

Switching Devices – Contactors and Contactor Assemblies

Power Contactors for Switching Motors

Introduction



Size
Type

S00
3RT201

S0
3RT202

3RT20 contactors

Type	3RT2015	3RT2016	3RT2017	3RT2018	3RT2023	3RT2024	3RT2025	3RT2026	3RT2027	3RT2028
AC, DC operation	(p. 3/55, 3/60 ... 3/63)				(p. 3/56, 3/57, 3/64 ... 3/66, 3/68)					

AC-3

I_e /AC-3/400 V	A	7	9	12	16	9	12	17	25	32	38
400 V	kW	3	4	5.5	7.5	4	5.5	7.5	11	15	18.5
230 V	kW	1.5	2.2	3	4	2.2	3	4	5.5	7.5	11
690 V	kW	4	5.5	5.5	7.5	7.5	7.5	11	11	18.5	18.5
1 000 V	kW	--	--	--	--	--	--	--	--	--	--

AC-4 (at $I_a = 6 \times I_e$)

400 V	kW	3	4	4	5.5	4	5.5	7.5	7.5	11	11
400 V (200 000 operating cycles)	kW	1.15	2	2	2.5	2	2.6	3.5	4.4	6	6

AC-1 (40 °C, ≤ 690 V)

I_e	A	18	22	22	22	40	40	40	40	50	50
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Accessories for contactors

Auxiliary switch blocks	• On front	3RH29, 3RA28	(p. 3/94 ... 3/101)	3RH29, 3RA28	(p. 3/94 ... 3/101)
	• Lateral	3RH29	(p. 3/98)	3RH29	(p. 3/98)
Function modules	• Direct-on-line starting, star-delta (wye-delta) starting	3RA281.	(p. 3/106)	3RA281.	(p. 3/106)
	• IO-Link, AS-Interface	3RA271.-.AA00	(p. 3/107, 3/108)	3RA271.-.AA00	(p. 3/107, 3/108)
Surge suppressors		3RT2916	(p. 3/103, 3/104)	3RT2926	(p. 3/103, 3/104)

3RU2 and 3RB3 overload relays

3RU thermal overload relays	3RU2116	0.11 ... 16 A	(p. 7/92)	3RU2126	1.8 ... 40 A	(p. 7/92)
3RB electronic overload relays	• For standard applications	3RB3016, 3RB3113	0.1 ... 16 A (p. 7/105 ... 7/107)	3RB3026, 3RB3123	0.1 ... 40 A	(p. 7/105 ... 7/107)
		3RB22, 3RB23 and 3RB24 with current measuring module 3RB2906-2.G1	0.3 ... 25 A (p. 7/140)	3RB22, 3RB23 and 3RB24 with current measuring module 3RB2906-2.G1	0.3 ... 25 A	(p. 7/140)
• For High-Feature applications						

3RV20 motor starter protectors

Motor starter protectors	3RV2011	0.11 ... 16 A	(p. 7/28)	3RV2021	0.45 ... 40 A	(p. 7/29)
Link modules	3RA1921, 3RA2911		(p. 7/56)	3RA2921		(p. 7/56)

3RA23 reversing contactor assemblies

Complete units	Type	3RA2315	3RA2316	3RA2317	3RA2318	--	3RA2324	3RA2325	3RA2326	3RA2327	3RA2328
		(p. 3/163)					(p. 3/164)				
400 V	kW	3	4	5.5	7.5		5.5	7.5	11	15	18.5
Assembly kits, etc.		3RA2913-2AA.			(p. 3/110)	--	3RA2923-2AA.				(p. 3/110)
Function modules		3RA271.-.BA00			(p. 3/107)	--	3RA271.-.BA00				(p. 3/107)

3RA24 contactor assemblies for star-delta (wye-delta) starting

Complete units	Type	3RA2415	3RA2416	3RA2417	3RA2423	3RA2425	3RA2426
		(p. 3/180)			(p. 3/181)		
400 V	kW	5.5	7.5	11	11	15/18.5	22
Assembly kits/wiring modules		3RA2913-2BB.		(p. 3/111)	3RA2923-2BB.		(p. 3/111)
Function modules		3RA271.-.CA00		(p. 3/107)	3RA271.-.CA00		(p. 3/107)

Note:

Safety characteristics for contactors, see "Standards and approvals", page 16/6.

Power Contactors for Switching Motors

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



Contactors with screw terminals: 3RT2 (sizes S00 to S3) and 3RT1 (sizes S6 to S12)

3RT contactors, sizes S00 to S12

Our power range:

- Contactors for switching motors:
 - Size S00: 3RT201 up to 7.5 kW
 - Size S0: 3RT202 up to 18.5 kW
 - Size S2: 3RT203 up to 37 kW
 - Size S3: 3RT204 up to 55 kW
 - Sizes S6 to S12: 3RT10 up to 250 kW
- For vacuum contactors for switching motors, [see page 3/126 onwards](#):
 - Sizes S10 and S12: 3RT12 up to 250 kW
 - Size 14: 3TF6 up to 450 kW

Standards

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

Ambient conditions

If the devices are in ambient conditions which deviate from common industrial conditions (IEC 60721-3-3 "Stationary Use, Weather-Protected"), information must be obtained about possible restrictions with regard to the reliability and endurance of the device and possible protective measures. In this case contact our Technical Support:
<https://support.industry.siemens.com/My/ww/en/requests>

Auxiliary contact complement

- Size S00: an auxiliary contact is integrated in the basic device.
- Sizes S0 to S3: the basic units contain two integrated auxiliary contacts (1 NO + 1 NC).
All basic units, with the exception of coupling relays in sizes S00 and S0, can be expanded using auxiliary switch blocks, [see page 3/88 for the permitted selection of auxiliary switches](#).
- Sizes S6 to S12: These contactors are supplied with two laterally mounted auxiliary switch blocks. The fitting of auxiliary switches is possible on the front and on the side (the 3RT12 vacuum contactor is an exception: only lateral fitting of auxiliary switches is possible here).

For detailed information about the fitting of auxiliary switches, [see pages 3/88 to 3/93](#).

Contact reliability

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.

Power Contactors for Switching Motors

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](#)

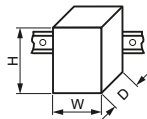
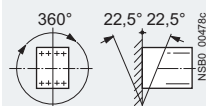

Article No. scheme

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

Type		Contactors		
Size		3RT2023 to 3RT2025	3RT2026 to 3RT2028	
S0				
General data				
Dimensions (W x H x D)				
<u>AC operation</u>				
<ul style="list-style-type: none">• Basic unit<ul style="list-style-type: none">- Screw terminals- Spring-type terminals• Basic unit with mounted auxiliary switch block<ul style="list-style-type: none">- Screw terminals- Spring-type terminals• Basic unit with mounted function module or solid-state time-delayed auxiliary switch block<ul style="list-style-type: none">- Screw terminals- Spring-type terminals		mm	45 x 85 x 97	
		mm	45 x 102 x 97	
		mm	45 x 85 x 141	
		mm	45 x 102 x 145	
		mm	45 x 85 x 171	
		mm	45 x 102 x 171	
<u>DC operation</u>				
<ul style="list-style-type: none">• Basic unit<ul style="list-style-type: none">- Screw terminals- Spring-type terminals• Basic unit with mounted auxiliary switch block<ul style="list-style-type: none">- Screw terminals- Spring-type terminals• Basic unit with mounted function module or solid-state time-delayed auxiliary switch block<ul style="list-style-type: none">- Screw terminals- Spring-type terminals		mm	45 x 85 x 107	
		mm	45 x 102 x 107	
		mm	45 x 85 x 151	
		mm	45 x 102 x 155	
		mm	45 x 85 x 181	
		mm	45 x 102 x 181	
Permissible mounting position				
The contactors are designed for operation on a vertical mounting surface.				
Upright mounting position		 Special version required, also applies for 3RT202.-K.40 coupling contactors		
Mechanical endurance				
<ul style="list-style-type: none">• Basic unit and basic unit with mounted auxiliary switch block• Basic unit with solid-state compatible auxiliary switch block	Operating cycles	10 million		
	Operating cycles	5 million		
Electrical endurance		For contact endurance of the main contacts, see page 3/25 .		
Rated insulation voltage U_i (pollution degree 3)		V	690	
Rated impulse withstand voltage U_{imp}				
<ul style="list-style-type: none">• Auxiliary circuit• Main circuit	kV	6		
	kV	6		
Protective separation between the coil and the main contacts (acc. to IEC 60947-1, Appendix N)		V	400	
Mirror contacts				
A mirror contact is an auxiliary NC contact that cannot be closed simultaneously with an NO main contact.				
<ul style="list-style-type: none">• Integrated auxiliary switches• 3RT2.2. (removable auxiliary switch block)	Yes, acc. to IEC 60947-4-1, Appendix F			
	Yes, acc. to IEC 60947-4-1, Appendix F			
Permissible ambient temperature				
<ul style="list-style-type: none">• During operation• During storage	°C	-25 ... +60		
	°C	-55 ... +80		
Degree of protection acc. to IEC 60529				
<ul style="list-style-type: none">• On front• Connecting terminal	IP20 (screw terminals and spring-type terminals)			
	IP20 (screw terminals and spring-type terminals)			
Touch protection acc. to IEC 60529		Finger-safe (screw terminals and spring-type terminals)		
Shock resistance				
<ul style="list-style-type: none">• Rectangular pulse<ul style="list-style-type: none">- AC operation- DC operation• Sine pulse<ul style="list-style-type: none">- AC operation- DC operation	g/ms g/ms	7.5/5 and 4.7/10		
		10/5 and 7.5/10		
	g/ms g/ms	11.8/5 and 7.4/10		
		15/5 and 10/10		
		8.3/5 and 5.3/10		
		13.5/5 and 8.3/10		

Power Contactors for Switching Motors

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

Type	Contactors			
Size	3RT2023 to 3RT2025		3RT2026	3RT2027, 3RT2028
S0				
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	63	100	125
- Type of coordination "2"	A	25	35	50
- Weld-free (test conditions acc. to IEC 60947-4-1)	A	10	16	
• Miniature circuit breaker with C characteristic (short-circuit current 3 kA, type of coordination "1")	A	25	32	40
Auxiliary circuit				
• Fuse links, operational class gG: DIAZED, type 5SB; NEOZED, type 5SE (weld-free protection at $I_k \leq 1$ kA)	A	10		
• 230 V miniature circuit breaker, C characteristic (short-circuit current $I_k < 400$ A)	A	10		
Short-circuit protection for contactors with overload relays	See Configuration Manual for load feeders			
Short-circuit protection for fuseless load feeders	See 3RA2 load feeders, from page 8/4 onwards			

Type	Contactors				
Size	3RT2023 to 3RT2025	3RT2026 to 3RT2028	3RT202.-.NB3	3RT202.-.NF3	3RT202.-.NP3
S0					
Control					
Type of operating mechanism		AC or DC		AC/DC	
Solenoid coil operating range		AC/DC		0.8 ... 1.1 x $U_s^{1)}$	
Power consumption of the solenoid coils (for cold coil and $1.0 \times U_s$)				0.7 ... 1.3 x $U_s^{2)}$	
• AC operation, 50 Hz, standard version					
- Closing	VA	65	77	6.6	11.9
- P.f.		0.82		0.98	
- Closed	VA	7.6	9.8	1.9	3.9
- P.f.		0.25		0.86	0.51
• AC operation, 50/60 Hz, standard version					
- Closing	VA	68/67	81/79	6.6/6.7	11.9/12.0
- P.f.		0.72/0.74		0.98/0.98	
- Closed	VA	7.9/6.5	10.5/8.5	1.9/2.0	3.9/4.3
- P.f.		0.25/0.28		0.86/0.82	0.51/0.56
• AC operation, 50 Hz, for USA/Canada					
- Closing	VA	65	77	--	
- P.f.		0.82	0.82	--	
- Closed	VA	7.6	9.8	--	
- P.f.		0.25	0.28	--	
• AC operation, 60 Hz, for USA/Canada					
- Closing	VA	73	87	--	
- P.f.		0.76		--	
- Closed	VA	7.2	9.4	--	
- P.f.		0.28		--	
• DC operation (closing = closed)	W	5.9/5.9		5.9/1.4	10.2/1.3
Permissible residual current of the electronics (with 0 signal)					
• AC operation	mA	< 6 mA x (230 V/ U_s)		< 7 mA x (230 V/ U_s)	
• DC operation	mA	< 16 mA x (24 V/ U_s)			
Operating times at $1.0 \times U_s^{3)}$					
• AC operation					
- Closing delay	ms	10 ... 18	10 ... 17	65 ... 80	50 ... 70
- Opening delay	ms	4 ... 16		30 ... 45	35 ... 45
• DC operation					
- Closing delay	ms	55 ... 80		60 ... 80	56 ... 70
- Opening delay	ms	16 ... 17		30 ... 45	35 ... 45
• Arcing time	ms	10			


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

2) The following applies to $U_{s \max} = 280$ V: Upper limit = $1.1 \times U_{s \max}$.

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

Power Contactors for Switching Motors

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

Type	Coupling contactors	
Size	3RT202...KB4.	
Control	S0	
Solenoid coil operating range	0.7 ... 1.25 x U_s	
Power consumption of the solenoid coils (for cold coil) Closing = Closed	At U_s 24 V DC W	4.5
Permissible residual current of the electronics (with 0 signal)	< 10 mA x (24 V/ U_s)	
Overvoltage configuration of the solenoid coil	Built-in varistor  U	
Operating times		
• Closing delay		
- ON-delay NO	ms	65 ... 90
- OFF-delay NC	ms	55 ... 80
• Opening delay		
- ON-delay NO	ms	19 ... 21
- OFF-delay NC	ms	25 ... 31

Type	Contactors							
Size	3RT2023	3RT2024	3RT2025	3RT2026	3RT2027	3RT2028	S0	
Rated data of the main contacts								
Load rating with AC								
Utilization category AC-1, switching resistive loads								
• Rated operational current I_e	At 40 °C up to 690 V	A	40			50		
	At 60 °C up to 690 V	A	35			42		
• Rated power for AC loads ¹⁾ P.f. = 0.95 (at 60 °C)	230 V	kW	13.3			15.5		
	400 V	kW	23			27.5		
	690 V	kW	40			47.5		
• Minimum conductor cross-section for loads with I_e	At 40 °C	mm ²	10					
	At 60 °C	mm ²	10					
Utilization categories AC-2 and AC-3								
• Rated operational currents I_e	Up to 400 V	A	9	12	17	25	32	38
	440 V	A	9	12	17	22	32	35
	500 V	A	9	12	17	18	32	
	690 V	A	9		13		21	
• Rated power for slipring or squirrel-cage motors at 50 Hz and 60 Hz	At 230 V	kW	2.2	3	4	5.5	7.5	11
	400 V	kW	4	5.5	7.5	11	15	18.5
	690 V	kW	7.5		11		18.5	
Thermal load capacity	10 s current	A	80	110	150	200	260	304
Power loss per conducting path	At I_e /AC-3	W	0.4	0.5	0.9	1.6	2.7	3.8
Utilization category AC-4 (for $I_a = 6 \times I_e$)								
• Maximum values:								
- Rated operational current I_e	Up to 400 V	A	8.5	12.5	15.5		22	
- Rated power for squirrel-cage motors with 50 Hz and 60 Hz	At 400 V	kW	4	5.5	7.5		11	
• The following applies to a contact endurance of about 200 000 operating cycles:								
- Rated operational currents I_e	Up to 400 V	A	4.1	5.5	7.7	9	12	
	690 V	A	3.3	5.5	7.7	9	12	
- Rated power for squirrel-cage motors with 50 Hz and 60 Hz	At 110 V	kW	0.5	0.73	1	1.2	1.6	
	230 V	kW	1.1	1.5	2	2.5	3.4	
	400 V	kW	2	2.6	3.5	4.4	6	
	690 V	kW	2.5	4.6	6	7.7	10.3	

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

Power Contactors for Switching Motors

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



Type		Contactors	
Size		3RT2023 to 3RT2025	3RT2026 to 3RT2028
S0			
Rated data of the main contacts (continued)			
Load rating with DC			
Utilization category DC-1, switching resistive loads ($L/R \leq 1$ ms)			
• Rated operational currents I_e (at 60 °C)			
- 1 conducting path	Up to 24 V A	35	
	60 V A	20	
	110 V A	4.5	
	220 V A	1	
	440 V A	0.4	
	600 V A	0.25	
- 2 conducting paths in series	Up to 24 V A	35	
	60 V A	35	
	110 V A	35	
	220 V A	5	
	440 V A	1	
	600 V A	0.8	
- 3 conducting paths in series	Up to 24 V A	35	
	60 V A	35	
	110 V A	35	
	220 V A	35	
	440 V A	2.9	
	600 V A	1.4	
Utilization category DC-3/DC-5, shunt-wound and series-wound motors ($L/R \leq 15$ ms)			
• Rated operational currents I_e (at 60 °C)			
- 1 conducting path	Up to 24 V A	20	
	60 V A	5	
	110 V A	2.5	
	220 V A	1	
	440 V A	0.09	
	600 V A	0.06	
- 2 conducting paths in series	Up to 24 V A	35	
	60 V A	35	
	110 V A	15	
	220 V A	3	
	440 V A	0.27	
	600 V A	0.16	
- 3 conducting paths in series	Up to 24 V A	35	
	60 V A	35	
	110 V A	35	
	220 V A	10	
	440 V A	0.6	
	600 V A	0.6	
Switching frequency			
Switching frequency z in operating cycles/hour			
Contactors without overload relays			
• No-load switching frequency	AC 1/h	5 000	
	DC 1/h	1 500	
• Switching frequency z during rated operation ¹⁾			
- $I_e/AC-1$	At 400 V 1/h	1 000	
- $I_e/AC-2$	At 400 V 1/h	1 000	750
- $I_e/AC-3$	At 400 V 1/h	1 000	750
- $I_e/AC-4$	At 400 V 1/h	300	250
Contactors with overload relays			
• Mean value	1/h	15	

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

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

Power Contactors for Switching Motors

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

Type	Contactors	
Size	3RT2023 to 3RT2028	
S0		
Conductor cross-sections		
Main conductors (1 or 2 conductors can be connected)		 Screw terminals
• Solid or stranded	mm ²	2 x (1 ... 2.5) ¹⁾ ; 2 x (2.5 ... 10) ¹⁾
• Finely stranded with end sleeve (DIN 46228-1)	mm ²	2 x (1 ... 2.5) ¹⁾ ; 2 x (2.5 ... 6) ¹⁾ ; 1 x 10
• AWG cables, solid or stranded	AWG	2 x (16 ... 12) ¹⁾ ; 2 x (14 ... 8) ¹⁾
• Terminal screws - Tightening torque	Nm	M4 (for Pozidriv size 2; Ø 5 ... 6) 2 ... 2.5 (18 ... 22 lb.in)
Auxiliary conductors (1 or 2 conductors connectable)		
• 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 46228-1)	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 - Tightening torque	Nm	M3 (for Pozidriv size 2; Ø 5 ... 6) 0.8 ... 1.2 (7 ... 10.3 lb.in)
Main conductors²⁾ (1 or 2 conductors can be connected)		 Spring-type terminals
• Operating devices	mm	3.0 x 0.5
• Solid or stranded	mm ²	2 x (1 ... 10)
• Finely stranded with end sleeve (DIN 46228-1)	mm ²	2 x (1 ... 6)
• Finely stranded without end sleeve	mm ²	2 x (1 ... 6)
• AWG cables, solid or stranded	AWG	2 x (18 ... 8)
Auxiliary conductors²⁾ (1 or 2 conductors can be connected)		
• Operating devices		3.0 x 0.5
• Solid or stranded	mm ²	2 x (0.5 ... 2.5)
• Finely stranded with end sleeve (DIN 46228-1)	mm ²	2 x (0.5 ... 1.5)
• Finely stranded without end sleeve	mm ²	2 x (0.5 ... 2.5)
• AWG cables, solid or stranded	AWG	2 x (20 ... 14)

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

²⁾ Max. external diameter of the conductor insulation: 3.6 mm.
On spring-type terminals with conductor cross-sections ≤ 1 mm² an insulation stop must be used, [see page 3/121](#).

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

²⁾ Max. external diameter of the conductor insulation: 3.6 mm.
On spring-type terminals with conductor cross-sections ≤ 1 mm² an insulation stop must be used, [see page 3/121](#).

Power Contactors for Switching Motors

SIRIUS 3RT contactors, 3-pole up to 250 kW **IE3/IE4 ready**

AC/DC operation

- Extended operating range of the solenoid coil 0.7 to 1.3 x U_s
- Reduced power consumption when closing and in the closed state



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



3RT202.-1N.30



3RT202.-2N.30

Rated data			Auxiliary contacts		Rated control supply voltage U_s	SD	Screw terminals 		SD	Spring-type terminals 	
AC-2 and AC-3, t_u : 60 °C	Ratings of three-phase motors at 50 Hz and 400 V	AC-1, t_u : 40 °C	Operational current I_e up to	Operational current I_e up to	50/60 Hz AC or DC		Article No.	Price per PU		Article No.	Price per PU
A	kW	A									

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

Size S0

With integrated coil circuit (varistor)

12	5.5	40	11	1	1	21 ... 28	►	3RT2024-1NB30	5	3RT2024-2NB30
						95 ... 130	2	3RT2024-1NF30	5	3RT2024-2NF30
						200 ... 280	2	3RT2024-1NP30	2	3RT2024-2NP30
17	7.5	40	11	1	1	21 ... 28	2	3RT2025-1NB30	5	3RT2025-2NB30
						95 ... 130	2	3RT2025-1NF30	5	3RT2025-2NF30
						200 ... 280	2	3RT2025-1NP30	2	3RT2025-2NP30
25	11	40	11	1	1	21 ... 28	►	3RT2026-1NB30	2	3RT2026-2NB30
						95 ... 130	2	3RT2026-1NF30	5	3RT2026-2NF30
						200 ... 280	5	3RT2026-1NP30	5	3RT2026-2NP30
32	15	50	11	1	1	21 ... 28	2	3RT2027-1NB30	2	3RT2027-2NB30
						95 ... 130	2	3RT2027-1NF30	5	3RT2027-2NF30
						200 ... 280	2	3RT2027-1NP30	5	3RT2027-2NP30
38	18.5	50	11	1	1	21 ... 28	5	3RT2028-1NB30	5	3RT2028-2NB30
						95 ... 130	5	3RT2028-1NF30	5	3RT2028-2NF30
						200 ... 280	2	3RT2028-1NP30	5	3RT2028-2NP30

Other voltages [according to page 3/74](#) on request.

Accessories and spare parts, [see pages 3/76 to 3/125](#).

Power Contactors for Switching Motors

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

Options

Rated control supply voltages for 3RT20 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	3RT201, 3RH2	3RT202	3RT203	3RT204
	Size	S00	S0	S2	S3
Sizes S00 to S3					
AC operation¹⁾					
Solenoid coils for 50 Hz (exception: Size S00: 50 Hz and 60 Hz ²⁾)					
24 V AC		B0	B0	B0	B0
42 V AC		D0	D0	D0	D0
48 V AC		H0	H0	H0	H0
110 V AC		F0	F0	F0	F0
230 V AC		P0	P0	P0	P0
240 V AC		U0	U0	U0	U0
400 V AC		V0	V0	V0	V0
Solenoid coils for 50 Hz and 60 Hz²⁾					
24 V AC		B0	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
230 V AC		P0	L2	L2	L2
Solenoid coils (for USA and Canada³⁾)					
50 Hz	60 Hz				
110 V AC	120 V AC	K6	K6	K6	K6
220 V AC	240 V AC	P6	P6	P6	P6
Solenoid coils (for Japan)					
50/60 Hz⁴⁾	60 Hz⁵⁾				
100 V AC	110 V AC	G6	G6	G6	G6
200 V AC	220 V AC	N6	N6	N6	N6
400 V AC	440 V AC	R6	R6	R6	R6
DC operation¹⁾					
12 V DC		A4	A4	--	--
24 V DC		B4	B4	--	--
42 V DC		D4	D4	--	--
48 V DC		W4	W4	--	--
60 V DC		E4	E4	--	--
110 V DC		F4	F4	--	--
125 V DC		G4	G4	--	--
220 V DC		M4	M4	--	--
230 V DC		P4	P4	--	--

Examples

AC operation	3RT203-1AP00	Contactor with screw terminals; with solenoid coil for 50 Hz for rated control supply voltage 230 V AC.
	3RT2023-1AG20	Contactor with screw terminals; with solenoid coil for 50/60 Hz for rated control supply voltage 110 V AC.
DC operation	3RT2025-2BB40	Contactor with spring-type terminals; for rated control supply voltage 24 V DC.
	3RT2025-2BG40	Contactor with spring-type 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 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
- Size S0:
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	3RT202.-N	Rated control supply voltage	Contactor type	3RT203.-N	3RT204.-N
$U_{s \min} \dots U_{s \max}^{1)}$	Size	S0	$U_{s \min} \dots U_{s \max}^{1)}$	Size	S2	S3
Sizes S00 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 ²⁾		P3	83 ... 155 V AC/DC		F3	F3
			175 ... 280 V AC/DC		P3	P3

¹⁾ Coil operating range
- Size S0: 0.7 x $U_{s \min}$ to 1.3 x $U_{s \max}$
- Sizes S2 and S3: 0.8 x $U_{s \min}$ to 1.1 x $U_{s \max}$.

²⁾ The following applies to S0 and $U_{s \max} = 280$ V: Upper limit = 1.1 x $U_{s \max}$.