SIRIUS 3RT contactors, 3-pole up to 250 kW

Contactors for special applications

- SIRIUS 3RT.4 contactors for resistive loads (AC-1), 3-pole, see from page 4/6 onwards
- SIRIUS 3RT20 and 3RT10 contactors with an extended application range, 3-pole (for rail applications), see from page 4/52 onwards

Article No. scheme

Product versions		Article number
SIRIUS power contactors		**3RT2** □ □ □ – □ □ □ □ – □ □ □ □
Device type	e.g. 0 = 3-pole motor contactor	□
Size of the contactor	e.g. 4 = S3	□
Power dependent on size	e.g. 5 = 37 kW in the case of S3	□
Type of electrical connection	e.g. 1 = screw terminals (main and auxiliary circuits)	□
Operating range/solenoid coil circuit	e.g. A = AC standard/without coil circuit	□
Rated control supply voltage	e.g. P0 = 230 V AC, 50 Hz	□ □
Auxiliary switches	e.g. 0 = in the case of S3: 1 NO + 1 NC integrated	□
Special version		□ □ □ □
Example		**3RT2 0 4 5 – 1 A P 0 0**

Note:

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

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

Overview

Standards

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

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

Function

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

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

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

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

Notes:

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

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

Auxiliary switches

The variance of unassigned auxiliary switches has been increased; for available versions, see from page 4/38 onwards. Details of deviating versions are available on request.

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

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

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

Technical specifications

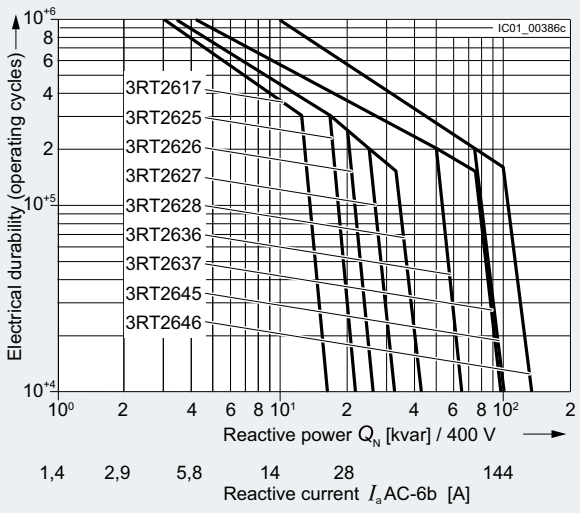
More information	
Technical specifications, see https://support.industry.siemens.com/cs/ww/en/ps/16171/td	Manuals, see https://support.industry.siemens.com/cs/ww/en/ps/16171/man

Type	3RT26
Size	S00 ... S3

Contact endurance of the main contacts

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

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

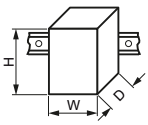
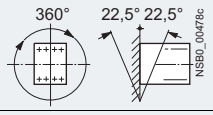


SIRIUS 3RT26 contactors for capacitive loads (AC-6b), 3-pole

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 3/23 onwards.

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

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

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

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

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

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

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

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			
Another auxiliary contact can be mounted laterally				--					No more than one lateral auxiliary switch block can be mounted			
Technical specifications including CSA and UL rated data of the auxiliary contacts, see "3RT20 contactors", from page 3/23 onwards.												
Rated data of the main contacts												
Load rating with AC												
Utilization category AC-6b Switching of AC capacitors												
• Rated operational current I_e for AC												
- Up to 690 V at ambient temperature		40 °C	A	18.9	25.3	30.2	37.8	50	75.8	113.4	113	151
		60 °C	A	18	24	29	36	47.6	72.2	108		144
- Up to 1 000 V at ambient temperature		60 °C	A	--							54	68
• Rated operational reactive power at rated operational voltage	230 V, 50/60 Hz		kvar	0 ... 7.2	3 ... 9.6	4 ... 11.5	5 ... 14	6 ... 19	10 ... 29	14 ... 43		19 ... 57
	400 V, 50/60 Hz		kvar	0 ... 12.5	6 ... 16.7	7 ... 20	8 ... 25	11 ... 33	17 ... 50	25 ... 75		33 ... 100
	500 V, 50/60 Hz		kvar	0 ... 15	7 ... 21	8 ... 25	10 ... 31	14 ... 41	21 ... 63	31 ... 94		41 ... 125
	690 V, 50/60 Hz		kvar	0 ... 21	10 ... 29	11 ... 34	14 ... 43	19 ... 57	29 ... 86	43 ... 129		57 ... 172
	1 000 V, 50/60 Hz		kvar	--							31 ... 94	41 ... 125
Switching frequency												
No-load switching frequency	AC operation		1/h	500					500[2]			
	DC operation		1/h	500					500[2]			
Max. switching frequency *z* at T_u = 60 °C[1] in operating cycles/hour												
• At I_e/AC-6b and at	230 V, 50/60 Hz		1/h	180		100					200	150
	400 V, 50/60 Hz		1/h	180		100				100 / 80[3]	100 / 80[3]	80 / 60[4]
	480 V, 50/60 Hz		1/h	180		100		70	60	50	53	40
	500 V, 50/60 Hz		1/h	180		100		65	55	45	53	40
	600 V, 50/60 Hz		1/h	180		100		45	40	32	30	20
	690 V, 50/60 Hz		1/h	180	150	100	72	36	30	25	30	20
	1 000 V, 50/60 Hz		1/h	--							30	20
cULus and cULus rated data												
Rated insulation voltage			V AC	600								
Operational reactive power at AC-6b, 3-phase, at operational voltage	110 ... 120 V		kvar	3.4	4.6	5.5	6.3	8.3	14	19	20	25
	200 ... 208 V		kvar	6.2	8.3	10	11	15	25	34	37	45
	220 ... 230 V		kvar	6.9	9.2	11	13	17	27	38	41	50
	460 ... 480 V		kvar	14	18	22	25	33	55	75	82	100
	575 ... 600 V		kvar	17	23	27	31	41	69	94	103	125
Short-circuit protection	At 600 V		kA	5					10			
Fuse for main circuit	Class RK5		A	40	80			100	250			

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

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

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

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

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

[1] 3-phase infeed terminal 3RV2935-5A available, see page 3/116.

[2] 1-phase infeed terminal 3RA2943-3L available, see page 3/116.

Other voltages according to page 4/42 on request.

Accessories, see page 3/76 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 No.)

Delivery time on request

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

Examples

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

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

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

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

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

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

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