1054-.X.46-0LA2	3RT1055-.X.46-0LA2	3RT1056-.X.46-0LA2	3RT1064-.X.46-0LA2	3RT1065-.X.46-0LA2	3RT1066-.X.46-0LA2	3RT1075-.X.46-0LA2	3RT1076-.X.46-0LA2
Size		S6			S10			S12	
General data									
Ambient temperature									
• During operation	°C	-40 ... +70							
• During storage	°C	-55 ... +80							
Control									
• Solenoid coil closing for DC	W	320			580			800	
• Solenoid coil closed for DC	W	2.8			3.4			3.6	
• Control version of the switch operating mechanism		PLC-IN or standard A1 - A2 (can be set)							
Actuated via A1/A2									
• Rated control supply voltage	V DC	24, 72 or 110							
• Operating range		0.7 ... 1.25							
Actuated via PLC input									
• Rated voltage	V DC	24 ... 110							
• Operating range		0.7 ... 1.25							
• Consumed current at PLC control input according to IEC 60947-1, maximum	mA	2							
Rated data of the main contacts									
Load rating with AC									
Minimum cross-section in the main circuit									
• At maximum AC-1 rated value	mm^2	70	95		150	185		300	370
• At maximum I_{th} rated value	mm^2	70	95		150	185		300	370

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

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

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

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

Selection and ordering data

DC operation

3RT201.-2K.4.

3RT201.-2K.42-0LA0

Rated data according to IEC 60947-4-1 AC-3 and AC-3e, t_u: 70 °C					Auxiliary contacts			Rated control supply voltage U_s	**Spring-loaded terminals**		PU (UNIT, SET, M)	PS*	PG
Operational current I_e up to	Rating of three-phase motors at				Ident. No.	Version			Article No.	Price per PU			
400 V	230 V	**400 V**	500 V	690 V		NO	NC						
A	kW	**kW**	kW	kW				V DC					
For screw and snap-on mounting on TH 35 DIN rail													
Size S00													
Coupling contactors with integrated coil circuit													
• Suppressor diode integrated at factory													
12	3	**5.5**	5.5	5.5	**10**[1]	1	--	24	**3RT2017-2KB41**		1	1 unit	41B
								110	**3RT2017-2KF41**		1	1 unit	41B
12	3	**5.5**	5.5	5.5	**01**[1]	--	1	24	**3RT2017-2KB42**		1	1 unit	41B
								110	**3RT2017-2KF42**		1	1 unit	41B
• Varistor integrated at factory													
12	3	**5.5**	5.5	5.5	**10**[1]	1	--	24	**3RT2017-2LB41**		1	1 unit	41B
								110	**3RT2017-2LF41**		1	1 unit	41B
12	3	**5.5**	5.5	5.5	**01**[1]	--	1	24	**3RT2017-2LB42**		1	1 unit	41B
								110	**3RT2017-2LF42**		1	1 unit	41B
With plug-on series resistor and integrated coil circuit													
• Suppressor diode integrated at factory													
12	3	**5.5**	5.5	5.5	**--**[2]	--	1[3]	24	**3RT2017-2KB42-0LA0**		1	1 unit	41B
								110	**3RT2017-2KF42-0LA0**		1	1 unit	41B
16	4	**7.5**	10	11	**--**[2]	--	1[3]	24	**3RT2018-2KB42-0LA0**		1	1 unit	41B
								110	**3RT2018-2KF42-0LA0**		1	1 unit	41B
• Varistor integrated at factory													
12	3	**5.5**	5.5	5.5	**--**[2]	--	1[3]	24	**3RT2017-2LB42-0LA0**		1	1 unit	41B
								110	**3RT2017-2LF42-0LA0**		1	1 unit	41B
16	4	**7.5**	10	11	**--**[2]	--	1[3]	24	**3RT2018-2LB42-0LA0**		1	1 unit	41B
								110	**3RT2018-2LF42-0LA0**		1	1 unit	41B

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

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

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

Accessories and spare parts, see page 3/69 onwards.

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

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

DC operation

3RT201.-2X.41-0LA2

3RT201.-2X.42-0LA2

3RT202.-2K.40

3RT202.-2X.40-0LA2

Rated data according to IEC 60077-2 t_u: 70 °C						Auxiliary contacts			Rated control supply voltage U_s	Spring-loaded terminals		PU (UNIT, SET, M)	PS*	PG
	IEC 60947-4-1 AC-3 and AC-3e t_u: 60 °C													
Conventional thermal current I_{th} up to	Operational current I_e up to	Rating of three-phase motors at				Ident. No.	Version			Article No.	Price per PU			
690 V	400 V	230 V	**400 V**	500 V	690 V		NO	NC						
A	A	kW	**kW**	kW	kW				V DC					
For screw and snap-on mounting on TH 35 DIN rail														
Size S00														
With integrated coil circuit (varistor integrated in electronics at factory)														
18	12	3	**5.5**	5.5	5.5	**10**	1	--	24 ... 34	**3RT2017-2XB41-0LA2**		1	1 unit	41B
									72 ... 125	**3RT2017-2XF41-0LA2**		1	1 unit	41B
18	12	3	**5.5**	5.5	5.5	**01**	--	1	24 ... 34	**3RT2017-2XB42-0LA2**		1	1 unit	41B
									72 ... 125	**3RT2017-2XF42-0LA2**		1	1 unit	41B
18	16	4	**7.5**	10	11	**10**	1	--	24 ... 34	**3RT2018-2XB41-0LA2**		1	1 unit	41B
									72 ... 125	**3RT2018-2XF41-0LA2**		1	1 unit	41B
18	16	4	**7.5**	10	11	**01**	--	1	24 ... 34	**3RT2018-2XB42-0LA2**		1	1 unit	41B
									72 ... 125	**3RT2018-2XF42-0LA2**		1	1 unit	41B
Size S0														
With integrated coil circuit														
• Coupling contactors with varistor integrated at factory														
--	17	4	**7.5**	10	11	**11**[1)]	1	1	24	**3RT2025-2KB40**		1	1 unit	41B
									110	**3RT2025-2KF40**		1	1 unit	41B
--	25	5.5	**11**	11	11	**11**[1)]	1	1	24	**3RT2026-2KB40**		1	1 unit	41B
									110	**3RT2026-2KF40**		1	1 unit	41B
--	32	7.5	**15**	18.5	18.5	**11**[1)]	1	1	24	**3RT2027-2KB40**		1	1 unit	41B
									110	**3RT2027-2KF40**		1	1 unit	41B
• Varistor integrated in electronics at factory														
30	17	4	**7.5**	10	11	**11**	1	1	24	**3RT2025-2XB40-0LA2**		1	1 unit	41B
									110	**3RT2025-2XF40-0LA2**		1	1 unit	41B
30	25	5.5	**11**	11	11	**11**	1	1	24	**3RT2026-2XB40-0LA2**		1	1 unit	41B
									110	**3RT2026-2XF40-0LA2**		1	1 unit	41B
36	32	7.5	**15**	18.5	18.5	**11**	1	1	24	**3RT2027-2XB40-0LA2**		1	1 unit	41B
									110	**3RT2027-2XF40-0LA2**		1	1 unit	41B
38	38	7.5	**18.5**	18.5	18.5	**11**	1	1	24	**3RT2028-2XB40-0LA2**		1	1 unit	41B
									110	**3RT2028-2XF40-0LA2**		1	1 unit	41B

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

Accessories and spare parts, see page 3/69 onwards.

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

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

DC operation

3RT203.-3X.40-0LA2

3RT204.-3X.40-0LA2

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

Accessories and spare parts, see page 3/69 onwards.

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

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

DC operation

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

3RT105.-2X.46-0LA2

3RT106.-2X.46-0LA2

3RT107.-2X.46-0LA2

Size	Rated data according to IEC 60077-2 t_u: 70 °C Conventional thermal current I_{th} up to 690 V	Rated data according to IEC 60947-4-1 AC-3 and AC-3e t_u: 60 °C Operational current I_e up to 400 V	Auxiliary contacts, lateral Version NO	Auxiliary contacts, lateral Version NC	Rated control supply voltage U_s	Spring-loaded terminals Article No.	Spring-loaded terminals Price per PU	PU (UNIT, SET, M)	PS*	PG
	A	A			V DC					
Solid-state operating mechanisms										
With control signal input 24 ... 110 V DC e. g. for control by PLC										
With integrated coil circuit (varistor integrated in electronics at factory)										
S6	120	115	2	2	24	**3RT1054-2XB46-0LA2**		1	1 unit	41B
					72	**3RT1054-2XJ46-0LA2**		1	1 unit	41B
					110	**3RT1054-2XF46-0LA2**		1	1 unit	41B
	140	150	2	2	24	**3RT1055-2XB46-0LA2**		1	1 unit	41B
					72	**3RT1055-2XJ46-0LA2**		1	1 unit	41B
					110	**3RT1055-2XF46-0LA2**		1	1 unit	41B
	145	185	2	2	24	**3RT1056-2XB46-0LA2**		1	1 unit	41B
					72	**3RT1056-2XJ46-0LA2**		1	1 unit	41B
					110	**3RT1056-2XF46-0LA2**		1	1 unit	41B
S10	215	225	2	2	24	**3RT1064-2XB46-0LA2**		1	1 unit	41B
					72	**3RT1064-2XJ46-0LA2**		1	1 unit	41B
					110	**3RT1064-2XF46-0LA2**		1	1 unit	41B
	265	265	2	2	24	**3RT1065-2XB46-0LA2**		1	1 unit	41B
					72	**3RT1065-2XJ46-0LA2**		1	1 unit	41B
					110	**3RT1065-2XF46-0LA2**		1	1 unit	41B
	265	300	2	2	24	**3RT1066-2XB46-0LA2**		1	1 unit	41B
					72	**3RT1066-2XJ46-0LA2**		1	1 unit	41B
					110	**3RT1066-2XF46-0LA2**		1	1 unit	41B
S12	350	400	2	2	24	**3RT1075-2XB46-0LA2**		1	1 unit	41B
					72	**3RT1075-2XJ46-0LA2**		1	1 unit	41B
					110	**3RT1075-2XF46-0LA2**		1	1 unit	41B
	475	500	2	2	24	**3RT1076-2XB46-0LA2**		1	1 unit	41B
					72	**3RT1076-2XJ46-0LA2**		1	1 unit	41B
					110	**3RT1076-2XF46-0LA2**		1	1 unit	41B

Accessories and spare parts, see page 3/69 onwards.

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

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

DC operation ⎓

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

3RT1456-2X.46-0LA2

3RT146.-2X.46-0LA2

3RT1476-2X.46-0LA2

Size	Rated data according to IEC 60077-2 t_u: 70 °C Conventional thermal current I_{th} up to 690 V	Rated data according to IEC 60947-4-1 AC-1 t_u: 40 °C Operational current I_e up to 400 V	Auxiliary contacts, lateral Version NO	Auxiliary contacts, lateral Version NC	Rated control supply voltage U_s	Spring-loaded terminals Article No.	Spring-loaded terminals Price per PU	PU (UNIT, SET, M)	PS*	PG
	A	A			V DC					
Solid-state operating mechanisms										
With control signal input 24 ... 110 V DC e. g. for control by PLC										
With integrated coil circuit (varistor integrated in electronics at factory)										
S6	190	275	2	2	24	**3RT1456-2XB46-0LA2**		1	1 unit	41B
					72	**3RT1456-2XJ46-0LA2**		1	1 unit	41B
					110	**3RT1456-2XF46-0LA2**		1	1 unit	41B
S10	330	400	2	2	24	**3RT1466-2XB46-0LA2**		1	1 unit	41B
					72	**3RT1466-2XJ46-0LA2**		1	1 unit	41B
					110	**3RT1466-2XF46-0LA2**		1	1 unit	41B
	330	500	2	2	24	**3RT1467-2XB46-0LA2**		1	1 unit	41B
					72	**3RT1467-2XJ46-0LA2**		1	1 unit	41B
					110	**3RT1467-2XF46-0LA2**		1	1 unit	41B
S12	520	690	2	2	24	**3RT1476-2XB46-0LA2**		1	1 unit	41B
					72	**3RT1476-2XJ46-0LA2**		1	1 unit	41B
					110	**3RT1476-2XF46-0LA2**		1	1 unit	41B

Accessories and spare parts, see page 3/69 onwards.

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

Overview

Standards

IEC 60947-5-1

Ambient temperature

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

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

Control and auxiliary circuits

The solenoid coils of the contactor relays have an extended coil operating range from 0.7 to 1.25 x U_s and are fitted as standard with surge suppressors. The opening delay times are 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.

Operating mechanism types

Contactor relays with conventional coil

These contactor relays have an extended operating range of 0.7 to 1.25 x U_s. An additional auxiliary switch is not required.

Contactor relays with series resistor

These contactor relays have an extended operating range of 0.7 to 1.25 x U_s.

The DC solenoid system is modified to holding operation by means of a series resistor. This is plugged on in a prewired module.

A 4-pole auxiliary switch can be fitted additionally.

Contactor relays with solid-state operating mechanism

Thanks to the integrated electronics, these contactor relays have an extended operating range of 0.7 to 1.25 x U_s.

Protecting connections against short circuit, overload and overvoltage

All connections must generally be protected against overload and short circuits using suitable measures. Different constraints must be considered depending on the type of connection:

Short-circuit and overload protection of auxiliary connections

For information on the protection of auxiliary contacts, see the technical product data sheet.

Short-circuit and overload protection of control supply voltage or supply voltage connections

First of all, the relevant standards and regulations for configuring control cabinets and the parts and components installed in them must be taken into account, for example for cable dimensioning.

One possible protection for these circuits could be the selection of a suitable power supply, i.e. one with a current-limiting function. In the selection of the source and the connecting cable, the load characteristics of the contactor relay must be considered (short-time inrush current peaks for solid-state contactor operating mechanisms, switch-on power, holding power). The same applies to the selection of suitable protective devices.

If there are further switching elements in the circuit, such as the auxiliary contact system of an overload relay that operates the auxiliary contactor, the short-circuit protection necessary for this must also be considered.

For further recommendations, e.g. the use of miniature circuit breakers or circuit breakers for equipment in control circuits, see Control cabinet tip – Selecting and dimensioning suitable power supplies quickly and reliably.

Protection against overvoltage at the control supply voltage connection

- Contactor relays with conventional coil:
  A surge suppressor (suppressor diode) is integrated.
- Contactor relays with series resistor:
  A surge suppressor (suppressor diode or varistor as preferred) is integrated.
- Contactor relays with solid-state operating mechanism:
  A surge suppressor (varistor) is integrated.

Connection methods

The 3RH2 contactor relays are available with screw terminals.

Side-by-side mounting

Contactor relays with conventional coil

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

Contactor relays with series resistor

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

Contactor relays with solid-state operating mechanism

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

SIRIUS 3RH2 contactor relays with extended operating range

Technical specifications

More information	
Technical specifications, see https://support.industry.siemens.com/cs/ww/en/ps/16174/td FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/16174/faq	Manuals, see https://support.industry.siemens.com/cs/ww/en/ps/16174/man

Type			3RH21..-2K, -2L	3RH2122-2XB40-0LA2	3RH2122-2XF40-0LA2
General data					
Upright mounting position					
• Contactors with series resistor			Special version (on request)		
• Contactors with conventional coil			Special version (on request)		
Ambient temperature					
• During operation		°C	-40 ... +70[1)]		
• During storage		°C	-55 ... +80		
Control					
Solenoid coil operating range	DC operation		0.7 ... 1.25 x U_s		
Power consumption of the solenoid coils			For cold coil and 1.0 x U_s		
• Contactors with series resistor	Closing	W	13	--	--
	Closed	W	4	--	--
• Contactors with conventional coil	Closing	W	2.8	--	--
	Closed	W	2.8	--	--
• Contactors with solid-state operating mechanism	Closing	W	--	4	4.5
	Closed	W	--	0.95	0.75

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

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

Selection and ordering data

DC operation

3RH2122-2K.40

3RH2122-2K.40-0LA0

Rated operational current I_e/AC-15 t_u: 70 °C at 230 V	400 V	500 V	690 V	Contacts Ident. No. according to EN 50011	Version NO	NC	Rated control supply voltage U_s	Spring-loaded terminals Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
A	A	A	A				V DC					
For screw and snap-on mounting on TH 35 DIN rail												
Size S00												
With integrated coil circuit												
• Suppressor diode integrated at factory												
10	3	2	1	**22E**	2	2[1)]	24	**3RH2122-2KB40**		1	1 unit	41A
							110	**3RH2122-2KF40**		1	1 unit	41A
				31E	3	1[1)]	24	**3RH2131-2KB40**		1	1 unit	41A
							110	**3RH2131-2KF40**		1	1 unit	41A
				40E	4	0[1)]	24	**3RH2140-2KB40**		1	1 unit	41A
							110	**3RH2140-2KF40**		1	1 unit	41A
• Varistor integrated at factory												
10	3	2	1	**22E**	2	2[1)]	24	**3RH2122-2LB40**		1	1 unit	41A
							110	**3RH2122-2LF40**		1	1 unit	41A
				31E	3	1[1)]	24	**3RH2131-2LB40**		1	1 unit	41A
							110	**3RH2131-2LF40**		1	1 unit	41A
				40E	4	0[1)]	24	**3RH2140-2LB40**		1	1 unit	41A
							110	**3RH2140-2LF40**		1	1 unit	41A
With plug-on series resistor and integrated coil circuit												
• Suppressor diode integrated at factory												
10	3	2	1	**21X**	2	1[2)]	24	**3RH2122-2KB40-0LA0**		1	1 unit	41A
							110	**3RH2122-2KF40-0LA0**		1	1 unit	41A
• Varistor integrated at factory												
10	3	2	1	**21X**	2	1[2)]	24	**3RH2122-2LB40-0LA0**		1	1 unit	41A
							110	**3RH2122-2LF40-0LA0**		1	1 unit	41A
With integrated coil circuit (varistor integrated in electronics at factory)												
10	3	2	1	**22E**	2	2[2)]	24 ... 34	**3RH2122-2XB40-0LA2**		1	1 unit	41A
							72 ... 125	**3RH2122-2XF40-0LA2**		1	1 unit	41A
				31E	3	1[2)]	24 ... 34	**3RH2131-2XB40-0LA2**		1	1 unit	41A
							72 ... 125	**3RH2131-2XF40-0LA2**		1	1 unit	41A
				40E	4	0[2)]	24 ... 34	**3RH2140-2XB40-0LA2**		1	1 unit	41A
							72 ... 125	**3RH2140-2XF40-0LA2**		1	1 unit	41A

[1)] It is not possible to mount an auxiliary switch.
[2)] 4-pole auxiliary switch according to EN 50005 can be mounted.

Accessories, see page 3/69 onwards.

Other voltages according to page 3/67 on request.

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

3TH4 contactor relays, 8-pole

Overview

Standards

IEC 60947-5-1

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 solenoid coil operating range) is -50 to +70 °C. Uninterrupted duty at temperatures < -25 °C and > +55 °C reduces the mechanical endurance, the current carrying capacity of the conducting paths and the switching frequency.

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

Application

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

Control and auxiliary circuits

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

Technical specifications

More information	
Technical specifications, see https://support.industry.siemens.com/cs/ww/en/ps/16176/td FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/16176/faq	Manuals, see https://support.industry.siemens.com/cs/ww/en/ps/16176/man

Type			3TH42
General data			
Permissible ambient temperature			
• During operation		°C	-50 ... +70[1)]
• During storage		°C	-55 ... +80
Control			
Solenoid coil operating range			0.7 ... 1.25 x U_s
Power consumption of the solenoid coils (for cold coil and 1.0 x U_s) For cold coil: Closing = Closed		W	5.2
Permissible residual current of the electronics (with 0 signal)			
• DC operation			≤ 10 mA x (24 V/U_s)
Operating times within operating range			
Total break time = Opening delay + Arcing time			
• DC operation	Closing delay	ms	40 ... 200
	Opening delay	ms	20 ... 30
• Arcing time		ms	10 ... 20

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

All details and technical specifications not mentioned here are identical to those of the 3TH4 basic units, see page 5/14 onwards.

Selection and ordering data

DC operation ⎓

3TH4244-0L..

Contacts	Rated operational current I_e/AC-15				Contacts[1] Ident. No. according to EN 50011	Version		Rated control supply voltage U_s	Screw terminals		PU (UNIT, SET, M)	PS*	PG
	230 V	400 V	500 V	690 V					Article No.	Price per PU			
Number	**A**	A	A	A		NO	NC	V DC					
For screw and snap-on mounting on TH 35 DIN rail													
With integrated coil circuit (varistor integrated at factory)													
8	**10**	6	4	2	**44E**	4	4	24	**3TH4244-0LB4**		1	1 unit	41A
								110	**3TH4244-0LF4**		1	1 unit	41A
8	**10**	6	4	2	**53E**	5	3	24	**3TH4253-0LB4**		1	1 unit	41A
								110	**3TH4253-0LF4**		1	1 unit	41A
8	**10**	6	4	2	**62E**	6	2	24	**3TH4262-0LB4**		1	1 unit	41A
								110	**3TH4262-0LF4**		1	1 unit	41A

[1] No expansion contacts can be fitted.

Accessories, see page 5/20.

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

3TC contactors for switching DC voltage, 2-pole

Overview

Standards

IEC 60947-4-1

Protecting connections against short circuit, overload and overvoltage

All connections must generally be protected against overload and short circuits using suitable measures. Different constraints must be considered depending on the type of connection:

Short-circuit and overload protection of main connections

For information on the protection of a free-standing contactor, see the technical product data sheet.

For more information on device combinations such as contactor with overload relay or contactor with circuit breaker as motor feeder, refer to

- Digital Configuration Manual for load feeders
- Configuration Manual for load feeders

Short-circuit and overload protection of auxiliary connections

For information on the protection of auxiliary contacts, see the technical product data sheet.

Short-circuit and overload protection of control supply voltage or supply voltage connections

First of all, the relevant standards and regulations for configuring control cabinets and the parts and components installed in them must be taken into account, for example for cable dimensioning.

One possible protection for these circuits could be the selection of a suitable power supply, i.e. one with a current-limiting function. In the selection of the source and the connecting cable, the load characteristics of the contactor must be considered (short-time inrush current peaks for solid-state contactor operating mechanisms, switch-on power, holding power). The same applies to the selection of suitable protective devices.

If there are further switching elements in the circuit, such as the auxiliary contact system of an overload relay that operates the contactor, the short-circuit protection necessary for this must also be considered.

For further recommendations, e.g. the use of miniature circuit breakers or circuit breakers for equipment in control circuits, see Control cabinet tip – Selecting and dimensioning suitable power supplies quickly and reliably.

Protection against overvoltage at the control supply voltage connection

The 3TC contactors for railway applications are fitted as standard with varistors against overvoltage.

Ambient temperature

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

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

Series resistor

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

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

Fitting auxiliary contacts and mounting additional auxiliary switches

Features in the delivery state

The 3TC contactors are equipped with two lateral auxiliary switches with four auxiliary contacts. Of those contacts, one NC contact is required if a series resistor is used (2 NO + 1 NC).

Expansion possibilities

Contactors with AC operation can be expanded using auxiliary switches; the permissible configuration must be observed.

Reversing contactors

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

Application

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

Control and auxiliary circuits

The solenoid coils of the contactors have an extended coil operating range from 0.7 to 1.25 x U_S.

Technical specifications

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

Type		**3TC44**	**3TC48**	**3TC52**	**3TC56**
Size		**2**	**4**	**8**	**12**
General data					
Ambient temperature					
• During operation	°C	-40 ... +70			
Control					
Solenoid coil operating range		0.7 ... 1.25 x U_S			
Power consumption of the solenoid coils		For cold coil and 1.0 x U_S			
• Closing	W	48	26	40	130
• Closed	W	13	14	21	59

All details and technical specifications not mentioned here are identical to those of the basic units of the 3TC contactors, see page 4/72.

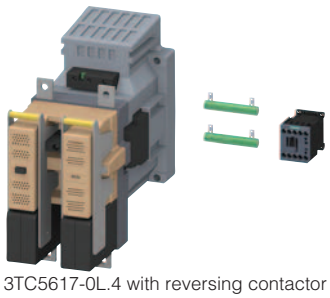
3TC contactors for switching DC voltage, 2-pole

Selection and ordering data

DC operation ⎓

3TC44: for screw and snap-on mounting on TH 35 DIN rail,
3TC48 to 3TC56: For screw fixing

3TC4817-0L.4



3TC5617-0L.4 with reversing contactor

Size	Utilization category	Rated operational current I_e at 750 V	Rated power of loads at 220 V	440 V	600 V	750 V	Auxiliary contacts[1] Version NO	NC	Rated control supply voltage U_s	Screw terminals Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		A	kW	kW	kW	kW			V DC					
Contactors for switching DC voltage														
With integrated coil circuit (varistor integrated at factory)														
2	DC-1	32	7	14	--	24	2	1[2]	24	**3TC4417-0LB4**		1	1 unit	41B
	DC-3/DC-5	7.5	5	9	9	4			110	**3TC4417-0LF4**		1	1 unit	41B
With laterally mounted coil circuit (varistor mounted externally in additional auxiliary switch enclosure on the contactor)														
4	DC-1	75	16.5	33	--	56	2	1[2]	24	**3TC4817-0LB4**		1	1 unit	41B
	DC-3/DC-5	75	13	27	38	45			110	**3TC4817-0LF4**		1	1 unit	41B
8	DC-1	170	48	97	--	165	2	1[2]	24	**3TC5217-0LB4**		1	1 unit	41B
	DC-3/DC-5	170	41	82	110	110			110	**3TC5217-0LF4**		1	1 unit	41B
12	DC-1	400	88	176	--	300	2	1[2]	24	**3TC5617-0LB4**		1	1 unit	41B
	DC-3/DC-5	400	70	140	200	250			110	**3TC5617-0LF4**		1	1 unit	41B

[1] No expansion auxiliary contacts can be fitted.
[2] One NC contact used for series resistor.

Other rated control supply voltages according to page 4/79 on request.

Accessories

Accessories, see basic units of the 3TC contactors, page 4/79 onwards.

Spare parts for contactors with extended operating range

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

All spare parts not mentioned here are identical to those of the basic units of the 3TC contactors, see page 4/79.

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

Overview

3TC4 and 3TC5

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

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 4/74.

Surge suppression

Contactors (not for railway applications) supplied without a coil circuit can be retrofitted with RC elements, varistors, diodes or diode assemblies (combination of diode and Zener diode for short break times) for damping switching overvoltages in the coil, see page 4/80 onwards.

Fitting auxiliary contacts and mounting additional auxiliary switches

- Features in the delivery state:
  The 3TC contactors are equipped with two lateral auxiliary switches with four auxiliary contacts. Of those contacts, one NC contact is required if a series resistor is used (2 NO + 1 NC).
- Expansion possibilities:
  Contactors with AC operation can be expanded using auxiliary switches; the permissible configuration must be observed.

3TC7

IEC 60947-4-1

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

3TC74 contactors can be used at up to 750 V/400 A and 50 Hz in AC-1 operation. For voltages over 750 V, the two conducting paths (3TC74: two contactors) are to be switched in series, see Rated data of the main contacts, page 4/76.

Application

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

A version with a particularly large solenoid coil operating range is available for operation in electrically driven vehicles and in switchgear subject to large fluctuations in actuating voltage (see page 4/70).

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

Technical specifications

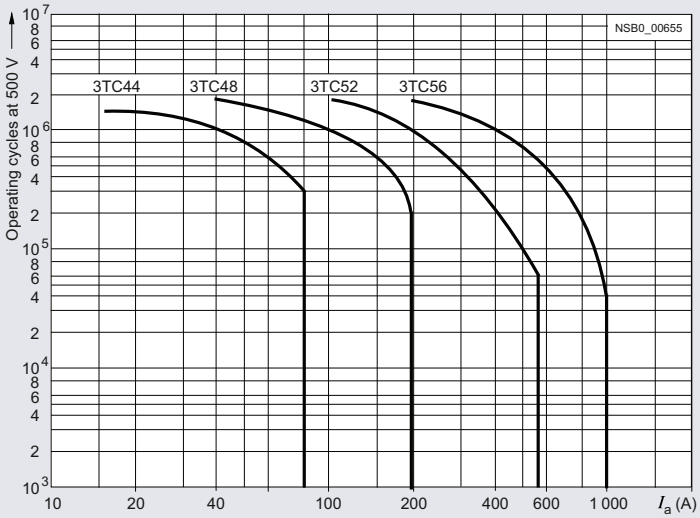
More information	
Technical specifications, see https://support.industry.siemens.com/cs/ww/en/ps/16181/td FAQs, see https://support.industry.siemens.com/cs/ww/en/ps/16181/faq	Manuals, see https://support.industry.siemens.com/cs/ww/en/ps/16181/man

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

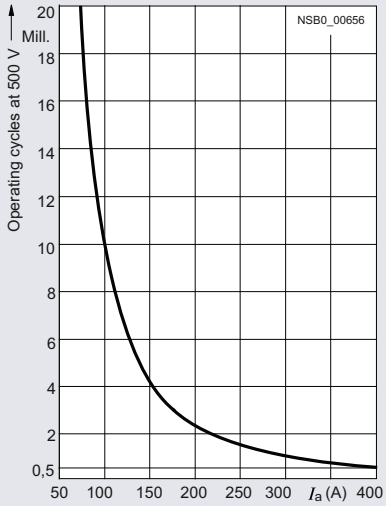
Type		3TC44 to 3TC56
cULus rated data of the auxiliary contacts		
Rated voltage, max.	V AC	600
Switching capacity		A 600, P 600

Type	3TC44 to 3TC78

Contact endurance of the main contacts

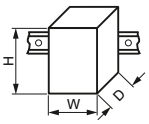
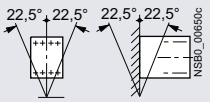


3TC44 to 3TC56 contactors



3TC74 and 3TC78 contactors

Legend for the diagrams:
I_a = Breaking current

Type			3TC44	3TC48	3TC52	3TC56
Size			2	4	8	12
General data						
Dimensions (W x H x D)						
• DC operation		mm	70 x 85 x 141	100 x 183 x 180	135 x 238 x 232	160 x 279 x 310
• AC operation		mm	70 x 85 x 100	100 x 183 x 154	135 x 238 x 200	160 x 279 x 251
Permissible mounting position The contactors are designed for operation on a vertical mounting surface.						
Mechanical endurance	Operating cycles		10 million			
Electrical endurance			See the endurance diagram above			
Rated insulation voltage U_i (pollution degree 3)		V	800		1 000	
Rated impulse withstand voltage U_{imp}		kV	8			
Protective separation between the coil and the main contacts according to IEC 60947-1, Annex 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, according to IEC 60947-4-1, Annex F			
Permissible ambient temperature						
• During operation		°C	-25 ... +55			
• During storage		°C	-50 ... +80			
Short-circuit protection						
Main circuit						
• Type of coordination "1"			2 x 3NA3020 (50 A) in series	2 x 3NA31.. (160 A) in series	3NE1332-4D (400 A)	2 x 3NE1330-4D (315 A) parallel
• Type of coordination "2"			2 x 3NA3020 (50 A) in series	2 x 3NA31.. (63 A) in series	3NE1332-4D (400 A)	2 x 3NE1330-4D (315 A) parallel
Auxiliary circuit (short-circuit current $I_k \leq 1$ kA)						
• Fuse links, operational class gG: DIAZED, type 5SB; NEOZED, type 5SE		A	16			
• Miniature circuit breaker with C characteristic		A	10			

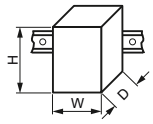
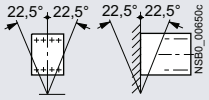
[1] For 3TC44, one NC contact each must be connected in series for the right and left auxiliary switch respectively.

Rated data of the auxiliary contacts, see page 4/72.

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

Type			3TC44	3TC48	3TC52	3TC56
Size			2	4	8	12
Control						
Solenoid coil operating range						
• DC operation			0.7 ... 1.25 x U_s			
• AC operation			0.8 ... 1.1 x U_s			
Power consumption of the solenoid coils (for cold coil and 1.0 x U_s)						
• DC operation	Closing = Closed	W	10	19	30	86
• AC operation, 50 Hz coil	Closing	VA/p.f.	68/0.86	300/0.5	640/0.48	1 780/0.3
	Closed	VA/p.f.	10/0.29	26/0.24	46/0.23	121/0.22
• AC operation, 60 Hz coil	Closing	VA/p.f.	95/0.79	365/0.45	730/0.38	2 140/0.3
	Closed	VA/p.f.	12/0.3	35/0.26	56/0.24	140/0.29
• AC operation, 50/60 Hz coil	Closing at 50/60 Hz	VA/p.f.	79/73/0.83/0.78	--		
	Closed at 50/60 Hz	VA/p.f.	11/9/0.28/0.27	--		
Rated data of the main contacts						
Load rating with DC						
Utilization category DC-1 (*L/R* ≤ 1 ms)						
• Rated operational currents I_e (at 55 °C)	Up to U_e 750 V	A	32	75	220	400
• Minimum conductor cross-section		mm^2	6	25	95	240
• Rated power at U_e	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	kW	19.2	45	132	240
	750 V	kW	24	56	165	300
Utilization category DC-3 and DC-5, shunt-wound and series-wound motors (*L/R* ≤ 15 ms)						
• Rated operational currents I_e	Up to 220 V	A	32	75	220	400
(at 55 °C)	440 V	A	29	75	220	400
	600 V	A	21	75	220	400
	750 V	A	7.5	75	170	400
• Rated power at U_e	At 110 V	kW	2.5	6.5	20	35
(≤ 220 V DC: one conducting path,	220 V	kW	5	13	41	70
> 220 V DC: two conducting paths in series)	440 V	kW	9	27	82	140
	600 V	kW	9	38	110	200
	750 V	kW	4	45	110	250
Conductor cross-sections						
Main conductors (1 or 2 conductors can be connected)			Screw terminals			
• Solid		mm^2	2 x (2.5 ... 10)	2 x (6 ... 16)	--	
• Finely stranded with end sleeve		mm^2	2 x (1.5 ... 4)	--		
• Stranded with cable lug		mm^2	2 x 16	2 x 35	2 x 120	2 x 150
• Pin cable lug according to DIN 46231		mm^2	2 x (1 ... 6)	--		
• Busbars		mm	--	15 x 2.5	25 x 4	2 x (25 x 3)
• Terminal screw			M5	M6	M10	
Auxiliary conductors (1 or 2 conductors can be connected)						
• Solid		mm^2	2 x (1 ... 2.5)			
• Finely stranded with end sleeve		mm^2	2 x (0.75 ... 1.5)			

Rated data of the auxiliary contacts, see page 4/72.

Type			3TC74	3TC78
Design			1-pole contactors	2-pole contactors
General data				
Dimensions (W x H x D) 		mm	78 x 352 x 276	160 x 366 x 290
Permissible mounting position The contactors are designed for operation on a vertical mounting surface.				
Mechanical endurance		Operating cycles	30 million	
Electrical endurance			See page 4/73	
Rated insulation voltage U_i (pollution degree 3)		V	1 500	
Rated impulse withstand voltage U_{imp}		kV	8	
Protective separation between the coil and the main contacts according to IEC 60947-1, Annex N		V	630	
Mirror contacts[1)] A mirror contact is an auxiliary NC contact that cannot be closed simultaneously with an NO main contact.			Yes, according to IEC 60947-4-1, Annex F	
Permissible ambient temperature		°C	-25 ... +55	
Short-circuit protection				
Main circuit				
• Type of coordination "1"		A	2 x 3NE1330-4D (315 A) parallel	2 x 3NE1330-5E (315 A) parallel
• Type of coordination "2"		A	2 x 3NE1330-4D (315 A) parallel	2 x 3NE1330-5E (315 A) parallel
Auxiliary circuit (Short-circuit current $I_k \leq 1$ kA)				
• Fuse links, operational class gG: DIAZED, type 5SB; NEOZED, type 5SE		A	16	
• Miniature circuit breaker with C characteristic		A	10	
Control				
Solenoid coil operating range				
• DC operation	At U_c = 24 V		0.8 ... 1.2 x U_s	
	At U_c > 24 V		0.7 ... 1.2 x U_s	
• AC operation	At U_c = 24 V		0.7 ... 1.15 x U_s	
	At U_c > 24 V		0.7 ... 1.14 x U_s	
Power consumption of the solenoid coils (for cold coil and 1.0 x U_s)				
• DC operation	Closing = Closed	W	46	92
• AC operation, 50 Hz	Closing = Closed	VA	80	160
		P.f.	0.95	

[1)] For 3TC78, one auxiliary NC contact each of the right and left conducting paths must be connected in series.

Rated data of the auxiliary contacts, see page 4/72.

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

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

Rated data of the auxiliary contacts, see page 4/72.

Selection and ordering data

DC operation ⎓ or AC operation, 50 Hz ∿

3TC4817-0A.4

3TC4817-0B.0

Size	Utilization category[1]	Operational current I_e[2]	Ratings of DC motors at 110 V	220 V	440 V	600 V	750 V	Auxiliary contacts[3] Version NO	NC	Rated control supply voltage U_s	Screw terminals Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		A	kW	kW	kW	kW	kW	NO	NC	V					
3TC44 to 3TC56 2-pole contactors · Operational voltage up to 750 V															
DC operation															
For screw and snap-on mounting on TH 35 DIN rail															
2	DC-3, DC-5	32	2.5	5	9	9	4	2	2	24 DC	**3TC4417-0AB4**		1	1 unit	41B
										110 DC	**3TC4417-0AF4**		1	1 unit	41B
										220 DC	**3TC4417-0AM4**		1	1 unit	41B
For screw fixing															
4	DC-3, DC-5	75	6.5	13	27	38	45	2	2	24 DC	**3TC4817-0AB4**		1	1 unit	41B
										110 DC	**3TC4817-0AF4**		1	1 unit	41B
										220 DC	**3TC4817-0AM4**		1	1 unit	41B
8	DC-3, DC-5	220[4]	20	41	82	110	110	2	2	24 DC	**3TC5217-0AB4**		1	1 unit	41B
										110 DC	**3TC5217-0AF4**		1	1 unit	41B
										220 DC	**3TC5217-0AM4**		1	1 unit	41B
12	DC-3, DC-5	400	35	70	140	200	250	2	2	24 DC	**3TC5617-0AB4**		1	1 unit	41B
										110 DC	**3TC5617-0AF4**		1	1 unit	41B
										220 DC	**3TC5617-0AM4**		1	1 unit	41B
AC operation, 50 Hz															
For screw and snap-on mounting on TH 35 DIN rail															
2	DC-3, DC-5	32	2.5	5	9	9	4	2	2	220/230 AC[5]	**3TC4417-0BP0**		1	1 unit	41B
										110/110 AC	**3TC4417-0BF0**		1	1 unit	41B
For screw fixing															
4	DC-3, DC-5	75	6.5	13	27	38	45	2	2	220/230 AC[5]	**3TC4817-0BP0**		1	1 unit	41B
										110 AC	**3TC4817-0BF0**		1	1 unit	41B
8	DC-3, DC-5	220[4]	20	41	82	110	110	2	2	220/230 AC[5]	**3TC5217-0BP0**		1	1 unit	41B
										110 AC	**3TC5217-0BF0**		1	1 unit	41B
12	DC-3, DC-5	400	35	70	140	200	250	2	2	220/230 AC[5]	**3TC5617-0BP0**		1	1 unit	41B
										110 AC	**3TC5617-0BF0**		1	1 unit	41B

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

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

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

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

4) At > 600 V: I_e = 170 A.

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

Other rated control supply voltages according to page 4/79 on request.

Accessories, see page 4/79 onwards.

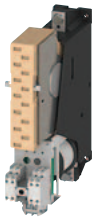
Spare parts, see page 4/81.

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

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

DC operation ⎓ or AC operation, 50 Hz ~

For screw fixing



3TC7414-...

3TC7814-1CM

Size	Utilization category[1]	Operational current I_e	Ratings of DC motors at 110 V	220 V	440 V	600 V	750 V	1 200 V	1 500 V	Auxiliary contacts[2] Version NO	NC	Rated control supply voltage U_s	Screw terminals Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		A	kW	kW	kW	kW	kW	kW	kW			V					
3TC74 1-pole contactors · Operational voltage up to 750 V																	
DC operation																	
12	DC-3, DC-5	400	35	70	140	200	250	--	--	4	4	24 DC	**3TC7414-0EB**		1	1 unit	41B
												110 DC	**3TC7414-0EF**		1	1 unit	41B
AC operation, 50 Hz																	
12	DC-3, DC-5	400	35	70	140	200	250	--	--	4	4	230/220 AC[3]	**3TC7414-1CM**		1	1 unit	41B
3TC78 2-pole contactors · Operational voltage up to 1 500 V																	
DC operation																	
12	DC-3, DC-5	400	35	70	140	200	250	400	500	4	4	24 DC	**3TC7814-0EB**		1	1 unit	41B
												110 DC	**3TC7814-0EF**		1	1 unit	41B
AC operation, 50 Hz																	
12	DC-3, DC-5	400	35	70	140	200	250	400	500	4	4	230/220 AC[3]	**3TC7814-1CM**		1	1 unit	41B

1) Permissible load for DC-1 utilization category, see detailed technical specifications in the Reference Manual.
2) The fitting of auxiliary switches cannot be altered on DC-operated contactors.
3) Upper operating range limit at 230 V AC: 1.14 x U_s.

Other rated control supply voltages according to page 4/79 on request.

Spare parts, see page 4/81.

Options

Rated control supply voltages, possible on request (change of the 10th and 11th digits of the article number)

Delivery time on request

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

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

[2] Upper operating range limit at 230 V AC: 1.14 x U_S.

Accessories

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

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

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

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

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

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

[3] Not for DC operation.

For contactor Size	Type	Version		Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Terminal covers								
 3TX6546-3B								
2	3TC44	For protection against inadvertent contact with exposed busbar connections (1 set = 2 units)	--	**3TY2444-0B**		1	1 unit	41B
6	3TC48	For protection against inadvertent contact with exposed busbar connections Can be screwed on free screw end; covers one busbar connection (1 set = 6 units)	M6	**3TX6506-3B**		1	1 unit	41B
8 and 12	3TC52, 3TC56		M10	**3TX6546-3B**		1	1 unit	41B

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

Spare parts

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


3TY6501-1AA00


3TY6561-1A


3TY2741-2J


3TY2781-2C

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

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

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

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

[1] Rated control supply voltages, see page 4/79.
The 10th and 11th digits of the article number must be supplemented accordingly.

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