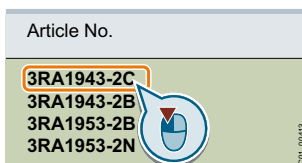


Switching Devices – Contactors and Contactor Assemblies – for Switching Motors

**clickable**

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



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

Price groups

PG 41A, 41B, 41E, 41H, 42F

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Introduction**Power contactors for switching motors**

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Accessories and spare parts for [SIRIUS 3RT contactors and SIRIUS 3RH2 contactor relays](#)

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3/101 - Auxiliary switch blocks, delayed

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Accessories and spare parts for [SIRIUS 3RT12 and 3TF6 vacuum contactors](#)

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3/156 SIRIUS 3RA23 reversing contactor assemblies, up to 55 kW

3/167 Reversing contactor assemblies consisting of SIRIUS 3RT1 contactors, up to 250 kW

Contactor assemblies for star-delta (wye-delta) starting

3/171 SIRIUS 3RA24 contactor assemblies for star-delta (wye-delta) starting, up to 90 kW

3/184 Contactor assemblies for star-delta (wye-delta) starting consisting of SIRIUS 3RT contactors, up to 500 kW

Note:

Conversion tool, e.g. from 3RT10 to 3RT20, [see www.siemens.com/sirius/conversion-tool](http://www.siemens.com/sirius/conversion-tool)

Switching Devices – Contactors and Contactor Assemblies

Power Contactors for Switching Motors

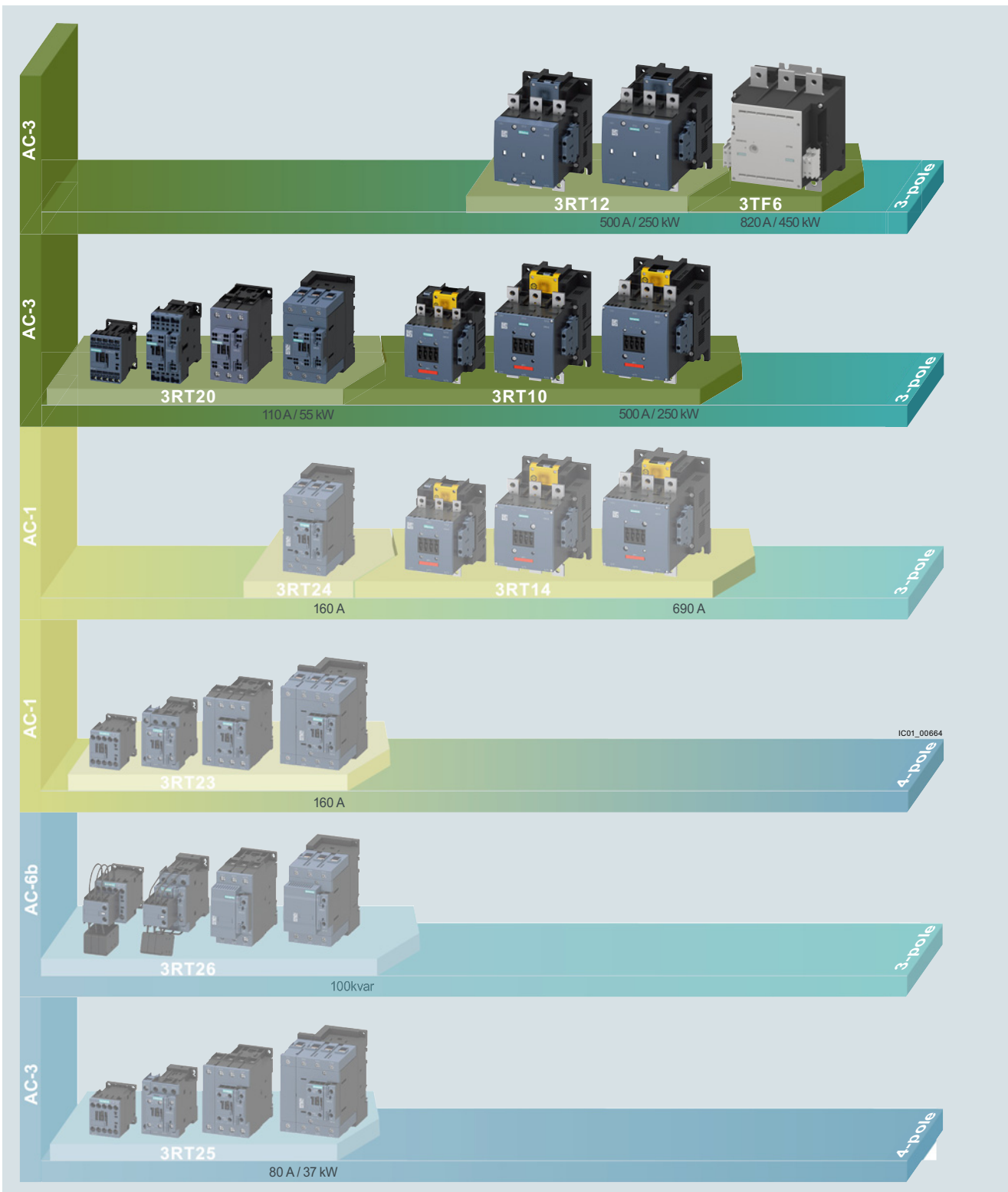
Introduction

Overview

More information

Homepage, see www.siemens.com/sirius
 Industry Mall, see www.siemens.com/product?3RT_3TK_3TC

Conversion tool, e.g. from 3RT10 to 3RT20, see www.siemens.com/sirius/conversion-tool
 TIA Selection Tool Cloud (TST Cloud), see <https://mall.industry.siemens.com/spice/TSTWeb/?kmat=Contactor>



Overview of the 3RT and 3TF contactors

Switching Devices – Contactors and Contactor Assemblies

Power Contactors for Switching Motors

Introduction



Size		S00				S0					
Type		3RT201				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											
$I_{th}/AC-3/400\text{ V}$	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
Accessories for contactors											
Auxiliary switch blocks	<ul style="list-style-type: none"> On front Lateral 	3RH29, 3RA28	(p. 3/94 ... 3/101)			3RH29, 3RA28	(p. 3/94 ... 3/101)				
		3RH29	(p. 3/98)			3RH29	(p. 3/98)				
Function modules	<ul style="list-style-type: none"> Direct-on-line starting, star-delta (wye-delta) starting IO-Link, AS-Interface 	3RA281.	(p. 3/106)			3RA281.	(p. 3/106)				
		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		3RB3016, 3RB3113	0.1 ... 16 A (p. 7/105 ... 7/107)			3RB3026, 3RB3123	0.1 ... 40 A (p. 7/105 ... 7/107)				
<ul style="list-style-type: none"> For standard applications For High-Feature applications 		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)				
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.					3RA2923-2AA.				
		(p. 3/110)					(p. 3/110)				
Function modules		3RA271.-.BA00					3RA271.-.BA00				
		(p. 3/107)					(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.				3RA2923-2BB.		3RA2923-2BB.			
		(p. 3/111)				(p. 3/111)		(p. 3/111)			
Function modules		3RA271.-.CA00				3RA271.-.CA00					
		(p. 3/107)				(p. 3/107)					

Note:

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

Switching Devices – Contactors and Contactor Assemblies

Power Contactors for Switching Motors

Introduction



Size
Type

S2
3RT203

S3
3RT204

3RT20 contactors

Type		3RT2035	3RT2036	3RT2037	3RT2038	3RT2045	3RT2046	3RT2047
AC, DC operation		(p. 3/58, 3/67, 3/69)				(p. 3/59, 3/67, 3/70)		
AC-3								
I_n /AC-3/400 V	A	40	50	65	80	80	95	110
400 V	kW	18.5	22	30	37	37	45	55
230 V	kW	11	15	18.5	22	22	22	30
690 V	kW	22	22	37	45	55	75	90
1 000 V	kW	--	--	--	--	37	37	37
AC-4 (at $I_a = 6 \times I_e$)								
400 V	kW	18.5	22	30	37	37	45	55
400 V (200 000 operating cycles)	kW	11.6	12.6	14.7	15.8	17.9	22	24.3
AC-1 (40 °C, ≤ 690 V)								
I_e	A	60	70	80	90	125	130	130

Accessories for contactors

Auxiliary switch blocks	<ul style="list-style-type: none"> On front Lateral 	3RH29, 3RA28 3RH29	(p. 3/94 ... 3/101) (p. 3/98)	3RH29, 3RA28 3RH29	(p. 3/94 ... 3/101) (p. 3/98)
Function modules	<ul style="list-style-type: none"> Direct-on-line starting IO-Link, AS-Interface 	3RA283. 3RA271.-.AA00	(p. 3/106) (p. 3/107, 3/108)	3RA283. 3RA271.-.AA00	(p. 3/106) (p. 3/107, 3/108)
Surge suppressors		3RT2936	(p. 3/103, 3/104)	3RT2936 ¹⁾ , 3RT2946	(p. 3/103, 3/104)
Terminal covers		3RT2936-4EA2	(p. 3/118)	3RT2946-4EA2	(p. 3/118)

3RU2 and 3RB overload relays

3RU thermal overload relays		3RU2136	11 ... 80 A	(p. 7/93)	3RU2146	28 ... 100 A	(p. 7/93)
3RB electronic overload relays		3RB3036, 3RB3133	12.5 ... 80 A	(p. 7/105 ... 7/107)	3RB3046, 3RB3143	12.5 ... 115 A	(p. 7/105 ... 7/107)
<ul style="list-style-type: none"> For standard applications For High-Feature applications 		3RB22, 3RB23 and 3RB24 with current measuring module 3RB2906-2JG1	10 ... 100 A	(p. 7/128, 7/136) (p. 7/140)	3RB22, 3RB23 and 3RB24 with current measuring module 3RB2906-2JG1	10 ... 100 A	(p. 7/128, 7/136) (p. 7/140)

3RV20 motor starter protectors

Motor starter protectors		3RV2031, 3RV2032	9.5 ... 80 A	(p. 7/30)	3RV2041, 3RV2042	28 ... 100 A	(p. 7/30)
Link modules		3RA2931		(p. 7/56)	3RA1941		(p. 7/56)

3RA23 reversing contactor assemblies

Complete units	Type	3RA2335	3RA2336	3RA2337	3RA2338	3RA2345	3RA2346	3RA2347
400 V	kW	18.5	22	30	37	37	45	55
Assembly kits/wiring modules		3RA2933-2AA. (p. 3/110)				3RA2943-2AA. (p. 3/110)		
Function modules		3RA271.-.BA00 (p. 3/107)				3RA271.-.BA00 (p. 3/107)		
Mechanical interlocks		3RA2934-2B (p. 3/114)				3RA2934-2B (p. 3/114)		

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

Complete units	Type	3RA2434	3RA2435	3RA2436	3RA2437	3RA2444	3RA2445	3RA2446
400 V	kW	22/30	37	45	55	55	75	90
Assembly kits/wiring modules		3RA2933-2BB./-2C (p. 3/111)				3RA2943-2BB./-2C (p. 3/111)		
Function modules		3RA271.-.CA00 (p. 3/107)				3RA271.-.CA00 (p. 3/107)		

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

Note:

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

Switching Devices – Contactors and Contactor Assemblies

Power Contactors for Switching Motors

Introduction



Size	S6			S10			S12			
Type	3RT105			3RT1.6			3RT1.7			
3RT10 contactors · 3RT12 vacuum contactors										
Type	3RT1054	3RT1055	3RT1056	3RT1064	3RT1065	3RT1066	3RT1075	3RT1076		
AC, DC operation	(p. 3/71 ... 3/73)			(p. 3/71 ... 3/73)			(p. 3/71 ... 3/73)			
Type	--	--	--	3RT1264	3RT1265	3RT1266	3RT1275	3RT1276		
				(p. 3/135)			(p. 3/135)			
AC-3										
I_e /AC-3/400 V	A	115	150	185	225	265	300	400	500	
400 V	kW	55	75	90	110	132	160	200	250	
230 V	kW	37	45	55	55	75	90	132	160	
690 V	3RT10/3RT12 kW	110	132	160	200	250	250	400	400/500	
1 000 V	3RT10/3RT12 kW	75	90	90	90/315	132/355	132/400	250/560	250/710	
AC-4 (at $I_a = 6 \times I_e$)										
400 V	kW	55	75	90	110	132	160	200	250	
400 V	3RT10/3RT12 kW	29	38	45	54/78	66/93	71/112	84/140	98/161	
(200 000 operating cycles)										
AC-1 (40 °C, ≤ 690 V)										
I_e	3RT10/3RT12 A	160	185	215	275/330	330	330	430/610	610	
3RT14 AC-1 contactors										
Type	3RT1456	(p. 4/15, 4/16)			3RT1466	(p. 4/15, 4/16)		3RT1476	(p. 4/15, 4/16)	
I_e /AC-1/40 °C/≤ 690 V	A	275				400			690	
Accessories for contactors										
Auxiliary switch blocks	• On front • Lateral	3RH19, 3RT1926						3RH19		(p. 3/97, 3/102) (p. 3/99, 3/100)
Surge suppressors		3RT1956-1C (RC element)								(p. 3/104)
Terminal covers		3RT1956-4EA.			(p. 3/118)		3RT1966-4EA.		(p. 3/118)	
Box terminal blocks		3RT1955-4G, 3RT1956-4G			(p. 3/116)		3RT1966-4G		(p. 3/116)	
3RB2 overload relays										
3RB electronic overload relays										
• For standard applications		3RB2056	50 ... 200 A	(p. 7/117, 7/118)	3RB2066	55 ... 250 A or 160 ... 630 A	(p. 7/117, 7/118)			
		3RB2153	50 ... 200 A	(p. 7/119)	3RB2163	55 ... 250 A or 160 ... 630 A	(p. 7/119)			
• For High-Feature applications		3RB22, 3RB23 and 3RB24	(p. 7/128)		3RB22, 3RB23 and 3RB24	(p. 7/128)		(p. 7/136)		
		with current measuring module 3RB2956-2TH2	(p. 7/140)		with current measuring module 3RB2966-2WH2	(p. 7/140)		(p. 7/140)		
		20 ... 200 A			63 ... 630 A					
3RV10 molded case motor starter protectors										
Molded case motor starter protectors		3RV1063	40 ... 200 A	(p. 7/75)	3RV1073	160 ... 400 A	(p. 7/75)	3RV1083	252 ... 630 A (p. 7/75)	
Reversing contactor assemblies¹⁾										
Complete units	Type	--								
400 V	kW	55	75	90	110	132	160	200	250	
Assembly kits/wiring modules		3RA1953-2A			(p. 3/110)		3RA1963-2A		(p. 3/110)	
Mechanical interlocks		3RA1954-2A			(p. 3/114)		3RA1973-2A		(p. 3/110)	
Contactor assemblies for star-delta (wye-delta) starting¹⁾										
Complete units	Type	--								
400 V	kW	--								
Assembly kits/wiring modules		3RA1953-2B			(p. 3/112)		3RA1963-2B		(p. 3/112)	
		3RA1973-2B			(p. 3/112)				(p. 3/112)	

¹⁾ Contactor assemblies for customer assembly:
 - Reversing contactor assemblies, see pages 3/168 to 3/170,
 - Contactor assemblies for star-delta (wye-delta) starting,
 see pages 3/185 to 3/190.

Note:

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

Switching Devices – Contactors and Contactor Assemblies

Power Contactors for Switching Motors

Introduction



Size **14**
Type **3TF6**

3TF68/3TF69 vacuum contactors

Type	3TF68 (p. 3/136, 3/137)	3TF69 (p. 3/136, 3/137)
------	-----------------------------------	-----------------------------------

AC-3

I_e /AC-3/400 V	A	630	820
400 V	kW	335	450
230 V	kW	200	260
690 V	kW	600	800
1 000 V	kW	600	800

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

400 V	kW	355	400
400 V (200 000 operating cycles)	kW	168	191

AC-1 (40 °C, ≤ 690 V)

I_e	A	700	910
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Accessories for contactors

Auxiliary switch blocks

• Lateral	3TY7561	(p. 3/138)
-----------	----------------	------------

Surge suppressors

	3TX7572	(p. 3/139)
--	----------------	------------

Terminal covers

	3TX7686, 3TX7696	(p. 3/139)
--	-------------------------	------------

3RB2 overload relays

3RB electronic overload relays

• For standard applications	3RB2066, 3RB2163	55 ... 250 A or 160 ... 630 A	(p. 7/117, 7/118) (p. 7/119)	3RB22, 3RB23 and 3RB24 with current measuring module 3RB2906-2.G1 with 3UF series transformer up to 820 A	(p. 7/128, 7/136) (p. 7/140)
• For High-Feature applications	3RB22, 3RB23 and 3RB24 with current measuring module 3RB2966-2WH2	63 ... 630 A	(p. 7/128, 7/136) (p. 7/140)		

3RV10 molded case motor starter protectors

Molded case motor starter protectors	3RV1083	252 ... 630 A	(p. 7/75)
---	----------------	---------------	-----------

Reversing contactor assemblies

Complete units	Type	--
400 V	kW	335
Assembly kits/wiring modules	3TX7680-1A	(Industry Mall)
Mechanical interlocks	3TX7686-1A	(Industry Mall)

Contactor assemblies for star-delta (wye-delta) starting

Complete units	Type	--
400 V	kW	630
Assembly kits/wiring modules	3TX7680-1B	(Industry Mall)

Note:

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

Switching Devices – Contactors and Contactor Assemblies

Power Contactors for Switching Motors

Introduction



Size --
Type 3TG10

3TG10 power relays/miniature contactors

Type **3TG10**
Number of main contacts 4
AC, DC operation (p. 3/152)

AC-1

I_e at 400 V 55 °C **A** **20**

P at 400 V **kW** **13**

At 230 V kW 7.5

AC-2 and AC-3

I_e up to 400 V A 8.4





P at 400 V **kW** **4**

Connection methods

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

Devices of the 3TF2 series are also available for connection with flat connectors and solder pin connectors.

The 3TG10 power relays/miniature contactors are available with screw terminals or flat connectors.

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

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

Use of 3RT contactors, 3RT and 3TF vacuum contactors, reversing contactor assemblies, and contactor assemblies for star-delta (wye-delta) starting with IE3/IE4 motors

Note:

For the use of 3RT contactors, 3RT and 3TF vacuum contactors, reversing contactor assemblies and contactor assemblies for star-delta (wye-delta) starting in conjunction with highly energy-efficient IE3/IE4 motors, please observe the information on dimensioning and configuring, [see Application Manual](#).

For more information, [see page 1/7](#).

SUVA-certified safety contactors

We offer special safety contactors for use in safety-related applications. They have NC contacts with mirror contact function and they have SUVA certification. This means they have non-removable auxiliary switch blocks and cannot be operated manually. They thus comply with all requirements for use in safety applications.

Power Contactors for Switching Motors

General data

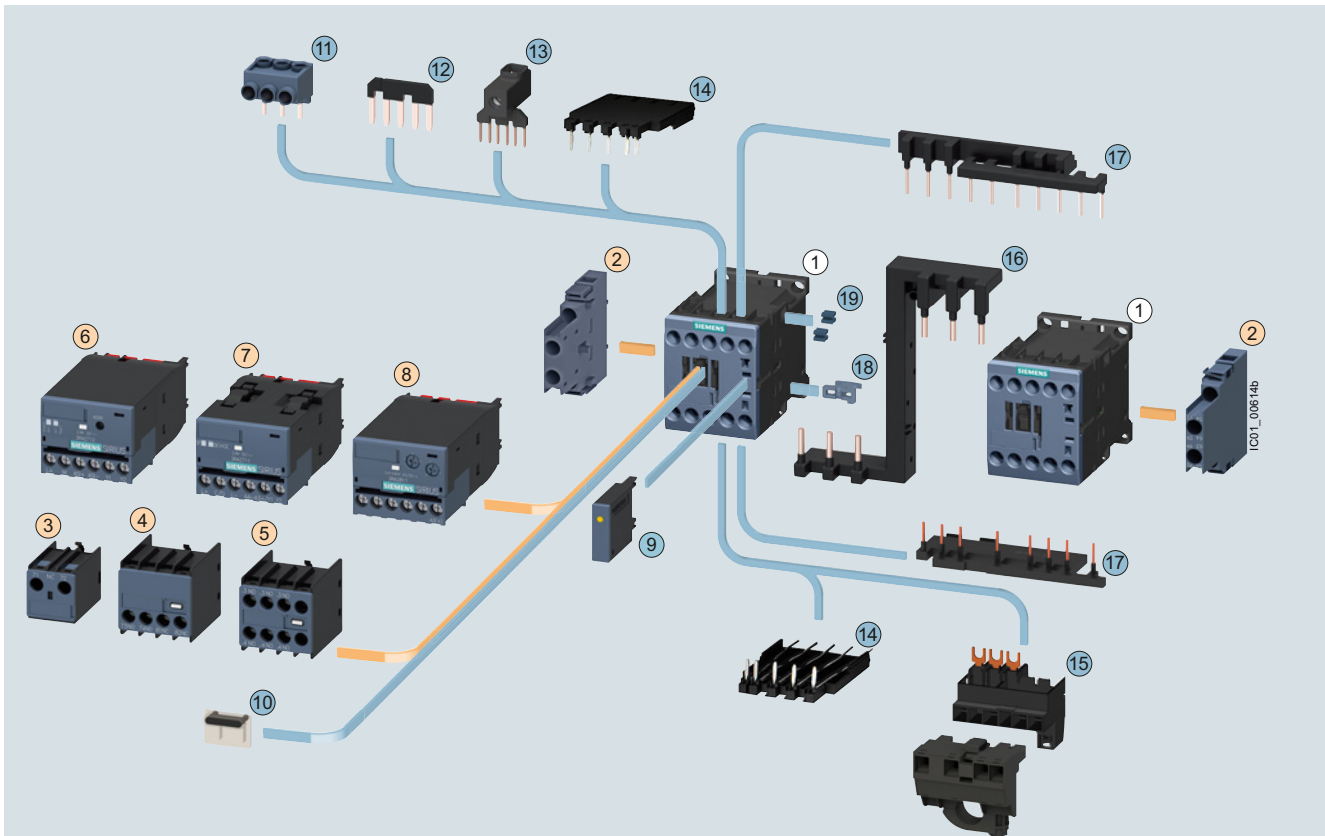
Overview

The SIRIUS family of controls

The SIRIUS modular system with its components for the switching, starting, protection and monitoring of motors and industrial systems stands for the fast, flexible and space-saving construction of control cabinets.

3RT2.1 contactors · Size S00 with mountable accessories

The figure shows the version with screw terminals



① Contactor, size S00

② 2-pole auxiliary switch block, laterally mountable

③ 1-pole auxiliary switch block, for snapping onto the front cable entry from the top

④ 2-pole auxiliary switch block, for snapping onto the front cable entry from the bottom

⑤ 4-pole auxiliary switch block, for snapping onto the front

⑥ 3RA27 function module for AS-Interface, direct-on-line starting

⑦ 3RA27 function module for IO-Link, direct-on-line starting

⑧ 3RA28 function module

⑨ Surge suppressor with/without LED

⑩ Cover, sealable

⑪ Three-phase feeder terminal

⑫ Star jumper, 3-pole, without connecting terminal

⑬ Link for paralleling, 3-pole, with connecting terminal

⑭ Solder pin adapter

⑮ Connection module (adapter and connector) for contactors with screw-type connection

⑯ Safety main current connector for two contactors

Assembly kit 3RA2913-2AA1 comprising:

⑰ Wiring modules on the top and bottom for connecting the main, auxiliary and control current paths, electrical interlock¹⁾ included, can be broken off (NC contact interlock)

⑱ Mechanical interlocks²⁾

⑲ Two connecting clips for two contactors²⁾

● For contactors

● For contactors and coupling contactors

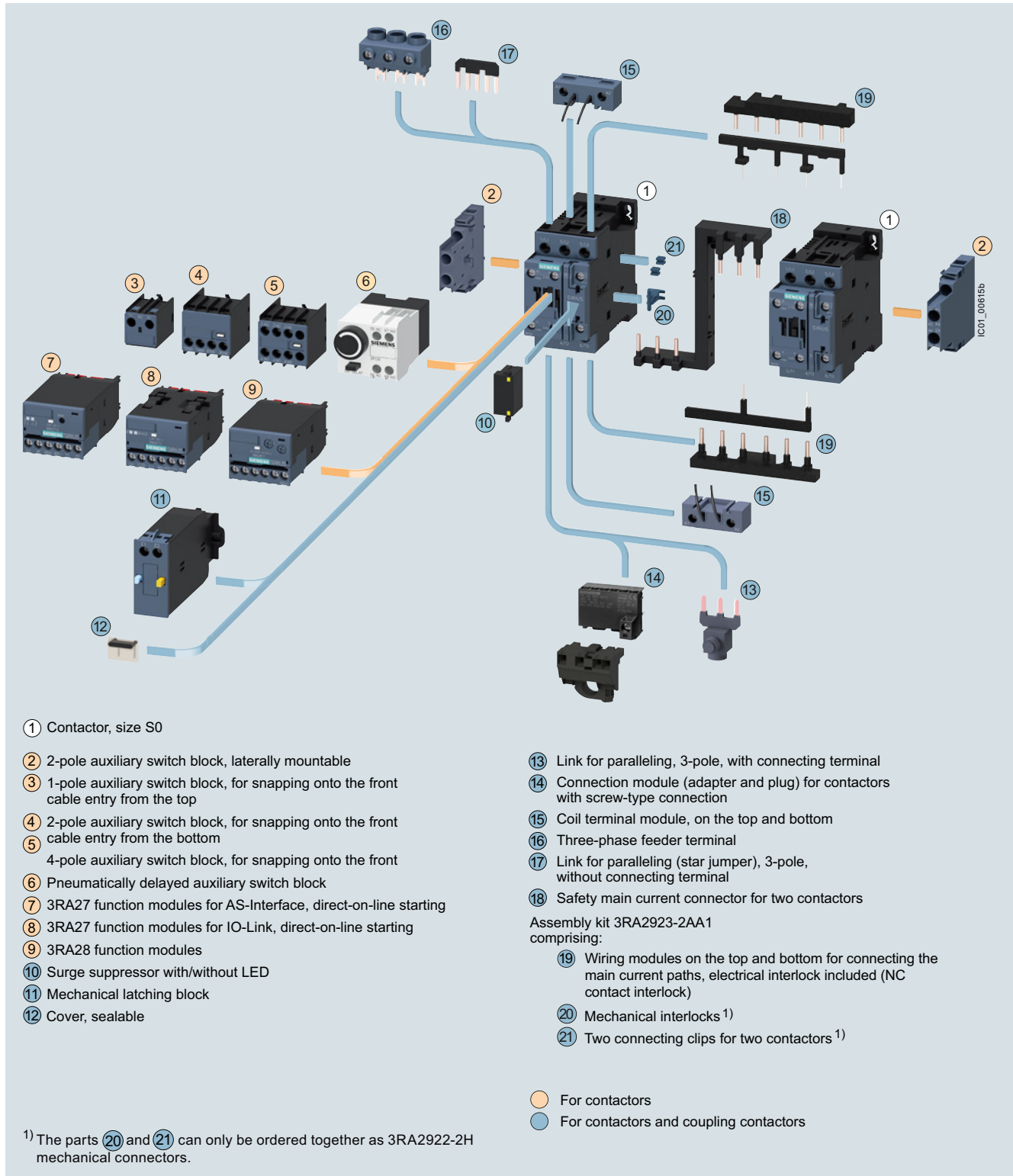
¹⁾ 3RT201. contactors with one NC contact in the basic unit are required for the electrical interlock. An additional NO contact is required for momentary-contact operation.

²⁾ The parts ⑱ and ⑲ can only be ordered together as 3RA2912-2H mechanical connectors.

Accessories and spare parts, see pages 3/76 to 3/125.

3RT2.2 contactors · Size S0 with mountable accessories

The figure shows the version with screw terminals



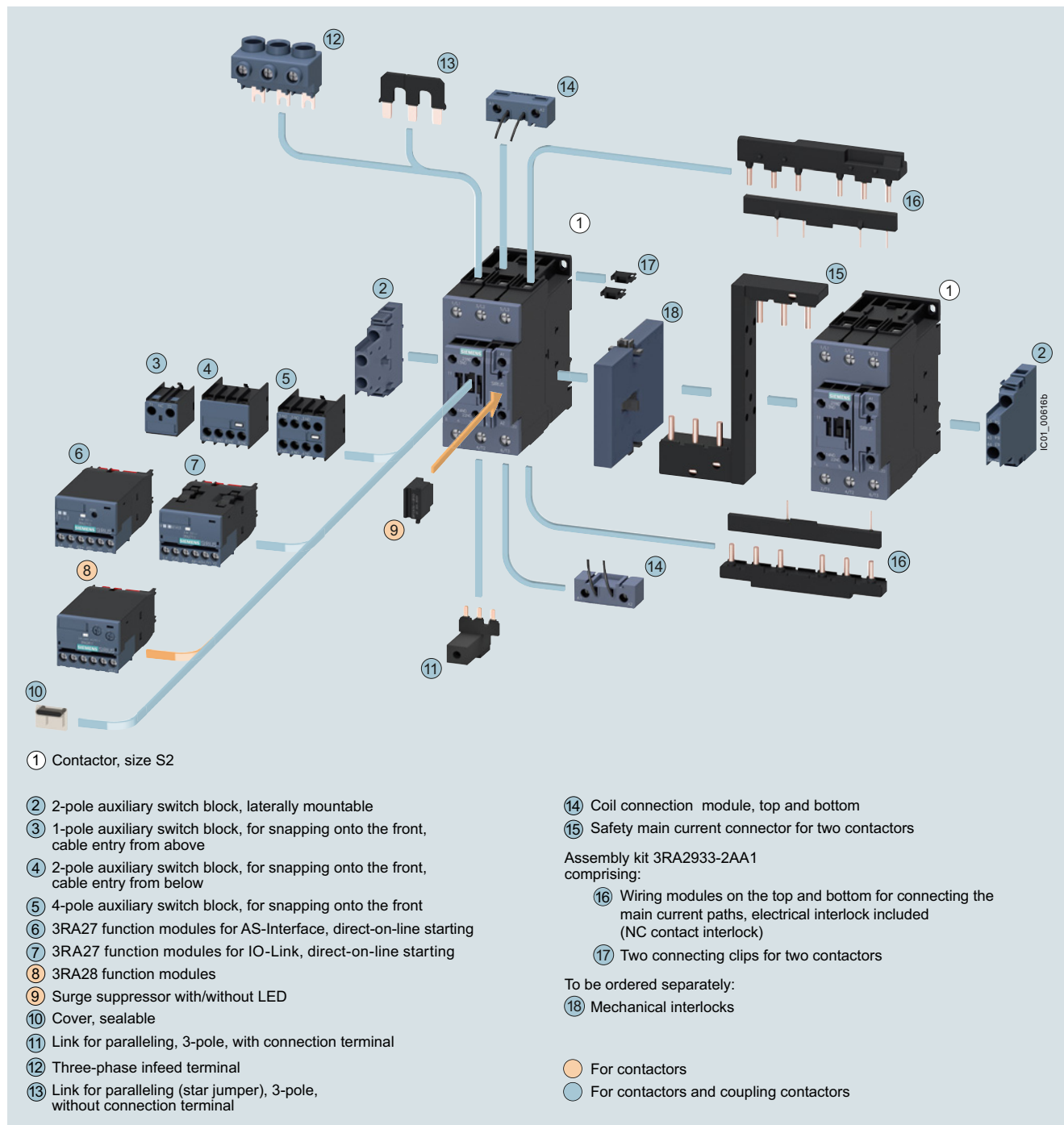
Accessories and spare parts, see pages 3/76 to 3/125.

Power Contactors for Switching Motors

General data

3RT2.3 contactors · Size S2 with mountable accessories

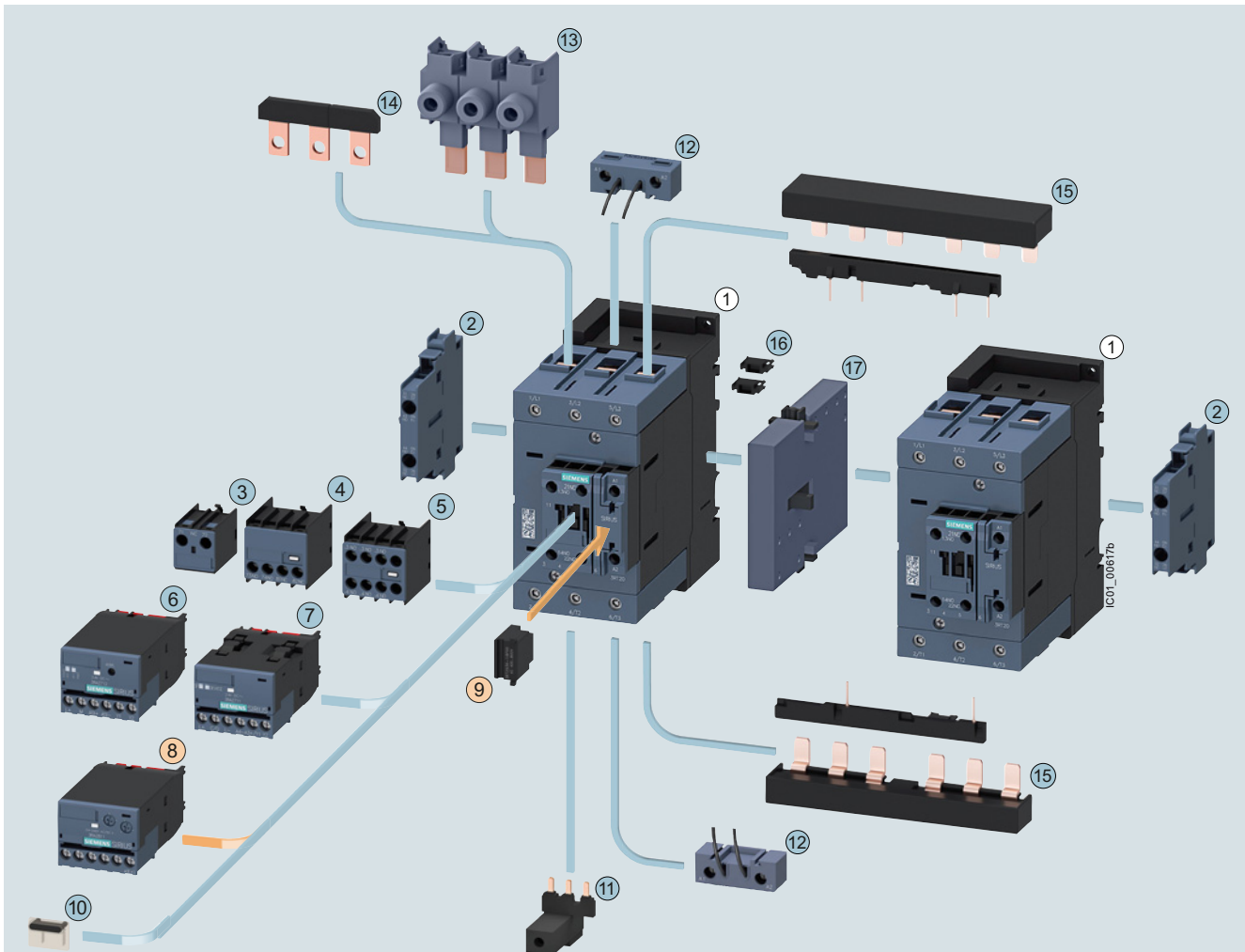
The figure shows the version with screw terminals



Accessories and spare parts, see pages 3/76 to 3/125.

3RT2.4 contactors - Size S3 with mountable accessories

The figure shows the version with screw terminals



① Contactor, size S3

- ② 2-pole auxiliary switch block, laterally mountable
- ③ 1-pole auxiliary switch block, for snapping onto the front, cable entry from above
- ④ 2-pole auxiliary switch block, for snapping onto the front, cable entry from below
- ⑤ 4-pole auxiliary switch block, for snapping onto the front
- ⑥ 3RA27 function modules for AS-Interface, direct-on-line starting
- ⑦ 3RA27 function modules for IO-Link, direct-on-line starting
- ⑧ 3RA28 function modules
- ⑨ Surge suppressor with/without LED
- ⑩ Cover, sealable

- ⑪ Links for paralleling, 3-pole, with connection terminal
- ⑫ Coil connection module, top and bottom
- ⑬ Single-phase infeed terminals (3 units)
- ⑭ Links for paralleling (star jumper), 3-pole without connecting terminal

Assembly kit 3RA2943-2AA1 comprising:

- ⑮ Wiring modules on the top and bottom for connecting the main, auxiliary and control current paths, electrical interlock¹⁾ included, interruptible (NC contact interlock)
- ⑯ Two connectors for two contactors

To be ordered separately:

- ⑰ Mechanical interlock

○ For contactors

● For contactors and coupling contactors

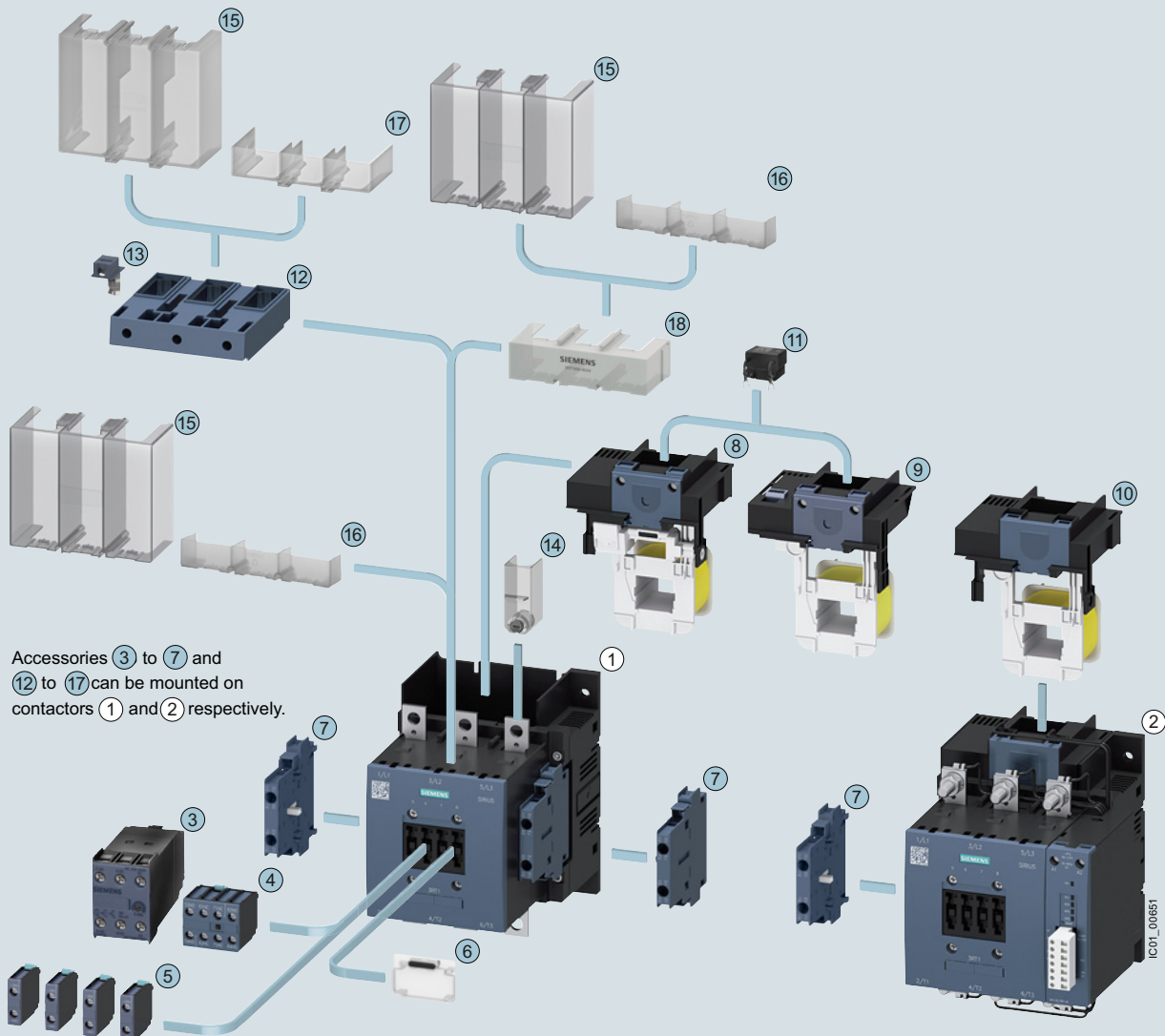
¹⁾ 3RT201. contactors with one NC contact in the basic unit are required for the electrical interlock. An additional NO contact is required for momentary-contact operation.

Accessories and spare parts, see pages 3/76 to 3/125.

Power Contactors for Switching Motors

General data

3RT105 and 3RT145 contactors · Size S6 with mountable accessories



Accessories ③ to ⑦ and ⑫ to ⑰ can be mounted on contactors ① and ② respectively.

- ① 3RT105 and 3RT145 air-break contactors, size S6 (version without withdrawable coil)
- ② 3RT105.-P and 3RT145.-P air-break contactors with solid-state operating mechanism and remaining lifetime indicator, size S6 (version with withdrawable coil and laterally mountable add-on module)

Can be mounted on the front of contactors ① and ②

- ③ 3RT1926: Auxiliary switch block, electronically delayed (ON-delay or OFF-delay or star-delta (wye-delta) start)
- ④ 3RH192: 4-pole auxiliary switch block
- ⑤ 3RH192: 1-pole auxiliary switch block (max. four can be snapped on)
- ⑥ 3RT1926-4MA10: Cover, sealable

Can be mounted on the side of contactors ① and ②

- ⑦ 3RH192: 2-pole auxiliary switch block

Can be inserted in top of contactors

- ⑧ 3RT1955-5A.3.: Withdrawable coil, standard operating mechanism
- ⑨ 3RT1955-5N.3.: Withdrawable coil, solid-state operating mechanism
- ⑩ 3RT1955-5P.3.: Withdrawable coil, solid-state operating mechanism and remaining lifetime indicator

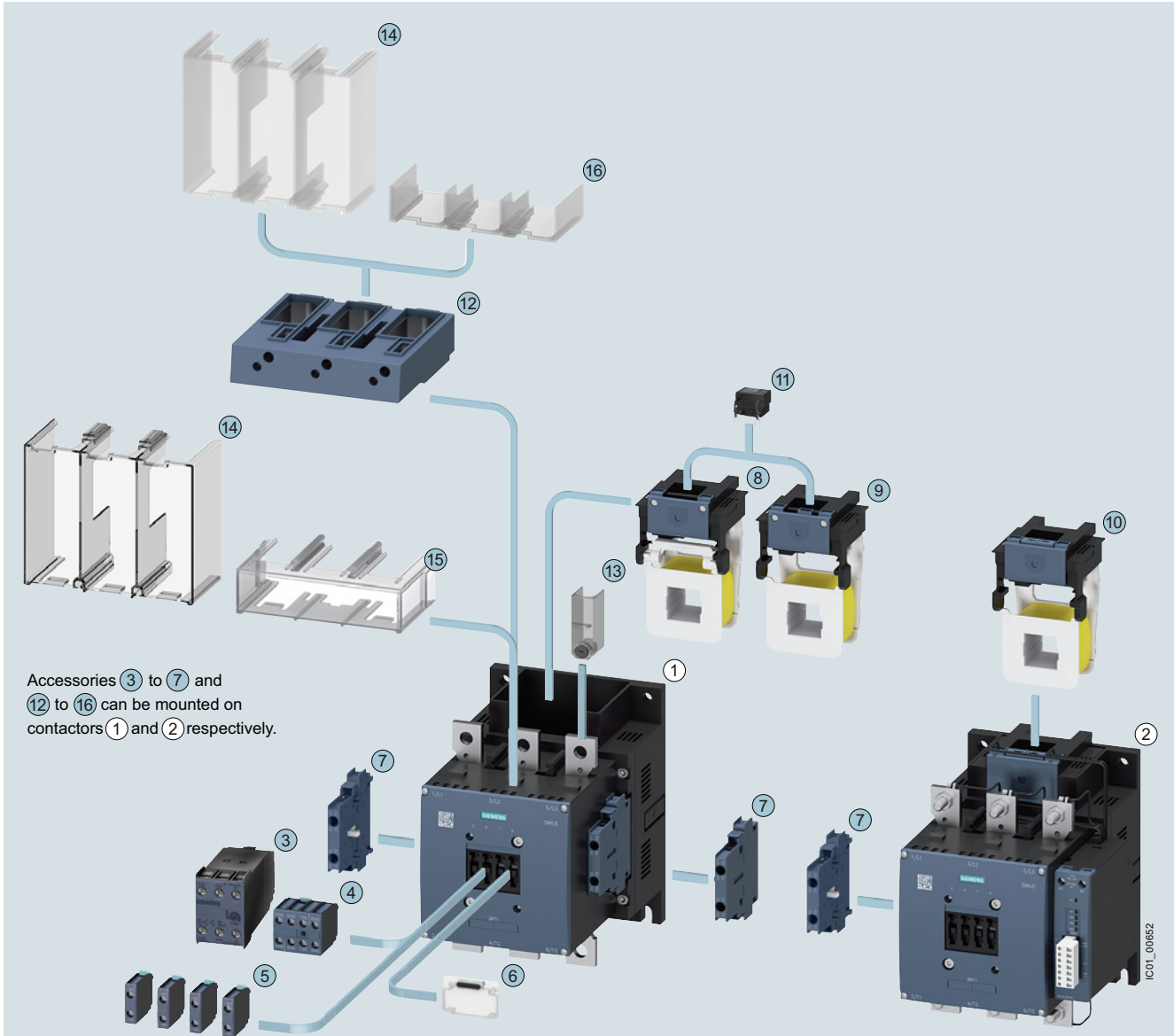
Can be plugged onto the top of contactor operating mechanisms ⑧ and ⑨

- ⑪ 3RT1956-1C: Surge suppressor (RC element)

Can be mounted at the top or bottom on busbars or box terminals of contactors ① and ②

- ⑫ 3RT1956-4G: Box terminal block
- ⑬ 3TX7500-0A: Auxiliary terminal, 1-pole
- ⑭ 3TX6526-3B: Terminal cover (can be screwed on), covers one busbar connection
- ⑮ 3RT1956-4EA1: Terminal cover for busbar connection and on box terminal
- ⑯ 3RT1956-4EA3: Terminal cover for busbar connection
- ⑰ 3RT1956-4EA2: Terminal cover on box terminal
- ⑱ 3RT1956-4EA4: Terminal cover for busbar connection, covers ⑮, ⑯ and ⑱ can be mounted

Accessories and spare parts, see pages 3/76 to 3/125.

3RT106 and 3RT146 contactors · Size S10 with mountable accessories

Accessories ③ to ⑦ and ⑫ to ⑯ can be mounted on contactors ① and ② respectively.

- ① 3RT106 and 3RT146 air-break contactors, size S10 (version without withdrawable coil)
- ② 3RT106.-P and 3RT146.-P air-break contactors with solid-state operating mechanism and remaining lifetime indicator, size S10 (version with withdrawable coil and laterally mountable add-on module)

Can be mounted on the front of contactors ① and ②

- ③ 3RT1926: Auxiliary switch block, electronically delayed (ON-delay or OFF-delay or star-delta (wye-delta) start)
- ④ 3RH192: 4-pole auxiliary switch block
- ⑤ 3RH192: 1-pole auxiliary switch block (max. four can be snapped on)
- ⑥ 3RT1926-4MA10: Cover, sealable

Can be mounted on the side of contactors ① and ②

- ⑦ 3RH192: 2-pole auxiliary switch block

Can be inserted in top of contactors

- ⑧ 3RT1965-5A.3.: Withdrawable coil, standard operating mech.
- ⑨ 3RT1965-5N.3.: Withdrawable coil, solid-state operating mech.
- ⑩ 3RT1965-5P.3.: Withdrawable coil, solid-state operating mech. and remaining lifetime indicator

Can be plugged onto top of contactor operating mechanisms ⑧ and ⑨

- ⑪ 3RT1956-1C: Surge suppressor (RC element)

Can be mounted at the top or bottom on busbars or box terminals of contactors ① and ②

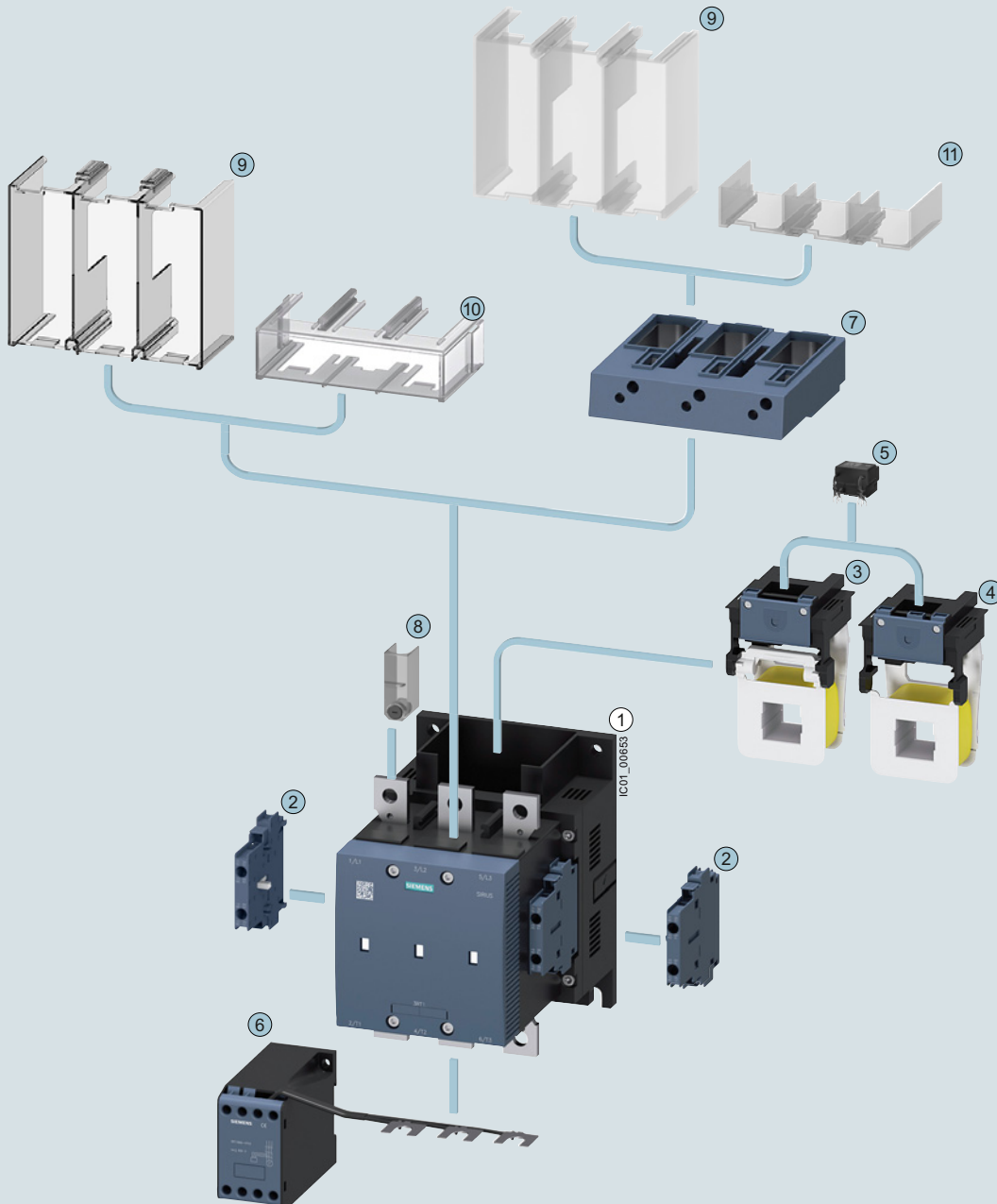
- ⑫ 3RT1966-4G: Box terminal block
- ⑬ 3TX6546-3B: Terminal cover (can be screwed on), covers one busbar connection
- ⑭ 3RT1966-4EA1: Terminal cover for busbar connection and on box terminal
- ⑮ 3RT1966-4EA3: Terminal cover for busbar connection
- ⑯ 3RT1966-4EA2: Terminal cover on box terminal

Accessories and spare parts, see pages 3/76 to 3/125.

Power Contactors for Switching Motors

General data

3RT126 vacuum contactors · Size S10 with mountable accessories



- ① 3RT126 vacuum contactor, size S10
(version without withdrawable coil)

Can be mounted on side of contactor

- ② 3RH192: 2-pole auxiliary switch block

Can be inserted in top of contactor

- ③ 3RT1966-5A.3.: Withdrawable coil, standard operating mechanism
④ 3RT1966-5N.3.: Withdrawable coil, solid-state operating mechanism

Can be plugged onto top of contactor operating mechanisms

- ⑤ 3RT1956-1C: Surge suppressor (RC element)

Can be mounted at bottom on busbars

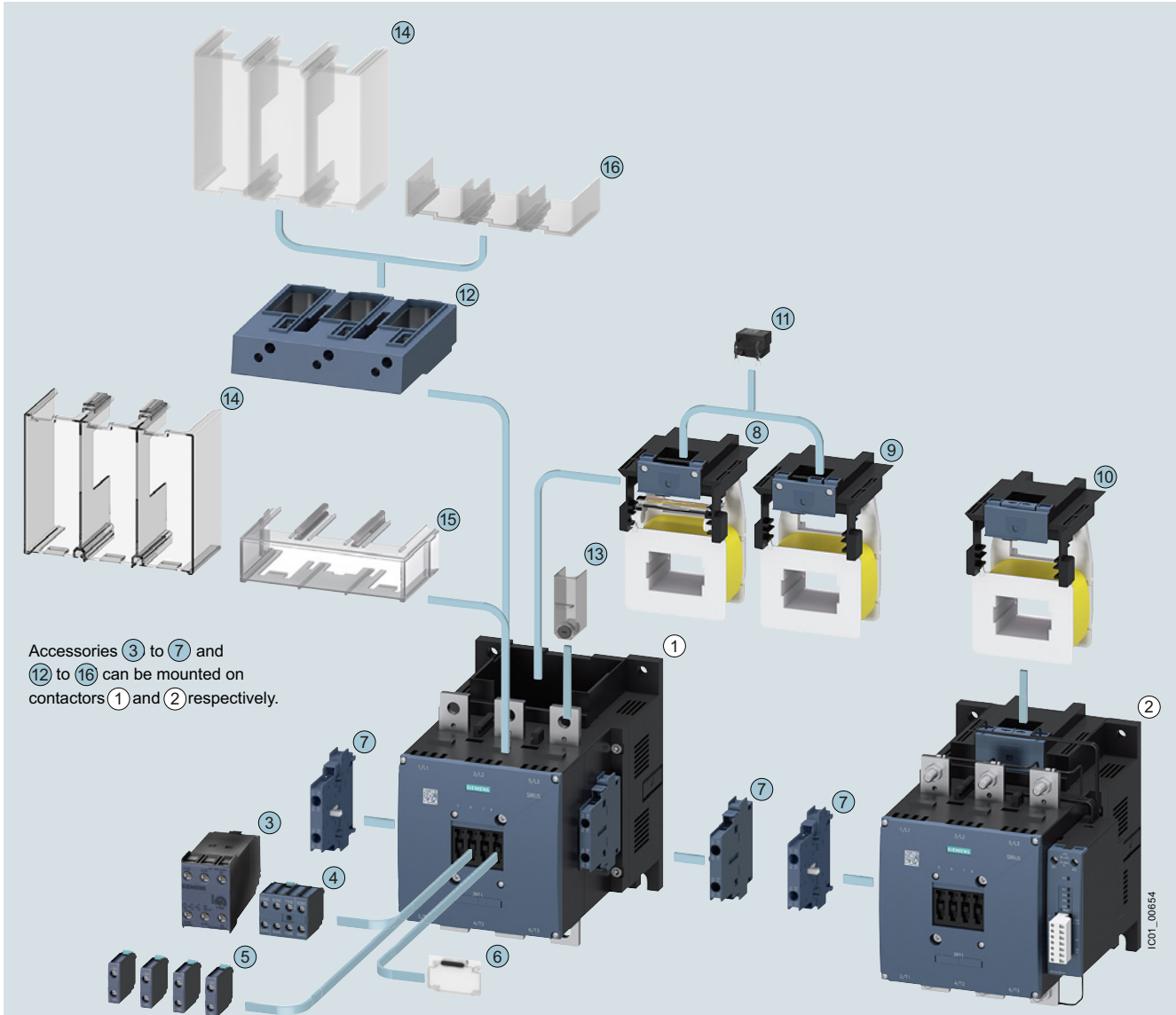
- ⑥ 3RT1966-1PV.: Main current path surge suppression module

Can be mounted on the top or bottom on busbars or box terminals

- ⑦ 3RT1966-4G: Box terminal block
⑧ 3TX6546-3B: Terminal cover (can be screwed on), covers one busbar connection
⑨ 3RT1966-4EA1: Terminal cover for busbar connection and on box terminal
⑩ 3RT1966-4EA3: Terminal cover for busbar connection
⑪ 3RT1966-4EA2: Terminal cover on box terminal

Accessories and spare parts, see pages 3/76 to 3/125 and 3/138 to 3/141.

3RT107 and 3RT147 contactors · Size S12 with mountable accessories



Accessories 3 to 7 and 12 to 16 can be mounted on contactors 1 and 2 respectively.

- ① 3RT107 and 3RT147 air-break contactors, size S12 (version without withdrawable coil)
 - ② 3RT107.-P and 3RT147.-P air-break contactors with solid-state operating mechanism and remaining lifetime indicator, size S12 (version with withdrawable coil and laterally mountable add-on module)
- Can be mounted on the front of contactors 1 and 2**
- ③ 3RT1926: Auxiliary switch block, electronically delayed (ON-delay or OFF-delay or star-delta (wye-delta) start)
 - ④ 3RH192: 4-pole auxiliary switch block
 - ⑤ 3RH192: 1-pole auxiliary switch block (max. four can be snapped on)
 - ⑥ 3RT1926-4MA10: Cover, sealable
- Can be mounted on the side of contactors 1 and 2**
- ⑦ 3RH192: 2-pole auxiliary switch block

Can be inserted in top of contactors

- ⑧ 3RT1975-5A.3.: Withdrawable coil, standard operating mech.
- ⑨ 3RT1975-5N.3.: Withdrawable coil, solid-state operating mech.
- ⑩ 3RT1975-5P.3.: Withdrawable coil, solid-state operating mech. and remaining lifetime indicator

Can be plugged onto top of contactor operating mechanisms 8 and 9

- ⑪ 3RT1956-1C: Surge suppressor (RC element)

Can be mounted at the top or bottom on busbars or box terminals of contactors 1 and 2

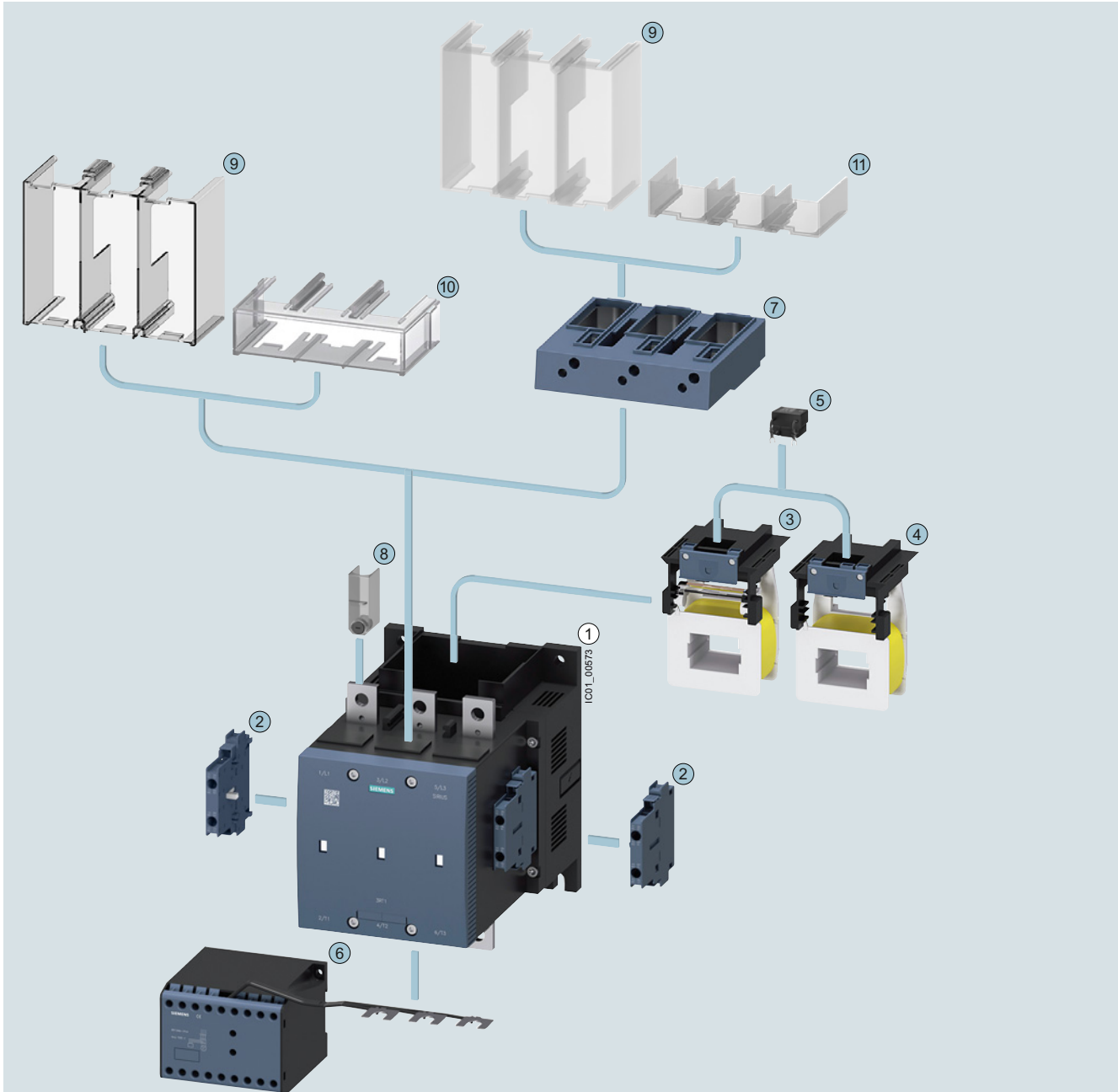
- ⑫ 3RT1966-4G: Box terminal block
- ⑬ 3TX6546-3B: Terminal cover (can be screwed on), covers one busbar connection
- ⑭ 3RT1966-4EA1: Terminal cover for busbar connection and on box terminal
- ⑮ 3RT1966-4EA3: Terminal cover for busbar connection
- ⑯ 3RT1966-4EA2: Terminal cover on box terminal

Accessories and spare parts, see pages 3/76 to 3/125.

Power Contactors for Switching Motors

General data

3RT127 vacuum contactors · Size S12 with mountable accessories



- ① 3RT127 Vacuum contactor, size S12
(version without withdrawable coil)

Can be mounted on the side of contactor

- ② 3RH192: 2-pole auxiliary switch block

Can be inserted in top of contactors

- ③ 3RT1955-5A.3.: Withdrawable coil, standard operating mechanism
④ 3RT1955-5N.3.: Withdrawable coil, solid-state operating mechanism

Can be plugged onto the top of contactor operating mechanisms

- ⑤ 3RT1956-1C: Surge suppressor (RC element)

Can be mounted at bottom on busbars

- ⑥ 3RT1966-1PV.: Main current path surge suppression module

Can be mounted at the top or bottom on busbars or box terminals

- ⑦ 3RT1956-4G: Box terminal block
⑧ 3TX6526-3B: Terminal cover (can be screwed on), covers one busbar connection
⑨ 3RT1956-4EA1: Terminal cover for busbar connection and on box terminal
⑩ 3RT1956-4EA3: Terminal cover for busbar connection
⑪ 3RT1956-4EA2: Terminal cover on box terminal

Accessories and spare parts, see pages 3/76 to 3/125 and 3/138 to 3/141.

Overview

Version	Size	Ratings of three-phase motors at 50 Hz and 400 V kW	Connection methods		Type	Page
			Screw terminals	Spring-type terminals		
Power contactors for switching motors						
AC operation						
Basic unit	S00	3 ... 7.5	✓	✓	3RT201.-A.0.	3/55
• With permanently mounted auxiliary switch block (SUVA-certified safety contactor)			✓	✓	3RT201.-...P04-3MA0	3/55
Basic unit	S0	4 ... 18.5	✓	✓	3RT202.-A.00	3/56
• With removable mounted auxiliary switch block			✓	✓	3RT202.-A.04	3/57
• With permanently mounted auxiliary switch block (SUVA-certified safety contactor)			✓	✓	3RT202.-CL24-3MA0	3/57
Basic unit	S2	18.5 ... 37	✓	✓	3RT203.-A.00	3/58
• With removable mounted auxiliary switch block			✓	--	3RT203.-1A.04	3/58
• With permanently mounted auxiliary switch block			✓	✓	3RT203.-CL24-3MA0	3/58
Basic unit	S3	37 ... 55	✓	✓	3RT20.-A.00	3/59
• With removable mounted auxiliary switch block			✓	--	3RT204.-1A.04	3/59
• With permanently mounted auxiliary switch block			✓	--	3RT204.-1CL24-3MA0	3/59
DC operation						
Basic unit	S00	3 ... 7.5	✓	✓	3RT201.-B.4.	3/60
• With integrated coil circuit			✓	✓	3RT201.-B.4.	3/60
• With permanently mounted auxiliary switch block (SUVA-certified safety contactor) and integrated coil circuit (diode)			✓	✓	3RT201.-B.44-3MA0	3/61
• With voltage tap-off			✓	✓	3RT201.-BB4.-0CC0	3/61
Basic unit	S0	4 ... 18.5	✓	✓	3RT202.-B.40	3/64
• With coil circuit plugged into front			✓	✓	3RT202.-B.40	3/64
• With removable mounted auxiliary switch block			✓	✓	3RT202.-BB44	3/64
• With permanently mounted auxiliary switch block (SUVA-certified safety contactor)			✓	✓	3RT202.-B.44-3MA0	3/65
• With voltage tap-off			✓	✓	3RT202.-BB40-0CC0	3/65
DC operation for direct control from the PLC (coupling relays)						
Basic unit						
• With and without integrated coil circuit	S00	3 ... 5.5	✓	✓	3RT201.-...B.4.	3/62, 3/63
• With integrated coil circuit	S0	4 ... 15	✓	✓	3RT202.-KB40	3/66
	S2	18.5 ... 37	✓	✓	3RT203.-KB40	3/67
	S3	37 and 45	✓	✓	3RT204.-KB40	3/67
AC/DC operation (50/60 Hz AC or DC)						
Basic unit with integrated coil circuit	S0	5.5 ... 18.5	✓	✓	3RT202.-N.30	3/68
Basic unit with integrated coil circuit	S2	18.5 ... 37	✓	✓	3RT203.-N.30	3/69
• With removable mounted auxiliary switch block			✓	--	3RT203.-1N.34	3/69
• With permanently mounted auxiliary switch block			✓	✓	3RT203.-NB34-3MA0	3/69
• With voltage tap-off			✓	✓	3RT203.-NB30-0CC0	3/69
Basic unit with integrated coil circuit	S3	37 ... 55	✓	✓	3RT204.-N.30	3/70
• With removable mounted auxiliary switch block			✓	--	3RT204.-1N.34	3/70
• With permanently mounted auxiliary switch block			✓	✓	3RT204.-NB34-3MA0	3/70
• With voltage tap-off			✓	✓	3RT204.-NB30-0CC0	3/70
Basic unit with <u>standard operating mechanism</u>	S6 ... S12	55 ... 250	✓ ¹⁾	✓	3RT10.-A.36	3/71
Basic unit with <u>solid-state operating mechanism</u> with the option of control via a separate 24 V DC control signal input						
• Fail-safe control signal input for safety-related applications up to SIL CL 3	S6 ... S12	55 ... 250	✓ ¹⁾	--	3RT10.-S.36	3/72
• Standard control signal input			✓ ¹⁾	✓	3RT10.-N.36	3/73
• Standard control signal input, with remaining lifetime indication (RLT)			✓ ¹⁾	--	3RT10.-P.35	3/73

-- Version not possible

✓ Version possible

¹⁾ Connection method:

- Main circuit: Busbar connection (optionally with box terminals),
- Auxiliary/control circuit: Screw terminals or spring-type terminals.

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 used 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.

Connection methodsMain circuit

- Sizes S00 and S0: screw or spring-type terminals, spring-type terminals with convenient plug-in design for device connectors
- Sizes S2 and S3: screw terminals with box terminal; direct connection to the connecting bar possible with cable lugs for S3 when the box terminal is removed.
- Sizes S6 to S12: screw terminals with connecting bars that the cables can be connected to using either cable lugs or flexible or rigid busbars. Alternatively, box terminals are available as accessories.

Auxiliary/control circuit

- Sizes S00 to S12: Screw or spring-type terminals

Electromagnetic compatibility (EMC)

The 3RT contactors fulfill the requirements for environment category A.

Note:

When the contactors are used in an environment with frequency converters, the configuration notes in the Manual must be observed, see "More information" page 3/23.

Short-circuit protection

Short-circuit protection of contactors without overload relays, see "Technical specifications":

- For 3RT2 contactors, see pages 3/28, 3/34, 3/38 and 3/43
- For 3RT1 contactors, see page 3/48

Refer to the configuration manuals for details of short-circuit protection of contactors with overload relays or of load feeders, see "More information" on page 3/23.

For fuseless assembly of motor feeders consisting of 3RV2 motor starter protector and 3RT2 contactor, selection guides are available, see "SIRIUS 3RA2 load feeders" from page 8/4 onwards.

Motor protection3RT2 contactors

For protection against overload, 3RU2 thermal overload relays (see page 7/92 onwards) or 3RB3 electronic overload relays (see page 7/105 onwards) can be mounted on the 3RT2 contactors.

3RT1 contactors

For protection against overload, 3RB2 electronic overload relays (see page 7/117 onwards) can be mounted on the 3RT1 contactors.

Plant and application monitoring

For monitoring and measuring in the application, 3RR2 monitoring relays can be mounted on the 3RT2 contactors (see page 10/62).

Ratings of three-phase motors

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

The power rating specifications of the contactors in kW (in accordance with IEC 60947-4-1, Table G) are guide values for 4-pole standard motors at 50 Hz AC and specified voltage (e.g. 400 V). The actual starting and rated data of the motor to be switched must be considered when selecting the units. The motor current, motor protection device and the permissible contactor current according to the utilization category must be aligned with each other.

Surge suppression

3RT contactors supplied without a coil circuit can be retrofitted with RC elements, varistors, diodes or diode assemblies (assembly of diode and Zener diode for short break times) for damping opening surges in the coil, see from page 3/103 onwards.

- Size S00: the surge suppressors are plugged onto the front of the contactors here. Space is provided for them next to a snap-on auxiliary switch block.
- Sizes S0 and S3: the surge suppressors can be plugged onto the front of the devices. In the case of size S3 contactors, surge suppressors can only be used as from product version E03.
- Sizes S6 to S12: Exchangeable operating mechanisms with integrated coil circuit (varistor)

Note:

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 (for details, see the relevant manual → "More information" on page 3/23).

Contactors with voltage tap-off3RT2 contactors

The size S00 to S3 contactors with voltage tap-off are special versions for mounting the SIRIUS 3RA27 function modules for connection to the control system via IO-Link or AS-Interface (see from page 3/80 onwards).

Without a function module, these contactors can be used like the standard versions.

For more information on IO-Link and AS-Interface, see "Industrial Communication", from page 2/1 onwards.

Power Contactors for Switching Motors

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

Operating mechanism types

3RT2 contactors

3RT2 contactors are available as standard versions with 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).

DC coupling contactors with reduced power consumption are also ideally suited for connection to the controller.

With an operating range between 0.8 to $1.1 \times U_s$, control takes place via the control supply voltage connection A1 - A2 as is typically the case.

3RT1 contactors

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

- Standard operating mechanism with economy circuit for AC and DC operation (switchover from closing coil to holding coil)
- Solid-state operating mechanisms
Overvoltage damping of the operating mechanism coil is already integrated in the electronics for contactors with solid-state operating mechanisms. The operating mechanisms are powered via a supply voltage with an operating range from 0.8 to $1.1 \times U_s$, optionally also controlled depending on the chosen mode of operation. Alternatively, control is via the separate 24 V DC control signal input. Various rated voltage ranges for AC/DC control are available.

The following versions are available:

- With two operating modes: Direct control or via CPU input
- As above, but additionally with remaining lifetime indication (RLT)
- With fail-safe PLC input for simplification of safety applications (without mode of operation selection)

Solenoid coils/drive units

3RT2 contactors

Coil replacement is possible for sizes S0 to S3.

3RT1 contactors

The operating mechanisms for 3RT10...A/-N/-P contactors are removable and can be replaced simply by unlocking and pulling them out.

NOTICE: Removal or changing of the operating mechanism is not permitted for 3RT10...S contactors with fail-safe control.

Safety applications

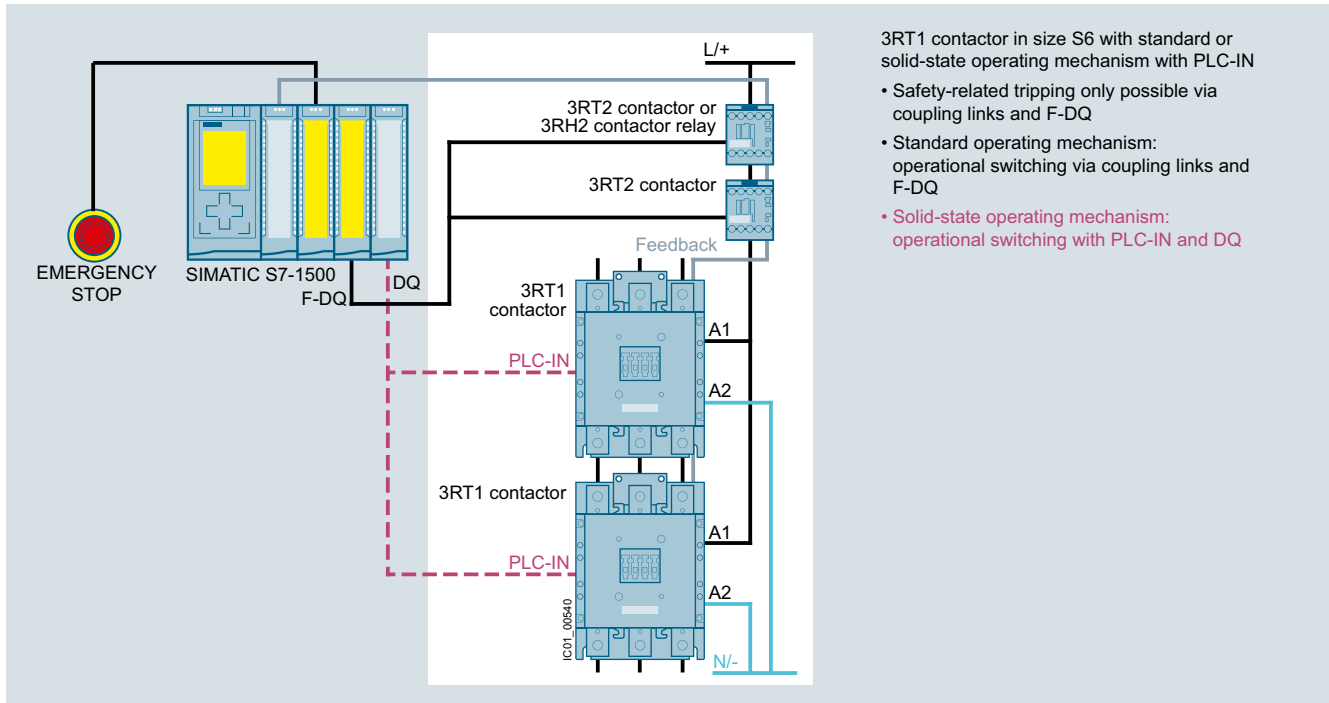
Contactors are a significant part of safety-related applications. They are generally the actuators that perform the switching operation leading to the safe disconnection of the corresponding application or system.

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 provide a much simpler way of doing this.

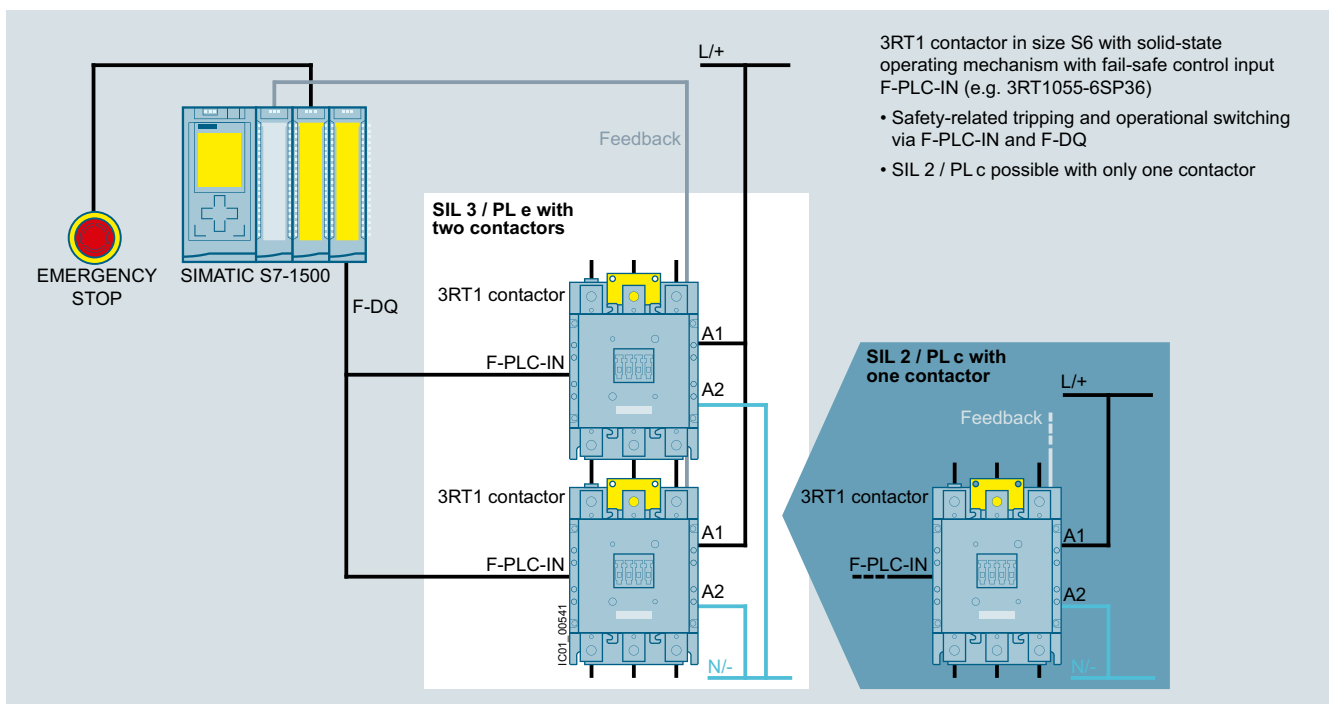
For more information on safety systems, see from page 11/1 onwards.

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



Application with safety-related disconnection with standard contactors

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



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

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 □ □ □ - □ □ □ □ □ - □ □ □ □									
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.

Technical specifications

More information

Technical specifications, see <https://support.industry.siemens.com/cs/ww/en/ps/16134/td>
 FAQs, see <https://support.industry.siemens.com/cs/ww/en/ps/16134/faq>

System Manual "SIRIUS – System Overview", see <https://support.industry.siemens.com/cs/ww/en/view/60311318>
 Manual "SIRIUS – SIRIUS 3RT Contactors/Contactor Assemblies", see <https://support.industry.siemens.com/cs/ww/en/view/60306557>
 Application Manual "SIRIUS Controls with IE3/IE4 motors", see <https://support.industry.siemens.com/cs/ww/en/view/94770820>
 Configuration Manual "Load Feeders – Configuring the SIRIUS Modular System", see <https://support.industry.siemens.com/cs/ww/en/view/39714188>
 Configuration Manual "Configuring SIRIUS Innovations UL", see <https://support.industry.siemens.com/cs/ww/en/view/53433538>

Type	Contactors			
	3RT2		S3	3RT1
Size	S00 to S2		S3	S6 to S12
Rated data of the auxiliary contacts				
According to IEC/EN 60947-5-1				
Data applies to integrated auxiliary contacts and conventional contacts in the auxiliary switch blocks				
Rated insulation voltage U_i (pollution degree 3)	V	690	1 000 (3RT2...-0CC0: 690)	--
• For laterally mountable auxiliary switch blocks	V	690	690	500
• For front mountable auxiliary switch blocks	V	690	690	690
Conventional thermal current I_{th} = rated operational current $I_e/AC-12$	A	10		
AC load				
Rated operational current $I_e/AC-15/AC-14$				
• For rated operational voltage U_e	Up to 230 V	A	10 ¹⁾	6
	400 V	A	3	6
	500 V	A	2	3
	690 V	A	1	2
				1 ²⁾
DC load				
Rated operational current $I_e/DC-12$				
• For rated operational voltage U_e	24 V	A	10	10
	60 V	A	6	6
	110 V	A	3	3
	125 V	A	2	2
	220 V	A	1	1
	440 V	A	0.3	0.3
	600 V	A	0.15	0.15 ²⁾
Rated operational current $I_e/DC-13$				
• For rated operational voltage U_e	24 V	A	10 ¹⁾	10 ³⁾
	60 V	A	2	2
	110 V	A	1	1
	125 V	A	0.9	0.9
	220 V	A	0.3	0.3
	440 V	A	0.14	0.14
	600 V	A	0.1	0.15 ²⁾
Contact reliability at 17 V, 1 mA Acc. to IEC/EN 60947-5-4	Frequency of contact faults $< 10^{-8}$ i. e. < 1 fault per 100 million operating cycles			

¹⁾ 3RH22, 3RH29, 3RT2...-...4, 3RT2...-...6: $I_e = 6$ A at AC-15/AC-14 and DC-13.

²⁾ For laterally mountable auxiliary switch blocks, only the rated operational voltages up to 500 V apply.

³⁾ For laterally mountable auxiliary switch blocks, DC-13/at 24 V: max. 6 A.

Power Contactors for Switching Motors

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

Type
Size

3RT contactors
S00 to S12

Contact endurance of the auxiliary contacts

It is assumed that the operating mechanisms are switched randomly, i.e. not synchronized with the phase angle of the supply system.

The contact endurance is mainly dependent on the breaking current.

Sizes S00 to S3

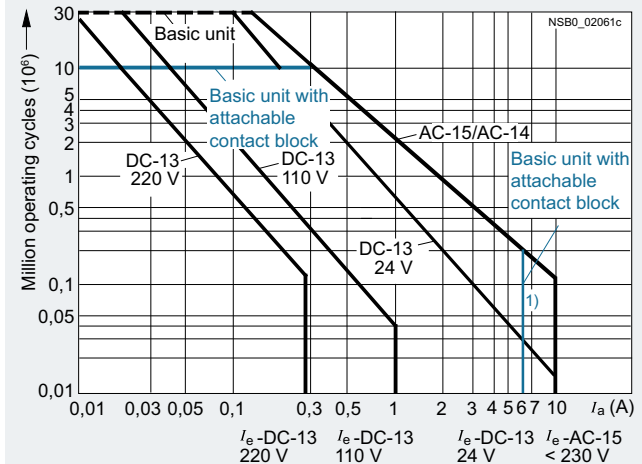


Diagram legend:

I_a = Breaking current

I_e = Rated operational current

The characteristic curves apply to:

- integrated auxiliary contacts on 3RT2.
- 3RH2911, 3RH2921 auxiliary switch blocks¹⁾

Sizes S6 to S12

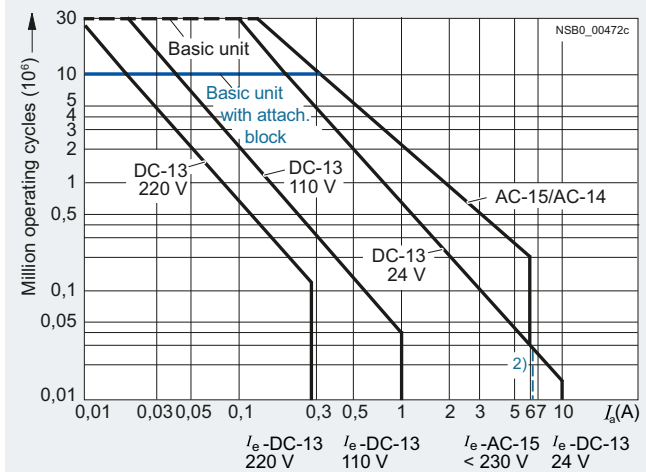


Diagram legend:

I_a = Breaking current

I_e = Rated operational current

The characteristic curves apply to:

- Integrated auxiliary contacts on 3RT10
- 3RH1911, 3RH1921 auxiliary switch blocks³⁾

¹⁾ 3RH22, 3RH29, 3RT2...-...4, 3RT2...-...6: $I_e = 6$ A at AC-15/AC-14 and DC-13, 3RT2.4: $I_e = 6$ A at AC-15/AC-14.

²⁾ For laterally mountable auxiliary switch blocks, DC-13/at 24 V: Max. 6 A.

³⁾ For laterally mountable auxiliary switch blocks, only the rated operational voltages up to 500 V apply.

Type
Size

3RT2 contactors
S00 and S0

Contact endurance of the main contacts

The characteristic curves show the contact endurance of the contactors when switching resistive and inductive AC loads (AC-1/AC-3) depending on the breaking current and rated operational voltage. It is assumed that the operating mechanisms are switched randomly, i.e. not synchronized with the phase angle of the supply system.

The rated operational current I_e complies with utilization category AC-4 (breaking 6 times the rated operational current) and is intended for a contact endurance of approximately 200 000 operating cycles.

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

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

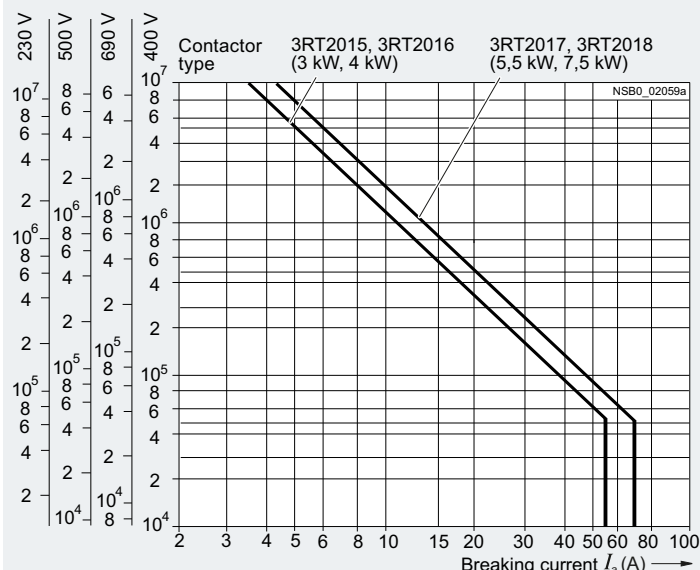
$$X = \frac{A}{1 + \frac{C}{100} \left(\frac{A}{B} - 1 \right)}$$

Characters in the equation:

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

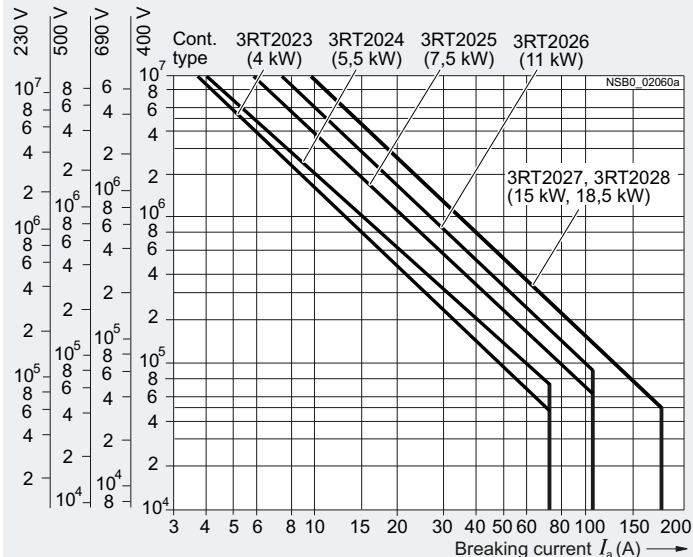
Size S00

Operating cycles at



Size S0

Operating cycles at



Power Contactors for Switching Motors

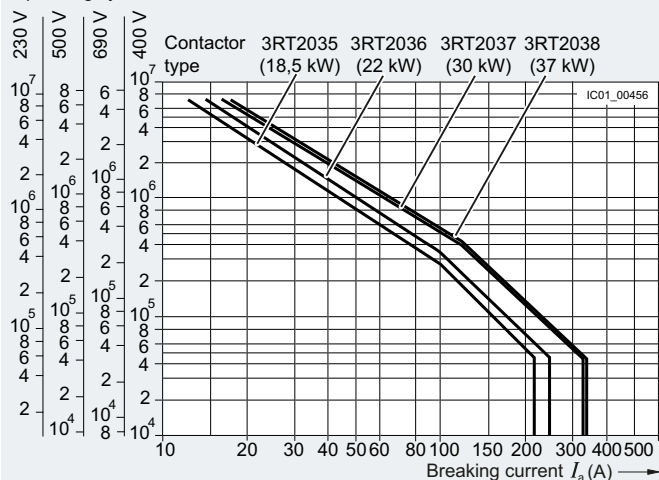
SIRIUS 3RT contactors, 3-pole up to 250 kW

Type **3RT contactors**
 Size **S2 to S12**

Contact endurance of main contacts
 (continued)

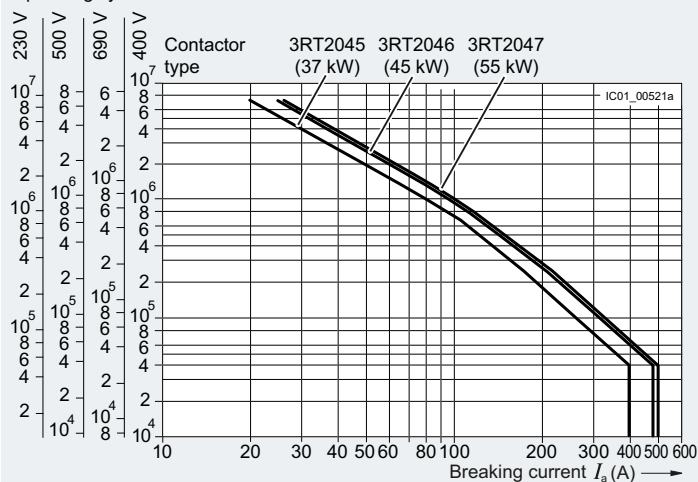
Size S2

Operating cycles at



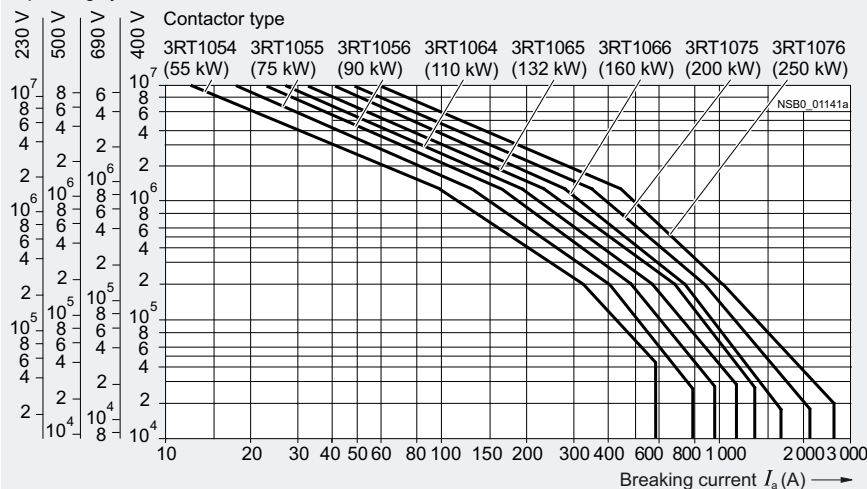
Size S3

Operating cycles at

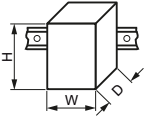
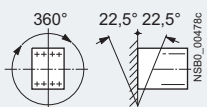



Sizes S6 to S12

Operating cycles at



3

		Contactors	
		3RT2015, 3RT2016	3RT2017, 3RT2018
		S00	
Type			
Size			
General data			
Dimensions (W x H x D)			
<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 58 x 73
		mm	45 x 70 x 73
		mm	45 x 58 x 117
		mm	45 x 70 x 121
		mm	45 x 58 x 147
		mm	45 x 70 x 147
Permissible mounting position			
The contactors are designed for operation on a vertical mounting surface.			
Upright mounting position		 Special version required	
Mechanical endurance			
• Basic unit	Operating cycles	30 million	
- With mounted auxiliary switch block	Operating cycles	10 million	
- with solid-state compatible auxiliary switch block	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}			
• Auxiliary circuit	kV	6	
• Main circuit	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.			
• 3RT2.1. (removable auxiliary switch block)		Yes, this applies to both the basic unit as well as to between the basic unit and the mounted auxiliary switch block according to IEC 60947-4-1, Appendix F	
• 3RH2919-.NF.. solid-state compatible auxiliary switch blocks		No mirror contact for size S00	
Ambient temperature			
• During operation	°C	-25 ... +60	
• During storage	°C	-55 ... +80	
Degree of protection acc. to IEC 60529			
• On front		IP20 (screw terminals and spring-type terminals)	
• Connecting terminal		IP20 (screw terminals and spring-type terminals)	
Touch protection acc. to IEC 60529			
Finger-safe (screw terminals and spring-type terminals)			
Shock resistance			
• Rectangular pulse	g/ms	6.7/5 and 4.2/10	7.3/5 and 4.7/10
		6.7/5 and 4.2/10	7.3/5 and 4.7/10
• Sine pulse	g/ms	10.5/5 and 6.6/10	11.4/5 and 7.3/10
		10.5/5 and 6.6/10	11.4/5 and 7.3/10

Power Contactors for Switching Motors




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




Type Size	Contactors		
	3RT2015, 3RT2016 S00	3RT2017, 3RT2018	
Short-circuit protection			
Main circuit			
<ul style="list-style-type: none"> Fuse links, operational class gG: LV HRC, type 3NA; DIAZED, type 5SB; NEOZED, type 5SE acc. to IEC/EN 60947-4-1 			
- Type of coordination "1"	A	35	50
- Type of coordination "2"	A	20	25
- Weld-free (test conditions acc. to IEC 60947-4-1)	A	10	
<ul style="list-style-type: none"> Miniature circuit breaker (up to 230 V) with C characteristic Short-circuit current 1 kA, type of coordination "1" 	A	10	
Auxiliary circuit			
Short-circuit test according to IEC/EN 60947-5-1			
<ul style="list-style-type: none"> With fuse links, operational class gG: DIAZED, type 5SB; NEOZED, type 5SE with short-circuit current $I_k = 1$ kA 	A	10	
<ul style="list-style-type: none"> With 230 V miniature circuit breaker, C characteristic with short-circuit current $I_k = 400$ A 	A	6	
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 on page 8/4 onwards	
Control			
Solenoid coil operating range			
<ul style="list-style-type: none"> AC operation 	50 Hz 60 Hz	0.8 ... 1.1 x U_s 0.85 ... 1.1 x U_s	
<ul style="list-style-type: none"> DC operation 	Up to 50 °C Up to 60 °C	0.8 ... 1.1 x U_s 0.85 ... 1.1 x U_s	
Power consumption of the solenoid coils (for cold coil and 1.0 x U_s)			
<ul style="list-style-type: none"> AC operation, 50/60 Hz, standard version 			
- Closing	VA	27/24.3	37/33
- P.f.		0.8/0.75	
- Closed	VA	4.2/3.3	5.7/4.4
- P.f.		0.25/0.25	
<ul style="list-style-type: none"> AC operation, 50 Hz, for USA/Canada 			
- Closing	VA	26.4	36
- P.f. for closing		0.81	0.8
- Closed	VA	4.4	5.9
- P.f. for closed		0.24	
<ul style="list-style-type: none"> AC operation, 60 Hz, for USA/Canada 			
- Closing	VA	31.7	43
- P.f. for closing		0.81	0.8
- Closed	VA	4.8	6.5
- P.f. for closed		0.25	
<ul style="list-style-type: none"> DC operation (closing = closed) 	W	4	
Permissible residual current of the electronics (with 0 signal)			
<ul style="list-style-type: none"> AC operation 		< 3 mA x (230 V/ U_s) ¹⁾	< 4 mA x (230 V/ U_s) ¹⁾
<ul style="list-style-type: none"> DC operation 		< 10 mA x (24 V/ U_s) ¹⁾	
Operating times for 1.0 x U_s²⁾			
Total break time = Opening delay + Arcing time			
<ul style="list-style-type: none"> AC operation 			
- Closing delay	ms	9.5 ... 24	9 ... 22
- Opening delay	ms	4 ... 14	4.5 ... 15
<ul style="list-style-type: none"> DC operation 			
- Closing delay	ms	35 ... 50	
- Opening delay	ms	7 ... 12	
<ul style="list-style-type: none"> Arcing time 	ms	10 ... 15	

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

²⁾ The OFF-delay times of the NO contacts and the ON-delay times of the NC contacts increase if the contactor coils are attenuated against voltage peaks (suppression diode 6x to 10x; diode assembly 2x to 6x; suppression diode +1 to 5 ms; varistor +2 to 5 ms).

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

Type	Coupling contactors		
Size	3RT201.-.HB4.	3RT201.-.JB4.	3RT201.-.KB4.
Control			
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	2.8	
Permissible residual current of the electronics (with 0 signal)	< 6 mA x (24 V/ U_s)		
Upright mounting position	On request		
Overvoltage configuration of the solenoid coil	No overvoltage damping 	Built-in diode 	Built-in suppressor diode 
Operating times			
• Closing delay			
- ON-delay NO	ms	35 ... 60	
- OFF-delay NC	ms	25 ... 40	
• Opening delay			
- ON-delay NO	ms	7 ... 20	38 ... 65
- OFF-delay NC	ms	20 ... 30	55 ... 75
			7 ... 20
			20 ... 30

Type	Coupling contactors		
Size	3RT201.-1MB4.-0KT0	3RT201.-1VB4.	3RT201.-1SB4.
Control			
Solenoid coil operating range	0.85 ... 1.85 x U_s		
Power consumption of the solenoid coils (for cold coil) Closing = Closed	At U_s 24 V DC W	1.6	
Permissible residual current, upright mounting position	On request		
Overvoltage configuration of the solenoid coil	No overvoltage damping 	Built-in diode 	Built-in suppressor diode 
Operating times			
• Closing delay			
- ON-delay NO	ms	25 ... 90	
- OFF-delay NC	ms	15 ... 80	
• Opening delay			
- ON-delay NO	ms	5 ... 20	20 ... 80
- OFF-delay NC	ms	10 ... 30	30 ... 90
			5 ... 20
			10 ... 30

Power Contactors for Switching Motors

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

Type Size	Contactors				
	3RT2015 S00	3RT2016	3RT2017	3RT2018	
Rated data of the main contacts					
Load rating with AC					
Utilization category AC-1, switching resistive loads					
• Rated operational currents I_e	At 40 °C up to 690 V At 60 °C up to 690 V	A A	18 16	22 20	
• Rated power for AC loads ¹⁾ P.f. = 0.95 (at 60 °C)	230 V 400 V 690 V	kW kW kW	6 10.5 18	7.5 13 22	
• Minimum conductor cross-section for loads with I_e	At 40 °C At 60 °C	mm ² mm ²	2.5 2.5	4	
Utilization categories AC-2 and AC-3					
• Rated operational currents I_e	Up to 400 V 440 V 500 V 690 V	A A A A	7 7 6 4.9	9 9 7.7 6.7	12 11 9.2 8.9
• Rated power for slipring or squirrel-cage motors at 50 Hz and 60 Hz	At 230 V 400 V 690 V	kW kW kW	1.5 3 4	2.2 4 5.5	3 5.5 7.5
Thermal load capacity	10 s current	A	56	72	96
Power loss per conducting path	At $I_e/AC-3$	W	0.42	0.7	1.24
Utilization category AC-4 (at $I_a = 6 \times I_e$)²⁾					
• Maximum values					
- Rated operational current I_e	Up to 400 V	A	6.5	8.5	11.5
- Rated power for squirrel-cage motors with 50 Hz and 60 Hz	Up to 400 V	kW	3	4	5.5
• The following applies to a contact endurance of about 200 000 operating cycles:					
- Rated operational currents I_e	Up to 400 V 690 V	A A	2.6 1.8	4.1 3.3	5.5 4.4
- Rated power for squirrel-cage motors with 50 Hz and 60 Hz	At 230 V 400 V 690 V	kW kW kW	0.67 1.15 1.15	1.1 2 2.5	1.5 2.5 3.5

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



²⁾ The data applies to 3RT2516 and 3RT2517 contactors (2 NO + 2 NC) up to a rated operational voltage of 400 V only.

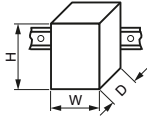
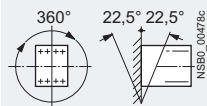

Type	Contactors			
Size	3RT2015		3RT2016 to 3RT2018	
S00				
Rated data of the main contacts (continued)				
Load rating with DC				
Utilization category DC-1, switching resistive loads ($L/R \leq 1$ ms)				
• Rated operational currents I_e (at 60 °C)				
- 1 conducting path	Up to 24 V	A	15	20
	60 V	A	15	20
	110 V	A	1.5	2.1
	220 V	A	0.6	0.8
	440 V	A	0.42	0.6
	600 V	A	0.42	0.6
- 2 conducting paths in series	Up to 24 V	A	15	20
	60 V	A	15	20
	110 V	A	8.4	12
	220 V	A	1.2	1.6
	440 V	A	0.6	0.8
	600 V	A	0.5	0.7
- 3 conducting paths in series	Up to 24 V	A	15	20
	60 V	A	15	20
	110 V	A	15	20
	220 V	A	15	20
	440 V	A	0.9	1.3
	600 V	A	0.7	1
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	15	20
	60 V	A	0.35	0.5
	110 V	A	0.1	0.15
	220 V	A	--	
	440 V	A	--	
	600 V	A	--	
- 2 conducting paths in series	Up to 24 V	A	15	20
	60 V	A	3.5	5
	110 V	A	0.25	0.35
	220 V	A	--	
	440 V	A	--	
	600 V	A	--	
- 3 conducting paths in series	Up to 24 V	A	15	20
	60 V	A	15	20
	110 V	A	15	20
	220 V	A	1.2	1.5
	440 V	A	0.14	0.2
	600 V	A	0.14	0.2
Switching frequency				
Switching frequency z in operating cycles/hour				
Contactors without overload relays				
• No-load switching frequency	AC/DC	1/h	10 000	
• 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	750	
- $I_e/AC-3$	At 400 V	1/h	750	
- $I_e/AC-4$	At 400 V	1/h	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' :
 $z' = z \cdot (I_e/I') \cdot (U_e/U')^{1.5} \cdot 1/h$.

Power Contactors for Switching Motors

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

Type	Contactors	
Size	3RT2015 to 3RT2018	
S00		
Conductor cross-sections		
Main conductors, auxiliary conductors and coil terminals (1 or 2 conductors can be connected)		
<ul style="list-style-type: none"> • Solid or stranded • Finely stranded with end sleeve (DIN 46228-1) • AWG cables, solid or stranded • Terminal screw • Tightening torque 	mm ² mm ² AWG Nm	 Screw terminals 2 x (0.5 ... 1.5) ¹⁾ ; 2 x (0.75 ... 2.5) ¹⁾ ; max. 2 x 4 2 x (0.5 ... 1.5) ¹⁾ ; 2 x (0.75 ... 2.5) ¹⁾ 2 x (20 ... 16) ¹⁾ ; 2 x (18 ... 14) ¹⁾ ; 2 x 12 M3 (for Pozidriv size 2; Ø 5 ... 6) 0.8 ... 1.2 (7 ... 10.3 lb.in)
Main conductors, auxiliary conductors and coil terminals²⁾ (1 or 2 conductors can be connected)		
<ul style="list-style-type: none"> • Operating devices • Solid or stranded • Finely stranded with end sleeve (DIN 46228-1) • Finely stranded without end sleeve • AWG cables, solid or stranded 	mm mm ² mm ² mm ² AWG	 Spring-type terminals 3.0 x 0.5 2 x (0.5 ... 4) 2 x (0.5 ... 2.5) 2 x (0.5 ... 2.5) 2 x (20 ... 12)
Auxiliary conductors for front and laterally mounted auxiliary switches²⁾ (1 or 2 conductors can be connected)		
<ul style="list-style-type: none"> • Operating devices • Solid or stranded • Finely stranded with end sleeve (DIN 46228-1) • Finely stranded without end sleeve • AWG cables, solid or stranded 	mm mm ² mm ² mm ² AWG	3.0 x 0.5 2 x (0.5 ... 2.5) 2 x (0.5 ... 1.5) 2 x (0.5 ... 2.5) 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 mm ² an insulation stop must be used, see page 3/121 .

		Contactors	
		3RT2023 to 3RT2025	3RT2026 to 3RT2028
		S0	
General data			
Dimensions (W x H x D)			
<u>AC operation</u>			
• Basic unit		mm	45 x 85 x 97
- Screw terminals		mm	45 x 102 x 97
• Basic unit with mounted auxiliary switch block		mm	45 x 85 x 141
- Screw terminals		mm	45 x 102 x 145
• Basic unit with mounted function module or solid-state time-delayed auxiliary switch block		mm	45 x 85 x 171
- Screw terminals		mm	45 x 102 x 171
- Spring-type terminals			
<u>DC operation</u>			
• Basic unit		mm	45 x 85 x 107
- Screw terminals		mm	45 x 102 x 107
• Basic unit with mounted auxiliary switch block		mm	45 x 85 x 151
- Screw terminals		mm	45 x 102 x 155
• Basic unit with mounted function module or solid-state time-delayed auxiliary switch block		mm	45 x 85 x 181
- Screw terminals		mm	45 x 102 x 181
- Spring-type terminals			
Permissible mounting position			
The contactors are designed for operation on a vertical mounting surface.			
Upright mounting position		 NSB0_00477a Special version required, also applies for 3RT202.-K.40 coupling contactors	
Mechanical endurance			
• Basic unit and basic unit with mounted auxiliary switch block	Operating cycles	10 million	
• Basic unit with solid-state compatible auxiliary switch block	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}			
• Auxiliary circuit	kV	6	
• Main circuit	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.			
• Integrated auxiliary switches	Yes, acc. to IEC 60947-4-1, Appendix F		
• 3RT2.2. (removable auxiliary switch block)	Yes, acc. to IEC 60947-4-1, Appendix F		
Permissible ambient temperature			
• During operation	°C	-25 ... +60	
• During storage	°C	-55 ... +80	
Degree of protection acc. to IEC 60529			
• On front	IP20 (screw terminals and spring-type terminals)		
• Connecting terminal	IP20 (screw terminals and spring-type terminals)		
Touch protection acc. to IEC 60529			
Finger-safe (screw terminals and spring-type terminals)			
Shock resistance			
• Rectangular pulse			
- AC operation	g/ms	7.5/5 and 4.7/10	8.3/5 and 5.3/10
- DC operation	g/ms	10/5 and 7.5/10	
• Sine pulse			
- AC operation	g/ms	11.8/5 and 7.4/10	13.5/5 and 8.3/10
- DC operation	g/ms	15/5 and 10/10	

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	A	63	100	125
- Type of coordination "1"	A	25	35	50
- Type of coordination "2"	A	10	16	
- Weld-free (test conditions acc. to IEC 60947-4-1)	A	25	32	40
• Miniature circuit breaker with C characteristic (short-circuit current 3 kA, type of coordination "1")	A	25		
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 $U_s^{1)}$	
				0.7 ... 1.3 x $U_s^{2)}$	
Power consumption of the solenoid coils (for cold coil and $1.0 \times U_s$)					
• 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	1.6
- P.f.		0.25		0.86	0.79
• 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	1.6/1.8
- P.f.		0.25/0.28		0.86/0.82	0.79/0.74
• 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).

		Coupling contactors 3RT202.-.KB4. S0	
Type			
Size			
Control			
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

		Contactors 3RT2023 3RT2024 3RT2025 3RT2026 3RT2027 3RT2028 S0						
Type								
Size								
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 Size	Contactors	
	3RT2023 to 3RT2025	3RT2026 to 3RT2028
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
- $I_e/AC-3$	At 400 V 1/h	1 000
- $I_e/AC-4$	At 400 V 1/h	300
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' :
 $z' = z \cdot (I_e/I') \cdot (U_e/U')^{1.5} \cdot 1/h$.

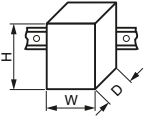
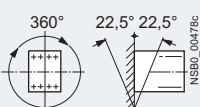

Type Size	Contactors 3RT2023 to 3RT2028 S0	
Conductor cross-sections		
Main conductors (1 or 2 conductors can be connected)		
• Solid or stranded	mm ²	2 x (1 ... 2.5) ¹ ; 2 x (2.5 ... 10) ¹
• Finely stranded with end sleeve (DIN 46228-1)	mm ²	2 x (1 ... 2.5) ¹ ; 2 x (2.5 ... 6) ¹ ; 1 x 10
• AWG cables, 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)		
• 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.

Power Contactors for Switching Motors

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

Type Size	Contactors			
	3RT2035	3RT2036	3RT2037	3RT2038
General data				
Dimensions (W x H x D)				
<ul style="list-style-type: none"> Basic unit - Screw/spring-type terminals 		mm	55 x 114 x 130	
<ul style="list-style-type: none"> Basic unit with mounted auxiliary switch block - Screw terminals - Spring-type terminals 		mm	55 x 114 x 174	
<ul style="list-style-type: none"> Basic unit with mounted function module or solid-state time-delayed auxiliary switch block - Screw/spring-type terminals 		mm	55 x 114 x 204	
Permissible mounting position				
The contactors are designed for operation on a vertical mounting surface.				
Upright mounting position			 NSB0_00477a Special version required	
Mechanical endurance				
<ul style="list-style-type: none"> Basic units and basic units with mounted auxiliary switch block 		Operating cycles	10 million	
<ul style="list-style-type: none"> Basic units with solid-state compatible auxiliary switch block 		Operating cycles	5 million	
Electrical endurance				
Rated insulation voltage U_i (pollution degree 3)	V	690		
Rated impulse withstand voltage U_{imp}				
<ul style="list-style-type: none"> Auxiliary circuit 	kV	6		
<ul style="list-style-type: none"> Main circuit 	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 		Yes, acc. to IEC 60947-4-1, Appendix F		
<ul style="list-style-type: none"> 3RT2.3. (removable auxiliary switch block) 		Yes, acc. to IEC 60947-4-1, Appendix F		
Permissible ambient temperature				
<ul style="list-style-type: none"> During operation 	°C	-25 ... +60		
<ul style="list-style-type: none"> During storage 	°C	-55 ... +80		
Degree of protection acc. to IEC 60529				
<ul style="list-style-type: none"> On front 		IP20		
<ul style="list-style-type: none"> Connecting terminal 		IP00 (for higher degree of protection, use additional terminal covers)		
Touch protection acc. to IEC 60529				
		Finger-safe for vertical touching from the front		
Shock resistance				
<ul style="list-style-type: none"> Rectangular pulse - AC operation - DC operation 	<i>g/ms</i>	11.8/5 and 7.4/10		
	<i>g/ms</i>	7.7/5 and 4.5/10		
<ul style="list-style-type: none"> Sine pulse - AC operation - DC operation 	<i>g/ms</i>	18.5/5 and 11.6/10		
	<i>g/ms</i>	12/5 and 7/10		
Short-circuit protection				
Main circuit				
<ul style="list-style-type: none"> Fuse links, operational class gG: LV HRC, type 3NA; DIAZED, type 5SB; NEOZED, type 5SE acc. to IEC/EN 60947-4-1 - Type of coordination "1" - Type of coordination "2" - Weld-free (test conditions acc. to IEC 60947-4-1) 	A	160	250	
	A	80	125	160
	A	16	25	50
Auxiliary circuit				
<ul style="list-style-type: none"> Fuse links, operational class gG: DIAZED, type 5SB; NEOZED, type 5SE (weld-free protection at $I_k \leq 1$ kA) 	A	10		
<ul style="list-style-type: none"> 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 Size	Contactors 3RT203.-A... S2		3RT203.-N.3.	Coupling contactors 3RT203.-KB4.
Control				
Type of operating mechanism		AC	AC/DC	DC
Solenoid coil operating range				
• AC operation ¹⁾		0.8 ... 1.1 x U _s	--	--
• AC/DC operation ¹⁾		--	0.8 ... 1.1 x U _s	--
• DC operation		--	--	0.8 ... 1.2 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	190	--	
- P.f.		0.72	--	
- Closed	VA	16	--	
- P.f.		0.37	--	
• AC operation, 50/60 Hz, standard version				
- Closing	VA	210/188	--	
- P.f.		0.69/0.65	--	
- Closed	VA	17.2/16.5	--	
- P.f.		0.36/0.39	--	
• AC operation, 60 Hz, for USA/Canada				
- Closing	VA	212	--	
- P.f.		0.67	--	
- Closed	VA	18.5	--	
- P.f.		0.37	--	
• AC/DC operation				
- Closing for AC operation	VA	--	40	--
- P.f.		--	0.95	--
- Closed for AC operation	VA	--	2	--
- P.f.		--	0.95	--
• DC operation				
- Closing for DC operation	W	--	23 ²⁾	21.5
- Closed for DC operation	W	--	1	1
Permissible residual current of the electronics (with 0 signal)				
• AC/DC operation	mA	--	< 20	--
• DC operation	mA	--	--	< 20
Overvoltage configuration of the solenoid coil		--	Built-in varistor 	Built-in varistor 
Operating times at 0.7 ... 1.25 x U_s³⁾ Total break time = Opening delay + Arcing time				
• DC operation				
- Closing delay	ms	--	--	45 ... 60
- Opening delay	ms	--	--	35 ... 55
Operating times at 1.0 x U_s³⁾				
• AC operation				
- Closing delay	ms	12 ... 22	35 ... 80	--
- Opening delay	ms	10 ... 18	30 ... 55	--
• DC operation				
- Closing delay	ms	--	35 ... 80	35 ... 80
- Opening delay	ms	--	30 ... 55	30 ... 55
• Arcing time	ms	10 ... 20	--	--

¹⁾ 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.

²⁾ In the case of AC/DC coils, increased starting currents (2.6 A on average) occur during the first 200 ms. For direct control from a PLC, we therefore recommend special coupling contactors with adapted power consumption. The connection of one 3RT203.-KB4. coupling contactor is possible per PLC output port with an output current of 2 A, see page 3/67.

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 Size	Contactors				
	3RT2035 S2	3RT2036	3RT2037	3RT2038	
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 At 60 °C up to 690 V A	60 55	70 60	80 70	90 80
• Rated power for AC loads ¹⁾ P.f. = 0.95 (at 60 °C)	230 V kW 400 V kW 690 V kW	23 39 68	26 46 79	30 53 91	34 59 102
• Minimum conductor cross-section for loads with I_e	At 40 °C mm ² At 60 °C mm ²	16 16	25	25	35
Utilization categories AC-2 and AC-3					
• Rated operational currents I_e	Up to 400 V A 440 V A 500 V A 690 V A	40 40 40 24	50 50 50	65 65 65 47	80 80 80 58
• Rated power for slipping or squirrel-cage motors at 50 Hz and 60 Hz	At 230 V kW 400 V kW 690 V kW	11 18.5 22	15 22	18.5 30 37	22 37 45
Thermal load capacity	10 s current A	400	420	520	640
Power loss per conducting path	At $I_e/AC-3$ W	2.2	4	3.8	5.7
Utilization category AC-4 (for $I_a = 6 \times I_e$)					
• Maximum values					
- Rated operational current I_e	Up to 400 V A	35	41	55	
- Rated power for squirrel-cage motors with 50 Hz and 60 Hz	At 400 V kW	18.5	22	30	
• The following applies to a contact endurance of about 200 000 operating cycles:					
- Rated operational currents I_e	Up to 400 V A 690 V A	22 18.5	24 20	28 22	30 24
- Rated power for squirrel-cage motors with 50 Hz and 60 Hz	At 110 V kW 230 V kW 400 V kW 690 V kW	3.2 6.7 11.6 16.8	3.5 7.3 12.6 18.2	4.1 8.5 14.7 20	4.3 9.1 15.8 21.8

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

Type Size	Contactors			
	3RT2035 S2	3RT2036	3RT2037	3RT2038
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	55		
	60 V A	23		
	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	55		
	60 V A	45		
	110 V A	45		
	220 V A	5		
	440 V A	1		
	600 V A	0.8		
- 3 conducting paths in series	Up to 24 V A	55		
	60 V A	55		
	110 V A	55		
	220 V A	45		
	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	35		
	60 V A	6		
	110 V A	2.5		
	220 V A	1		
	440 V A	0.1		
	600 V A	0.06		
- 2 conducting paths in series	Up to 24 V A	55		
	60 V A	45		
	110 V A	25		
	220 V A	5		
	440 V A	0.27		
	600 V A	0.16		
- 3 conducting paths in series	Up to 24 V A	55		
	60 V A	55		
	110 V A	55		
	220 V A	25		
	440 V A	0.6		
	600 V A	0.35		
Switching frequency				
Switching frequency z in operating cycles/hour				
Contactors without overload relays				
• No-load switching frequency	AC 1/h	5 000		
	AC/DC 1/h	1 500		
• Switching frequency z during rated operation ¹⁾				
- $I_e/AC-1$	At 400 V 1/h	1 200	1 000	800
- $I_e/AC-2$	At 400 V 1/h	750	600	400
- $I_e/AC-3$	At 400 V 1/h	1 000	800	700
- $I_e/AC-4$	At 400 V 1/h	300	250	200
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:
 $z' = z \cdot (I_e/I') \cdot (U_e/U)^{1.5} \cdot 1/h.$

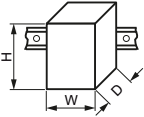
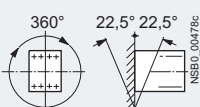

Power Contactors for Switching Motors

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

Type	Contactors	
Size	3RT2035 to 3RT2038	
S2		
Conductor cross-sections		
Main conductors (1 or 2 conductors can be connected)		
• Solid or stranded	mm ²	2 x (1 ... 35) ¹⁾ ; 1 x (1 ... 50) ¹⁾
• Finely stranded with end sleeve (DIN 46228-1)	mm ²	2 x (1 ... 25) ¹⁾ ; 1 x (1 ... 35) ¹⁾
• AWG cables, solid or stranded	AWG	2 x (18 ... 2) ¹⁾ ; 1 x (18 ... 1) ¹⁾
• Terminal screws		Pozidriv size 2; Ø 5 ... 6
- Tightening torque	Nm	3 ... 4.5 (27 ... 40 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 46228-1)	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		M3 (for Pozidriv size 2; Ø 5 ... 6)
- Tightening torque	Nm	0.8 ... 1.2 (7 ... 10.3 lb.in)
Auxiliary and control conductors²⁾ (1 or 2 conductors can be connected)		
• Operating devices	mm	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 $\leq 1 \text{ mm}^2$ an insulation stop must be used, [see page 3/121](#).

Type Size	Contactors		
	3RT2045 S3	3RT2046	3RT2047
General data			
Dimensions (W x H x D)		mm	70 x 140 x 152
<ul style="list-style-type: none"> Basic unit <ul style="list-style-type: none"> Screw/spring-type terminals Basic unit with mounted auxiliary switch block <ul style="list-style-type: none"> Screw terminals Spring-type terminals 	mm	70 x 140 x 196	
	mm	70 x 140 x 200	
<ul style="list-style-type: none"> Basic unit with mounted function module or solid-state time-delayed auxiliary switch block <ul style="list-style-type: none"> Screw/spring-type terminals 	mm	70 x 140 x 226	
Permissible mounting position	The contactors are designed for operation on a vertical mounting surface.		
			
Upright mounting position		Special version required	
Mechanical endurance			
<ul style="list-style-type: none"> Basic units and basic units with mounted auxiliary switch block 	Operating	10 million	cycles
<ul style="list-style-type: none"> Basic units with solid-state compatible auxiliary switch block 	Operating	5 million	cycles
Electrical endurance	For contact endurance of the main contacts, see page 3/26 .		
Rated insulation voltage U_i (pollution degree 3)	V	1 000 (3RT20...-...-0CC0: 690)	
Rated impulse withstand voltage U_{imp}			
<ul style="list-style-type: none"> Auxiliary circuit 	kV	6	
<ul style="list-style-type: none"> Main circuit 	kV	8	
Protective separation between the coil and the main contacts (acc. to IEC 60947-1, Appendix N)	V	690	
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 	Yes, acc. to IEC 60947-4-1, Appendix F		
<ul style="list-style-type: none"> 3RT2.4. (removable auxiliary switch block) 	Yes, acc. to IEC 60947-4-1, Appendix F		
Permissible ambient temperature			
<ul style="list-style-type: none"> During operation 	°C	-25 ... +60	
<ul style="list-style-type: none"> During storage 	°C	-55 ... +80	
Degree of protection acc. to IEC 60529			
<ul style="list-style-type: none"> On front 	IP20		
<ul style="list-style-type: none"> Connecting terminal 	IP00 (for higher degree of protection, use additional terminal covers)		
Touch protection acc. to IEC 60529	Finger-safe for vertical touching from the front		
Shock resistance			
<ul style="list-style-type: none"> Rectangular pulse <ul style="list-style-type: none"> AC operation DC operation 	g/ms	10.3/5 and 6.7/10	
	g/ms	6.7/5 and 4.0/10 (3RT204...KB40: 6.3/5 and 3.6/10)	
<ul style="list-style-type: none"> Sine pulse <ul style="list-style-type: none"> AC operation DC operation 	g/ms	16.3/5 and 10.5/10	
	g/ms	10.6/5 and 6.3/10 (3RT204...KB40: 9.8/5 and 5.6/10)	
Short-circuit protection			
Main circuit			
<ul style="list-style-type: none"> Fuse links, operational class gG: LV HRC, type 3NA; DIAZED, type 5SB; NEOZED, type 5SE acc. to IEC/EN 60947-4-1 <ul style="list-style-type: none"> Type of coordination "1" Type of coordination "2" Weld-free (test conditions acc. to IEC 60947-4-1) 	A	250	
	A	160	160
	A	On request	200
Auxiliary circuit			
<ul style="list-style-type: none"> Fuse links, operational class gG: DIAZED, type 5SB; NEOZED, type 5SE (weld-free protection at $I_k \leq 1$ kA) 	A	10	
<ul style="list-style-type: none"> 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		

Power Contactors for Switching Motors

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

Type		Contactors		Coupling contactors
Size		3RT204.-A...	3RT204.-N.3.	3RT204.-KB4.
Control				
Type of operating mechanism				
		AC	AC/DC	DC
Solenoid coil operating range				
• AC operation ¹⁾		0.8 ... 1.1 x U _s	--	--
• AC/DC operation ¹⁾		--	0.8 ... 1.1 x U _s	--
• DC operation		--	--	0.8 ... 1.2 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	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, 60 Hz, for USA/Canada				
- Closing	VA	326	--	--
- P.f.		0.62	--	--
- Closed	VA	22	--	--
- P.f.		0.38	--	--
• AC/DC operation				
- Closing for AC operation	VA	--	163	--
- P.f.		--	0.95	--
- Closed for AC operation	VA	--	3.1	--
- P.f.		--	0.95	--
• DC operation				
- Closing for DC operation	W	--	76 ²⁾	25
- Closed for DC operation	W	--	1.8	0.9
Permissible residual current of the electronics (with 0 signal)				
• AC/DC operation	mA	--	< 20	--
• DC operation	mA	--	--	< 20
Overvoltage configuration of the solenoid coil				
		--	Built-in varistor 	Built-in varistor 
Operating times at 0.8 ... 1.2 x U _s ³⁾				
Total break time = Opening delay + Arcing time				
• DC operation				
- Closing delay	ms	--	--	50 ... 70
- Opening delay	ms	--	--	38 ... 57
Operating times at 1.0 x U _s ³⁾				
• AC operation				
- Closing delay	ms	15 ... 25	50 ... 70	--
- Opening delay	ms	11 ... 20	38 ... 57	--
• DC operation				
- Closing delay	ms	--	50 ... 70	--
- Opening delay	ms	--	38 ... 57	--
• Arcing time	ms	10 ... 20	--	--

¹⁾ 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.

²⁾ In the case of AC/DC coils, increased starting currents (2.6 A on average) occur during the first 200 ms. For direct control from a PLC, we therefore recommend special coupling contactors with adapted power consumption. The connection of one 3RT204.-KB4. coupling contactor is possible per PLC output port with an output current of 2 A, see page 3/67.

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).

Type Size	Contactors		
	3RT2045 S3	3RT2046	3RT2047
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 At 60 °C up to 690 V A	125 105	130 110
• Rated power for AC loads ¹⁾ P.f. = 0.95 (at 60 °C)	230 V kW 400 V kW 690 V kW	40 69 119	42 72 125
• Minimum conductor cross-section for loads with I_e	At 40 °C mm ² At 60 °C mm ²	50 35	
Utilization categories AC-2 and AC-3			
• Rated operational currents I_e	Up to 400 V A 500 V A 690 V A 1 000 V A	80 80 58 30	95 95 78 110 98
• Rated power for slipring or squirrel-cage motors at 50 Hz and 60 Hz	At 230 V kW 400 V kW 690 V kW 1 000 V kW	22 37 55 37	22 45 75 30 55 90
Thermal load capacity	10 s current A	760	880
Power loss per conducting path	At I_e /AC-3 W	5.3	6.6 7.9
Utilization category AC-4 (for $I_a = 6 \times I_e$)			
• Maximum values			
- Rated operational current I_e	Up to 400 V A	66	80 97
- Rated power for squirrel-cage motors with 50 Hz and 60 Hz	At 400 V kW	37	45 55
• The following applies to a contact endurance of about 200 000 operating cycles:			
- Rated operational currents I_e	Up to 400 V A 690 V A	34 24	42 30 46 36
- Rated power for squirrel-cage motors with 50 Hz and 60 Hz	At 110 V kW 230 V kW 400 V kW 690 V kW	4.9 10.4 17.9 21.8	6.1 12 22 27.4 6.7 14 24.3 32.9

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 Size	Contactors		
	3RT2045 S3	3RT2046	3RT2047
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	100	
	60 V A	60	
	110 V A	9	
	220 V A	2	
	440 V A	0.6	
	600 V A	0.4	
- 2 conducting paths in series	Up to 24 V A	100	
	60 V A	100	
	110 V A	100	
	220 V A	10	
	440 V A	1.8	
	600 V A	1.0	
- 3 conducting paths in series	Up to 24 V A	100	
	60 V A	100	
	110 V A	100	
	220 V A	80	
	440 V A	4.5	
	600 V A	2.6	
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	40	
	60 V A	6	
	110 V A	2.5	
	220 V A	1	
	440 V A	0.15	
	600 V A	0.06	
- 2 conducting paths in series	Up to 24 V A	100	
	60 V A	100	
	110 V A	100	
	220 V A	7	
	440 V A	0.42	
	600 V A	0.16	
- 3 conducting paths in series	Up to 24 V A	100	
	60 V A	100	
	110 V A	100	
	220 V A	35	
	440 V A	0.8	
	600 V A	0.35	
Switching frequency			
Switching frequency z in operating cycles/hour			
Contactors without overload relays			
• No-load switching frequency	AC 1/h	5 000	
	AC/DC 1/h	1 000	
• Switching frequency z during rated operation ¹⁾			
- $I_e/AC-1$	At 400 V 1/h	900	
- $I_e/AC-2$	At 400 V 1/h	400	350
- $I_e/AC-3$	At 400 V 1/h	1 000	850
- $I_e/AC-4$	At 400 V 1/h	300	250
Contactors with overload relays			
• Mean value	1/h	15	200

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

Type Size	Contactors 3RT2045 to 3RT2047 S3	
Conductor cross-sections		
Main conductors (1 or 2 conductors can be connected)		
• 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 46228-1)	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 - Tightening torque	Nm	Hexagon socket, size 4 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 46228-1)	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)
Auxiliary and control conductors²⁾ (1 or 2 conductors can be connected)		
• Operating devices	mm	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 ... 16)
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>¹⁾ If two different conductor cross-sections are connected to one clamping point, both cross-sections must lie in one of the ranges specified.</p> </div> <div style="width: 45%;"> <p>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.</p> </div> </div>		

Power Contactors for Switching Motors

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

Type	Contactors				
	3RT1054	3RT1055, 3RT1056	3RT1064 to 3RT1066	3RT1075	3RT1076
Size	S6		S10	S12	
General data					
Dimensions (W x H x D)					
<ul style="list-style-type: none"> Basic unit Basic unit with mounted auxiliary switch block 		mm	120 x 172 x 170	145 x 210 x 202	160 x 214 x 225
		mm	120 x 172 x 217	145 x 210 x 251	160 x 214 x 271
Permissible mounting position					
The contactors are designed for operation on a vertical mounting surface.					
Mechanical endurance		Operating cycles	10 million		
Electrical endurance		For contact endurance of the main contacts, see page 3/26 .			
Rated insulation voltage U_i (pollution degree 3)		V	1 000		
Rated impulse withstand voltage U_{imp}					
<ul style="list-style-type: none"> Auxiliary circuit Main circuit 	kV	6			
	kV	8			
Protective separation between the coil and the main contacts acc. to IEC 60947-1, Appendix N		V	690		
Mirror contacts		Yes, acc. to IEC 60947-4-1, Appendix F			
A mirror contact is an auxiliary NC contact that cannot be closed simultaneously with an NO main contact.					
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 	IP00 (IP20 with box terminal/cover) IP00 (for higher degree of protection, use additional terminal covers) Finger-safe for vertical touching from the front with cover				
Touch protection acc. to IEC 60529					
Shock resistance					
<ul style="list-style-type: none"> Rectangular pulse Sine pulse 	g/ms	8.5/5 and 4.2/10			
	g/ms	13.4/5 and 6.5/10			
Electromagnetic compatibility (EMC)		See page 3/19			
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					
<ul style="list-style-type: none"> Type of coordination "1" Type of coordination "2" Weld-free 	A	355	500	630	
	A	315	400	500	
	A	80	160	250	315
Auxiliary circuit					
Short-circuit test					
<ul style="list-style-type: none"> 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 With miniature circuit breakers with C characteristic with short-circuit current $I_k = 400$ A 	A	10			
	A	10			
Short-circuit protection for contactors with overload relays		See Configuration Manual for load feeders			

Type Size	Contactors				
	3RT105. S6	3RT106. S10	3RT107. S12		
Control					
Operating range of the solenoid operating mechanism	AC/DC	0.8 x $U_{s \text{ min}}$... 1.1 x $U_{s \text{ max}}$			
Power consumption of the solenoid operating mechanism (with cold coil and rated range $U_{s \text{ min}}$... $U_{s \text{ max}}$)					
• Standard operating mechanism (3RT10...-A)					
- AC operation	Closing at $U_{s \text{ min}}$ Closing at $U_{s \text{ max}}$ Closed at $U_{s \text{ min}}$ Closed at $U_{s \text{ max}}$	VA/p.f. VA/p.f. VA/p.f. VA/p.f.	250/0.9 300/0.9 4.8/0.8 5.8/0.8	490/0.9 590/0.9 5.6/0.9 6.7/0.9	700/0.9 830/0.9 7.6/0.9 9.2/0.9
- DC operation	Closing at $U_{s \text{ min}}$ Closing at $U_{s \text{ max}}$ Closed at $U_{s \text{ min}}$ Closed at $U_{s \text{ max}}$	W W W W	300 360 4.3 5.2	540 650 6.1 7.4	770 920 8.5 10
• Solid-state operating mechanism (3RT10...-N/-P/-S)					
- AC operation	Closing at $U_{s \text{ min}}$ Closing at $U_{s \text{ max}}$ Closed at $U_{s \text{ min}}$ Closed at $U_{s \text{ max}}$	VA/p.f. VA/p.f. VA/p.f. VA/p.f.	190/0.8 280/0.8 3.5/0.6 4.8/0.6	400/0.8 530/0.8 5.5/0.5 8.5/0.4	560/0.8 750/0.8 5.6/0.5 9/0.4
- DC operation	Closing at $U_{s \text{ min}}$ Closing at $U_{s \text{ max}}$ Closed at $U_{s \text{ min}}$ Closed at $U_{s \text{ max}}$	W W W W	250 320 2.1 2.8	440 580 2.8 3.4	600 800 3 3.6
PLC control input acc. to IEC 60947-1					
• Solid-state operating mechanism (3RT10...-N/-P/-S)					
• Rated voltage	V DC	24			
• Operating range	V DC	17 ... 30			
• Power consumption	mA	≤ 30			
• Recovery time after mains failure, typical (applicable only for fail-safe version 3RT10...-S)	s	2			
Operating times for rated range $U_{s \text{ min}}$... $U_{s \text{ max}}$ (Total break time = Opening delay + Arcing time)					
• Standard operating mechanism (3RT10...-A)					
	Closing delay	ms	25 ... 50	35 ... 50	50 ... 70
	Opening delay	ms	40 ... 60	50 ... 80	70 ... 100
• Solid-state operating mechanism					
- Actuated via A1/A2 (3RT10...-N/-P)	Closing delay	ms	100 ... 120	110 ... 130	125 ... 150
	Opening delay	ms	80 ... 100		
- Actuated via PLC input (3RT10...-N/-P)	Closing delay	ms	40 ... 60	50 ... 65	65 ... 80
	Opening delay	ms	80 ... 100		
- Actuated via F-PLC input (3RT10...-S)	Closing delay	ms	60 ... 75		
	Opening delay	ms	115 ... 130		
• Arcing time		ms	10 ... 15		

Power Contactors for Switching Motors

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

Type Size	Contactors							
	3RT1054 S6	3RT1055	3RT1056	3RT1064 S10	3RT1065	3RT1066	3RT1075 S12	3RT1076
Rated data of the main contacts								
Load rating with AC								
Utilization category AC-1								
Switching resistive loads								
• Rated operational currents I_e								
- At 40 °C up to 690 V	A	160	185	215	275	330	430	610
- At 60 °C up to 690 V	A	140	160	185	250	300	400	550
- At 60 °C up to 1 000 V	A	80	90	100		150	200	
• Rated power for AC loads ¹⁾ with p.f. = 0.95 (at 60 °C)								
- At 230 V	kW	53	60	70	94	113	151	208
- At 400 V	kW	92	105	121	164	197	263	362
- At 500 V	kW	115	131	152	205	246	329	452
- At 690 V	kW	159	181	210	283	340	454	624
- At 1 000 V	kW	131	148	165	164	246	329	
• Minimum conductor cross-section for loads with I_e								
- At 40 °C	mm ²	70	95		150	185	2 x 150	2 x 185
- At 60 °C	mm ²	50	70	95	120	185	240	2 x 185
Utilization categories AC-2 and AC-3								
• Rated operational currents I_e								
- Up to 500 V	A	115	150	185	225	265	300	400
- At 690 V	A	115	150	170	225	265	280	400
- At 1 000 V	A	53	65		68	95		180
• Rated power for slipring or squirrel-cage motors at 50 Hz and 60 Hz								
- At 230 V	kW	37	50	61	73	85	97	132
- At 400 V	kW	64	84	104	128	151	171	231
- At 500 V	kW	81	105	132	160	189	215	291
- At 690 V	kW	113	146	167	223	265	280	400
- At 1 000 V	kW	75	90			132		250
Thermal load capacity, 10 s current	A	1 100	1 300	1 480	1 800	2 400		3 200
Power loss per main conducting path At $I_e/AC-3/500 V$	W	7	9	13	17	18	22	35
Utilization category AC-4 (for $I_a = 6 \times I_e$)								
Maximum values:								
• Rated operational current I_e								
- Up to 400 V	A	97	132	160	195	230	280	350
• Rated power for squirrel-cage motors with 50 Hz and 60 Hz								
- At 400 V	kW	55	75	90	110	132	160	200
The following applies to a contact endurance of about 200 000 operating cycles:								
• Rated operational currents I_e								
- Up to 500 V	A	54	68	81	96	117	125	150
- Up to 690 V	A	48	57	65	85	105	115	135
• Rated power for squirrel-cage motors with 50 Hz and 60 Hz								
- At 230 V	kW	16	20	25	30	37	40	48
- At 400 V	kW	29	38	45	54	66	71	85
- At 500 V	kW	37	47	57	67	82	87	105
- At 690 V	kW	48	55	65	82	102	112	133






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

Type Size	Contactors						
	3RT1054 S6	3RT1055, 3RT1056	3RT1064 S10	3RT1065	3RT1066	3RT1075 S12	3RT1076
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	160	200	300		400	
	60 V A	160	200	300		330	
	110 V A	18		33			
	220 V A	3.4		3.8			
	440 V A	0.8		0.9			
	600 V A	0.5		0.6			
- 2 conducting paths in series	Up to 24 V A	160	200	300		400	
	60 V A	160	200	300		400	
	110 V A	160	200	300		400	
	220 V A	20		300		400	
	440 V A	3.2		4			
	600 V A	1.6		2			
- 3 conducting paths in series	Up to 24 V A	160	200	300		400	
	60 V A	160	200	300		400	
	110 V A	160	200	300		400	
	220 V A	160	200	300		400	
	440 V A	11.5		11			
	600 V A	4		5.2			
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	160	200	300		400	
	60 V A	7.5		11			
	110 V A	2.5		3			
	220 V A	0.6					
	440 V A	0.17		0.18			
	600 V A	0.12		0.125			
- 2 conducting paths in series	Up to 24 V A	160	200	300		400	
	60 V A	160	200	300		400	
	110 V A	160	200	300		400	
	220 V A	2.5					
	440 V A	0.65					
	600 V A	0.37					
- 3 conducting paths in series	Up to 24 V A	160	200	300		400	
	60 V A	160	200	300		400	
	110 V A	160	200	300		400	
	220 V A	160	200	300		400	
	440 V A	1.4					
	600 V A	0.75					
Switching frequency							
Switching frequency z in operating cycles/hour							
Contactors without overload relays							
• No-load switching frequency							
- Standard operating mechanism	3RT10..-A	1/h	2 000				
- Solid-state operating mechanism	3RT10..-N/-P	1/h	1 000				
	3RT10..-S	1/h	1 000			500	
• Switching frequency z during rated operation ¹⁾							
- 3RT10..-A standard operating mechanism and	$I_e/AC-1$ at 400 V	1/h	800		750	800	750
	$I_e/AC-2$ at 400 V	1/h	400	300	250		200
3RT10..-N/-P solid-state operating mechanism	$I_e/AC-3$ at 400 V	1/h	1 000	750	500		200
	$I_e/AC-4$ at 400 V	1/h	130				420
- 3RT10..-S solid-state operating mechanism	$I_e/AC-1$ at 400 V	1/h	750		500		200
	$I_e/AC-2$ at 400 V	1/h	400	300	250		200
	$I_e/AC-3$ at 400 V	1/h	750		500		200
	$I_e/AC-4$ at 400 V	1/h	130				170
Contactors with mounted overload relay							
• Mean value		1/h	60				

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	3RT105. S6	3RT106. S10	3RT107. S12
Conductor cross-sections			
Main conductors (1 or 2 conductors can be connected)			
 Screw terminals			
With mounted box terminals	Type	3RT1955-4G (55 kW)	3RT1956-4G
<ul style="list-style-type: none"> Terminal screws Tightening torque 	Nm lb.in	M10 (hexagon socket, A/F 4) 10 ... 12 90 ... 110	M12 (hexagon socket, A/F 5) 20 ... 22 180 ... 195
Front clamping point connected			
 <ul style="list-style-type: none"> Finely stranded with end sleeve (DIN 46228-1) Finely stranded without end sleeve Stranded AWG cables, solid or stranded Ribbon cable conductors (number x width x thickness) 	mm ²	16 ... 70	16 ... 120
	mm ²	16 ... 70	16 ... 120
	mm ²	16 ... 70	16 ... 120
	AWG	6 ... 2/0	6 ... 250 kcmil
	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
Rear clamping point connected			
 <ul style="list-style-type: none"> Finely stranded with end sleeve (DIN 46228-1) Finely stranded without end sleeve Stranded AWG cables, solid or stranded Ribbon cable conductors (number x width x thickness) 	mm ²	16 ... 70	16 ... 120
	mm ²	16 ... 70	16 ... 120
	mm ²	16 ... 70	16 ... 120
	AWG	6 ... 2/0	6 ... 250 kcmil
	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
Both clamping points connected (minimum cross-section 16 mm ²)			
 <ul style="list-style-type: none"> Finely stranded with end sleeve (DIN 46228-1) Finely stranded without end sleeve Stranded AWG cables, solid or stranded Ribbon cable conductors (number x width x thickness) 	mm ²	Max. 1 x 50, 1 x 70	Max. 1 x 95, 1 x 120
	mm ²	Max. 1 x 50, 1 x 70	Max. 1 x 95, 1 x 120
	mm ²	Max. 1 x 50, 1 x 70	Max. 1 x 95, 1 x 120
	AWG	Max. 2 x 1/0	Max. 2 x 3/0
	mm	Max. 2 x (6 x 15.5 x 0.8)	Max. 2 x (10 x 15.5 x 0.8)
Busbar connections			
Connecting bar (max. width)	mm	17	25
Cable lug connection			
<ul style="list-style-type: none"> Finely stranded with cable lug¹⁾²⁾ Stranded with cable lug¹⁾²⁾ AWG cables, solid or stranded Terminal screws Tightening torque 	mm ²	16 ... 95	50 ... 240
	mm ²	25 ... 120	70 ... 240
	AWG	4 ... 250 kcmil	2/0 ... 500 kcmil
	Nm lb.in	M8 x 25 (A/F 13) 10 ... 14 90 ... 124	M10 x 30 (A/F 17) 14 ... 24 124 ... 210
Auxiliary conductors (1 or 2 conductors connectable)			
<ul style="list-style-type: none"> Solid Finely stranded with end sleeve (DIN 46228-1) AWG cables, solid or stranded Terminal screws Tightening torque 	mm ²	2 x (0.5 ... 1.5) ³⁾ ; 2 x (0.75 ... 2.5) ³⁾ ; max. 2 x (0.75 ... 4) ³⁾	
	mm ²	2 x (0.5 ... 1.5) ³⁾ ; 2 x (0.75 ... 2.5) ³⁾	
	AWG	2 x (18 ... 14)	
	Nm lb.in	M3 (Pozidriv size 2) 0.8 ... 1.2 7 ... 10.3	
Auxiliary conductors ⁴⁾ (1 or 2 conductors connectable)			
 Spring-type terminals			
<ul style="list-style-type: none"> Operating devices Solid Finely stranded with end sleeve (DIN 46228-1) Finely stranded without end sleeve AWG cables, solid or stranded 		3.0 x 0.5; 3.5 x 0.5	
	mm ²	2 x (0.25 ... 2.5)	
	mm ²	2 x (0.25 ... 1.5)	
	mm ²	2 x (0.25 ... 2.5)	
	AWG	2 x (24 ... 14)	

¹⁾ 3RT105.: When using cable lugs according to EN 46235, use the 3RT1956-4EA1 terminal cover for conductor cross-sections from 95 mm² to keep the phase clearance, see page 3/118.

²⁾ 3RT106. and 3RT107.: When connecting cable lugs according to DIN 46234 for conductor cross-sections larger than 240 mm² and according to DIN 46235 for conductor cross-sections larger than 185 mm², the 3RT1966-4EA1 terminal cover is required to maintain phase separation, see page 3/118.

³⁾ If two different conductor cross-sections are connected to one clamping point, both cross-sections must lie in one of the ranges specified.

⁴⁾ Max. external diameter of the conductor insulation: 3.6 mm. With conductor cross-sections ≤ 1 mm² an "insulation stop" must be used, see page 3/121.

Data for North America

Type Size	Contactors			
	3RT2015 S00	3RT2016	3RT2017	3RT2018
and rated data				
Rated operational voltage	V AC	600		
Uninterrupted current , at 40 °C, open and enclosed	A	20		
Maximum horsepower ratings (from and approved values)				
• Rated power for three-phase motors at 60 Hz	At 200 V hp 230 V hp 460 V hp 575 V hp	1.5 2 3 5	2 3 5 7.5	3 5 7.5 10
Short-circuit protection (contactor)				
• Class J fuse (values for RK5 fuses available on request)	A	60		
• Circuit breakers in accordance with UL 489 ("Inverse Time Breakers")	A	50		
• Combination motor controllers, type E acc. to UL 508 and UL 60947-4-1		3RV2.1 or 3RV2.2		

Type Size	Contactors						
	3RT2023 S0	3RT2024	3RT2025	3RT2026	3RT2326-.....-4AA0	3RT2027 3RT2028	
and rated data							
Rated operational voltage	V AC	600					
Uninterrupted current , at 40 °C, open and enclosed	A	30					42
Maximum horsepower ratings (from and approved values)							
• Rated power for three-phase motors at 60 Hz	At 200 V hp 230 V hp 460 V hp 575 V hp	2 3 5 7.5	3 7.5 10	5 10 15	5 7.5 10 15	3 5 10 15	10 10 20 25
Short-circuit protection (contactor)							
• Class J fuse (values for RK5 fuses available on request)	A	125					150
• Circuit breakers in accordance with UL 489 ("Inverse Time Breakers")	A	70					100
• Combination motor controllers, type E acc. to UL 508 and UL 60947-4-1	At 480 V Type At 600 V Type	3RV202					

Type Size	Contactors							
	3RT2035 S2	3RT2036, 3RT2336-.....-4AA0	3RT2037	3RT2038	3RT2045 S3	3RT2046	3RT2047	
and rated data								
Rated operational voltage	V AC	600						
Uninterrupted current , at 40 °C, open and enclosed	A	55	60	80	90	62	77	99
Maximum horsepower ratings (from and approved values)								
• Rated power for three-phase motors at 60 Hz	At 200/208 V hp 230/240 V hp 460/480 V hp 575/600 V hp	10 15 30 40	15 40 50	20 20 50	25 25 60	25 30 60 60	30 30 75 75	40 40 100
Short-circuit protection (contactor)								
• RK5 fuse	A	150	200	250		300	350	
• Combination motor controllers, type E acc. to UL 508 and UL 60947-4-1	Type	3RV203			3RV204			

Power Contactors for Switching Motors

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

Size	Contactors								
	3RT1054 S6	3RT1055	3RT1056	3RT1064 S10	3RT1065	3RT1066	3RT1075 S12	3RT1076	
Ⓢ and Ⓜ rated data									
Rated operational voltage	V AC	600							
Uninterrupted current , at 40 °C, open and enclosed	A	140	195	250	330		400	540	
Maximum horsepower ratings (from Ⓢ and Ⓜ approved values)									
• Rated power for three-phase motors at 60 Hz	At 200 V hp	40	50	60		75	100	125	150
	230 V hp	50	60	75		100	125	150	200
	460 V hp	100	125	150		200	250	300	400
	575 V hp	125	150	200		250	300	400	500
Short-circuit protection	More information, see Certificate of Compliance for the individual devices . For the dimensioning of load feeders, see Configuration Manual .								

Type Size	Contactors			
	3RT201 S00	3RT202 to 3RT204 S0 to S3		3RT105 to 3RT107 S6 to S12
	Integrated or mountable auxiliary switch block	Integrated	Mountable auxiliary switch block	Mountable auxiliary switch block
Ⓢ and Ⓜ rated data of the auxiliary contacts				
Rated voltage	V AC	600		
Switching capacity		A 600, Q 600	A 600, P 600	A 600, Q 600
• Uninterrupted current at 240 V AC	A	10		

Selection and ordering data

AC operation 

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



3RT201.-1A...







3RT201.-2A...



3RT201.-1AP04-3MA0



3RT201.-2AP04-3MA0

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	AC-1, t_u : 40 °C	Ident. No.	50/60 Hz AC				
Operational current I_e up to 400 V	Operational current I_e up to 690 V	Version			Article No.	Price per PU	Article No.
Ratings of three-phase motors at 50 Hz and 400 V		 					Price per PU
A	A	NO NC V	d				

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

Size S00

7	3	18	10	1	--	24 110 230	▶	3RT2015-1AB01 3RT2015-1AF01 3RT2015-1AP01	▶	3RT2015-2AB01 3RT2015-2AF01 3RT2015-2AP01
			01	--	1	24 110 230	▶	3RT2015-1AB02 3RT2015-1AF02 3RT2015-1AP02	▶	3RT2015-2AB02 3RT2015-2AF02 3RT2015-2AP02
9	4	22	10	1	--	24 110 230	▶	3RT2016-1AB01 3RT2016-1AF01 3RT2016-1AP01	▶	3RT2016-2AB01 3RT2016-2AF01 3RT2016-2AP01
			01	--	1	24 110 230	▶	3RT2016-1AB02 3RT2016-1AF02 3RT2016-1AP02	▶	3RT2016-2AB02 3RT2016-2AF02 3RT2016-2AP02
12	5.5	22	10	1	--	24 110 230	▶	3RT2017-1AB01 3RT2017-1AF01 3RT2017-1AP01	▶	3RT2017-2AB01 3RT2017-2AF01 3RT2017-2AP01
			01	--	1	24 110 230	▶	3RT2017-1AB02 3RT2017-1AF02 3RT2017-1AP02	▶	3RT2017-2AB02 3RT2017-2AF02 3RT2017-2AP02
16	7.5	22	10	1	--	24 110 230	▶	3RT2018-1AB01 3RT2018-1AF01 3RT2018-1AP01	▶	3RT2018-2AB01 3RT2018-2AF01 3RT2018-2AP01
			01	--	1	24 110 230	▶	3RT2018-1AB02 3RT2018-1AF02 3RT2018-1AP02	▶	3RT2018-2AB02 3RT2018-2AF02 3RT2018-2AP02
With permanently mounted auxiliary switch block (SUVA-certified safety contactor)										
7	3	18	22	2	2	230	2	3RT2015-1AP04-3MA0	5	3RT2015-2AP04-3MA0
9	4	22	22	2	2	230	2	3RT2016-1AP04-3MA0	5	3RT2016-2AP04-3MA0
12	5.5	22	22	2	2	230	2	3RT2017-1AP04-3MA0	5	3RT2017-2AP04-3MA0
16	7.5	22	22	2	2	230	▶	3RT2018-1AP04-3MA0	5	3RT2018-2AP04-3MA0
With permanently mounted auxiliary switch block (SUVA-certified safety contactor) and varistor plugged into the front										
7	3	18	22	2	2	230	5	3RT2015-1CP04-3MA0	5	3RT2015-2CP04-3MA0
9	4	22	22	2	2	230	5	3RT2016-1CP04-3MA0	5	3RT2016-2CP04-3MA0
12	5.5	22	22	2	2	230	5	3RT2017-1CP04-3MA0	5	3RT2017-2CP04-3MA0
16	7.5	22	22	2	2	230	5	3RT2018-1CP04-3MA0	5	3RT2018-2CP04-3MA0

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 **IE3/IE4 ready**

AC operation



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



3RT202-1A.00



3RT202-2A.00

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	AC-1, t_U : 40 °C	Ident. No.	Version	50 Hz AC		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								
A	kW	A	NO NC	V	d				

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

Size S0

9	4	40	11	1	1	24 110 230	▶ ▶ ▶	3RT2023-1AB00 3RT2023-1AF00 3RT2023-1AP00	2 2 ▶	3RT2023-2AB00 3RT2023-2AF00 3RT2023-2AP00
12	5.5	40	11	1	1	24 110 230	▶ ▶ ▶	3RT2024-1AB00 3RT2024-1AF00 3RT2024-1AP00	2 2 ▶	3RT2024-2AB00 3RT2024-2AF00 3RT2024-2AP00
17	7.5	40	11	1	1	24 110 230	▶ ▶ ▶	3RT2025-1AB00 3RT2025-1AF00 3RT2025-1AP00	2 2 ▶	3RT2025-2AB00 3RT2025-2AF00 3RT2025-2AP00
25	11	40	11	1	1	24 110 230	▶ ▶ ▶	3RT2026-1AB00 3RT2026-1AF00 3RT2026-1AP00	2 2 ▶	3RT2026-2AB00 3RT2026-2AF00 3RT2026-2AP00
32	15	50	11	1	1	24 110 230	▶ ▶ ▶	3RT2027-1AB00 3RT2027-1AF00 3RT2027-1AP00	2 2 ▶	3RT2027-2AB00 3RT2027-2AF00 3RT2027-2AP00
38	18.5	50	11	1	1	24 110 230	▶ ▶ ▶	3RT2028-1AB00 3RT2028-1AF00 3RT2028-1AP00	2 2 2	3RT2028-2AB00 3RT2028-2AF00 3RT2028-2AP00

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

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

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

AC operation 

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



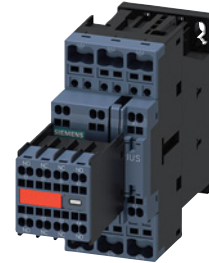
3RT202.-1A.04







3RT202.-2A.04



3RT202.-1CL24-3MA0



3RT202.-2CL24-3MA0

Rated data		Auxiliary contacts	Rated control supply voltage	SD	Screw terminals	SD	Spring-type terminals
AC-2 and AC-3, t_j : 60 °C	AC-1, t_j : 40 °C	Ident. No.	U_s				
Operational current I_e up to 400 V	Operational current I_e up to 690 V	Version	50 Hz AC		Article No.	Price per PU	Article No.
400 V		 					Price per PU
kW	A	NO NC V		d		d	

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

Size S0**With removable mounted auxiliary switch block**

9	4	40	22	2	2	24 230	5	3RT2023-1AB04 3RT2023-1AP04	5 2	3RT2023-2AB04 3RT2023-2AP04
12	5.5	40	22	2	2	24 110 230	5 5 5	3RT2024-1AB04 3RT2024-1AF04 3RT2024-1AP04	5 5 2	3RT2024-2AB04 3RT2024-2AF04 3RT2024-2AP04
17	7.5	40	22	2	2	24 110 230	5 5 5	3RT2025-1AB04 3RT2025-1AF04 3RT2025-1AP04	5 5 2	3RT2025-2AB04 3RT2025-2AF04 3RT2025-2AP04
25	11	40	22	2	2	24 110 230	5 5 5	3RT2026-1AB04 3RT2026-1AF04 3RT2026-1AP04	5 5 2	3RT2026-2AB04 3RT2026-2AF04 3RT2026-2AP04
32	15	50	22	2	2	24 110 230	5 5 5	3RT2027-1AB04 3RT2027-1AF04 3RT2027-1AP04	5 5 2	3RT2027-2AB04 3RT2027-2AF04 3RT2027-2AP04
38	18.5	50	22	2	2	24 110 230	5 5 5	3RT2028-1AB04 3RT2028-1AF04 3RT2028-1AP04	5 5 2	3RT2028-2AB04 3RT2028-2AF04 3RT2028-2AP04

With permanently mounted auxiliary switch block (SUVA-certified safety contactor) and varistor permanently plugged into the front

9	4	40	22	2	2	230	5	3RT2023-1CL24-3MA0	5	3RT2023-2CL24-3MA0
12	5.5	40	22	2	2	230	2	3RT2024-1CL24-3MA0	5	3RT2024-2CL24-3MA0
17	7.5	40	22	2	2	230	5	3RT2025-1CL24-3MA0	5	3RT2025-2CL24-3MA0
25	11	40	22	2	2	230	5	3RT2026-1CL24-3MA0	5	3RT2026-2CL24-3MA0
32	15	50	22	2	2	230	5	3RT2027-1CL24-3MA0	5	3RT2027-2CL24-3MA0
38	18.5	50	22	2	2	230	5	3RT2028-1CL24-3MA0	5	3RT2028-2CL24-3MA0

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 **IE3/IE4 ready**

AC operation

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



3RT203-1A.00



3RT203-3A.00







3RT203-1A.04



3RT203-1CL24-3MA0



3RT203-3CL24-3MA0

Rated data		Auxiliary contacts		Rated control supply voltage U_s	SD	Screw terminals 	SD	Spring-type terminals 	
AC-2 and AC-3, t_i : 60 °C	AC-1, t_i : 40 °C	Ident. No.	Version	50 Hz AC		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		 						
400 V	400 V		NO NC	V	d				
A	A								
kW									

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

Size S2

40	18.5	60	11	1	1	24 110 230	▶	3RT2035-1AB00 3RT2035-1AF00 3RT2035-1AP00	2 5 ▶	3RT2035-3AB00 3RT2035-3AF00 3RT2035-3AP00
50	22	70	11	1	1	24 110 230	▶	3RT2036-1AB00 3RT2036-1AF00 3RT2036-1AP00	5 5 ▶	3RT2036-3AB00 3RT2036-3AF00 3RT2036-3AP00
65	30	80	11	1	1	24 110 230	▶	3RT2037-1AB00 3RT2037-1AF00 3RT2037-1AP00	5 5 ▶	3RT2037-3AB00 3RT2037-3AF00 3RT2037-3AP00
80	37	90	11	1	1	24 110 230	▶	3RT2038-1AB00 3RT2038-1AF00 3RT2038-1AP00	2 2 ▶	3RT2038-3AB00 3RT2038-3AF00 3RT2038-3AP00
With removable mounted auxiliary switch block										
40	18.5	60	22	2	2	24 110 230	▶	3RT2035-1AB04 3RT2035-1AF04 3RT2035-1AP04		-- -- --
50	22	70	22	2	2	24 110 230	▶	3RT2036-1AB04 3RT2036-1AF04 3RT2036-1AP04		-- -- --
65	30	80	22	2	2	24 110 230	▶	3RT2037-1AB04 3RT2037-1AF04 3RT2037-1AP04		-- -- --
80	37	90	22	2	2	24 110 230	▶	3RT2038-1AB04 3RT2038-1AF04 3RT2038-1AP04		-- -- --
With permanently mounted auxiliary switch block and varistor permanently plugged into the front										
40	18.5	60	22	2	2	230	5	3RT2035-1CL24-3MA0	5	3RT2035-3CL24-3MA0
50	22	70	22	2	2	230	5	3RT2036-1CL24-3MA0	5	3RT2036-3CL24-3MA0
65	30	80	22	2	2	230	5	3RT2037-1CL24-3MA0	5	3RT2037-3CL24-3MA0
80	37	90	22	2	2	230	5	3RT2038-1CL24-3MA0	5	3RT2038-3CL24-3MA0

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

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

IE3/IE4 ready

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

AC operation 

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



3RT204.-1A.00





3RT204.-1A.04



3RT204.-1CL24-3MA0



3RT204.-3A.00

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	AC-1, t_u : 40 °C	Ident. No.	50 Hz AC		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	Version						
Ratings of three-phase motors at 50 Hz and 400 V		NO NC V						
A	A			d				d
400 V								
kW								

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

Size S3

80	37	125	11	1	1	24 110 230	2 2 1	3RT2045-1AB00 3RT2045-1AF00 3RT2045-1AP00	5 5 2	3RT2045-3AB00 3RT2045-3AF00 3RT2045-3AP00
95	45	130	11	1	1	24 110 230	2 2 1	3RT2046-1AB00 3RT2046-1AF00 3RT2046-1AP00	5 5 2	3RT2046-3AB00 3RT2046-3AF00 3RT2046-3AP00
110	55	130	11	1	1	24 110 230	5 5 ▶	3RT2047-1AB00 3RT2047-1AF00 3RT2047-1AP00	5 5 5	3RT2047-3AB00 3RT2047-3AF00 3RT2047-3AP00
With removable mounted auxiliary switch block										
80	37	125	22	2	2	24 110 230	5 2 2	3RT2045-1AB04 3RT2045-1AF04 3RT2045-1AP04		-- -- --
95	45	130	22	2	2	24 110 230	5 2 2	3RT2046-1AB04 3RT2046-1AF04 3RT2046-1AP04		-- -- --
110	55	130	22	2	2	24 110 230	5 5 5	3RT2047-1AB04 3RT2047-1AF04 3RT2047-1AP04		-- -- --
With permanently mounted auxiliary switch block and varistor permanently plugged into the front										
80	37	125	22	2	2	230	5	3RT2045-1CL24-3MA0		--
95	45	130	22	2	2	230	5	3RT2046-1CL24-3MA0		--
110	55	130	22	2	2	230	5	3RT2047-1CL24-3MA0		--

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 **IE3/IE4 ready**
DC operation

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


3RT201.-1B...



3RT201.-2B...

Rated data		Auxiliary contacts		Rated control supply voltage	SD	Screw terminals		SD	Spring-type terminals	
AC-2 and AC-3, t_U : 60 °C	AC-1, t_U : 40 °C	Ident. No.	Version	U_s		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			DC						
Ratings of three-phase motors at 50 Hz and 400 V										
400 V										
A	kW	A	NO NC	V	d			d		

For screw fixing and snap-on mounting onto TH 35 standard mounting rail
Size S00

7	3	18	10	1	--	24	▶	3RT2015-1BB41	▶	3RT2015-2BB41
			01	--	1	24	▶	3RT2015-1BM41	▶	3RT2015-2BM41
9	4	22	10	1	--	24	▶	3RT2016-1BB41	▶	3RT2016-2BB41
			01	--	1	24	▶	3RT2016-1BM41	▶	3RT2016-2BM41
12	5.5	22	10	1	--	24	▶	3RT2017-1BB41	▶	3RT2017-2BB41
			01	--	1	24	▶	3RT2017-1BM41	▶	3RT2017-2BM41
16	7.5	22	10	1	--	24	▶	3RT2018-1BB41	▶	3RT2018-2BB41
			01	--	1	24	▶	3RT2018-1BM41	▶	3RT2018-2BM41
7	3	18	10	1	--	24	▶	3RT2015-1UB41	▶	3RT2015-2UB41
			01	--	1	24	▶	3RT2015-1UB42	▶	3RT2015-2UB42
9	4	22	10	1	--	24	▶	3RT2016-1UB41	▶	3RT2016-2UB41
			01	--	1	24	▶	3RT2016-1UB42	▶	3RT2016-2UB42
12	5.5	22	10	1	--	24	▶	3RT2017-1UB41	▶	3RT2017-2UB41
			01	--	1	24	▶	3RT2017-1UB42	▶	3RT2017-2UB42
16	7.5	22	10	1	--	24	▶	3RT2018-1UB41	▶	3RT2018-2UB41
			01	--	1	24	▶	3RT2018-1UB42	▶	3RT2018-2UB42
7	3	18	10	1	--	24	▶	3RT2015-1FB41	▶	3RT2015-2FB41
			01	--	1	24	▶	3RT2015-1FB42	▶	3RT2015-2FB42
9	4	22	10	1	--	24	▶	3RT2016-1FB41	▶	3RT2016-2FB41
			01	--	1	24	▶	3RT2016-1FB42	▶	3RT2016-2FB42
12	5.5	22	10	1	--	24	▶	3RT2017-1FB41	▶	3RT2017-2FB41
			01	--	1	24	▶	3RT2017-1FB42	▶	3RT2017-2FB42
16	7.5	22	10	1	--	24	▶	3RT2018-1FB41	▶	3RT2018-2FB41
			01	--	1	24	▶	3RT2018-1FB42	▶	3RT2018-2FB42

¹⁾ When using contactors with IE3/IE4 motors, use contactors fitted with varistors instead of diodes.
For more information about dimensioning and configuring, see page 3/7.

Other voltages according to page 3/74 on request.

Accessories and spare parts, see pages 3/76 to 3/125.

IE3/IE4 ready

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

DC operation 

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



3RT201.-1BB44-3MA0



3RT201.-2BB44-3MA0



3RT201.-1BB4.-0CC0



3RT201.-2BB4.-0CC0

Rated data

AC-2 and AC-3,
 t_u : 60 °CAC-1,
 t_u : 40 °COperational current I_e
up to
400 VRatings of
three-phase
motors at 50 Hz
and
400 VOperational current I_e
up to
690 V

Auxiliary contacts

Ident.
No.

Version

Rated control
supply
voltage U_s

SD

Screw terminals 

SD

Spring-type terminals 

SD

Article No.

Price
per PU

Article No.

Price
per PU

A	kW	A	NO	NC	V	d

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

Size S00**With permanently mounted auxiliary switch block
(SUVA-certified safety contactor)**

7	3	18	22	2	2	24	▶	3RT2015-1BB44-3MA0	2	3RT2015-2BB44-3MA0
9	4	22	22	2	2	24	▶	3RT2016-1BB44-3MA0	2	3RT2016-2BB44-3MA0
12	5.5	22	22	2	2	24	2	3RT2017-1BB44-3MA0	2	3RT2017-2BB44-3MA0
16	7.5	22	22	2	2	24	2	3RT2018-1BB44-3MA0	2	3RT2018-2BB44-3MA0

**With permanently mounted auxiliary switch block
(SUVA-certified safety contactor) and integrated coil circuit (diode)¹⁾**

7	3	18	22	2	2	24	2	3RT2015-1FB44-3MA0	2	3RT2015-2FB44-3MA0
9	4	22	22	2	2	24	2	3RT2016-1FB44-3MA0	2	3RT2016-2FB44-3MA0
12	5.5	22	22	2	2	24	2	3RT2017-1FB44-3MA0	5	3RT2017-2FB44-3MA0
16	7.5	22	22	2	2	24	2	3RT2018-1FB44-3MA0	2	3RT2018-2FB44-3MA0

With voltage tap-off (only available with 24 V DC coils)

7	3	18	10	1	--	24	▶	3RT2015-1BB41-0CC0	▶	3RT2015-2BB41-0CC0
			01	--	1	24	▶	3RT2015-1BB42-0CC0	2	3RT2015-2BB42-0CC0
9	4	22	10	1	--	24	▶	3RT2016-1BB41-0CC0	2	3RT2016-2BB41-0CC0
			01	--	1	24	2	3RT2016-1BB42-0CC0	2	3RT2016-2BB42-0CC0
12	5.5	22	10	1	--	24	2	3RT2017-1BB41-0CC0	▶	3RT2017-2BB41-0CC0
			01	--	1	24	5	3RT2017-1BB42-0CC0	▶	3RT2017-2BB42-0CC0
16	7.5	22	10	1	--	24	2	3RT2018-1BB41-0CC0	▶	3RT2018-2BB41-0CC0
			01	--	1	24	2	3RT2018-1BB42-0CC0	2	3RT2018-2BB42-0CC0

¹⁾ When using contactors with IE3/IE4 motors, use contactors fitted with varistors instead of diodes. For more information about dimensioning and configuring, see page 3/7.

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 **IE3/IE4 ready**

DC operation for direct control from the PLC **==**

- Coupling contactors with adapted power consumption
- Suitable for solid-state PLC/F-PLC outputs
- Cannot be extended with auxiliary switch blocks

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



3RT201.-1.B4.



3RT201.-2.B4.

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	AC-1, t_U : 40 °C	Ident. No.	Version	DC						
Operational current I_e up to 400 V	Operational current I_e up to 690 V					Article No.	Price per PU		Article No.	Price per PU
A	A		NO NC	V	d					
400 V										
kW										

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

Size S00

Diode, varistor or RC element, attachable

(no auxiliary switch blocks can be mounted)

Operating range **0.7 ... 1.25 x U_s** ,

power consumption of the solenoid coils **2.8 W** at 24 V

7	3	18	10	1	--	24	5	3RT2015-1HB41	5	3RT2015-2HB41
			01	--	1	24	5	3RT2015-1HB42	5	3RT2015-2HB42
9	4	22	10	1	--	24	5	3RT2016-1HB41	5	3RT2016-2HB41
			01	--	1	24	2	3RT2016-1HB42	5	3RT2016-2HB42
12	5.5¹⁾	22	10	1	--	24	5	3RT2017-1HB41	5	3RT2017-2HB41
			01	--	1	24	▶	3RT2017-1HB42	5	3RT2017-2HB42

Operating range **0.85 ... 1.85 x U_s** ,

power consumption of the solenoid coils **1.6 W** at 24 V

7	3	18	10	1	--	24	5	3RT2015-1MB41-0KT0	5	3RT2015-2MB41-0KT0
			01	--	1	24	5	3RT2015-1MB42-0KT0	5	3RT2015-2MB42-0KT0
9	4	22	10	1	--	24	5	3RT2016-1MB41-0KT0	5	3RT2016-2MB41-0KT0
			01	--	1	24	5	3RT2016-1MB42-0KT0	5	3RT2016-2MB42-0KT0
12	5.5¹⁾	22	10	1	--	24	5	3RT2017-1MB41-0KT0	5	3RT2017-2MB41-0KT0
			01	--	1	24	5	3RT2017-1MB42-0KT0	5	3RT2017-2MB42-0KT0

With integrated coil circuit (diode)¹⁾

(no auxiliary switch blocks can be mounted)

Operating range **0.7 ... 1.25 x U_s** ,

power consumption of the solenoid coils **2.8 W** at 24 V

7	3	18	10	1	--	24	2	3RT2015-1JB41	2	3RT2015-2JB41
			01	--	1	24	2	3RT2015-1JB42	5	3RT2015-2JB42
9	4	22	10	1	--	24	▶	3RT2016-1JB41	5	3RT2016-2JB41
			01	--	1	24	2	3RT2016-1JB42	5	3RT2016-2JB42
12	5.5¹⁾	22	10	1	--	24	2	3RT2017-1JB41	5	3RT2017-2JB41
			01	--	1	24	5	3RT2017-1JB42	5	3RT2017-2JB42

Operating range **0.85 ... 1.85 x U_s** ,

power consumption of the solenoid coils **1.6 W** at 24 V

7	3	18	10	1	--	24	5	3RT2015-1VB41	5	3RT2015-2VB41
			01	--	1	24	5	3RT2015-1VB42	5	3RT2015-2VB42
9	4	22	10	1	--	24	5	3RT2016-1VB41	5	3RT2016-2VB41
			01	--	1	24	5	3RT2016-1VB42	5	3RT2016-2VB42
12	5.5¹⁾	22	10	1	--	24	5	3RT2017-1VB41	5	3RT2017-2VB41
			01	--	1	24	5	3RT2017-1VB42	5	3RT2017-2VB42

¹⁾ When using contactors with IE3/IE4 motors, use contactors fitted with varistors instead of diodes. In the case of 5.5 kW coupling contactors of size S00, use 5.5 kW coupling contactors of size S0, see page 3/66. For more information about dimensioning and configuring, see page 3/7.

Other voltages according to page 3/74 on request.

Accessories and spare parts, see pages 3/76 to 3/125.

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

DC operation for direct control from the PLC 

- Coupling contactors with adapted power consumption
- Suitable for solid-state PLC/F-PLC outputs
- Cannot be extended with auxiliary switch blocks



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



3RT201.-1.B4.



3RT201.-2.B4.

Rated data		Auxiliary contacts		Rated control supply voltage U_s	SD	Screw terminals 		SD	Spring-type terminals 	
AC-2 and AC-3, t_i : 60 °C	Ratings of three-phase motors at 50 Hz and up to 400 V	AC-1, t_i : 40 °C	Operational current I_e up to 690 V	DC		Article No.	Price per PU		Article No.	Price per PU
	400 V									
A	kW	A								

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

Size S00**With integrated coil circuit (suppressor diode)¹⁾**

(no auxiliary switch blocks can be mounted)

Operating range **0.7 ... 1.25 x U_s** ,power consumption of the solenoid coils **2.8 W** at 24 V

7	3	18	10 01	1 --	-- 1	24 24	2 2	3RT2015-1KB41 3RT2015-1KB42	2 ▶	3RT2015-2KB41 3RT2015-2KB42
9	4	22	10 01	1 --	-- 1	24 24	2 2	3RT2016-1KB41 3RT2016-1KB42	2 2	3RT2016-2KB41 3RT2016-2KB42
12	5.5¹⁾	22	10 01	1 --	-- 1	24 24	2 2	3RT2017-1KB41 3RT2017-1KB42	▶ ▶	3RT2017-2KB41 3RT2017-2KB42
Operating range 0.85 ... 1.85 x U_s , power consumption of the solenoid coils 1.6 W at 24 V										
7	3	18	10 01	1 --	-- 1	24 24	5 5	3RT2015-1SB41 3RT2015-1SB42	5 5	3RT2015-2SB41 3RT2015-2SB42
9	4	22	10 01	1 --	-- 1	24 24	5 5	3RT2016-1SB41 3RT2016-1SB42	5 5	3RT2016-2SB41 3RT2016-2SB42
12	5.5¹⁾	22	10 01	1 --	-- 1	24 24	5 5	3RT2017-1SB41 3RT2017-1SB42	5 5	3RT2017-2SB41 3RT2017-2SB42

¹⁾ When using contactors with IE3/IE4 motors, use contactors fitted with varistors instead of diodes. In the case of 5.5 kW coupling contactors of size S00, use 5.5 kW coupling contactors of size S0, see page 3/66. For more information about dimensioning and configuring, see page 3/7.

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 **IE3/IE4 ready**

DC operation

Suitable for solid-state PLC/F-PLC outputs

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



3RT202.-1B.40





3RT202.-2B.40



3RT202.-1B.44




3RT202.-2B.44

Rated data		Auxiliary contacts	Rated control supply voltage U_s	SD	Screw terminals 	SD	Spring-type terminals 
AC-2 and AC-3, t_i : 60 °C	AC-1, t_i : 40 °C	Ident. No.	DC		Article No.		Article No.
Operational current I_e up to 400 V	Operational current I_e up to 690 V	Version			Price per PU		Price per PU
A	A	NO NC	V	d		d	

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

Size S0

9	4	40	11	1	1	24	▶	3RT2023-1BB40	▶	3RT2023-2BB40
12	5.5	40	11	1	1	24 220	▶ 5	3RT2024-1BB40 3RT2024-1BM40	▶ 5	3RT2024-2BB40 3RT2024-2BM40
17	7.5	40	11	1	1	24 220	▶ 5	3RT2025-1BB40 3RT2025-1BM40	▶ 5	3RT2025-2BB40 3RT2025-2BM40
25	11	40	11	1	1	24 220	▶ 5	3RT2026-1BB40 3RT2026-1BM40	▶ 5	3RT2026-2BB40 3RT2026-2BM40
32	15	50	11	1	1	24 220	▶ 5	3RT2027-1BB40 3RT2027-1BM40	▶ 5	3RT2027-2BB40 3RT2027-2BM40
38	18.5	50	11	1	1	24 220	▶ 5	3RT2028-1BB40 3RT2028-1BM40	▶ 5	3RT2028-2BB40 3RT2028-2BM40
With coil circuit (varistor) plugged into front 										
9	4	40	11	1	1	24	5	3RT2023-1DB40	5	3RT2023-2DB40
12	5.5	40	11	1	1	24	5	3RT2024-1DB40	5	3RT2024-2DB40
17	7.5	40	11	1	1	24	5	3RT2025-1DB40	5	3RT2025-2DB40
25	11	40	11	1	1	24	5	3RT2026-1DB40	5	3RT2026-2DB40
32	15	50	11	1	1	24	5	3RT2027-1DB40	5	3RT2027-2DB40
38	18.5	50	11	1	1	24	5	3RT2028-1DB40	5	3RT2028-2DB40
With coil circuit plugged into front (diode assembly)										
9	4	40	11	1	1	24	2	3RT2023-1FB40	▶	3RT2023-2FB40
12	5.5	40	11	1	1	24	▶	3RT2024-1FB40	▶	3RT2024-2FB40
17	7.5	40	11	1	1	24	▶	3RT2025-1FB40	▶	3RT2025-2FB40
25	11	40	11	1	1	24	▶	3RT2026-1FB40	▶	3RT2026-2FB40
32	15	50	11	1	1	24	▶	3RT2027-1FB40	▶	3RT2027-2FB40
38	18.5	50	11	1	1	24	▶	3RT2028-1FB40	▶	3RT2028-2FB40
With removable mounted auxiliary switch block										
9	4	40	22	2	2	24	▶	3RT2023-1BB44	▶	3RT2023-2BB44
12	5.5	40	22	2	2	24	▶	3RT2024-1BB44	▶	3RT2024-2BB44
17	7.5	40	22	2	2	24	▶	3RT2025-1BB44	▶	3RT2025-2BB44
25	11	40	22	2	2	24	▶	3RT2026-1BB44	▶	3RT2026-2BB44
32	15	50	22	2	2	24	▶	3RT2027-1BB44	▶	3RT2027-2BB44
38	18.5	50	22	2	2	24	▶	3RT2028-1BB44	▶	3RT2028-2BB44

Other voltages according to page 3/74 on request.

Accessories and spare parts, see pages 3/76 to 3/125.

IE3/IE4 ready

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

DC operation 

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



3RT202.-1.B44-3MA0







3RT202.-2.B44-3MA0



3RT202.-1BB40-0CC0



3RT202.-2BB40-0CC0

Rated data		Auxiliary contacts	Rated control supply voltage	SD	Screw terminals	SD	Spring-type terminals
AC-2 and AC-3, t_{ij} : 60 °C	AC-1, t_{ij} : 40 °C	Ident. No.	U_s				
Operational current I_e up to 400 V	Operational current I_e up to 690 V	Version	DC		Article No.	Price per PU	Article No.
400 V		 	V	d			Price per PU
A	A	NO NC					

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

Size S0

With permanently mounted auxiliary switch block (SUVA-certified safety contactor) and coil circuit permanently plugged into the front (varistor)

Rated current I_e [A]	Rated power [kW]	Rated voltage [V]	Ident. No.	Version	NO	NC	V	SD	Article No.	Price per PU	Article No.	Price per PU
12	5.5	40	22	2	2	24	2	5	3RT2024-1DB44-3MA0	5	3RT2024-2DB44-3MA0	5
17	7.5	40	22	2	2	24	5	5	3RT2025-1DB44-3MA0	5	3RT2025-2DB44-3MA0	5
25	11	40	22	2	2	24	5	5	3RT2026-1DB44-3MA0	5	3RT2026-2DB44-3MA0	5
32	15	50	22	2	2	24	5	5	3RT2027-1DB44-3MA0	5	3RT2027-2DB44-3MA0	5

With permanently mounted auxiliary switch block (SUVA-certified safety contactor) and coil circuit permanently plugged into the front (diode assembly)

Rated current I_e [A]	Rated power [kW]	Rated voltage [V]	Ident. No.	Version	NO	NC	V	SD	Article No.	Price per PU	Article No.	Price per PU
9	4	40	22	2	2	24	2	5	3RT2023-1FB44-3MA0	5	3RT2023-2FB44-3MA0	5
12	5.5	40	22	2	2	24	5	5	3RT2024-1FB44-3MA0	5	3RT2024-2FB44-3MA0	5
17	7.5	40	22	2	2	24	5	5	3RT2025-1FB44-3MA0	5	3RT2025-2FB44-3MA0	5
25	11	40	22	2	2	24	5	5	3RT2026-1FB44-3MA0	5	3RT2026-2FB44-3MA0	5
32	15	50	22	2	2	24	5	5	3RT2027-1FB44-3MA0	5	3RT2027-2FB44-3MA0	5
38	18.5	50	22	2	2	24	5	5	3RT2028-1FB44-3MA0	5	3RT2028-2FB44-3MA0	5

With voltage tap-off

Rated current I_e [A]	Rated power [kW]	Rated voltage [V]	Ident. No.	Version	NO	NC	V	SD	Article No.	Price per PU	Article No.	Price per PU
9	4	40	11	1	1	24	5	5	3RT2023-1BB40-0CC0	5	3RT2023-2BB40-0CC0	5
12	5.5	40	11	1	1	24	5	5	3RT2024-1BB40-0CC0	5	3RT2024-2BB40-0CC0	5
17	7.5	40	11	1	1	24	5	5	3RT2025-1BB40-0CC0	5	3RT2025-2BB40-0CC0	5
25	11	40	11	1	1	24	5	5	3RT2026-1BB40-0CC0	5	3RT2026-2BB40-0CC0	5
32	15	50	11	1	1	24	5	5	3RT2027-1BB40-0CC0	5	3RT2027-2BB40-0CC0	5
38	18.5	50	11	1	1	24	5	5	3RT2028-1BB40-0CC0	5	3RT2028-2BB40-0CC0	5

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 **IE3/IE4 ready**

DC operation for direct control from the PLC

- Coupling contactors with adapted power consumption
- Suitable for solid-state PLC/F-PLC outputs
- Cannot be extended with auxiliary switch blocks





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



3RT202-1KB40



3RT202-2KB40

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

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

Size S0

With integrated coil circuit (varistor)

(no auxiliary switch blocks can be mounted)

Operating range **0.7 ... 1.25 x U_s** ,
 power consumption of the solenoid coils **4.5 W** at 24 V

9	4	40	11	1	1	24	▶	3RT2023-1KB40	▶	3RT2023-2KB40
12	5.5	40	11	1	1	24	▶	3RT2024-1KB40	5	3RT2024-2KB40
17	7.5	40	11	1	1	24	▶	3RT2025-1KB40	2	3RT2025-2KB40
25	11	40	11	1	1	24	▶	3RT2026-1KB40	2	3RT2026-2KB40
32	15	50	11	1	1	24	▶	3RT2027-1KB40	5	3RT2027-2KB40

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

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

IE3/IE4 ready

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

DC operation for direct control from the PLC 

- Coupling contactors with adapted power consumption
- Suitable for solid-state PLC/F-PLC outputs with 2 A

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



3RT203.-1KB40





3RT203.-3KB40



3RT204.-1KB40



3RT204.-3KB40

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		AC-1, t_U : 40 °C		DC	d	Article No.	Price per PU	d	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	Ident. No.							
A	kW	A		V						
			NO	NC						

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

Size S2**With integrated coil circuit (varistor)**

Operating range $0.8 \dots 1.2 \times U_s$,
 closing power of the solenoid coils **21.5 W** at 24 V

40	18.5	60	11	1	1	24	▶	3RT2035-1KB40	X	3RT2035-3KB40
50	22	70	11	1	1	24	▶	3RT2036-1KB40	X	3RT2036-3KB40
65	30	80	11	1	1	24	▶	3RT2037-1KB40	X	3RT2037-3KB40
80	37	90	11	1	1	24	▶	3RT2038-1KB40	5	3RT2038-3KB40

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

Size S3**With integrated coil circuit (varistor)**

Operating range $0.8 \dots 1.2 \times U_s$,
 closing power of the solenoid coils **25 W** at 24 V

80	37	125	11	1	1	24	2	3RT2045-1KB40	2	3RT2045-3KB40
95	45	130	11	1	1	24	2	3RT2046-1KB40	2	3RT2046-3KB40

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 **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 400 V	Operational current I_e up to 690 V	Ident. No.	Version	50/60 Hz AC or DC	Article No.	Price per PU	Article No.	Price per PU
A	kW	A			NO	NC	V	d		d	

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](#).

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

AC/DC operation 

- Extended operating range of the solenoid coil 0.8 to 1.1 x U_s
- Reduced power consumption when closing and in the closed state

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



3RT203.-1N.30



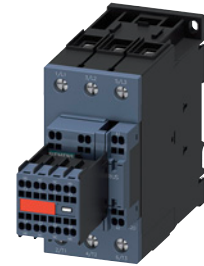
3RT203.-3N.30



3RT203.-1N.34



3RT203.-1NB34-3MA0



3RT203.-3NB34-3MA0

Rated data		Auxiliary contacts		Rated control supply voltage U_s	SD	Screw terminals		SD	Spring-type terminals	
AC-2 and AC-3, t_i : 60 °C	Operational current I_e up to 400 V	AC-1, t_i : 40 °C	Operational current I_e up to 690 V	50/60 Hz AC or DC		Article No.	Price per PU		Article No.	Price per PU
	Ratings of three-phase motors at 50 Hz and 400 V									
A	kW	A								

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

Size S2**With integrated coil circuit (varistor)**

40	18.5	60	11	1	1	20 ... 33	▶	3RT2035-1NB30	▶	3RT2035-3NB30
						83 ... 155	5	3RT2035-1NF30	5	3RT2035-3NF30
						175 ... 280	5	3RT2035-1NP30	5	3RT2035-3NP30
50	22	70	11	1	1	20 ... 33	▶	3RT2036-1NB30	▶	3RT2036-3NB30
						83 ... 155	5	3RT2036-1NF30	5	3RT2036-3NF30
						175 ... 280	5	3RT2036-1NP30	5	3RT2036-3NP30
65	30	80	11	1	1	20 ... 33	▶	3RT2037-1NB30	▶	3RT2037-3NB30
						83 ... 155	5	3RT2037-1NF30	5	3RT2037-3NF30
						175 ... 280	5	3RT2037-1NP30	5	3RT2037-3NP30
80	37	90	11	1	1	20 ... 33	▶	3RT2038-1NB30	▶	3RT2038-3NB30
						83 ... 155	5	3RT2038-1NF30	X	3RT2038-3NF30
						175 ... 280	5	3RT2038-1NP30	2	3RT2038-3NP30

With removable mounted auxiliary switch block and integrated coil circuit (varistor)

40	18.5	60	22	2	2	20 ... 33	▶	3RT2035-1NB34		--
						83 ... 155	5	3RT2035-1NF34		--
						175 ... 280	5	3RT2035-1NP34		--
50	22	70	22	2	2	20 ... 33	▶	3RT2036-1NB34		--
						83 ... 155	5	3RT2036-1NF34		--
						175 ... 280	5	3RT2036-1NP34		--
65	30	80	22	2	2	20 ... 33	2	3RT2037-1NB34		--
						83 ... 155	5	3RT2037-1NF34		--
						175 ... 280	5	3RT2037-1NP34		--
80	37	90	22	2	2	20 ... 33	2	3RT2038-1NB34		--
						83 ... 155	5	3RT2038-1NF34		--
						175 ... 280	5	3RT2038-1NP34		--

With permanently mounted auxiliary switch block and integrated coil circuit (varistor)

40	18.5	60	22	2	2	20 ... 33	▶	3RT2035-1NB34-3MA0	5	3RT2035-3NB34-3MA0
50	22	70	22	2	2	20 ... 33	▶	3RT2036-1NB34-3MA0	5	3RT2036-3NB34-3MA0
65	30	80	22	2	2	20 ... 33	2	3RT2037-1NB34-3MA0	5	3RT2037-3NB34-3MA0
80	37	90	22	2	2	20 ... 33	2	3RT2038-1NB34-3MA0	2	3RT2038-3NB34-3MA0

With voltage tap-off and integrated coil circuit (varistor)

40	18.5	60	11	1	1	20 ... 33	2	3RT2035-1NB30-OCC0	5	3RT2035-3NB30-OCC0
50	22	70	11	1	1	20 ... 33	2	3RT2036-1NB30-OCC0	5	3RT2036-3NB30-OCC0
65	30	80	11	1	1	20 ... 33	5	3RT2037-1NB30-OCC0	5	3RT2037-3NB30-OCC0
80	37	90	11	1	1	20 ... 33	5	3RT2038-1NB30-OCC0	5	3RT2038-3NB30-OCC0

Other voltages according to page 3/74 on request.

Accessories and spare parts, see pages 3/76 to 3/125.

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

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 0.8 to 1.1 x U_s
- Reduced power consumption when closing and in the closed state

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



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	Operational current I_e up to 400 V	AC-1, t_u : 40 °C	Operational current I_e up to 690 V	50/60 Hz AC or DC		Article No.	Price per PU		Article No.	Price per PU
A	kW	A		NO NC V	d			d		

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

Size S3

With integrated coil circuit (varistor)

80	37	125	11	1	1	20 ... 33	2	3RT2045-1NB30	2	3RT2045-3NB30
						83 ... 155	5	3RT2045-1NF30	5	3RT2045-3NF30
						175 ... 280	5	3RT2045-1NP30	5	3RT2045-3NP30
95	45	130	11	1	1	20 ... 33	2	3RT2046-1NB30	2	3RT2046-3NB30
						83 ... 155	5	3RT2046-1NF30	5	3RT2046-3NF30
						175 ... 280	5	3RT2046-1NP30	5	3RT2046-3NP30
110	55	130	11	1	1	20 ... 33	2	3RT2047-1NB30	2	3RT2047-3NB30
						83 ... 155	5	3RT2047-1NF30	5	3RT2047-3NF30
						175 ... 280	5	3RT2047-1NP30	5	3RT2047-3NP30

With removable mounted auxiliary switch block and integrated coil circuit (varistor)

80	37	125	22	2	2	20 ... 33	5	3RT2045-1NB34		--
						83 ... 155	5	3RT2045-1NF34		--
						175 ... 280	5	3RT2045-1NP34		--
95	45	130	22	2	2	20 ... 33	5	3RT2046-1NB34		--
						83 ... 155	5	3RT2046-1NF34		--
						175 ... 280	5	3RT2046-1NP34		--
110	55	130	22	2	2	20 ... 33	5	3RT2047-1NB34		--
						83 ... 155	5	3RT2047-1NF34		--
						175 ... 280	5	3RT2047-1NP34		--

With permanently mounted auxiliary switch block and integrated coil circuit (varistor)

80	37	125	22	2	2	20 ... 33	5	3RT2045-1NB34-3MA0	5	3RT2045-3NB34-3MA0
95	45	130	22	2	2	20 ... 33	5	3RT2046-1NB34-3MA0	5	3RT2046-3NB34-3MA0
110	55	130	22	2	2	20 ... 33	5	3RT2047-1NB34-3MA0	5	3RT2047-3NB34-3MA0
80	37	125	11	1	1	20 ... 33	5	3RT2045-1NB30-OCC0	5	3RT2045-3NB30-OCC0
95	45	130	11	1	1	20 ... 33	5	3RT2046-1NB30-OCC0	5	3RT2046-3NB30-OCC0
110	55	130	11	1	1	20 ... 33	5	3RT2047-1NB30-OCC0	5	3RT2047-3NB30-OCC0

Other voltages according to page 3/74 on request.

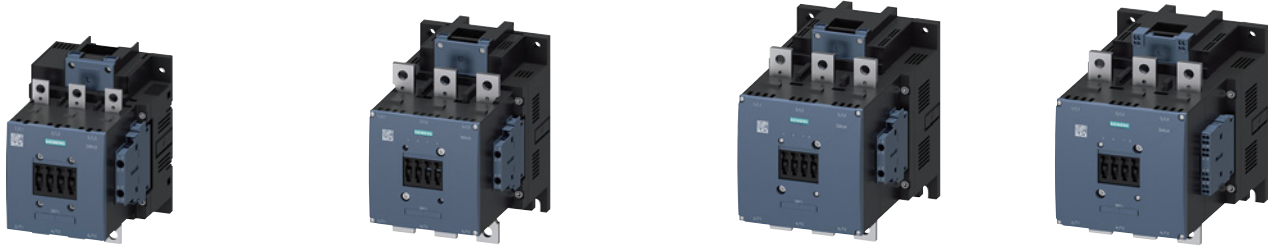
Accessories and spare parts, see pages 3/76 to 3/125.

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

AC/DC operation 

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

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





3RT105.-6A.36

3RT106.-6A.36

3RT107.-6A.36

3RT107.-2A.36

Size	Rated data				Operational current I_e up to	Auxiliary contacts, lateral	Rated control supply voltage U_s	SD	Screw terminals 		Spring-type terminals 	
	AC-2 and AC-3, t_u : 60 °C	Ratings of three-phase motors at 50 Hz and		AC-1, t_u : 40 °C					Version	50/60 Hz AC or DC	Article No.	Price per PU
	500 V	400 V	500 V	690 V	690 V	NO NC	V	d				
	A	kW	kW	kW	A							

Standard operating mechanism with economy circuit for AC and DC operation (switchover from closing coil to holding coil)

Size	115	150	185	225	265	300	400	500	110 ... 220 ... 240	127 ... 240	110 ... 220 ... 240	127 ... 240	110 ... 220 ... 240	127 ... 240	110 ... 220 ... 240	127 ... 240	110 ... 220 ... 240	127 ... 240
S6	55	75	90	110	132	160	200	250	2	2	2	2	2	2	2	2	2	2
			75	90	132	185	225	265	2	2	2	2	2	2	2	2	2	2
				90¹⁾	110	160	225	265	2	2	2	2	2	2	2	2	2	2
S10				110	160	200	265	300	2	2	2	2	2	2	2	2	2	2
					132	160	265	300	2	2	2	2	2	2	2	2	2	2
						160¹⁾	265	300	2	2	2	2	2	2	2	2	2	2
S12							200	400	2	2	2	2	2	2	2	2	2	2
								250¹⁾	2	2	2	2	2	2	2	2	2	2

¹⁾ For the use of 3RT106.-A... contactors with IE3/IE4 motors from 8.5 times the starting current, use the versions with solid-state operating mechanism 3RT106.-N..., see page 3/73. For more information about dimensioning and configuring, see page 3/7.

Other voltages according to page 3/75 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 **IE3/IE4 ready**

AC/DC operation

- Solid-state operating mechanism (with integrated varistor) with fail-safe control input for safety-related applications to SIL CL 3
- 24 V DC control signal input, e.g. for control via the fail-safe output module of a controller (F-PLC) or safety relay
- Attainable Safety Integrity Level (SIL):
 - With one contactor: SIL CL 2 acc. to IEC 62061 or PL c acc. to ISO 13849-1
 - With two contactors in series: SIL CL 3 acc. to IEC 62061 or PL e acc. to ISO 13849-1
- Version with removable lateral auxiliary switches or permanently mounted auxiliary switches and additional approval according to SUVA (on request)
- For screw fixing
- Auxiliary and control conductors: Screw or spring-type terminals
- Main conductors: Busbar connections; a connection kit with screws, spring washer and nut is enclosed.

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



3RT105.-6S.36



3RT106.-6S.36






3RT107.-6S.36



3RT105.-6S.36-3PA0



3RT107.-6S.36-3PA0

Size	Rated data according to IEC 60947-4-1 AC-3, t_i : 60 °C Operational current I_e up to	Ratings of three-phase motors at 50 Hz and up to	Auxiliary contacts, lateral	Version	Rated control supply voltage U_s	SD	Screw terminals 	PU (UNIT, SET, M)	PS*	PG
	500 V	400 V		 	50/60 Hz AC or DC		Article No.	Price per PU		
	A	kW	NO	NC	V	d				

Solid-state operating mechanism

With two removable laterally mounted auxiliary switches

S6	115	55	2	2	96 ... 127 200 ... 270	5	3RT1054-6SF36 3RT1054-6SP36	1	1 unit	41B
	150	75	2	2	96 ... 127 200 ... 277	5	3RT1055-6SF36 3RT1055-6SP36	1	1 unit	41B
	185	90	2	2	96 ... 127 200 ... 277	5	3RT1056-6SF36 3RT1056-6SP36	1	1 unit	41B
S10	225	110	2	2	96 ... 127 200 ... 277	5	3RT1064-6SF36 3RT1064-6SP36	1	1 unit	41B
	265	132	2	2	96 ... 127 200 ... 277	5	3RT1065-6SF36 3RT1065-6SP36	1	1 unit	41B
	300	160	2	2	96 ... 127 200 ... 277	5	3RT1066-6SF36 3RT1066-6SP36	1	1 unit	41B
S12	400	200	2	2	96 ... 127 200 ... 277	5	3RT1075-6SF36 3RT1075-6SP36	1	1 unit	41B
	500	250	2	2	96 ... 127 200 ... 277	5	3RT1076-6SF36 3RT1076-6SP36	1	1 unit	41B

With two permanently laterally mounted auxiliary switches

S6	115	55	2	2	96 ... 127 200 ... 270	5	3RT1054-6SF36-3PA0 3RT1054-6SP36-3PA0	1	1 unit	41B
	150	75	2	2	96 ... 127 200 ... 277	5	3RT1055-6SF36-3PA0 3RT1055-6SP36-3PA0	1	1 unit	41B
	185	90	2	2	96 ... 127 200 ... 277	5	3RT1056-6SF36-3PA0 3RT1056-6SP36-3PA0	1	1 unit	41B
S10	225	110	2	2	96 ... 127 200 ... 277	5	3RT1064-6SF36-3PA0 3RT1064-6SP36-3PA0	1	1 unit	41B
	265	132	2	2	96 ... 127 200 ... 277	5	3RT1065-6SF36-3PA0 3RT1065-6SP36-3PA0	1	1 unit	41B
	300	160	2	2	96 ... 127 200 ... 277	5	3RT1066-6SF36-3PA0 3RT1066-6SP36-3PA0	1	1 unit	41B
S12	400	200	2	2	96 ... 127 200 ... 277	5	3RT1075-6SF36-3PA0 3RT1075-6SP36-3PA0	1	1 unit	41B
	500	250	2	2	96 ... 127 200 ... 277	5	3RT1076-6SF36-3PA0 3RT1076-6SP36-3PA0	1	1 unit	41B

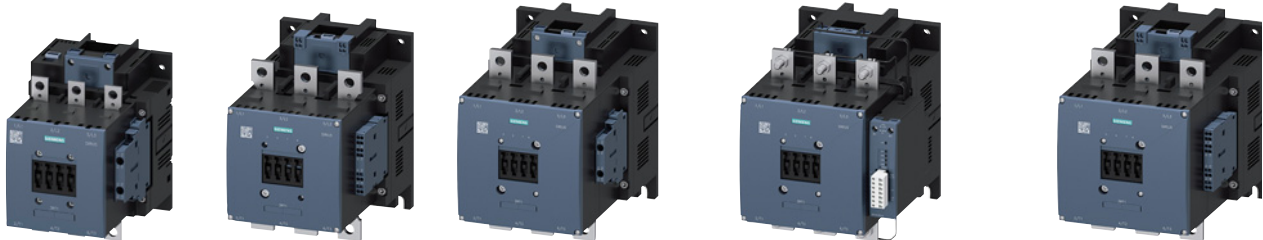
Accessories and spare parts, see pages 3/76 to 3/125.

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

AC/DC operation

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

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



3RT105.-6N.36

3RT106.-2N.36

3RT107.-6N.36

3RT107.-6P.35

3RT107.-2N.36

Size	Rated data	AC-1, t_{ij} : 40 °C	Auxiliary contacts, lateral	Rated control supply voltage U_s	SD	Screw terminals	SD	Spring-type terminals	
	AC-2 and AC-3, t_{ij} : 60 °C	AC-1, t_{ij} : 40 °C	Version	50/60 Hz AC or DC					
	Operational current I_e up to	Operational current I_e up to				Article No.	Price per PU	Article No.	Price per PU
	500 V	690 V							
	A	A	NO NC	V	d				
	400 V	500 V							
	kW	kW							
		690 V							
		kW							

Solid-state operating mechanism

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

Size	115	55	75	110	160	2	2	96 ... 127 200 ... 277	5	3RT1054-6NF36 3RT1054-6NP36	5	3RT1054-2NF36 3RT1054-2NP36
S6	150	75	90	132	185	2	2	96 ... 127 200 ... 277	5	3RT1055-6NF36 3RT1055-6NP36	5	3RT1055-2NF36 3RT1055-2NP36
	185	90	110	160	215	2	2	96 ... 127 200 ... 277	5	3RT1056-6NF36 3RT1056-6NP36	5	3RT1056-2NF36 3RT1056-2NP36
	S10	225	110	160	200	275	2	2	96 ... 127 200 ... 277	2	3RT1064-6NF36 3RT1064-6NP36	5
265		132	160	250	330	2	2	96 ... 127 200 ... 277	2	3RT1065-6NF36 3RT1065-6NP36	5	3RT1065-2NF36 3RT1065-2NP36
300		160	200	250	330	2	2	96 ... 127 200 ... 277	5	3RT1066-6NF36 3RT1066-6NP36	5	3RT1066-2NF36 3RT1066-2NP36
S12	400	200	250	400	430	2	2	96 ... 127 200 ... 277	2	3RT1075-6NF36 3RT1075-6NP36	5	3RT1075-2NF36 3RT1075-2NP36
	500	250	355	400	610	2	2	96 ... 127 200 ... 277	2	3RT1076-6NF36 3RT1076-6NP36	5	3RT1076-2NF36 3RT1076-2NP36

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

Size	115	55	75	110	160	1	1	96 ... 127 200 ... 277	5	3RT1054-6PF35 3RT1054-6PP35	---
S6	150	75	90	132	185	1	1	96 ... 127 200 ... 277	5	3RT1055-6PF35 3RT1055-6PP35	---
	185	90	110	160	215	1	1	96 ... 127 200 ... 277	5	3RT1056-6PF35 3RT1056-6PP35	---
	S10	225	110	160	200	275	1	1	96 ... 127 200 ... 277	5	3RT1064-6PF35 3RT1064-6PP35
265		132	160	250	330	1	1	96 ... 127 200 ... 277	5	3RT1065-6PF35 3RT1065-6PP35	---
300		160	200	250	330	1	1	96 ... 127 200 ... 277	5	3RT1066-6PF35 3RT1066-6PP35	---
S12	400	200	250	400	430	1	1	96 ... 127 200 ... 277	5	3RT1075-6PF35 3RT1075-6PP35	---
	500	250	355	400	610	1	1	96 ... 127 200 ... 277	5	3RT1076-6PF35 3RT1076-6PP35	---

Other voltages according to page 3/75 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	3RT203-1A P00	Contactor with screw terminals; with solenoid coil for 50 Hz for rated control supply voltage 230 V AC.
	3RT203-1A G20	Contactor with screw terminals; with solenoid coil for 50/60 Hz for rated control supply voltage 110 V AC.
DC operation	3RT205-2B B40	Contactor with spring-type terminals; for rated control supply voltage 24 V DC.
	3RT205-2B G40	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 $1.1 \times U_s$,
- At 60 Hz: 0.85 to $1.1 \times U_s$.

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

⁴⁾ Coil operating range

- Size S00:
At 50/60 Hz: 0.85 to $1.1 \times U_s$
- Size S0:
at 50 Hz: 0.8 to $1.1 \times U_s$;
at 60 Hz: 0.85 to $1.1 \times U_s$.

⁵⁾ Coil operating range at 60 Hz: 0.8 to $1.1 \times U_s$.

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: $0.7 \times U_{s \min}$ to $1.3 \times U_{s \max}$
- Sizes S2 and S3: $0.8 \times U_{s \min}$ to $1.1 \times U_{s \max}$.

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

Rated control supply voltages for 3RT10 contactors, possible on request (change of the 10th and 11th digits of the Article No.)

Delivery time on request

Rated control supply voltage	Contactor type	3RT105.-A, 3RT106.-A, 3RT107.-A	Rated control supply voltage	Contactor type	3RT105.-N, 3RT106.-N, 3RT107.-N	3RT105.-P, 3RT105.-S, 3RT106.-P, 3RT106.-S, 3RT107.-P, 3RT107.-S
$U_{s \min} \dots U_{s \max}$	Sizes	S6 to S12	$U_{s \min} \dots U_{s \max}$	Sizes	S6 to S12	

Sizes S6 to S12**AC/DC operation (50/60 Hz AC or DC) and operating range $0.8 \times U_{s \min} \dots 1.1 \times U_{s \max}$** **Standard operating mechanism**

23 ... 26 V AC/DC	B3
42 ... 48 V AC/DC	D3
110 ... 127 V AC/DC	F3
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

Solid-state operating mechanism

21 ... 27,3 V AC/DC	B3	--
96 ... 127 V AC/DC	F3	F3
200 ... 277 V AC/DC	P3	P3

Power Contactors for Switching Motors

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays

General data

Overview

Extensive accessories and spare parts are available for SIRIUS 3RT power contactors and SIRIUS 3RH2 contactor relays.

These components are easily fitted to the contactors without the use of any tools according to requirements.

Overview graphics with mountable accessories:

- 3RT2 contactors, see pages 3/8 to 3/11
- 3RT10, 3RT12 and 3RT14 contactors, see pages 3/12 to 3/16
- 3RH2 contactor relays, see page 5/4

More information

TIA Selection Tool Cloud (TST Cloud), see
<https://mall.industry.siemens.com/spice/TSTWeb/?kmat=Contactor>

Version	For contactors 3RT2, sizes S00 to S3; 3RH2, size S00	3RT10, 3RT12, 3RT14; sizes S6 to S12	Selection and ordering data Page
Accessories for 3RT contactors and 3RH2 contactor relays			
Auxiliary switch blocks			
Instantaneous	3RH29.1	3RH19.1	3/88 ... 3/100
Delayed			
• Pneumatic time-delay auxiliary switch blocks	3RT2926-2P.1	--	3/101
• Solid-state time-delay auxiliary switch blocks	3RA2813, 3RA2814, 3RA2815	3RT1926-2E/-2F/-2G	3/101, 3/102
Surge suppressors			
• Without LED	3RT29.6-1B/-1C/-1D/-1E	3RT1956-1C	3/103, 3/104
• With LED	3RT29.6-1J/-1L/-1M	--	3/104
Modules for contactor control			
Coupling links for control by PLC	3RH29.4-.GP11	--	3/105
3RA28 function modules			
• For direct on-line starting: ON delay or OFF-delay	3RA2811, 3RA2812, 3RA2831, 3RA2832	--	3/106
• For star-delta (weye-delta) starting	3RA2816	--	3/106
3RA27 function modules for IO-Link or AS-Interface			
• For direct-on-line, reversing or star-delta (weye-delta) starting	3RA271.-.A/B/C	--	3/107, 3/108
Mechanical latching blocks	3RT2926-3A.31	--	3/109
OFF-delay devices for contactors with AC/DC and DC operation	3RT2916-2B.01	--	3/109
Link modules			
Link modules from motor starter protector to contactor	3RA.9.1	--	7/56
Safety main current connectors for two contactors	3RA29.6-1A	--	3/110
Assembly kits			
• For reversing contactor assemblies	3RA29.3-2AA.	3RA19.3-2A	3/110
• For contactor assemblies for star-delta (weye-delta) starting	3RA29.-.2BB., 3RA29.3-2C	3RA1953-3G, 3RA19.3-2./-3.	3/111, 3/112
Single wiring modules	3RA.9.3-3.A.	3RA19.3-3.	3/113
Star jumpers (links for paralleling), 3-pole	3RT.9.6-4BA3.	3RT19.6-4BA31	3/113
Mechanical interlock kits for two contactors	3RA29.2-2H	--	3/114
Mechanical interlocks for contactor assemblies	3RA2934-2B	3RA1954-2.	3/114
Mechanical connectors for contactor assemblies	3RA29.2-2.	3RA1932-2D	3/114
Terminal modules/adapters			
Links for paralleling for main circuits	3RT.9.6-4BB.1	--	3/115
Single-phase infeed terminals	3RA2943-3L	--	3/116
Three-phase infeed terminals	3RA2913-3K, 3RV29.5-5A.	--	3/116
• With increased clearances and creepage distances	3RV2935-5E	--	3/116
Three-phase busbars	3RV1915-1AB	--	3/116
Terminal blocks for connecting auxiliary conductors to main terminals			
• Box terminal blocks	--	3RT19.-.4G	3/116
• Box terminal for auxiliary conductor connection, 1-pole	--	3TX7500-0A	3/116
• Auxiliary terminals, 3-pole	3RT2946-4F	--	3/116
Solder pin adapters for mounting contactors on printed circuit boards	3RT1916-4KA.	--	3/117
Coil connection modules for connections from top or from bottom	3RT2926-4R.1.	--	3/117
Motor feeder connectors for contactors with screw terminals			
• Adapters for contactors	3RT19.6-4RD01	--	3/117
• Motor feeder connector	3RT1900-4RE01	--	3/117

Power Contactors for Switching Motors

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays

General data

Version	For contactors 3RT2, sizes S00 to S3; 3RH2, size S00	3RT10, 3RT12, 3RT14; sizes S6 to S12	Selection and ordering data Page
Accessories for 3RT contactors and 3RH2 contactor relays (continued)			
Covers			
Terminal covers	3RT1946-4EA1, 3RT29.6-4EA.	3RT1956-4EA., 3RT1966-4EA., 3TX65.6-3B	3/118
Sealable covers	3RT2916-4MA10	3RT1926-4MA10	3/118
Miscellaneous accessories			
Base plates			
• For reversing contactor assemblies	--	3RT19.2-2A	3/119
• For contactor assemblies for star-delta (wye-delta) starting	3RA29.2-2F	3RA19.2-2.	3/119
Adapters for screw fixing	3RT1926-4P	--	3/119
EMC suppression modules	3RT2916-1P . .	--	3/119
Additional load modules	3RT2916-1GA00	--	3/120
LED modules for displaying contactor operation	3RT2926-1QT00	3RT1926-1QT00	3/120
Control kit	3RT29.6-4MC00	--	3/120
Insulation stop for securely holding back the conductor insulation for conductors up to 1 mm²	3RT2916-4JA02	3RT1916-4JA02	3/121
Tools for opening spring-type terminals	3RA2908-1A	3RA2908-1A	3/121
Blank labels	3RT2900-1SB.0	3RT1900-1S..0	3/121
Spare parts for 3RT2 contactors			
Solenoid coils	3RT29...5...1	--	3/122, 3/123
Withdrawable coils	--	3RT19...5....	3/124
Contacts with fixing parts	3RT29...6.	3RT19...6.	3/125
Arc chambers	--	3RT19...7.	3/125

Power Contactors for Switching Motors

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays

Accessories

Overview

Auxiliary switches

The auxiliary switches can be designed as positively driven contacts in 3RH contactor relays or also as mirror contacts in the case of 3RT power contactors.

For more information on positively driven operation and mirror contacts, see Manual → "More information", page 3/83, and in the selection and ordering data from page 3/88 onwards.

Solid-state time-delay auxiliary switch blocks for mounting on 3RT2 contactors and 3RH2 contactor relays

See pages 3/83 and 3/101

The 3RA28 solid-state time-delay auxiliary switches which can be mounted onto the contactor are designed for applications in the range from 24 to 240 V AC/DC (wide voltage range). Both the electrical and mechanical connection are made by simple snapping on and locking.

The time-delay auxiliary switch is supplied with power directly by two plug-in contacts through the coil terminals of the contactor, in parallel with A./A2.

A protection circuit (varistor) is integrated in each module.

A sealable cover is available to protect against careless adjustment of the set times.

Note:

Mounting more auxiliary switches to the contactor is not permitted.

Surge suppressors

- Without LED (also for spring-type terminals)
Sizes S00 to S3, see page 3/103
- With LED (also for spring-type terminals)
Sizes S00 to S3, see page 3/104

All 3RT2 contactors and 3RH2 contactor relays can be retrofitted with RC elements or varistors for damping opening surges in the coil. Diodes or diode assemblies (comprising noise suppression diodes and Zener diodes for short break times) can be used.

The surge suppressors are plugged onto the front of size S00 contactors. Space is provided for them next to a snap-on auxiliary switch block.

Varistors, RC elements or diode assemblies can be plugged onto the front of size S0 to S3 contactors.

Coupling contactors are supplied either without overvoltage damping or with a suppressor diode, varistor or diode connected as standard, according to the version.

Note:

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

Coupling links for control by PLC

See pages 3/85 and 3/105

- Operation with 24 V DC
- Operating range 17 to 30 V
- Low power consumption of 0.5 W
- An LED indicates the switching state.

The 3RH2924-1GP11 coupling link has an integrated surge suppressor (varistor) for the contactor coil being switched and is mounted onto the size S0 contactor coil via a coil connection module.

Power Contactors for Switching Motors

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays

Accessories

3RA28 function modules for mounting on 3RT2 contactors and 3RH2 contactor relays

See pages 3/86 and 3/106

Simply by being plugged in place, the SIRIUS function modules enable different functionalities required for the assembly of starters to be realized in the feeder. The function modules and wiring kits thus help to reduce the wiring work within the feeder practically to zero.

SIRIUS function modules for direct-on-line starting

The electronic timing relays which can be mounted onto the contactor are available in these versions:

- Sizes S00 and S0 for applications in the range from 24 to 240 V AC/DC (wide voltage range)
- Sizes S2 and S3 for applications in either the range from 24 to 90 V AC/DC or 90 to 240 V AC/DC

Both the electrical and mechanical connection are made by simple snapping on and locking.

A protection circuit (varistor) is integrated in each module.

The electronic timing relay with semiconductor output uses two contact legs to actuate the contactor underneath by means of a semiconductor after the set time t has elapsed.

The switching state feedback is performed by a mechanical switching state indicator (plunger). In addition, the auxiliary switches in the contactors are freely accessible and can be used for feedbacks to the control system or for signal lamps.

A sealable cover is available to protect against careless adjustment of the set times.

The snap-on *function modules for direct-on-line starting* are used above all for realizing timing functions independently of the control system.

With the OFF-delay variant of the timing relay it is possible for example for the fan motor for cooling a main drive to be switched off with a delay so that sufficient cooling after operation is guaranteed; the programmer of the control system does not need to worry about such technical details of the plant.

The ON-delay timing relays enable for example the time-delayed starting of several drives so that the summation starting current does not rise too high, which could result in voltage failure.

The use of snap-on *function modules for direct-on-line starting* results in the following advantages:

- Reduction of control current wiring
- Prevention of wiring errors
- Reduction of testing costs
- Implementation of timing functions independently of the control system
- Less space required in the control cabinet compared to a separate timing relay
- No additive protection circuit required (varistor integrated)

Assembly of reversing starters

We offer ready-made wiring kits for the assembly of reversing starters. Use of these wiring kits offers further advantages, see page 3/162.

SIRIUS function modules for star-delta (wye-delta) starting

Both interlocking and timing functions are required for the assembly of star-delta (wye-delta) starters. With the function modules for star-delta (wye-delta) starting and the matching link modules for the main circuit, these starters can be assembled easily and with absolutely no errors.

The entire sequence in the control circuit is integrated in the snap-on modules. This covers:

- An adjustable star time t from 0.5 to 60 s
- A non-adjustable dead interval of 50 ms
- Electrical contacting of the contactors by means of coil pick-off (contact legs)
- Feedback of the switching state at the contactor using a mechanical switch position indicator (plunger)
- Electrical interlocking between the contactors

These modules do not require their own terminals and can therefore be used for contactors with both screw and spring-type terminals in all the sizes S00 to S3. To start the star-delta (wye-delta) starter, only the first of the three contactors (line contactor) is actuated, like in the case of a direct-on-line starter. All other functions then take place inside the individual modules.

This also offers advantages if the timing function was previously implemented in a controller, as it again results in a significant reduction in the number of PLC outputs, the programming work and the wiring outlay.

The kits for the main circuit include the mechanical interlock, the star jumper, the wiring modules at the top and at the bottom, and the required connectors or connecting clips.

A protection circuit (varistor) is integrated in the basic module.

The *function modules for star-delta (wye-delta) starting* are mostly used where current-limiting measures for starting a drive are required and a high level of availability is essential at the same time. This technology has been used with success for several decades and has the additional advantage of requiring relatively little know-how. Through the use of function modules, the assembly work with simple standard components is even easier and absolutely error-free.

The use of *function modules for star-delta (wye-delta) starting* results in the following advantages:

- Operation solely through the line contactor A1/A2 – no further control current wiring needed
- Prevention of wiring errors
- Reduction of testing costs
- Integrated electrical interlocking saves costs and prevents errors
- Less space needed in the control cabinet compared to using a separate timing relay
- Adjustable starting in star mode from 0.5 to 60 s
- Independent of the contactor's control supply voltage (24 to 240 V AC/DC)
- Varistor integrated – no additive protection circuit required
- Mechanically coded assembly enables easy configuration and reliable wiring
- Fewer versions – one module kit for screw and spring-type connection and for all the contactor sizes S00 to S3
- Mechanical interlocking (with wiring kit for the main circuit)

Power Contactors for Switching Motors

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays

Accessories

SIRIUS 3RA27 function modules for IO-Link or AS-Interface for mounting on 3RT2 contactors

See pages 3/87 and 3/107

The SIRIUS 3RA27 function modules enable the assembly of starters and contactor assemblies for direct-on-line, reversing and star-delta (wye-delta) starting without any additional, complicated wiring of the individual components. They include the key control functions required for the particular feeder, e.g. timing and interlocking, and can be connected to the control system via either IO-Link or AS-Interface.

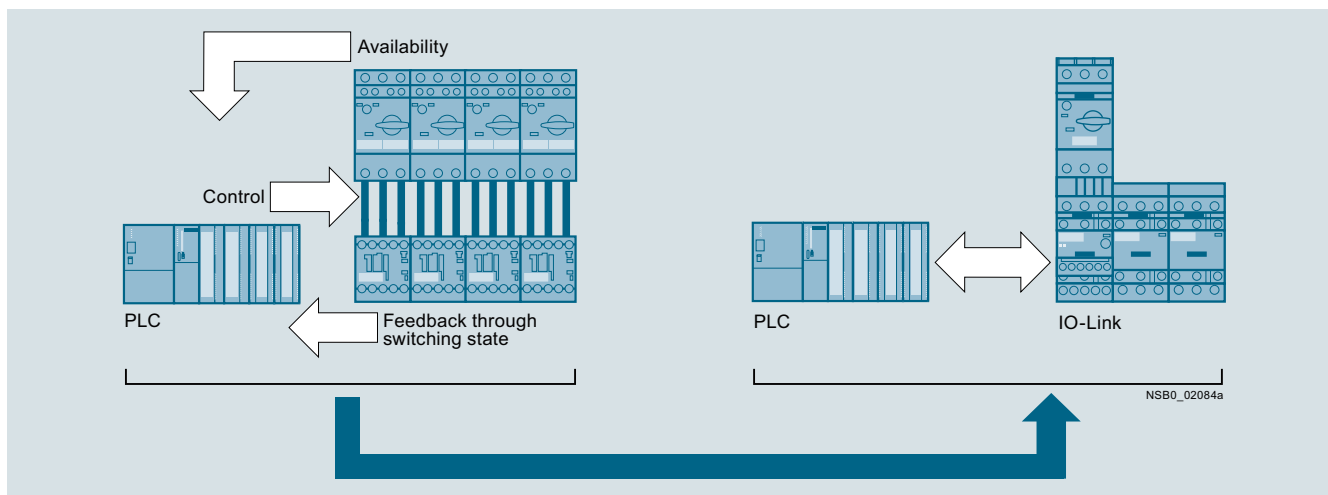
The electrical and mechanical connection to the contactor is established by snapping on and locking the respective modules. An additive protection circuit for the individual contactors can be dispensed with completely because a varistor is integrated in the modules. Feedback from the contactor contacts is performed with Hall sensors which provide reliable feedback concerning the switching state even under extremely dusty conditions.

The starters are connected to the higher-level control system through IO-Link, with the possibility of connecting up to four starters as a group to one port of the IO-Link master, or optionally via AS-Interface, Specification V2.1 or higher, in A/B technology. As a result, up to 62 starters can be connected to one master and the address is entered in the normal manner with an addressing unit.

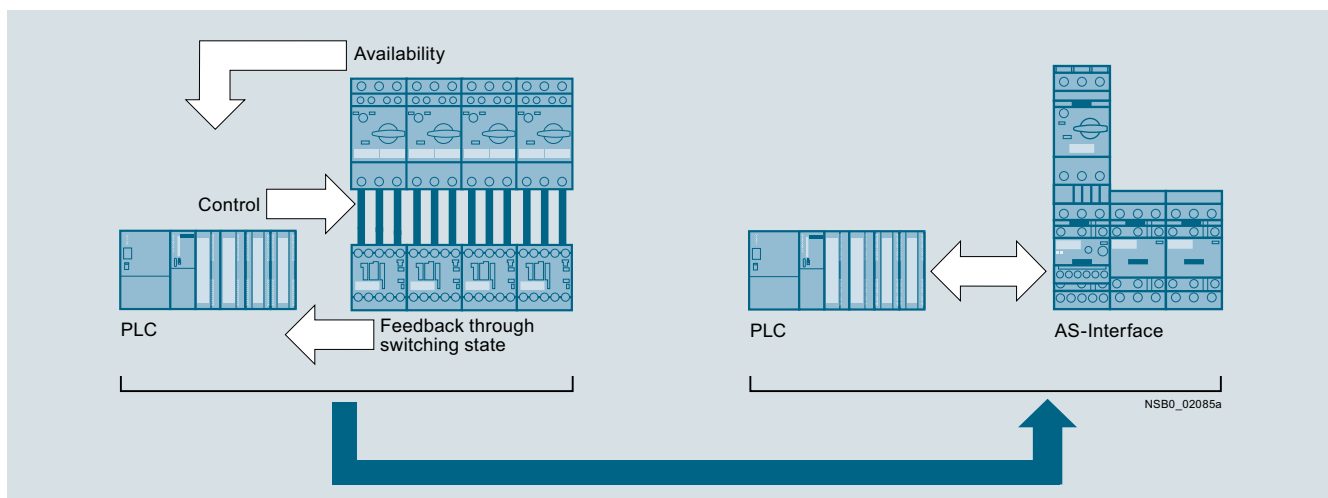
Through this type of connection to the control system, a maximum of wiring is saved. In the case of AS-Interface, the wiring amounts to the control supply voltage and the two individual wires for AS-Interface.

The following essential signals are thus transmitted:

- Availability of the feeder in response to an indirect inquiry from the motor starter protector/circuit breaker
- Starter control
- Feedback concerning the switching state of the starter



Signal transmission through IO-Link



Signal transmission through AS-Interface

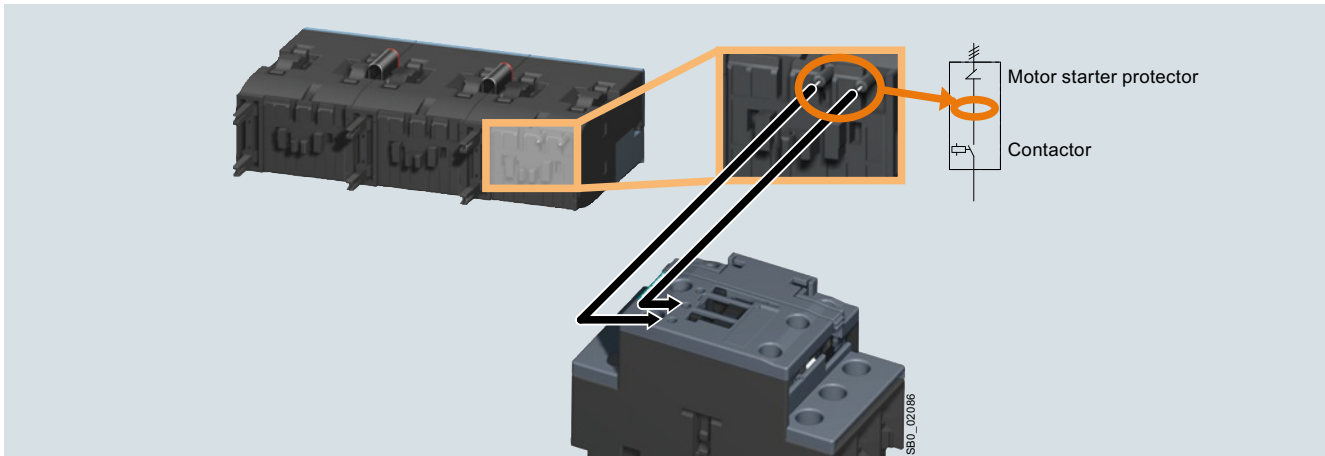
Power Contactors for Switching Motors

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays

Accessories

The inquiry from the motor starter protector/circuit breaker does not take place through additive wiring between the auxiliary switch and the module but by means of a voltage inquiry at the contactor input.

This requires special versions of the contactors with voltage tap-off (see pages 3/61, 3/65, 3/69 and 3/70).



Availability signal through voltage tap-off

The following benefits result from the use of SIRIUS 3RA27 function modules:

- Reduction of control current wiring. In the case of IO-Link to no more than three cables for four feeders.
- Elimination of testing costs and wiring errors
- Reduction of configuration work
- Parameter server functionality
- Integration in TIA means unambiguous IO-Link diagnostics if a fault occurs

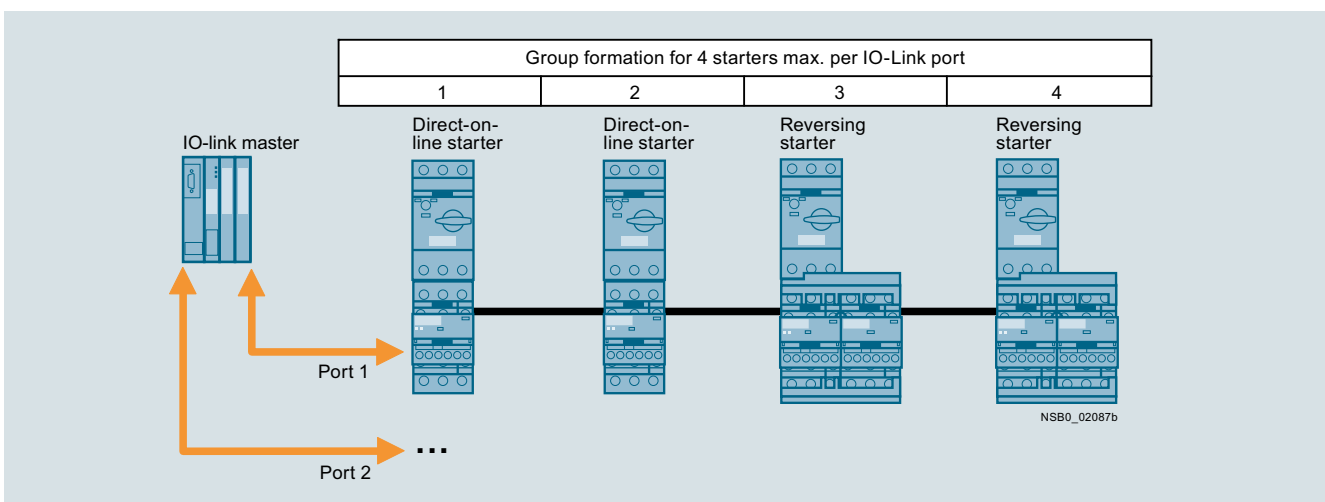
- Dispensing with IO modules saves space in the control cabinet
- All essential timing and interlocking functions for reversing duty and star-delta (wye-delta) starting are integrated
- No additive protection circuit required

For more information on IO-Link and AS-Interface, see "Industrial Communication", from page 2/1 onwards.

SIRIUS 3RA2711 function modules for IO-Link for mounting on 3RT2 contactors

By grouping up to four starters, it is possible to connect up to 16 starters to one master of the ET 200SP or S7-1200. In this case all the signals of the individual controls are made available directly in the process image of the input through only three individual wires per starter group. If the same potential is present

at the ET 200SP or S7-1200 master and at the switching devices, the wiring can be reduced further by connecting the supply voltage of the contactor coils to the communication wires via jumpers.



Group formation with IO-Link

In case of a malfunction, the corresponding error signals are also sent directly to the PLC in acyclic mode. This is in addition to transmission of the switching signals and status signals.

Possible error signals:

- Switching element defective
- No main voltage (motor starter protector tripped)
- No control supply voltage
- Limit position on the right/on the left
- Manual mode
- Process image fault

Power Contactors for Switching Motors

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays

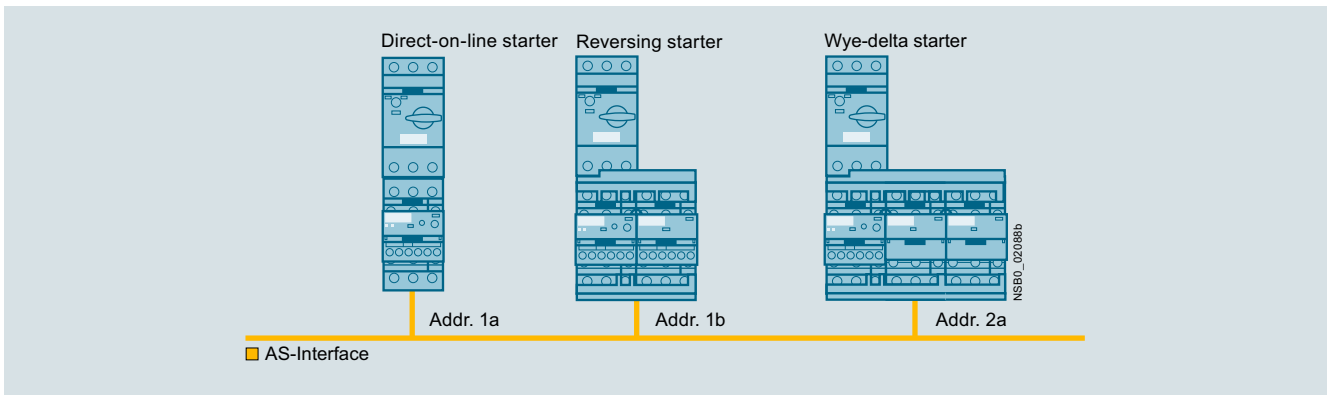
Accessories

This easy integration of the starters in the TIA world does not limit the flexibility in the field in the least. For example, all function modules have special terminals in order to enable direct local disconnection. These terminals can be connected for example to a position switch. The input interrupts the voltage supply to the contactor coil directly, i.e. without going through the PLC. These terminals are jumpered in the as-delivered state.

Local manual operation of the complete starter group is also straightforward using a hand-held device. The latter is easily connected to the last starter and can be built into the front panel of the control cabinet if required. This offers significant advantages particularly for commissioning.

SIRIUS function modules with IO-Link are used above all in machines and plants in which there are several motor feeders in one control cabinet. Using IO-Link, the connection of these feeders to the automation level is easy, quick and error-free. And with IO modules no longer needed, the width of the PLC is far smaller.

SIRIUS 3RA2712 function modules for AS-Interface for mounting on 3RT2 contactors



Topology with AS-Interface

This easy integration of the starters in the TIA world does not limit the flexibility in the field in the least. For example, all function modules have special terminals in order to enable direct local disconnection. These terminals can be connected for example to a position switch. The input interrupts the voltage supply to the contactor coil directly, i.e. without going through the PLC. These terminals are jumpered in the as-delivered state.

SIRIUS function modules with AS-Interface are recommended above all in machines and plants requiring easy connection of several different sensors and actuators both inside and outside the control cabinet to the higher-level control system. And with IO modules no longer needed, the width of the PLC is far smaller.

Power Contactors for Switching Motors

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays

Technical specifications

More information

TIA Selection Tool Cloud (TST Cloud), see <https://mall.industry.siemens.com/spice/TSTWeb/?kmat=Contactor>

Technical specifications

• For SIRIUS 3RT2 contactors and SIRIUS 3RH2 contactor relays, see <https://support.industry.siemens.com/cs/ww/en/ps/16208/td>

• For SIRIUS 3RT1 contactors, see <https://support.industry.siemens.com/cs/ww/en/ps/16209/td>

FAQs

• For SIRIUS 3RT2 contactors and SIRIUS 3RH2 contactor relays, see <https://support.industry.siemens.com/cs/ww/en/ps/16208/faq>

• For SIRIUS 3RT1 contactors, see <https://support.industry.siemens.com/cs/ww/en/ps/16209/faq>

System Manual, see "SIRIUS – System Overview", <https://support.industry.siemens.com/cs/ww/en/view/60311318>

Manual, see "SIRIUS – SIRIUS 3RT Contactors/Contactor Assemblies", <https://support.industry.siemens.com/cs/ww/en/view/60306557>



Solid-state time-delay auxiliary switch blocks for mounting on 3RT201 to 3RT204 (sizes S00 to S3) and 3RH2 contactor relays (size S00)

Type		3RA2813	3RA2814	3RA2815
Function		ON-delay	OFF-delay with control signal	OFF-delay without control signal
General data				
Dimensions (basic unit with mounted solid-state time-delay auxiliary switch block)		See 3RT2 contactors (pages 3/27, 3/33, 3/38, 3/43) and 3RH2 contactor relays (page 5/7)		
Rated insulation voltage U_i Pollution degree 3, overvoltage category III	V AC	300		
Rated impulse withstand voltage U_{imp}	kV AC	4		
Permissible ambient temperature				
• During operation	°C	-25 ... +60		
• During storage	°C	-40 ... +80		
Degree of protection acc. to IEC 60529		IP20		
Shock resistance Half-sine acc. to IEC 60068-2-27	g/ms	15/11		
Vibration resistance acc. to IEC 60068-2-6	Hz/mm	10 ... 55/0.35		
Electromagnetic compatibility (EMC)		IEC 61000-6-2, IEC 61000-6-4, IEC 61812-1, IEC 60947-4-1		
Overvoltage protection		Varistor integrated		
Permissible mounting position		Any (for the mounting position of 3RT2 contactors, see pages 3/27, 3/33, 3/38, 3/43; for the mounting position of 3RH2 contactor relays, see page 5/6)		
Control				
Operating range of excitation		0.85 ... 1.1 x U_s , 0.95 ... 1.05 times the rated frequency		
Rated power	W	1		
• Power consumption at 230 V AC, 50 Hz	VA	2		
Recovery time	ms	150		
Minimum ON period	ms	--	35	200
Setting accuracy , typ., with reference to upper limit of scale		± 15 %		
Repeat accuracy , max.		± 1 %		
Load side				
Rated operational currents I_e				
• AC-15 at 24 ... 250 V, 50 Hz	A	3		
• DC-13				
- At 24 V	A	1		
- At 125 V	A	0.2		
- At 250 V	A	0.1		
Mechanical endurance	Operating cycles	10 x 10 ⁶		
Electrical endurance at AC-15, 250 V, 3 A	Operating cycles	100 000		
Switching frequency for load				
• With I_e at 230 V AC	1/h	2 500		
• With 3RT2 contactor at 230 V AC	1/h	2 500		
Residual current , max.	mA	--		
Voltage drop , max., with conducting output	VA	--		
Short-circuit protection				
• Fuse links, operational class gG: DIAZED, type 5SB	A	4		


Power Contactors for Switching Motors

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays

Accessories

Type		3RA2813	3RA2814	3RA2815
Function		ON-delay	OFF-delay with control signal	OFF-delay without control signal
Conductor cross-sections				
Connection type (1 or 2 conductors can be connected)		 Screw terminals		
• Solid	mm ²	1 x (0.5 ... 4), 2 x (0.5 ... 2.5)		
• Finely stranded with end sleeve (DIN 46228-1)	mm ²	1 x (0.5 ... 2.5), 2 x (0.5 ... 1.5)		
• AWG cables, solid or stranded	AWG	2 x (20 ... 14)		
• Terminal screws		M3 (for standard screwdriver size 2 or Pozidriv 2)		
• Tightening torque	Nm	0.8 ... 1.2		
Connection type (1 or 2 conductors can be connected)		 Spring-type terminals		
• Solid	mm ²	2 x (0.25 ... 1.5)		
• Finely stranded with end sleeve (DIN 46228-1)	mm ²	2 x (0.25 ... 1.5)		
• Finely stranded without end sleeve	mm ²	2 x (0.25 ... 1.5)		
• AWG cables, solid or stranded	AWG	2 x (24 ... 16)		
• Operating devices	mm	3.0 x 0.5		

Solid-state time-delay auxiliary switch blocks, for snapping onto 3RT1 contactors



Type		3RT1926-2E, 3RT1926-2F, 3RT1926-2G	Type		3RT1926-2E, 3RT1926-2F, 3RT1926-2G
Sizes		S6 to S12	Sizes		S6 to S12
General data			Load side		
Dimensions (W x H x D)	mm	45 x 26 x 50	Rated operational currents I_e		
Rated insulation voltage U_i	V AC	250	• AC-15, 230 V, 50 Hz	A	3
Pollution degree 3, Overvoltage category III acc. to IEC 60664-1			• DC-13, 24 V	A	1
Permissible ambient temperature			• DC-13, 110 V	A	0.2
• During operation	°C	-25 ... +60	• DC-13, 230 V	A	0.1
• During storage	°C	-40 ... +80	Short-circuit protection		
Degree of protection acc. to IEC 60529			Fuse links, operational class gG: DIAZED, type 5SB	A	4
Terminals		IP20	Mechanical endurance	Operating cycles	10 x 10 ⁶
Shock resistance Half-sine acc. to IEC 60068-2-27	g/ms	15/11	Switching frequency for load		
Vibration resistance acc. to IEC 60068-2-6	Hz/mm	10 ... 55/0.35	• With I_e at 230 V AC	1/h	2 500
Electromagnetic compatibility (EMC)		IEC 61812-1	• With 3RT2016 contactor at 230 V AC	1/h	5 500
Permissible mounting position		Any (see 3RT1 contactors, page 3/48)	Conductor cross-sections		
Control			Connection type (1 or 2 conductors can be connected)		
Operating range of excitation		0.85 ... 1.1 x U_N , 0.95 ... 1.05 times the rated frequency	 Screw terminals		
Rated power	W	2	• Solid	mm ²	2 x (0.5 ... 1.5), 2 x (0.75 ... 4)
Power consumption at 230 V AC, 50 Hz	VA	4	• Finely stranded with end sleeve	mm ²	2 x (0.5 ... 2.5)
Recovery time	ms	150	• AWG cables, solid or stranded	AWG	2 x (18 ... 14)
Minimum ON period	ms	200 (with OFF-delay)	• Terminal screws		M3
Setting accuracy, typ. with reference to upper limit of scale	%	± 15	• Tightening torque	Nm	0.8 ... 1.2
Repeat accuracy, max.	%	± 1			

Power Contactors for Switching Motors

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays

Accessories

Coupling links for control by PLC



Type		3RH2924-1GP11	3RH2914-GP11
Mounting on contactors of size		S0	S00 to S3
General data			
Standards		IEC 60947	
Rated insulation voltage U_i (pollution degree 3)	V	300	
Protective separation between coil and contacts Acc. to IEC 60947-1, Appendix N	V AC	Up to 300	
Degree of protection acc. to IEC 60529		IP20	
Permissible ambient temperature			
• During operation	°C	-25 ... +60	
• During storage	°C	-40 ... +80	
Control side			
Rated control supply voltage U_s	V DC	24	
Operating range	V DC	17 ... 30	
Power consumption at U_s	W	0.5	
Nominal current input	mA	20	
Release voltage	V	≥ 4	
Function display		Yellow LED	
Protection circuit		Varistors	
Load side			
Mechanical endurance	Operating cycles	20 million	10 million
Electrical endurance at I_e	Operating cycles	0.1 million	
Switching frequency	1/h	5 000	
Make-time	ms	Approx. 7	
Break-time	ms	Approx. 4	
Bounce time	ms	Approx. 2	
Contact material		AgSnO ₂	
Switching voltage	V AC/DC	24 ... 250	
Rated operational current I_e			
• AC-15/AC-14 at 230 V	A	3	
• DC-13 at 230 V	A	0.1	
Permissible residual current of the electronics (with 0 signal)	mA	2.5	
Conductor cross-sections			
Connection type (1 or 2 conductors can be connected)		 Screw terminals	
• Solid	mm ²	2 x (0.5 ... 2.5)	
• Finely stranded with end sleeve (DIN 46228-1)	mm ²	2 x (0.5 ... 1.5)	
• Terminal screws		M3	
Connection type (1 or 2 conductors can be connected)		 Spring-type terminals	
• Solid	mm ²	--	2 x (0.25 ... 1.5)
• Finely stranded with end sleeve (DIN 46228-1)	mm ²	--	2 x (0.25 ... 1.5)
• Finely stranded without end sleeve	mm ²	--	2 x (0.25 ... 1.5)
• AWG cables, solid or stranded	AWG	--	2 x (24 ... 16)
• Operating devices	mm	--	3.0 x 0.5

Power Contactors for Switching Motors

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays

Accessories

3RA28 function modules for mounting on 3RT2 contactors and 3RH2 contactor relays



Type	3RA2811	3RA2831	3RA2812	3RA2832	3RA2816
Mounting on contactors of size	S00, S0	S2, S3	S00, S0	S2, S3	S00 to S3
Function	For direct-on-line starting				For star-delta (wye-delta) starting
	ON-delay		OFF-delay with control signal		
General data					
Dimensions (basic unit with mounted function module)		See 3RT2 contactors (pages 3/27, 3/33, 3/38, 3/43) and 3RH2 contactor relays (page 5/7)			
Rated insulation voltage U_i Pollution degree 3 Overvoltage category III	V AC	300			
Rated impulse withstand voltage U_{imp}	kV AC	4			
Overvoltage protection	Varistor integrated				
Recovery time	ms	50			150
Minimum ON period	ms	--	35	--	
Setting accuracy Typ. With reference to upper limit of scale			± 15 %		
Repeat accuracy Max.			± 1 %		
Degree of protection acc. to IEC 60529	IP20				
Permissible ambient temperature					
• During operation	°C	-25 ... +60			
• During storage	°C	-40 ... +80			
Shock resistance Half-sine acc. to IEC 60068-2-27	g/ms	15/11			
Vibration resistance acc. to IEC 60068-2-6	Hz/mm	10 ... 55/0.35			
Electromagnetic compatibility (EMC)	IEC 61000-6-2, IEC 61000-6-4, IEC 61812-1, IEC 60947-4-1				
Permissible mounting position	Any (for the mounting position of 3RT2 contactors, see pages 3/27, 3/33, 3/38, 3/43; for the mounting position of 3RH2 contactor relays, see page 5/6)				
Control side					
Operating range of excitation	0.85 ... 1.1 x U_s , 0.95 ... 1.05 times the rated frequency				
Rated power	W	1			
• Power consumption at 230 V AC, 50 Hz	VA	1	2		
Load side					
Mechanical endurance	Operating cycles	100 x 10 ⁶			10 x 10 ⁶
Electrical endurance	Operating cycles	100 000			
• With 3RT2028 contactor	Operating cycles	100 000			--
• At AC-15, 250 V, 3 A	Operating cycles	--			100 000
Switching frequency for load					
• With I_g at 230 V AC	1/h	2 500			--
• With 3RT2 contactor at 230 V AC	1/h	2 500			--
Residual current Max.	mA	5	--		
Voltage drop Max. With conducting output	VA	3.5	--		
DIAZED fuse protection Operational class gG	A	--			4
Conductor cross-sections					
Connection type (1 or 2 conductors can be connected)		 Screw terminals			
• Solid	mm ²	1 x (0.5 ... 4), 2 x (0.5 ... 2.5)			--
• Finely stranded with end sleeve (DIN 46228-1)	mm ²	1 x (0.5 ... 2.5), 2 x (0.5 ... 1.5)			--
• AWG cables, solid or stranded	AWG	2 x (20 ... 14)			--
• Terminal screws		M3 (for standard screwdriver size 2 or Pozidriv 2)			--
• Tightening torque	Nm	0.8 ... 1.2			--
Connection type (1 or 2 conductors can be connected)		 Spring-type terminals			
• Operating devices	mm	3.0 x 0.5			--
• Solid	mm ²	2 x (0.25 ... 1.5)			--
• Finely stranded with end sleeve (DIN 46228-1)	mm ²	2 x (0.25 ... 1.5)			--
• Finely stranded without end sleeve	mm ²	2 x (0.25 ... 1.5)			--
• AWG cables, solid or stranded	AWG	2 x (24 ... 16)			--

Power Contactors for Switching Motors



Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays

Accessories

3RA27 function modules for IO-Link for mounting on 3RT2 contactors

Type		3RA2711	
General data			
Dimensions		See 3RT2 contactors: pages 3/27, 3/33, 3/38 and 3/43	
Suitable for IO-Link masters acc. to specification		1.1	
Permissible ambient temperature			
• During operation	Acc. to IEC 60947-1	°C	-25 ... +60
• During storage	Acc. to IEC 60721-3-1	°C	-40 ... +80
• During transport	Acc. to IEC 60721-3-2	°C	-40 ... +80
Degree of protection		IP20	
Operating voltage U_{Hi}		V DC	24 ± 20 %
Max. length of the cables for the input Y1-Y2		Acc. to EN 50295	m
Electromagnetic compatibility (EMC)		IEC 61000-6-2, IEC 61000-6-4, IEC 60947-4-1	
Conductor cross-sections			
Connection type (1 or 2 conductors can be connected)		 Screw terminals	
• Solid	mm ²	1 x (0.5 ... 4), 2 x (0.5 ... 2.5)	
• Finely stranded with end sleeve (DIN 46228-1)	mm ²	1 x (0.5 ... 2.5), 2 x (0.5 ... 1.5)	
• AWG cables, solid or stranded	AWG	2 x (20 ... 14)	
• Terminal screws		M3 (for standard screwdriver Ø 6 mm or Pozidriv 2)	
• Tightening torque of the terminal screws	Nm	0.8 ... 1.2	
Connection type (1 or 2 conductors can be connected)		 Spring-type terminals	
• Operating devices	mm	3.0 x 0.5	
• Solid	mm ²	2 x (0.25 ... 1.5)	
• Finely stranded with end sleeve (DIN 46228-1)	mm ²	2 x (0.25 ... 1.5)	
• Finely stranded without end sleeve	mm ²	2 x (0.25 ... 1.5)	
• AWG cables, solid or stranded	AWG	2 x (24 ... 16)	

3RA27 function modules for AS-Interface for mounting on 3RT2 contactors

Type		3RA2712	
General data			
Dimensions		See 3RT2 contactors: pages 3/27, 3/33, 3/38 and 3/43	
Slave type		A/B slave	
Suitable for AS-i masters acc. to specification		2.1 or higher	
AS-i slave profile IO.ID.ID2		7.A.E	
ID1 code (factory setting)		7	
Permissible ambient temperature			
• During operation	Acc. to IEC 60947-1	°C	-25 ... +60
• During storage	Acc. to IEC 60721-3-1	°C	-40 ... +80
• During transport	Acc. to IEC 60721-3-2	°C	-40 ... +80
Degree of protection		IP20	
Operational voltage			
• AS-Interface	V	26.5 ... 31.6	
• AUX PWR 24 V DC	V	24 ± 20 %	
Current consumption, max.			
• AS-Interface	mA	30	
• AUX PWR			
- Maximum pick-up/hold current	Size S00	mA	200/200
	Size S0	mA	300/300
	Size S2	mA	1 300/50
	Size S3	mA	4 000/70
Max. length of the cables for the input Y1-Y2		According to EN 50295	m
Electromagnetic compatibility (EMC)		IEC 61000-6-2, IEC 61000-6-4, IEC 60947-4-1	
Conductor cross-sections			
Connection type (1 or 2 conductors can be connected)		 Screw terminals	
• Solid	mm ²	1 x (0.5 ... 4), 2 x (0.5 ... 2.5)	
• Finely stranded with end sleeve (DIN 46228-1)	mm ²	1 x (0.5 ... 2.5), 2 x (0.5 ... 1.5)	
• AWG cables, solid or stranded	AWG	2 x (20 ... 14)	
• Terminal screws		M3 (for standard screwdriver Ø 6 mm or Pozidriv 2)	
• Tightening torque of the terminal screws	Nm	0.8 ... 1.2	
Connection type (1 or 2 conductors can be connected)		 Spring-type terminals	
• Operating devices	mm	3.0 x 0.5	
• Solid	mm ²	2 x (0.25 ... 1.5)	
• Finely stranded with end sleeve (DIN 46228-1)	mm ²	2 x (0.25 ... 1.5)	
• Finely stranded without end sleeve	mm ²	2 x (0.25 ... 1.5)	
• AWG cables, solid or stranded	AWG	2 x (24 ... 16)	

Power Contactors for Switching Motors

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays Accessories

Auxiliary switch blocks, instantaneous

Selection and ordering data

Auxiliary switch: Terminal designations and identification numbers for auxiliary contacts

Terminal designations

The terminal designations are 2-digit, e.g. 13, 14, 21, 22:

- Tens digit: Sequence digit
 - Related terminals have the same sequence digit
- Units digit: Function digit
 - 1-2 for normally closed contacts (NC)
 - 3-4 for normally open contacts (NO)

Identification numbers

The identification number indicates the number and type of the auxiliary contacts, e.g. 40, 31, 22, 13:

- 1st digit: number of normally open contacts (NO)
- 2nd digit: number of normally closed contacts (NC)

Examples:

- 31 = 3 NO + 1 NC
- 40 = 4 NO

Selection aid for mountable auxiliary switch blocks for power contactors and contactor relays

The auxiliary switch blocks of the 3RH29 series for mounting on the front and side can be used for 3RT2 power contactors as well as for 3RH2 contactor relays.

The possible combinations of basic unit and mounted auxiliary switch block can be found in the tables, [see the following pages](#).

Where the columns and lines intersect (blue and green in the example) you will find the identification number for the combination of basic unit (column) and auxiliary switch block (line).

Additional auxiliary switch blocks		3-pole contactors		
Article number	Auxiliary contacts	3RT201	3RT201	3RT202 to 3RT204
	Version	S00	S00	S0 to S3
	NO NC	10	01	11
		2. 3. 4. 5.	5. 6. 7. 8.	3. 4. 5. 6.
According to EN 50012¹⁾				

Auxiliary switch blocks without NO contacts					
3RH2911-□HA01	-- 1		11	02	12
3RH2911-□HA02	-- 2		12	03	13
3RH2911-□HA03	-- 3		13	04	14
3RH2911-□FA04	-- 4		14	--	--
Auxiliary switch blocks with 1 NO contact					
3RH2911-□HA10	1 --		20	11	21

1 For screw terminals
2 For spring-type terminals

¹⁾ Combinations according to EN 50012, EN 50011 and IEC 60947-5-1 are in **bold** print. All combinations comply with EN 50005.

Example 1

Basic unit: 3-pole 3RT2017 motor contactor with 1 NO
Required: 1 NO + 4 NC (Ident. No. 14)
Result: 3RH2911-FA04 auxiliary switch block

Example 2

Basic unit: 3-pole 3RT2023 motor contactor with 1 NO + 1 NC
Required: 1 NO + 4 NC (Ident. No. 14)
Result: Auxiliary switch block 3RH2911-HA03









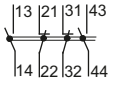
	Example 1	Example 2
Type	3RT20 motor contactor, S00 with 1 NO	3RT20 motor contactor, S0 with 1 NO + 1 NC
Sequence digit	2. 3. 4. 5.	3. 4. 5. 6.
Type	Auxiliary switch blocks with 4 NC, 3RH2911-FA04	Auxiliary switch blocks with 3 NC, 3RH2911-HA03
Function digit	.1 .1 .1 .1 .2 .2 .2 .2	.1 .1 .1 .2 .2 .2
Combination	3RT20 motor contactor, S00 with aux. switch block	3RT20 motor contactor, S0 with aux. switch block
Terminal designation	13 21 31 41 51 14 22 32 42 52	13 21 31 41 51 14 22 32 42 52
Result	Ident. No. 14	Ident. No. 14

Power Contactors for Switching Motors

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays

Accessories

Auxiliary switch blocks, instantaneous



Additional auxiliary switch blocks		3-pole contactors			4-pole contactors				Contactor relays				
Article number	Auxiliary contacts Version	S00 3RT201	S0 to S3 3RT202, 3RT203, 3RT204, 3RT244		S00 3RT231	3RT251	S0 to S3 3RT232, 3RT233, 3RT234		3RT252, 3RT253, 3RT254		S00 3RH21, 3RH24		
	NO NC	10	01	11	--	--	11	11	40E	31E	22E		
													
		2. 3. 4. 5.	5. 6. 7. 8.	3. 4. 5. 6.			1. 2. 3. 4.	1. 2. 3. 4.	3. 4. 5. 6.	3. 4. 5. 6.	5. 6. 7. 8.	5. 6. 7. 8.	5. 6. 7. 8.
		According to EN 50012 ¹⁾			According to EN 50012 ¹⁾				According to EN 50011 ¹⁾				

Auxiliary switch blocks, front





Without NO contact

3RH2911-□HA01	-- 1		11	02	12	01	01	12	12	41X	32X	23X
3RH2911-□HA02	-- 2		12	03	13	02	02	13	--	42E	33X	24
3RH2911-□HA03	-- 3		13	04	14	03	--	--	--	43	34	--
3RH2911-□FA04	-- 4		14	--	--	--	--	--	--	44E	--	--



With 1 NO contact

3RH2911-□HA10	1 --		20	11	21	10	10	21	21	50E	41E	32E
3RH2911-□HA11	1 1		21	12	22	11	11	22	22	51X	42X	33X
3RH2911-□HA12	1 2		22	13	23	12	12	23	--	52	43	34
3RH2911-□HA13	1 3		23	14	24	13	--	--	--	53X	44X	--

With 2 NO contacts

3RH2911-□HA20	2 --		30	21	31	20	20	31	31	60E	51X	42X
3RH2911-□HA21	2 1		31	22	32	21	21	32	32	61	52	43
3RH2911-□HA22	2 2		32	23	33	22	22	33	--	62X	53	44X
3RH2911-□FA22	2 2		32	23	33	22	22	33	--	62X	53	44X

With 3 NO contacts

3RH2911-□HA30	3 --		40	31	41	30	30	41	41	70	61	52
3RH2911-□HA31	3 1		41	32	42	31	31	42	42	71X	62X	53X

With 4 NO contacts

3RH2911-□FA40	4 --		50	41	51	40	40	51	51	80E	71X	62X
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¹⁾ Combinations according to EN 50012, EN 50011 and IEC 60947-5-1 are in **bold** print. All combinations comply with EN 50005.

Power Contactors for Switching Motors

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays Accessories

Auxiliary switch blocks, instantaneous

Additional auxiliary switch blocks		3-pole contactors			4-pole contactors				Contactor relays			
Article number	Auxiliary contacts Version	S00 3RT201	S0 to S3 3RT202, 3RT203, 3RT204, 3RT244	S00 3RT231	3RT251	S0 to S3 3RT232, 3RT233, 3RT234	3RT252, 3RT253, 3RT254	S00 3RH21, 3RH24				
	NO NC	S00	S0 to S3	S00		S0 to S3		40E	31E	22E		
		2. 3. 4. 5.	5. 6. 7. 8.	3. 4. 5. 6.		1. 2. 3. 4.	1. 2. 3. 4.	3. 4. 5. 6.	3. 4. 5. 6.	5. 6. 7. 8.	5. 6. 7. 8.	5. 6. 7. 8.
		According to EN 50005			According to EN 50005				According to EN 50005			

Auxiliary switch blocks, front (continued)

With make-before-break¹⁾

3RH2911-□FB11	1 1		21	12	22	11	11	22	22	51	42	33
3RH2911-□FB22	2 2		32	23	33	22	22	33	--	62	53	44
3RH2911-□FC22	2 2		32	23	33	22	22	33	--	62	53	44

Complete inscription with terminals from top or bottom

3RH2911-1AA10	1 --		20	11	21	10	10	21	21	50	41	32
3RH2911-1BA10	1 --		20	11	21	10	10	21	21	50	41	32
3RH2911-1AA01	-- 1		11	02	12	01	01	12	12	41	32	23
3RH2911-1BA01	-- 1		11	02	12	01	01	12	12	41	32	23
3RH2911-1LA11	1 1		21	12	22	11	11	22	22	51	42	33
3RH2911-1MA11	1 1		21	12	22	11	11	22	22	51	42	33
3RH2911-1LA20	2 --		30	21	31	20	20	31	31	60	51	42
3RH2911-1MA20	2 --		30	21	31	20	20	31	31	60	51	42















¹⁾ Contacts with make-before-break have no mirror contact function.

Power Contactors for Switching Motors

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays


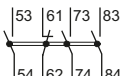
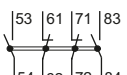
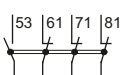
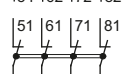
Accessories

Auxiliary switch blocks, instantaneous


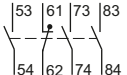
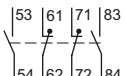
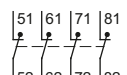
Additional auxiliary switch blocks		3-pole contactors			4-pole contactors				Contactor relays						
Article number	Auxiliary contacts Version	S00			S0 to S3				S00						
	NO NC	3RT201		3RT202, 3RT203, 3RT204, 3RT244			3RT231		3RT251		3RT232, 3RT252, 3RT253, 3RT254		3RH21, 3RH24		
		10	01	11		--	--		11		11		40E	31E	22E
															
		2. 3. 4. 5.	5. 6. 7. 8.	3. 4. 5. 6.			1. 2. 3. 4.		1. 2. 3. 4.		3. 4. 5. 6.		3. 4. 5. 6.		5. 6. 7. 8.
		According to EN 50005			According to EN 50005				According to EN 50011¹⁾						

Auxiliary switch blocks, front (continued)

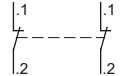
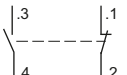

With complete inscription (for contactor relays)²⁾

3RH2911-□GA40	4	--		--	--	--	--	--	--	--	80E	--	--
3RH2911-□GA31	3	1		--	--	--	--	--	--	--	71E	--	--
3RH2911-□GA22	2	2		--	--	--	--	--	--	--	62E	--	--
3RH2911-□GA13	1	3		--	--	--	--	--	--	--	53E	--	--
3RH2911-□GA04	--	4		--	--	--	--	--	--	--	44E	--	--

Complete inscription

3RH2911-□XA40-0MA0	4	--		50	41	51	40	40	51	51	80E	71X	62X
3RH2911-□XA31-0MA0	3	1		41	32	42	31	31	42	42	71E	62X	53
3RH2911-□XA22-0MA0	2	2		32	23	33	22	22	33	--	62E	53	44X
3RH2911-□XA04-0MA0	--	4		14	--	--	--	--	--	--	44E	--	--

Solid-state compatible

3RH2911-□NF02	--	2		12	03	13	02	02	13	--	42	33	24
3RH2911-□NF11	1	1		21	12	22	11	11	22	22	51	42	33
3RH2911-□NF20	2	--		30	21	31	20	20	31	31	60	51	42

¹⁾ Combinations according to EN 50011 and IEC 60947-5-1 are in **bold** print. All combinations comply with EN 50005.

²⁾ For selection and ordering data, see page 3/96.

Power Contactors for Switching Motors

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays Accessories

Auxiliary switch blocks, instantaneous

Additional auxiliary switch blocks		3-pole contactors			4-pole contactors				Contactor relays		
Article number	Auxiliary contacts Version	S00 3RT201	S0 to S3 3RT202, 3RT203, 3RT204, 3RT244	S00 3RT231	3RT251	S0 to S3 3RT232, 3RT233, 3RT234	3RT252, 3RT253, 3RT254	S00 3RH21			
	NO NC	10	01 11	--	--	11	11	40E	31E	22E	
		2. 3. 4. 5.	5. 6. 7. 8. 3. 4. 5. 6.	1. 2. 3. 4.	1. 2. 3. 4.	3. 4. 5. 6.	3. 4. 5. 6.	5. 6. 7. 8.	5. 6. 7. 8.	5. 6. 7. 8.	
		According to EN 50012¹⁾			According to EN 50012¹⁾				According to EN 50011¹⁾		

Lateral auxiliary switch blocks

For size S00		Left	Right											
3RH2911-□DA02	-- 2			12	--	--	02	02	--	--	--	--	--	--
3RH2911-□DA02	-- 2			14	--	--	--	--	--	--	--	--	--	--
3RH2911-□DA02	-- 2													
3RH2911-□DA11	1 1			21	--	--	11	11	--	--	--	--	--	--
3RH2911-□DA11	1 1			32	--	--	22	22	--	--	--	--	--	--
3RH2911-□DA11	1 1													
3RH2911-□DA20	2 --			30	--	--	20	20	--	--	--	--	--	--
3RH2911-□DA20	2 --			50	--	--	40	40	--	--	--	--	--	--
3RH2911-□DA20	2 --													
3RH2911-□DA20	2 --			41	--	--	31	31	--	--	--	--	--	--
3RH2911-□DA20	2 --													
3RH2911-□DA20	2 --			32	--	--	22	22	--	--	--	--	--	--
3RH2911-□DA20	2 --													
3RH2911-□DA11	1 1			23	--	--	13	--	--	--	--	--	--	--
3RH2911-□DA11	1 1													
3RH2911-□DA02	-- 2													

For sizes S00 to S3		Left	Right											
3RH2921-□DA02	-- 2			12	03	13	02	02	13	--	--	--	--	--
3RH2921-□DA02	-- 2			14	--	--	--	--	--	--	--	--	--	--
3RH2921-□DA02	-- 2													
3RH2921-□DA11	1 1			21	12	22	11	11	22	22	--	--	--	--
3RH2921-□DA11	1 1			32	23	33	22	22	33	--	--	--	--	--
3RH2921-□DA11	1 1													
3RH2921-□DA20	2 --			30	21	31	20	20	31	31	--	--	--	--
3RH2921-□DA20	2 --			50	41	51	40	40	--	--	--	--	--	--
3RH2921-□DA20	2 --													

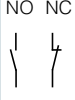








¹⁾ Combinations according to EN 50012, EN 50011 and IEC 60947-5-1 are in **bold** print. All combinations comply with EN 50005.

Power Contactors for Switching Motors









Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays




Accessories







Auxiliary switch blocks, instantaneous

Additional auxiliary switch blocks		3-pole contactors			4-pole contactors				Contactor relays			
Article number	Auxiliary contacts Version	S00 3RT201	S0 to S3 3RT202, 3RT203, 3RT204, 3RT244		S00 3RT231	3RT251	S0 to S3 3RT232, 3RT233, 3RT234		3RT252, 3RT253, 3RT254		S00 3RH21	
	NO NC	10	01	11	--	--	11	11	40E	31E	22E	
												
		2 3 4 5.	5 6 7 8.	3 4 5 6.	1 2 3 4.	1 2 3 4.	3 4 5 6.	3 4 5 6.	5 6 7 8.	5 6 7 8.	5 6 7 8.	
		According to EN 50012 ¹⁾			According to EN 50012 ¹⁾				According to EN 50011 ¹⁾			


Lateral auxiliary switch blocks (continued)

For sizes S00 to S3		Left	Right											
3RH2921-□DA20	2 --			41	32	42	31	31	--	--	--	--	--	--
3RH2921-□DA11	1 1			32	23	33	22	22	--	--	--	--	--	--
3RH2921-□DA20	2 --			23	14	24	13	--	--	--	--	--	--	--
3RH2921-□DA11	1 1			--	--	--	--	--	--	--	--	--	--	--

For contactor relays ²⁾		Left												
3RH2921-□DA02	-- 2		--	--	--	--	--	--	--	--	--	42Z	33X	24
3RH2921-□DA11	1 1		--	--	--	--	--	--	--	--	--	51X	42X	33X
3RH2921-□DA20	2 --		--	--	--	--	--	--	--	--	--	60Z	51X	42X

Solid-state compatible														
For size S00		Left	Right											
3RH2911-2DE11	1 1			21	--	--	11	11	--	--	--	--	--	--
3RH2911-2DE11	1 1			32	--	--	22	22	--	--	--	--	--	--
3RH2911-2DE11	1 1			--	--	--	--	--	--	--	--	--	--	--

For sizes S00 to S3		Left	Right											
3RH2921-□DE11	1 1			21	12	22	11	11	22	22	--	--	--	--
3RH2921-□DE11	1 1			32	23	33	22	22	--	--	--	--	--	--
3RH2921-□DE11	1 1			--	--	--	--	--	--	--	--	--	--	--

For contactor relays ²⁾		Left												
3RH2921-2DE11	1 1		--	--	--	--	--	--	--	--	--	51X	42X	33X

¹⁾ Combinations according to EN 50012, EN 50011 and IEC 60947-5-1 are in **bold** print. All combinations comply with EN 50005.

²⁾ Without positively driven operation.

Power Contactors for Switching Motors

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays Accessories

Auxiliary switch blocks, instantaneous

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



3RH2911-1HA22



3RH2911-2HA22

For contactors/ contactor relays ¹⁾	Auxiliary contacts Version	SD	Screw terminals		SD	Spring-type terminals	
			Article No.	Price per PU		Article No.	Price per PU
Type	NO NC	d			d		

Auxiliary switch blocks for snapping onto the front

Sizes S00 to S3

3RT2.1, 3RT2.2, 3RT2.3, 3RT2.4	--	1		▶	3RH2911-1HA01	▶	3RH2911-2HA01
3RH21, 3RH24	--	2		▶	3RH2911-1HA02	▶	3RH2911-2HA02
	--	3		▶	3RH2911-1HA03	▶	3RH2911-2HA03
	1	--		▶	3RH2911-1HA10	▶	3RH2911-2HA10
	1	1		▶	3RH2911-1HA11	▶	3RH2911-2HA11
	1	2		▶	3RH2911-1HA12	▶	3RH2911-2HA12
	1	3		▶	3RH2911-1HA13	▶	3RH2911-2HA13
	2	--		▶	3RH2911-1HA20	▶	3RH2911-2HA20
	2	1		▶	3RH2911-1HA21	▶	3RH2911-2HA21
	2	2		▶	3RH2911-1HA22	▶	3RH2911-2HA22
	3	--		▶	3RH2911-1HA30	▶	3RH2911-2HA30
	3	1		▶	3RH2911-1HA31	▶	3RH2911-2HA31

¹⁾ For detailed information on use, see page 3/89.

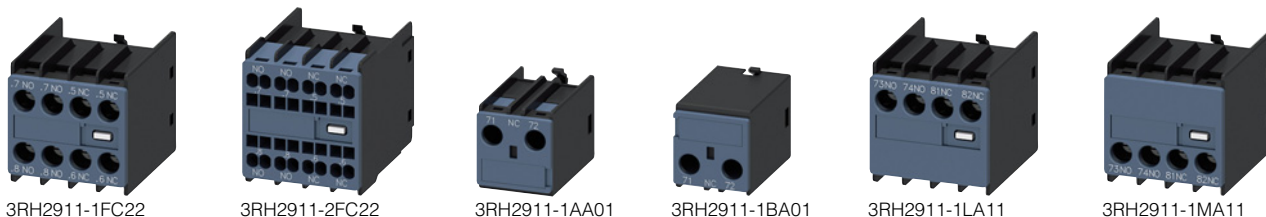
Power Contactors for Switching Motors

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays

Accessories

Auxiliary switch blocks, instantaneous

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



For contactors/ contactor relays ¹⁾	Connections Position	Auxiliary contacts Version	SD	Screw terminals	SD	Spring-type terminals
Type		NO NC NO NC	d	Article No.	Price per PU	Article No. Price per PU

Auxiliary switch blocks for snapping onto the front

Sizes S00 to S3

3RT2.1, 3RT2.2, 3RT2.3, 3RT2.4	--	4	--	--	--		▶ 3RH2911-1FA40	▶ 3RH2911-2FA40
3RH21, 3RH24	--	2	2	--	--		▶ 3RH2911-1FA22	▶ 3RH2911-2FA22
	--	--	4	--	--		▶ 3RH2911-1FA04	▶ 3RH2911-2FA04
	--	--	--	1	1		▶ 3RH2911-1FB11	▶ 3RH2911-2FB11
	--	1	1	1	1		▶ 3RH2911-1FB22	▶ 3RH2911-2FB22
	--	--	--	2	2		▶ 3RH2911-1FC22	▶ 3RH2911-2FC22

1- and 2-pole auxiliary switch blocks, cable entry from top or bottom

3RT2.1, 3RT2.2, 3RT2.3, 3RT2.4	Top	1	--	--	--		▶ 3RH2911-1AA10	--
	Bottom	1	--	--	--		▶ 3RH2911-1BA10	--
3RH21, 3RH24	Top	--	1	--	--		▶ 3RH2911-1AA01	--
	Bottom	--	1	--	--		▶ 3RH2911-1BA01	--
	Top	1	1	--	--		▶ 3RH2911-1LA11	--
	Bottom	1	1	--	--		▶ 3RH2911-1MA11	--
	Top	2	--	--	--		▶ 3RH2911-1LA20	--
	Bottom	2	--	--	--		▶ 3RH2911-1MA20	--

¹⁾ For detailed information on use, see pages 3/89 and 3/90.

Power Contactors for Switching Motors

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays Accessories

Auxiliary switch blocks, instantaneous

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



3RH2911-1GA22



3RH2911-2GA22

For contactor relays ¹⁾	Contactor relay with auxiliary switch block Ident. No.	Auxiliary contacts Version	SD	Screw terminals	SD	Spring-type terminals
Type		NO NC	d	Article No. Price per PU	d	Article No. Price per PU

Auxiliary switch blocks for snapping onto the front

Size S00

Blocks for the assembly of contactor relays with 8 contacts

Ident. No.	80E	71E	62E	53E	44E
3RH2140, 3RH2440, Ident. No. 40E	4 --	3 1	2 2	1 3	-- 4

▶	3RH2911-1GA40	▶	3RH2911-2GA40
▶	3RH2911-1GA31	▶	3RH2911-2GA31
▶	3RH2911-1GA22	▶	3RH2911-2GA22
▶	3RH2911-1GA13	▶	3RH2911-2GA13
▶	3RH2911-1GA04	▶	3RH2911-2GA04

¹⁾ For detailed information on use, see page 3/91.

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



3RH2911-1XA22-0MA0



3RH2911-2XA22-0MA0

For contactors/ contactor relays ¹⁾	Auxiliary contacts Version	SD	Screw terminals	SD	Spring-type terminals
Type	NO NC	d	Article No. Price per PU	d	Article No. Price per PU

Auxiliary switch blocks for snapping onto the front

Sizes S00 to S3

3RT2.1, 3RT2.2, 3RT2.3, 3RT2.4	4 --		▶	3RH2911-1XA40-0MA0	▶	3RH2911-2XA40-0MA0
3RH21, 3RH24	3 1		▶	3RH2911-1XA31-0MA0	▶	3RH2911-2XA31-0MA0
	2 2		▶	3RH2911-1XA22-0MA0	▶	3RH2911-2XA22-0MA0
	-- 4		▶	3RH2911-1XA04-0MA0	5	3RH2911-2XA04-0MA0

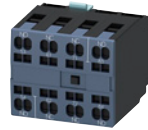
¹⁾ For detailed information on use, see page 3/91.

Power Contactors for Switching Motors

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays Accessories

Auxiliary switch blocks, instantaneous

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



3RH1921-1XA22-0MA0

3RH1921-2XA22-0MA0

3RH1921-1CA10

3RH1921-1CD10

3RH1921-2CA10

3RH1921-2CA01

For contactors	Auxiliary contacts		SD	Screw terminals		SD	Spring-type terminals	
	Ident. No.	Version		Article No.	Price per PU		Article No.	Price per PU
Type			d					

Auxiliary switch blocks for snapping onto the front

Sizes S6 to S12

4-pole auxiliary switch blocks

• According to EN 50012

3RT1.5 ... 3RT1.7	22	2	2	--	--		5	3RH1921-1XA22-0MA0	20	3RH1921-2XA22-0MA0
----------------------	----	---	---	----	----	--	---	--------------------	----	--------------------

1-pole auxiliary switch blocks

• According to EN 50005 and EN 50012

3RT1.5 ... 3RT1.7	10	1	--	--	--			3RH1921-1CA10		3RH1921-2CA10
	01	--	1	--	--			3RH1921-1CA01		3RH1921-2CA01
	10	--	--	1	--			3RH1921-1CD10		--
	01	--	--	--	1			3RH1921-1CD01		--

Power Contactors for Switching Motors

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays Accessories

Auxiliary switch blocks, instantaneous

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



3RH2911-1DA02



3RH2911-2DA02

For contactors ¹⁾	Auxiliary contacts Version	SD	Screw terminals		SD	Spring-type terminals	
			Article No.	Price per PU		Article No.	Price per PU
Type	NO NC	d	d	d	d	d	d

Laterally mountable auxiliary switch blocks, mounting on the right and/or on the left, 2-pole

Size S00

			Left	Right				
3RT2.1	--	2			2	3RH2911-1DA02	2	3RH2911-2DA02
	1	1			2	3RH2911-1DA11	2	3RH2911-2DA11
	2	--			2	3RH2911-1DA20	2	3RH2911-2DA20

Sizes S0 to S3

			Left	Right				
3RT2.1 3RT2.2 ²⁾ 3RT2.3 ³⁾ 3RT2.4 ³⁾	--	2			2	3RH2921-1DA02	2	3RH2921-2DA02
	1	1			2	3RH2921-1DA11	2	3RH2921-2DA11
	2	--			2	3RH2921-1DA20	2	3RH2921-2DA20

¹⁾ For detailed information on use, see pages 3/92 and 3/93.

²⁾ With 3RT232. and 3RT252. contactors, mountable only on the right.

³⁾ 3RH2921-1DA.. lateral auxiliary switch blocks can only be mounted on 3RT26 capacitor contactors of sizes S2 and S3.

Power Contactors for Switching Motors

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays

Accessories

Auxiliary switch blocks, instantaneous

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



3RH1921-1DA11



3RH1921-1JA11



3RH1921-1EA02



3RH1921-1KA02



3RH1921-2DA11

For contactors	Auxiliary contacts	SD	Screw terminals	SD	Spring-type terminals
	Version				
Type	NO NC	d	Article No.	d	Article No.
			Price per PU		Price per PU

Lateral auxiliary switch blocks, mounting on left or right, 2-pole

Sizes S6 to S12

	Left	Right		
1st auxiliary switch block				
• According to EN 50012				
3RT1.5 ... 3RT1.7	1 1		▶ 3RH1921-1DA11	▶ 3RH1921-2DA11
• According to EN 50005				
3RT1.5 ... 3RT1.7	2 --		▶ 3RH1921-1EA20	▶ 3RH1921-2EA20
	1 1		▶ 3RH1921-1EA11	--
	-- 2		▶ 3RH1921-1EA02	▶ 3RH1921-2EA02
2nd auxiliary switch block				
• According to EN 50012				
3RT1.5 ... 3RT1.7	1 1		▶ 3RH1921-1JA11	▶ 3RH1921-2JA11
• According to EN 50005				
3RT1.5 ... 3RT1.7	2 --		▶ 3RH1921-1KA20	20 3RH1921-2KA20
	1 1		▶ 3RH1921-1KA11	--
	-- 2		▶ 3RH1921-1KA02	20 3RH1921-2KA02

Power Contactors for Switching Motors

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays Accessories

Auxiliary switch blocks, instantaneous

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



3RH2911-1NF..



3RH2911-2NF..



3RH2911-2DE11



3RH1921-2JE11

For contactors/ contactor relays ¹⁾	Size	Contacts Version	SD	Screw terminals	SD	Spring-type terminals	
				Article No.	Price per PU	Article No.	Price per PU
Type		NO NC	d				

Solid-state compatible auxiliary switch blocks, 2-pole

- For operation in dusty atmospheres
- For solid-state circuits with rated operational currents $I_{th}/AC-14$ and DC-13 from 1 ... 300 mA at 3 ... 60 V
- Hard gold-plated contacts
- Laterally mountable auxiliary switches and auxiliary switches for snapping onto the front for 3RT2 contactors, sizes S0 to S3, are designed as mirror contacts according to IEC 60947-4-1, Appendix F.

Auxiliary switch blocks for snapping onto the front

3RT2.1, 3RT2.2, 3RT2.3, 3RT2.4	3RH21, 3RH24	Size	Contacts	Diagram	Article No.
		S00 ... S3	-- 2		2 3RH2911-1NF02 2 3RH2911-1NF11 2 3RH2911-1NF20 2 3RH2911-2NF02 2 3RH2911-2NF11 2 3RH2911-2NF20

Lateral auxiliary switch blocks, mounting on the right and/or on the left, acc. to EN 50012

3RT2.1	3RT2.2, 3RT2.3, 3RT2.4	3RT1.5 ... 3RT1.7	3RT1.5 ... 3RT1.7	Size	Contacts	Diagram	Article No.
				S00	1 1		2 3RH2911-2DE11
				S0 ... S3	1 1		2 3RH2921-2DE11
				S6 ... S12	1 1		2 3RH1921-2DE11
				S6 ... S12	1 1		2 3RH1921-2JE11

¹⁾ For detailed information on use, see pages 3/91 and 3/93.

Power Contactors for Switching Motors

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays


Accessories

Auxiliary switch blocks, delayed

Selection and ordering data

For contactors	Time setting range t	SD	Screw terminals	⊕	PU (UNIT, SET, M)	PS*	PG
Type	s	d	Article No.		Price per PU		

Pneumatic time-delay auxiliary switch blocks for mounting on 3RT2 contactors

Size S0							
Auxiliary contacts 1 NO and 1 NC¹⁾							
ON-delay							
	3RT202	0.1 ... 30	10	3RT2926-2PA01	1	1 unit	41B
		0.1 ... 30 ²⁾	X	3RT2926-2PA01-OMT0	1	1 unit	41B
		1 ... 60	10	3RT2926-2PA11	1	1 unit	41B
		1 ... 60 ²⁾	X	3RT2926-2PA11-OMT0	1	1 unit	41B
OFF-delay							
3RT2926-2P...	3RT202	0.1 ... 30	10	3RT2926-2PR01	1	1 unit	41B
		0.1 ... 30 ²⁾	X	3RT2926-2PR01-OMT0	1	1 unit	41B
		1 ... 60	10	3RT2926-2PR11	1	1 unit	41B
		1 ... 60 ²⁾	X	3RT2926-2PR11-OMT0	1	1 unit	41B

¹⁾ In addition to these, no other auxiliary contacts are permitted.

²⁾ Certificate for furnaces according to EN 50156-1 on request.

Technical specifications, see Manual.

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



3RA2813-1FW10



3RA2813-2AW10

For contactors	Rated control supply voltage U_s ¹⁾	Time setting range t	Output/auxiliary contacts	SD	Screw terminals	⊕	SD	Spring-type terminals	⊕
Type	V	s		d	Article No.	Price per PU	d	Article No.	Price per PU

Solid-state time-delay auxiliary switch blocks²⁾ for mounting onto 3RT2 contactors and 3RH2 contactor relays

Sizes S00 to S3

The electrical connection between the solid-state time-delay auxiliary switch and the contactor or contactor relay underneath is established automatically when it is snapped on and locked.

ON-delay

(varistor integrated)

3RT2 ³⁾⁴⁾ , 3RH21 ³⁾ , 3RH24	24 ... 240 AC/DC	0.05 ... 100 (1, 10, 100 selectable)	1 CO	2	3RA2813-1AW10	2	3RA2813-2AW10
			1 NO + 1 NC	2	3RA2813-1FW10	2	3RA2813-2FW10

OFF-delay with control signal

(varistor integrated)

3RT2 ³⁾⁴⁾ , 3RH21 ³⁾ , 3RH24	24 ... 240 AC/DC	0.05 ... 100 (1, 10, 100 selectable)	1 CO	2	3RA2814-1AW10	2	3RA2814-2AW10
			1 NO + 1 NC	2	3RA2814-1FW10	2	3RA2814-2FW10

OFF-delay without control signal⁵⁾

(varistor integrated)

3RT2 ³⁾⁴⁾ , 3RH21 ³⁾ , 3RH24	24 ... 240 AC/DC	0.05 ... 100 (1, 10, 100 selectable)	1 CO	2	3RA2815-1AW10	2	3RA2815-2AW10
			1 NO + 1 NC	2	3RA2815-1FW10	2	3RA2815-2FW10

¹⁾ AC voltage values apply for 50 Hz and 60 Hz.

²⁾ The solid-state time-delay auxiliary switch blocks are also available as 3RA28 function modules for mounting on 3RT2 contactors and 3RH2 contactor relays, see page 3/106.

³⁾ Cannot be fitted onto coupling relays and coupling contactor relays.

⁴⁾ From product version E04 onwards, 3RA281. solid-state time-delayed auxiliary switch blocks can be used for 3RT2.4 contactors.


⁵⁾ Setting of output contacts in as-supplied state not defined (bistable relay). Application of the control supply voltage once results in contact change-over to the correct setting.

Technical specifications, see page 3/83.

Power Contactors for Switching Motors

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays
Accessories

Auxiliary switch blocks, delayed

For contactors	Auxiliary contacts	Rated control supply voltage U_s ¹⁾	Time setting range t	SD	Screw terminals 	PU (UNIT, SET, M)	PS*	PG
Type	V	s	d	Article No.	Price per PU			

Solid-state time-delay auxiliary switch blocks for mounting on 3RT1 contactors

Sizes S6 to S12



3RT1926-2...

ON-delay²⁾									
3RT10, 3RT14	1 NO + 1 NC	24 AC/DC	0.05 ... 1	▶ 10	3RT1926-2EJ11	1	1 unit	41H	
			0.5 ... 10	▶ 2	3RT1926-2EJ21	1	1 unit	41H	
			5 ... 100	▶ 2	3RT1926-2EJ31	1	1 unit	41H	
	100 ... 127 AC	0.05 ... 1	0.5 ... 10	▶ 15	3RT1926-2EC11	1	1 unit	41H	
				▶ 10	3RT1926-2EC21	1	1 unit	41H	
				▶ 10	3RT1926-2EC31	1	1 unit	41H	
	200 ... 240 AC	0.05 ... 1	0.5 ... 10	▶ 5	3RT1926-2ED11	1	1 unit	41H	
				▶ 5	3RT1926-2ED21	1	1 unit	41H	
				▶ 5	3RT1926-2ED31	1	1 unit	41H	
	OFF-delay without control signal²⁾³⁾								
	3RT10, 3RT14	1 NO + 1 NC	24 AC/DC	0.05 ... 1	▶ 5	3RT1926-2FJ11	1	1 unit	41H
				0.5 ... 10	▶ 5	3RT1926-2FJ21	1	1 unit	41H
5 ... 100				▶ 5	3RT1926-2FJ31	1	1 unit	41H	
100 ... 127 AC/DC		0.05 ... 1	0.5 ... 10	▶ 5	3RT1926-2FK11	1	1 unit	41H	
				▶ 5	3RT1926-2FK21	1	1 unit	41H	
				▶ 5	3RT1926-2FK31	1	1 unit	41H	
200 ... 240 AC/DC		0.05 ... 1	0.5 ... 10	▶ 5	3RT1926-2FL11	1	1 unit	41H	
				▶ 2	3RT1926-2FL21	1	1 unit	41H	
				▶ 2	3RT1926-2FL31	1	1 unit	41H	
Star-delta (wye-delta) starting (varistor integrated)²⁾									
3RT10, 3RT14		1 NO delayed + 1 NO instantaneous, dead time 50 ms	24 AC/DC	1.5 ... 30	▶	3RT1926-2GJ51	1	1 unit	41H
			100 ... 127 AC	1.5 ... 30	▶	3RT1926-2GC51	1	1 unit	41H
	200 ... 240 AC		1.5 ... 30	▶	3RT1926-2GD51	1	1 unit	41H	

¹⁾ The AC voltages are valid for 50 Hz and 60 Hz.

²⁾ Connecting terminals A1 and A2 for the control supply voltage of the solid-state time-delay auxiliary switch must be connected to the associated contactor by means of connecting cables.

³⁾ Setting of output contacts in as-supplied state not defined (bistable relay). Application of the control supply voltage once results in contact change-over to the correct setting.

Power Contactors for Switching Motors

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays

Accessories

Surge suppressors

Selection and ordering data

For contactors	Version	Rated control supply voltage $U_s^{1)}$		SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Type		V AC	V DC	d					

Surge suppressors without LED (also for spring-type terminals)

Size S00



3RT2916-1B.00

For plugging onto the front side of the contactors (with or without auxiliary switch blocks)

For contactors	Version	Rated control supply voltage $U_s^{1)}$		SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Type		V AC	V DC	d					
3RT2.1, 3RH2	Varistors	24 ... 48	24 ... 70	▶	3RT2916-1BB00		1	1 unit	41B
		48 ... 127	70 ... 150	▶	3RT2916-1BC00		1	1 unit	41B
		127 ... 240	150 ... 250	▶	3RT2916-1BD00		1	1 unit	41B
		240 ... 400	--	▶	3RT2916-1BE00		1	1 unit	41B
		400 ... 600	--	2	3RT2916-1BF00		1	1 unit	41B
3RT2.1, 3RH2	RC elements	24 ... 48	24 ... 70	▶	3RT2916-1CB00		1	1 unit	41B
		48 ... 127	70 ... 150	▶	3RT2916-1CC00		1	1 unit	41B
		127 ... 240	150 ... 250	▶	3RT2916-1CD00		1	1 unit	41B
		240 ... 400	--	2	3RT2916-1CE00		1	1 unit	41B
		400 ... 600	--	2	3RT2916-1CF00		1	1 unit	41B
3RT2.1, 3RH2	Noise suppression diodes	--	12 ... 250	▶	3RT2916-1DG00		1	1 unit	41B
3RT2.1, 3RH2	Diode assemblies (diode and Zener diode) for DC operation	--	12 ... 250	▶	3RT2916-1EH00		1	1 unit	41B

Size S0



3RT2926-1E.00

For plugging onto the front side of the contactors (before installing the auxiliary switch block)

For contactors	Version	Rated control supply voltage $U_s^{1)}$		SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Type		V AC	V DC	d					
3RT2.2	Varistors²⁾	24 ... 48	24 ... 70	▶	3RT2926-1BB00		1	1 unit	41B
		48 ... 127	70 ... 150	▶	3RT2926-1BC00		1	1 unit	41B
		127 ... 240	150 ... 250	▶	3RT2926-1BD00		1	1 unit	41B
		240 ... 400	--	▶	3RT2926-1BE00		1	1 unit	41B
		400 ... 600	--	2	3RT2926-1BF00		1	1 unit	41B
3RT2.2	RC elements	24 ... 48	24 ... 70	▶	3RT2926-1CB00		1	1 unit	41B
		48 ... 127	70 ... 150	▶	3RT2926-1CC00		1	1 unit	41B
		127 ... 240	150 ... 250	▶	3RT2926-1CD00		1	1 unit	41B
		240 ... 400	--	2	3RT2926-1CE00		1	1 unit	41B
		400 ... 600	--	2	3RT2926-1CF00		1	1 unit	41B
3RT2.2	Diode assemblies for DC operation	--	24	▶	3RT2926-1ER00		1	1 unit	41B
		--	30 ... 250	▶	3RT2926-1ES00		1	1 unit	41B

Sizes S2 and S3



3RT2936-1BF00

For plugging onto the front side of the contactors (before installing the auxiliary switch block)

For contactors	Version	Rated control supply voltage $U_s^{1)}$		SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Type		V AC	V DC	d					
3RT2.3, 3RT2.4	Varistors²⁾³⁾	24 ... 48	--	▶	3RT2936-1BB00		1	1 unit	41B
		48 ... 127	--	▶	3RT2936-1BC00		1	1 unit	41B
		127 ... 240	--	▶	3RT2936-1BD00		1	1 unit	41B
		240 ... 400	--	5	3RT2936-1BE00		1	1 unit	41B
		400 ... 600	--	5	3RT2936-1BF00		1	1 unit	41B
3RT2.3	RC elements	24 ... 48	24 ... 70	▶	3RT2936-1CB00		1	1 unit	41B
		48 ... 127	70 ... 150	▶	3RT2936-1CC00		1	1 unit	41B
		127 ... 240	150 ... 250	▶	3RT2936-1CD00		1	1 unit	41B
		240 ... 400	--	5	3RT2936-1CE00		1	1 unit	41B
		400 ... 600	--	5	3RT2936-1CF00		1	1 unit	41B
3RT2.4	RC elements	24 ... 48	24 ... 70	5	3RT2946-1CB00		1	1 unit	41B
		48 ... 127	70 ... 150	5	3RT2946-1CC00		1	1 unit	41B
		127 ... 240	150 ... 250	▶	3RT2946-1CD00		1	1 unit	41B
		240 ... 400	--	5	3RT2946-1CE00		1	1 unit	41B
		400 ... 600	--	5	3RT2946-1CF00		1	1 unit	41B
3RT2.3, 3RT2.4	Diode assemblies³⁾ for DC operation	--	24	▶	3RT2936-1ER00		1	1 unit	41B
		--	30 ... 250	5	3RT2936-1ES00		1	1 unit	41B

¹⁾ Can be used for AC operation for 50/60 Hz. Other voltages on request.

²⁾ The varistor is already integrated on the AC/DC contactors.

³⁾ Surge suppressors 3RT2936-1B/-1E can be used for 3RT2.4 contactors as from product version E03.

Power Contactors for Switching Motors

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays Accessories

Surge suppressors

For contactors	Version	Rated control supply voltage $U_s^{1)}$		SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		AC operation	DC operation						
Type		V AC	V DC	d					

Surge suppressors without LED

Sizes S6 to S12

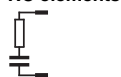


3RT1956-1C.00

For connecting to withdrawable coil for contactors with

- Standard operating mechanisms 3RT1...-A...
- Solid-state operating mechanisms 3RT1...-N...

RC elements



	24 ... 48	24 ... 70
3RT1.5 ...	48 ... 127	70 ... 150
3RT1.7	127 ... 240	150 ... 250
	240 ... 400	--
	400 ... 600	--

Screw terminals



Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
3RT1956-1CB00		1	1 unit	41B
3RT1956-1CC00		1	1 unit	41B
3RT1956-1CD00		1	1 unit	41B
3RT1956-1CE00		1	1 unit	41B
3RT1956-1CF00		1	1 unit	41B

Spring-type terminals



For contactors	Version	Rated control supply voltage $U_s^{1)}$	Power consumption P of LED at U_s	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Type		V AC	V DC	mW	d				
3RT1.5 ...	RC elements	24 ... 48	24 ... 70	▶	3RT1956-1CB02		1	1 unit	41B
3RT1.7		48 ... 127	70 ... 150	▶	3RT1956-1CC02		1	1 unit	41B
		127 ... 240	150 ... 250	▶	3RT1956-1CD02		1	1 unit	41B
		240 ... 400	--	▶	3RT1956-1CE02		1	1 unit	41B
		400 ... 600	--	▶	3RT1956-1CF02		1	1 unit	41B

¹⁾ Can be used for AC operation for 50/60 Hz. Other voltages on request.

For contactors	Version	Rated control supply voltage $U_s^{1)}$		Power consumption P of LED at U_s	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
		AC operation	DC operation							
Type		V AC	V DC	mW	d					

Surge suppressors with LED (also for spring-type terminals)

Size S00



3RT2916-1J.00

For plugging onto the front side of the contactors (with or without auxiliary switch blocks)

Varistors

	24 ... 48	12 ... 24	10 ... 120
3RT2.1, 3RH2	48 ... 127	24 ... 70	20 ... 470
	127 ... 240	70 ... 150	50 ... 700
	--	150 ... 250	160 ... 950

Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
3RT2916-1JJ00		1	1 unit	41B
3RT2916-1JK00		1	1 unit	41B
3RT2916-1JL00		1	1 unit	41B
3RT2916-1JP00		1	1 unit	41B

Noise suppression diodes

	24 ... 70	20 ... 470
3RT2.1, 3RH2	50 ... 150	50 ... 700
	150 ... 250	160 ... 950

Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
3RT2916-1LM00		1	1 unit	41B
3RT2916-1LN00		1	1 unit	41B
3RT2916-1LP00		1	1 unit	41B

Size S0



3RT2926-1MR00

For plugging onto the front side of the contactors (before installing the auxiliary switch block)

Varistors

	24 ... 48	12 ... 24	10 ... 120
3RT2.2	48 ... 127	24 ... 70	20 ... 470
	127 ... 240	70 ... 150	50 ... 700

Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
3RT2926-1JJ00		1	1 unit	41B
3RT2926-1JK00		1	1 unit	41B
3RT2926-1JL00		1	1 unit	41B

Diode assemblies

	24	20 ... 470
3RT2.2		

Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
3RT2926-1MR00		1	1 unit	41B

Sizes S2 and S3



3RT2936-1JJ00

For plugging onto the front side of the contactors (before installing the auxiliary switch block)

Varistors²⁾

	24 ... 48	12 ... 24	10 ... 120
3RT2.3, 3RT2.4	48 ... 127	24 ... 70	20 ... 470
	127 ... 240	70 ... 150	50 ... 700

Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
3RT2936-1JJ00		1	1 unit	41B
3RT2936-1JK00		1	1 unit	41B
3RT2936-1JL00		1	1 unit	41B

¹⁾ Can be used for AC operation for 50/60 Hz. Other voltages on request.

²⁾ From product version E03 onwards, 3RT2936 surge suppressors can be used for 3RT2.4 contactors.

Power Contactors for Switching Motors

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays






Accessories

Modules for contactor control

Selection and ordering data

For contactors	Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Type		d					

Coupling links for control by PLC

		Screw terminals 			
Size S0		For mounting onto the coil terminals of the contactors (for contactors with screw terminals only) With LED for the switching state and with integrated varistor for damping opening surges			
 3RH2924-1GP11	3RT2.2	▶	3RH2924-1GP11	1	1 unit 41B
Sizes S00 to S3		For mounting on the front side of contactors with AC, DC or AC/DC operation			
 3RH2914-1GP11	3RT2.1, 3RT2.2, 3RT2.3, 3RT2.4 3RH2	5	3RH2914-1GP11	1	1 unit 41B
 3RH2914-2GP11	3RT2.1, 3RT2.2, 3RT2.3, 3RT2.4 3RH2	5	3RH2914-2GP11	1	1 unit 41B
		Spring-type terminals 			

Technical specifications, [see page 3/85](#).

Power Contactors for Switching Motors

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays Accessories

Modules for contactor control

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

More information

Manual "SIRIUS – SIRIUS 3RA28 function modules for mounting on 3RT2 contactors", see <https://support.industry.siemens.com/cs/ww/en/view/60279150>.



3RA2811-2CW10



3RA2812-1DW10



3RA2816-0EW20

For contactors	Size	Version	Rated control supply voltage U_s ¹⁾	Time setting range t	SD	Screw terminals	SD	Spring-type terminals	
Type			V AC/DC	s	d	Article No.	Price per PU	Article No.	Price per PU

3RA28 function modules for mounting on 3RT2 contactors and 3RH2 contactor relays

For direct-on-line starting

3RT2.1 ²⁾ , 3RT2.2 ²⁾ , 3RH21 ²⁾ , 3RH24	S00, S0	ON-delay Two-wire design, varistor integrated	24 ... 240	0.05 ... 100 (1, 10, 100; selectable)	2	3RA2811-1CW10	2	3RA2811-2CW10
3RT2.3 ²⁾ , 3RT2.4 ²⁾³⁾	S2, S3	The electrical connection between the function module and the contactor underneath is established automatically when it is snapped on and locked.	24 ... 90 90 ... 240	0.05 ... 100 (1, 10, 100; selectable)	2 2	3RA2831-1DG10 3RA2831-1DH10	2 2	3RA2831-2DG10 3RA2831-2DH10
3RT2.1 ²⁾ , 3RT2.2 ²⁾ , 3RH21 ²⁾ , 3RH24	S00, S0	OFF-delay with control signal, varistor integrated	24 ... 240	0.05 ... 100 (1, 10, 100; selectable)	2	3RA2812-1DW10	2	3RA2812-2DW10
3RT2.3 ²⁾ , 3RT2.4 ²⁾³⁾	S2, S3	The electrical connection between the function module and the contactor underneath is established automatically when it is snapped on and locked.	24 ... 90 90 ... 240	0.05 ... 100 (1, 10, 100; selectable)	2 2	3RA2832-1DG10 3RA2832-1DH10	2 2	3RA2832-2DG10 3RA2832-2DH10

For star-delta (wye-delta) starting

3RT2.1, 3RT2.2, 3RT2.3 ²⁾ , 3RT2.4 ²⁾⁴⁾	S00 ... S3	Varistor integrated Comprising one basic module and two coupling modules The electrical connection between the function module and the contactor assembly is established automatically by snapping on and plugging in the connecting cables.	24 ... 240	0.5 ... 60 (10, 30, 60; selectable)	2	3RA2816-0EW20	2	3RA2816-0EW20
--	------------	---	------------	---	---	----------------------	---	----------------------

Accessories

3RA28	S00 ... S3	Cover, sealable			2	3RA2910-0	2	3RA2910-0
-------	------------	------------------------	--	--	---	------------------	---	------------------

- 1) AC voltage values apply for 50 Hz and 60 Hz.
- 2) Cannot be fitted onto coupling relays and coupling contactor relays.
- 3) From product version E03 onwards, 3RA283. function modules can be used for 3RT2.4 contactors.
- 4) From product version E04 onwards, 3RA2816 function modules can be used for 3RT2.4 contactors.

Technical specifications, see page 3/86.

Assembly of reversing starters

We offer ready-made wiring kits for the assembly of reversing starters. Use of these wiring kits offers further advantages, see page 3/162.

Power Contactors for Switching Motors

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays

Accessories

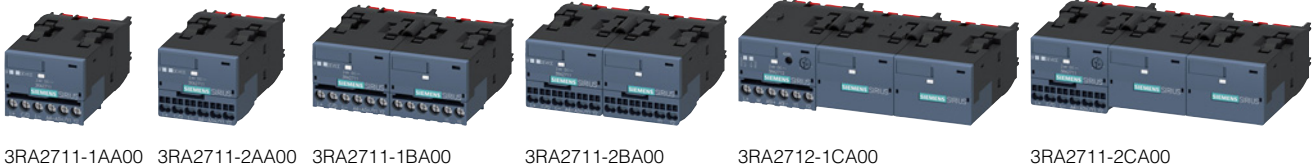
Modules for contactor control

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

More information

Manual "SIRIUS – SIRIUS 3RA2711 Function Modules for IO-Link", see <https://support.industry.siemens.com/cs/ww/en/view/39319600>

Manual "SIRIUS – SIRIUS 3RA2712 Function Modules for AS-Interface", see <https://support.industry.siemens.com/cs/ww/en/view/39318922>



For con- tactors	Size	Version	SD	Screw terminals		SD	Spring-type terminals	
				Article No.	Price per PU		Article No.	Price per PU
Type			d			d		
SIRIUS 3RA27 function modules for direct-on-line starting								
3RT201	S00	IO-Link connection	2	3RA2711-1AA00	2	3RA2711-2AA00		
...	...	includes one module connector for creating an IO-Link group						
3RT204 ¹⁾	S3	AS-Interface connection	2	3RA2712-1AA00	2	3RA2712-2AA00		
SIRIUS 3RA27 function modules for reversing starting²⁾								
3RT201	S00	IO-Link connection	2	3RA2711-1BA00	2	3RA2711-2BA00		
...	...	comprising one basic and one coupling module and an additional module connector ³⁾ for creating an IO-Link group						
3RT204 ¹⁾	S3	AS-Interface connection	2	3RA2712-1BA00	2	3RA2712-2BA00		
		comprising one basic and one coupling module						
		Assembly kits for making 3-pole contactor assemblies						
		See page 3/110						
SIRIUS 3RA27 function modules for star-delta (wye-delta) starting⁴⁾								
3RT201	S00	IO-Link connection	2	3RA2711-1CA00	2	3RA2711-2CA00		
...	...	comprising one basic and two coupling modules and an additional module connector ³⁾ for creating an IO-Link group						
3RT204 ¹⁾	S3	AS-Interface connection	2	3RA2712-1CA00	2	3RA2712-2CA00		
		comprising one basic and two coupling modules						
		Assembly kits for making 3-pole contactor assemblies						
		See page 3/111						

¹⁾ From product version E06 onwards, 3RA271. function modules can be used for 3RT2.4 contactors.

²⁾ For prewired reversing contactor assemblies with voltage tap-off, see pages 3/163 to 3/166. When these contactor assemblies are used, the assembly kit for the wiring is already integrated.

³⁾ 3RA2711-0EE17 module connectors for size S3 must be ordered separately, see page 3/108.

⁴⁾ For complete contactor assemblies for star-delta (wye-delta) starting including function modules, see pages 3/180 to 3/183.

For technical specifications for 3RA27 function modules, see page 3/87.

For contactors with voltage tap-off, see pages 3/61, 3/65, 3/69 and 3/70.

For IO-Link masters and AS-Interface masters, routers and power supply units, see "Industrial Communication", from page 2/1 onwards.

Power Contactors for Switching Motors

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays Accessories

Modules for contactor control



3RA2711-0EE10



3RA2711-0EE06



3RA2711-0EE15



3RA2910-0



3RA6935-0A



3RA2711-0EE11


For function modules	Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Type							
Accessories for 3RA27 function modules							
3RA2711-...A00	Module connector set Comprising: • Two module connectors, (14-pole, short) • Two interface covers	2	3RA2711-0EE10		1	1 unit	41B
3RA2711-...A00	Module connectors • 14-pole - 6 cm - 9 cm - 13 cm - 26 cm - 33.5 cm • 10-pole, 9 cm for the additional auxiliary voltage infeed	2 2 2 2 2 2	3RA2711-0EE17 3RA2711-0EE06 3RA2711-0EE18 3RA2711-0EE07 3RA2711-0EE08 3RA2711-0EE16		1 1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit 1 unit	41B 41B 41B 41B 41B 41B
<u>Note:</u> Selection of module connectors, see Manual "SIRIUS 3RA2711 Function Modules for IO-Link".							
3RA2711-...A00	Interface covers (Set of 5)	2	3RA2711-0EE15		1	1 unit	41B
3RA2711-...A00	Sealable covers	2	3RA2910-0		1	5 units	41B
Operator panel for communication via IO-Link							
3RA2711-...A00	Operator panel (set) Comprising: • 1 x operator panel • 1 x enabling module • 1 x interface cover • 1 x fixing terminal	10	3RA6935-0A		1	1 unit	42F
3RA2711-...A00	Connection cable For connecting the operator panel to the coupling module Length 2 m, 10- to 14-pole	2	3RA2711-0EE11		1	1 unit	41B
3RA2711-...A00	Enabling modules (replacement)	10	3RA6936-0A		1	1 unit	42F
3RA2711-...A00	Interface covers (replacement)	10	3RA6936-0B		1	5 units	42F

Power Contactors for Switching Motors

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays

Accessories

Modules for contactor control

For contactors	Rated control supply voltage U_s	Time setting range t	SD	Screw terminals		PU (UNIT, SET, M)	PS*	PG
Type	V	s	d	Article No.	Price per PU			

Mechanical latching blocks (no switching state change in the event of voltage drop)

Size S0

For snapping onto the front of contactors

The contactor remains in the energized state after a power failure.



3RT2926-3A.31

3RT202,	24 AC/DC	--	▶	3RT2926-3AB31		1	1 unit	41B
3RT232,	110 AC/DC	--	5	3RT2926-3AF31		1	1 unit	41B
3RT252	230 AC/DC	--	5	3RT2926-3AP31		1	1 unit	41B

OFF-delay devices for contactors with AC/DC and DC operation

Sizes S00 to S3

Non-adjustable delay time



3RT2916-2B.01


3RT201.-1BF4., 3RT202.-1BF4., 3RT203.-1NF3., 3RH2...-1BF40	110 AC/DC	S00: > 0.1 S0: > 0.08 S2: > 0.25	5	3RT2916-2BK01		1	1 unit	41B
3RT201.-1BM4./1BP4., 3RT202.-1BM4./1BP4., 3RT203.-1NP3., 3RH2...-1BM40/1BP40	220/230 AC/DC	S00: > 0.5 S0: > 0.3 S2: > 0.8	5	3RT2916-2BL01		1	1 unit	41B
3RT201.-1BB4., 3RT202.-1BB4., 3RT203.-1NB3., 3RT204.-1NB3., 3RT244.-1NB3., 3RH2...-1BB40	24 DC	S00: > 0.2 S0: > 0.1 S2: > 0.1 S3: > 0.05	2	3RT2916-2BE01		1	1 unit	41B

Power Contactors for Switching Motors

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays Accessories

Link modules










Selection and ordering data

For contactors	Size	Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	
Type			d						
Safety main circuit connectors for two contactors									
	3RT2.1	S00	For series connection of two contactors	2	3RA2916-1A		1	1 unit	41B
	3RT2.2	S0		2	3RA2926-1A		1	1 unit	41B
	3RT2.3	S2		2	3RA2936-1A		1	1 unit	41B

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

For contactors	Size	Version	SD	Article No.	Price per PU	SD	Article No.	Price per PU
Type			d			d		

Assembly kits for reversing contactor assemblies for making 3-pole contactor assemblies

					Screw terminals 	Spring-type terminals 
	3RT201	S00-S00	The assembly kit contains: Mechanical interlock, two connecting clips for two contactors, wiring modules on the top and bottom • For main, auxiliary and control circuits ▶		3RA2913-2AA1 ▶	3RA2913-2AA2
	3RT202	S0-S0	The assembly kit contains: Mechanical interlock, two connecting clips for two contactors, wiring modules on the top and bottom • For main, auxiliary and control circuits ¹⁾ ▶ • Only for main circuit ²⁾		3RA2923-2AA1 --	-- ▶ 3RA2923-2AA2
	3RT203	S2-S2	The assembly kit contains: Two connectors for two contactors, wiring modules on the top and bottom (3RA2934-2B mechanical interlock must be ordered separately, see page 3/114) • For main and auxiliary circuits ▶ • Only for main circuit ³⁾		3RA2933-2AA1 --	-- ▶ 3RA2933-2AA2
	3RT204	S3-S3	The assembly kit contains: Two connectors for two contactors, wiring modules on the top and bottom (3RA2934-2B mechanical interlock must be ordered separately, see page 3/114) • For main and auxiliary circuits ▶ • Only for main circuit ³⁾	2	3RA2943-2AA1 --	-- ▶ 3RA2943-2AA2
	3RT1.5	S6-S6	The assembly kit contains: Wiring modules on the top and bottom	2	3RA1953-2A	2 3RA1953-2A
	3RT1.6	S10-S10		2	3RA1963-2A	2 3RA1963-2A
	3RT1.7	S12-S12		2	3RA1973-2A	2 3RA1973-2A

¹⁾ Use of the 3RA2923-2AA1 assembly kit in conjunction with the 3RT202-...-3MA0 contactors is limited because the auxiliary switches in the basic unit are not allowed to be used on account of the permanently mounted auxiliary switch block.

²⁾ Version in size S0 with spring-type terminals:
Only the wiring modules for the main circuit are included.
No connecting clips are included for the auxiliary and control circuit.

³⁾ Version in sizes S2 and S3 with spring-type terminals in the auxiliary and control circuits: Only the wiring modules for the main circuit are included. A cable set is included for the auxiliary circuit.

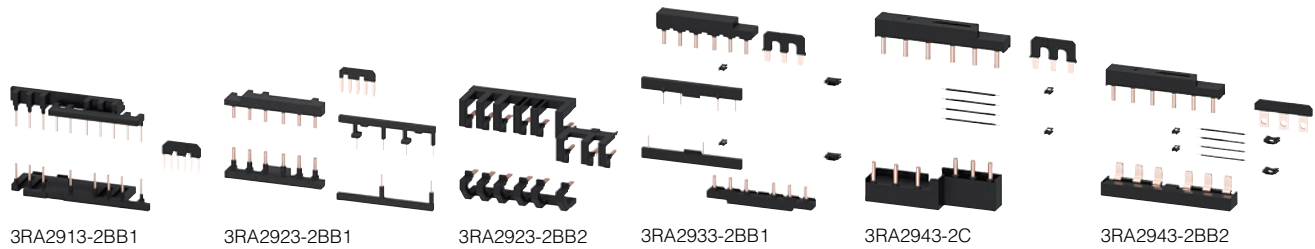
Power Contactors for Switching Motors

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays

Accessories

Link modules

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



For con- tactors	Size	Version	SD	Screw terminals	SD	Spring-type terminals		
				⊕		⊕		
Type			d	Article No.	Price per PU	d	Article No.	Price per PU
Assembly kits¹⁾ for contactor assemblies for star-delta (wye-delta) starting for making 3-pole contactor assemblies								
3RT201	S00-S00-S00	The assembly kit contains: Mechanical interlock, four connecting clips for three contactors, a star jumper, wiring modules on the top and bottom <ul style="list-style-type: none"> For main, auxiliary and control circuits 	▶	3RA2913-2BB1	▶	3RA2913-2BB2		
3RT202	S0-S0-S0	The assembly kit contains: Mechanical interlock, four connecting clips for three contactors, a star jumper, wiring modules on the top and bottom <ul style="list-style-type: none"> For main, auxiliary and control circuits Only for main circuit 	▶	3RA2923-2BB1	▶	-- 3RA2923-2BB2		
3RT202	S0-S0-S0	The assembly kit contains: Mechanical interlock, four connecting clips for three contactors, a star jumper, wiring modules on the top and bottom, 3-phase infeed terminal <ul style="list-style-type: none"> For main, auxiliary and control circuits 	5	3RA2924-2BB1	▶	--		
3RT203	S2-S2-S0	The assembly kit ²⁾ contains: Two connectors for three contactors, an S0 star jumper, a spacer, wiring modules on the top and bottom (S2-S0) for the main circuit, a cable set for the auxiliary circuit, a cable for connecting the A2 coil contact from the line contactor to the A2 coil contact of the delta contactor	▶	3RA2933-2C	▶	3RA2933-2C		
3RT203	S2-S2-S2	The assembly kit ²⁾ contains: Four connectors for three contactors, an S2 star jumper, a cable for connecting the A2 coil contact from the line contactor to the A2 coil contact of the delta contactor and <ul style="list-style-type: none"> Wiring modules on the top and bottom for the main circuit and the auxiliary circuit Wiring modules on the top and bottom for the main circuit, a cable set for the auxiliary circuit 	▶	3RA2933-2BB1	▶	-- 3RA2933-2BB2		
3RT204	S3-S3-S2	The assembly kit ²⁾ contains: Two connectors for three contactors, an S2 star jumper, a spacer, wiring modules on the top and bottom (S3-S2) for the main circuit, a cable set for the auxiliary circuit, a cable for connecting the A2 coil contact from the line contactor to the A2 coil contact of the delta contactor	2	3RA2943-2C	2	3RA2943-2C		
3RT204	S3-S3-S3	The assembly kit ²⁾ contains: Four connectors for three contactors, an S3 star jumper, a cable for connecting the A2 coil contact from the line contactor to the A2 coil contact of the delta contactor and <ul style="list-style-type: none"> Wiring modules on the top and bottom for the main circuit and the auxiliary circuit Wiring modules on the top and bottom for the main circuit, a cable set for the auxiliary circuit 	2	3RA2943-2BB1	2	-- 3RA2943-2BB2		

¹⁾ When using the function modules for contactor assemblies for star-delta (wye-delta) starting, the wiring modules for the auxiliary current are not required.

²⁾ The 3RA2934-2B mechanical interlock for sizes S2 and S3 must be ordered separately, see page 3/114.


Power Contactors for Switching Motors

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays Accessories

Link modules

For contactors	Size	Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Type			d					

Assembly kits for contactor assemblies for star-delta (wye-delta) starting for making 3-pole contactor assemblies

			The assembly kit contains: link rails at bottom (a double infeed between the line contactor and the delta contactor is recommended.)					
 3RA1953-3G	3RT1.5, 3RT204	S6-S6-S3 for connection with box terminal	The S3 star jumper must be ordered separately, see page 3/113.	X	3RA1953-3G	1	1 unit	41B
	3RT1.5	S6-S6-S6 for connection with box terminal	--	2	3RA1953-2B	1	1 unit	41B
 3RA1953-2B	3RT1.5	S6-S6-S6 for connection without box terminal	--	2	3RA1953-2N	1	1 unit	41B
	 3RA1963-3E	3RT1.6, 3RT1.5	S10-S10-S6 for connection with box terminal	The S6 star jumper must be ordered separately, see page 3/113.	20	3RA1963-3E	1	1 unit
3RT1.6		S10-S10-S10 for connection without box terminal	--	2	3RA1963-2B	1	1 unit	41B
 3RA1973-3E	3RT1.7, 3RT1.6	S12-S12-S10 for connection with box terminal	The S10 star jumper must be ordered separately, see page 3/113.	20	3RA1973-3E	1	1 unit	41B
	3RT1.7	S12-S12-S12 for connection without box terminal	--	5	3RA1973-2B	1	1 unit	41B
 3RA1973-2B								

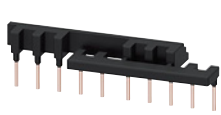
Power Contactors for Switching Motors

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays

Accessories

Link modules

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



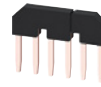
3RA2913-3DA1



3RA2913-3DA2



3RT1933-3D



3RT1916-4BA31



3RT2916-4BA32



3RT1936-4BA31

For con- tactors	Size	Version	SD	Article No.	Price per PU	SD	Article No.	Price per PU
Type			d			d		

Single wiring modules for making 3-pole contactor assemblies

				Screw terminals	Spring-type terminals	
				⊕	⊗	
3RT201	S00-S00	<ul style="list-style-type: none"> Top (in-phase) Bottom (with phase reversal) 	PS = 5 units 5	▶ 3RA2913-3DA1 ▶ 3RA2913-3EA1	5 5	3RA2913-3DA2 3RA2913-3EA2
3RT202	S0-S0	<ul style="list-style-type: none"> Top (in-phase) Bottom (with phase reversal) 	PS = 5 units 5	▶ 3RA2923-3DA1 ▶ 3RA2923-3EA1	5 5	3RA2923-3DA2 3RA2923-3EA2
3RT203	S2-S2	<ul style="list-style-type: none"> Top (in-phase), contactor clearance 10 mm Bottom (with phase reversal), Contactor clearance 10 mm 	▶ 2	3RA1933-3D 3RA1933-3E	▶ 2	3RA1933-3D 3RA1933-3E
3RT204	S3-S3	<ul style="list-style-type: none"> Top (in-phase), contactor clearance 10 mm Bottom (with phase reversal), Contactor clearance 10 mm 	▶ 5	3RA1943-3D 3RA1943-3E	▶ 5	3RA1943-3D 3RA1943-3E
3RT1.5	S6-S6	<ul style="list-style-type: none"> Top (in-phase, for connection with box terminal), contactor clearance 10 mm Top (with phase reversal, for connection without box terminal), contactor clearance 10 mm 	2 5	3RA1953-3D 3RA1953-3P	2 5	3RA1953-3D 3RA1953-3P

Star jumpers (links for paralleling), 3-pole

				Screw terminals	Spring-type terminals	
				⊕	⊗	
3RT201	S00	With through-hole	▶	3RT1916-4BA31	2	3RT2916-4BA32
3RT202	S0	The links for paralleling can be reduced by one pole.	▶	3RT1926-4BA31	2	3RT2926-4BA32
3RT203	S2	Without connecting terminal	▶	3RT1936-4BA31	▶	3RT1936-4BA31
3RT204	S3		▶	3RT1946-4BA31	▶	3RT1946-4BA31
3RT1.5	S6		2	3RT1956-4BA31	2	3RT1956-4BA31
3RT1.6, 3RT1.7	S10, S12		2	3RT1966-4BA31	2	3RT1966-4BA31


Power Contactors for Switching Motors

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays Accessories

Link modules


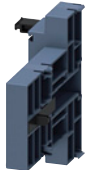
For contactors	Size	Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Type			d					

Mechanical interlock assembly kits for two contactors for making 3- and 4-pole contactor assemblies



 3RA29.2-2H	3RT201, 3RT231	S00-S00	The interlocking assembly kits can be used without a contactor clearance. One assembly kit consists of a mechanical interlock and two connecting clips.	▶	3RA2912-2H	1	10 units	41B
	3RT202, 3RT232	S0-S0		▶	3RA2922-2H	1	10 units	41B

For contactors	Size	Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Type			d					

Mechanical interlocks for contactor assemblies

 3RA2934-2B	3RT202, 3RT203, 3RT204	S2-S2-S0, S2-S2-S2, S3-S3-S2, S3-S3-S3	Mechanical interlocks Note: The mechanical interlock for sizes S2 and S3 must be ordered separately.	▶	3RA2934-2B	1	1 unit	41B
	3RT1.5 with 3RT204	S6 (3RT1)-S6 (3RT1)-S3 (3RT2)	Adapter in addition to the mechanical interlock The mechanical interlock is only possible together with this 3RA1954-2G adapter and the 3RA1954-2A mechanical interlock. Two connectors are included with the adapter, the interlock must be ordered separately.	X	3RA1954-2G	1	1 unit	41B
 3RA1954-2G	3RT1.5, 3RT1.6, 3RT1.7	S6, S10, S12	Mechanical interlocks Without auxiliary contacts; contactors in sizes S6, S10 and S12 can be interlocked with each other as required. No adaption of mounting depth is necessary.	▶	3RA1954-2A	1	1 unit	41B

Mechanical connectors for contactor assemblies

 3RA1932-2D	3RT203, 3RT204	S2-S2, S3-S3	Two connectors are required for each assembly. The contactor clearance must be considered when selecting the connectors.	3-pole version • Without contactor clearance • With 10 mm contactor clearance	2	3RA2932-2C	1	10 units	41B
	3RT105	S6-S6			▶	3RA2932-2D	1	10 units	41B
					▶	3RA1932-2D	1	10 units	41B
 3RA2942-2G	3RT233, 3RT234.	S2-S2, S3-S3	4-pole version • With 20 mm contactor clearance • With 10 mm contactor clearance	2	3RA2932-2G	1	10 units	41B	
				NEW 5	3RA2942-2G	1	10 units	41B	


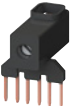




Power Contactors for Switching Motors

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays

Accessories

Terminal modules/adapters

Selection and ordering data

For contactors	Size	Version	SD	Screw terminals		PU (UNIT, SET, M)	PS*	PG
Type			d	Article No.	Price per PU			
Links for paralleling for main circuits								
The links for paralleling (insulated) can be reduced by one pole. With connecting terminal								
3-pole								
	3RT201	S00	• Max. conductor cross-section: 25 mm ² , stranded	▶	3RT1916-4BB31	1	1 unit	41B
3RT1916-4BB31								
	3RT202	S0	• Max. conductor cross-section: 50 mm ² , stranded	2	3RT2926-4BB31	1	1 unit	41B
3RT2926-4BB31								
	3RT203	S2	• Max. conductor cross-section: 120 mm ² , stranded	▶	3RT1936-4BB31	1	1 unit	41B
3RT1936-4BB31								
	3RT204, 3RT244	S3	• Max. conductor cross-section: 185 mm ² , stranded A cover plate is included for touch protection (can only be used when box terminal is removed).	2	3RT1946-4BB31	1	1 unit	41B
3RT1946-4BB31								
4-pole								
	3RT231, 3RT251	S00	• Max. conductor cross-section: 25 mm ² , stranded	15	3RT1916-4BB41	1	1 unit	41B
3RT1916-4BB41								

Power Contactors for Switching Motors

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays Accessories

Terminal modules/adapters





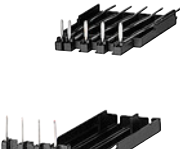
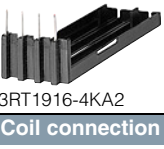












	For con- tactors	Size	Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Type	d								
Single-phase infeed terminals									
	3RT204, 3RT244, 3RT264	S3	Conductor cross-section: 95 mm ²	2	3RA2943-3L		1	1 unit	41B
3RA2943-3L									
Three-phase infeed terminals									
Infeed terminal blocks for the line contactor for large conductor cross-sections									
	3RT201	S00	Max. conductor cross-section: up to 10 mm ² , AWG 12 ... 8	2	3RA2913-3K		1	10 units	41B
3RA2913-3K									
	3RT202	S0	Max. conductor cross-section: up to 25 mm ² , AWG 10 ... 2/0	▶	3RV2925-5AB		1	1 unit	41E
3RA2925-5AB									
	3RT203	S2	Max. conductor cross-section: up to 70 mm ² , AWG 10 ... 2/0	▶	3RV2935-5A		1	1 unit	41E
3RA2935-5A									
Three-phase infeed terminals with increased clearances and creepage distances									
	3RT203	S2	Max. conductor cross-section: up to 70 mm ² , AWG 10 ... 2/0	▶	3RV2935-5E		1	1 unit	41E
3RA2935-5E									
Three-phase busbars									
	3RT202	S0	Bridging phase-by-phase of all input terminals of the line contactor (Q11) and delta contactor (Q13)	▶	3RV1915-1AB		1	1 unit	41E
3RA1915-1AB									
Terminal blocks for connecting auxiliary conductors to main terminals									
Box terminal blocks									
For round and ribbon cables Connectable cross-sections of the contactors, see Technical specifications , page 3/52 .									
	3RT1.5	S6	• Up to 70 mm ² , as standard on 3RT1054-1 contactor (55 kW) • Up to 120 mm ²	▶	3RT1955-4G		1	1 unit	41B
3RT1956-4G									
	3RT1.6, 3RT1.7	S10, S12	• Up to 240 mm ² , With auxiliary conductor connection up to 2.5 mm ²	▶	3RT1966-4G		1	1 unit	41B
3RT1966-4G									
	3RT1.5	S6	Box terminal for auxiliary conductor connection, 1-pole for connection of auxiliary and control cables (0.5 ... 2.5 mm ²) to the main conductor terminals	5	3TX7500-0A		1	1 unit	41B
3TX7500-0A									
	3RT204	S3	Auxiliary terminals, 3-pole for connection of auxiliary and control cables (0.5 ... 2.5 mm ²) to the main conductor terminals	5	3RT2946-4F		1	1 unit	41B
3RT2946-4F									

Power Contactors for Switching Motors

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays

Accessories

Terminal modules/adapters











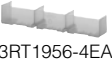





For contactors	Size	Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG																																																						
Type			d																																																											
Solder pin adapters for mounting contactors on printed circuit boards up to 5.5 kW / 12 A																																																														
	3RT2.1, 3RH21	S00	Assembly kit for soldering contactors with an integrated auxiliary contact onto a printed circuit board <u>Note:</u> For 1 contactor, 1 set is required.	2	Screw terminals  3RT1916-4KA1	1	4 units	41B																																																						
	3RT1916-4KA1																																																													
	3RT2.1, 3RH21	S00	Assembly kit for soldering contactors with 4-pole mounted auxiliary switch block onto a printed circuit board. <u>Note:</u> For 1 contactor, 1 set is required.	5	3RT1916-4KA2	1	4 units	41B																																																						
	3RT1916-4KA2																																																													
	3RT1916-4KA2																																																													
Coil connection modules for connections from top or from bottom																																																														
	3RT2.2, 3RT2.3, 3RT2.4	S0 to S3	<ul style="list-style-type: none"> • Connection from top • Connection from bottom • Connection diagonally 	2 5 5	3RT2926-4RA11 3RT2926-4RB11 3RT2926-4RC11	1 1 1	1 unit 1 unit 1 unit	41B 41B 41B																																																						
	3RT2.2	S0	<ul style="list-style-type: none"> • Connection from top • Connection from bottom 	5 5	Spring-type terminals  3RT2926-4RA12 3RT2926-4RB12	1 1	1 unit 1 unit	41B 41B																																																						
<table border="1"> <thead> <tr> <th>For contactors</th> <th>Size</th> <th>Version</th> <th>SD</th> <th>Article No.</th> <th>Price per PU</th> <th>PU (UNIT, SET, M)</th> <th>PS*</th> <th>PG</th> </tr> <tr> <td>Type</td> <td></td> <td></td> <td>d</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </thead> <tbody> <tr> <td colspan="9">Motor feeder connectors for contactors with screw terminals</td> </tr> <tr> <td></td> <td>3RT201, 3RH2</td> <td>S00</td> <td>Adapters for contactors Ambient temperature $t_{u\ max.} = 60\ ^\circ\text{C}$</td> <td>5</td> <td>3RT1916-4RD01</td> <td>1</td> <td>1 unit</td> <td>41B</td> </tr> <tr> <td></td> <td>3RT202</td> <td>S0</td> <td> <ul style="list-style-type: none"> • Rated operational current I_e at AC-3/400 V: 20 A • Rated operational current I_e at AC-3/400 V: 25 A </td> <td>5</td> <td>3RT1926-4RD01</td> <td>1</td> <td>1 unit</td> <td>41B</td> </tr> <tr> <td></td> <td>3RT201, 3RT202, 3RH2</td> <td>S00, S0</td> <td>Motor feeder connectors for contactor</td> <td>5</td> <td>3RT1900-4RE01</td> <td>1</td> <td>1 unit</td> <td>41B</td> </tr> </tbody> </table>									For contactors	Size	Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Type			d						Motor feeder connectors for contactors with screw terminals										3RT201, 3RH2	S00	Adapters for contactors Ambient temperature $t_{u\ max.} = 60\ ^\circ\text{C}$	5	3RT1916-4RD01	1	1 unit	41B		3RT202	S0	<ul style="list-style-type: none"> • Rated operational current I_e at AC-3/400 V: 20 A • Rated operational current I_e at AC-3/400 V: 25 A 	5	3RT1926-4RD01	1	1 unit	41B		3RT201, 3RT202, 3RH2	S00, S0	Motor feeder connectors for contactor	5	3RT1900-4RE01	1	1 unit	41B
For contactors	Size	Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG																																																						
Type			d																																																											
Motor feeder connectors for contactors with screw terminals																																																														
	3RT201, 3RH2	S00	Adapters for contactors Ambient temperature $t_{u\ max.} = 60\ ^\circ\text{C}$	5	3RT1916-4RD01	1	1 unit	41B																																																						
	3RT202	S0	<ul style="list-style-type: none"> • Rated operational current I_e at AC-3/400 V: 20 A • Rated operational current I_e at AC-3/400 V: 25 A 	5	3RT1926-4RD01	1	1 unit	41B																																																						
	3RT201, 3RT202, 3RH2	S00, S0	Motor feeder connectors for contactor	5	3RT1900-4RE01	1	1 unit	41B																																																						

Power Contactors for Switching Motors

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays Accessories

Covers

Selection and ordering data

For con- tactors	Size	Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	
Type			d						
Terminal covers									
Covers for contactors with screw terminals (box terminals) (2 units required per contactor)									
		3RT203	S2	• For 3-pole contactors	▶	3RT2936-4EA2	1	1 unit	41B
3RT2936-4EA2	3RT2946-4EA2	3RT204, 3RT244	S3		▶	3RT2946-4EA2	1	1 unit	41B
		3RT1.5	S6 ¹⁾		▶	3RT1956-4EA2	1	1 unit	41B
3RT1956-4EA2	3RT1966-4EA2	3RT1.6, 3RT1.7	S10 ¹⁾ , S12 ¹⁾		2	3RT1966-4EA2	1	1 unit	41B
		3RT233, 3RT253	S2	• For 4-pole contactors (Scope of supply: one 3-pole and two 1-pole terminal covers are supplied)	5	3RT2936-4EA4	1	1 unit	41B
3RT2936-4EA4	3RT2946-4EA4	3RT234, 3RT254	S3		5	3RT2946-4EA4	1	1 unit	41B
Covers for contactors with cable lugs and busbar connections									
For complying with the phase clearances and as touch protection if box terminal is removed (2 units required per contactor)									
		3RT2.4	S3	• Length: 100 mm	NEW 5	3RT1946-4EA1	1	1 unit	41B
3RT1946-4EA1		3RT1.5	S6 ¹⁾	• Length: 100 mm	▶	3RT1956-4EA1	1	1 unit	41B
		3RT1.6, 3RT1.7	S10 ¹⁾ , S12 ¹⁾	• Length: 120 mm	2	3RT1966-4EA1	1	1 unit	41B
3RT1956-4EA1	3RT1966-4EA1								
				• For the assembly kits for 3RA1953-... contactor assemblies for star-delta (wye-delta) starting (page 3/112) or for the 3RA1953-3... single-wiring modules (page 3/113)					
3RT1956-4EA4		3RT1.5	S6	- Length: 38 mm	2	3RT1956-4EA4	1	1 unit	41B
Terminal covers with busbar connections									
• Cover the three busbar connections, between the contactor and 3RB2 overload relay									
		3RT1.5	S6	- Length: 27 mm	▶	3RT1956-4EA3	1	1 unit	41B
3RT1956-4EA3	3RT1966-4EA3	3RT1.6, 3RT1.7	S10 ²⁾ , S12 ²⁾	- Length: 42 mm	2	3RT1966-4EA3	1	1 unit	41B
		3RT1.5	S6	• Can be screwed on free screw end; cover one busbar connection (1 set = 6 units)	5	3TX6526-3B	1	1 unit	41B
3TX6526-3B	3TX6546-3B	3RT1.6, 3RT1.7	S10, S12	- M8 - M10	5	3TX6546-3B	1	1 unit	41B
Sealable covers									
		3RT2.1, 3RT2.2, 3RT2.3, 3RT2.4, 3RH2 ³⁾	S00 ... S3	For preventing manual operation (Not suitable for coupling relays)	2	3RT2916-4MA10	1	5 units	41B
3RT2916-4MA10	3RT1926-4MA10	3RT1.5 ... 3RT1.7 ³⁾	S6 ... S12		15	3RT1926-4MA10	1	5 units	41B

¹⁾ Also fits on contactors of sizes S6 to S12 with box terminals.

²⁾ The 3RT1966-4EA3 cover is required in addition for use in reversing contactor assemblies and contactor assemblies for star-delta (wye-delta) starting.

³⁾ Exception: contactors and contactor relays with auxiliary switch block mounted onto the front.

Power Contactors for Switching Motors

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays

Accessories

Miscellaneous accessories

Selection and ordering data

For contactors	Size	Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Type			d					

Base plates

For reversing contactor assemblies

3RT1.5	S6	For customer assembly of reversing contactor assemblies	5	3RA1952-2A		1	1 unit	41B
3RT1.6	S10		5	3RA1962-2A		1	1 unit	41B
3RT1.7	S12		5	3RA1972-2A		1	1 unit	41B



3RA1952-2A

For contactor assemblies for star-delta (wye-delta) starting

3RT2/ 3RT2/ 3RT2	S2-S2-S0, S2-S2-S2, S3-S3-S2, S3-S3-S3	For configuring contactor assemblies for star-delta (wye-delta) starting	2	3RA2932-2F		1	1 unit	41B
			3	3RA2942-2F		1	1 unit	41B

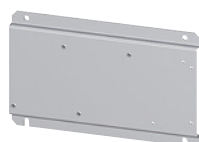


3RA2932-2F



3RA2942-2F

3RT1/ 3RT1/ 3RT2	S6-S6-S3	For customer assembly of contactor assemblies for star-delta (wye-delta) starting with a laterally mounted timing relay	5	3RA1952-2E		1	1 unit	41B
3RT1/ 3RT1/ 3RT1	S6-S6-S6 S10-S10-S6 S10-S10-S10 S12-S12-S10 S12-S12-S12		10 mm distance between the contactors	5	3RA1952-2F		1	1 unit
			5	3RA1962-2E		1	1 unit	41B
			5	3RA1962-2F		1	1 unit	41B
			5	3RA1972-2E		1	1 unit	41B
			5	3RA1972-2F		1	1 unit	41B



3RA1952-2E



3RA1952-2F

Adapters for screw fixing

3RT2.2	S0	Screw adapters for securing the contactors, two units required per contactor (1 pack = 10 sets for 10 contactors)	15	3RT1926-4P		1	10 units	41B
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3RT1926-4P

EMC suppression modules; three-phase, up to 7.5 kW

For contactors with AC or DC operation

				Screw terminals				
3RT201	S00	RC elements (3 x 220 Ω/0.22 μF) • Up to 400 V • Up to 575 V • Up to 690 V	▶	3RT2916-1PA1	1	1 unit	41B	
			2	3RT2916-1PA2	1	1 unit	41B	
			2	3RT2916-1PA3	1	1 unit	41B	
3RT201	S00	Varistors • Up to 400 V • Up to 575 V • Up to 690 V	2	3RT2916-1PB1	1	1 unit	41B	
			2	3RT2916-1PB2	1	1 unit	41B	
			15	3RT2916-1PB3	1	1 unit	41B	






3RT2916-1PA.

Power Contactors for Switching Motors

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays Accessories

Miscellaneous accessories




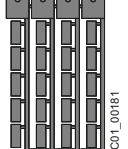
	For con- tactors	Size	Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Additional load modules									
 3RT2916-1GA00	3RT2.1, 3RH2	S00	For plugging onto the front side of the contactors with or without auxiliary switch blocks For increasing the permissible residual current and for limiting the residual voltage, it ensures the safe opening of contactors with direct control via 230 V AC semiconductor outputs of SIMATIC controllers, simultaneously provides overvoltage damping Rated voltage: 50/60 Hz AC, 180 ... 255 V Operating range: 0.8 ... 1.1 x U _s	d	3RT2916-1GA00		1	1 unit	41B
LED modules for displaying contactor operation									
 3RT2926-1QT00	3RT2, 3RT1	S00 ... S12	For snapping into the location hole of an inscription label on the front of a contactor either directly on the contactor or on the front auxiliary switch. The LED module is connected to coil terminals A1 and A2 of the contactor and indicates its energized state with a yellow LED. Connecting leads need to be extended as required. Rated voltage: 24 ... 240 V AC/DC with reverse polarity protection	5	3RT2926-1QT00		1	5 units	41B
Control kit									
 3RT2916-4MC00	3RT2.1, 3RH2	S00	For manual operation of contactor contacts, for startup and service	2	3RT2916-4MC00		1	5 units	41B
	3RT2.2	S0		2	3RT2926-4MC00		1	5 units	41B
	3RT2.3, 3RT2.4	S2, S3		2	3RT2936-4MC00		1	5 units	41B

Power Contactors for Switching Motors

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays

Accessories

Miscellaneous accessories

For contactors	Size	Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Type			d					
Insulation stop for securely holding back the conductor insulation for conductors up to 1 mm²								
 <p>Insulation stop strip Can be inserted in cable entry of the spring-type terminal (two strips per contactor required)</p> <ul style="list-style-type: none"> For basic units, removable individually 				5	Spring-type terminals 			
3RT2916-4JA02	3RT2.1, 3RH2	S00		3RT2916-4JA02		1	20 units	41B
3RT1916-4JA02	3RT2.2 ... 3RT2.4, 3RT1, 3RH29	S0 ... S12		3RT1916-4JA02		1	20 units	41B
Tools for opening spring-type terminals								
 <p>Screwdrivers For all SIRIUS devices with spring-type terminals Length: approx. 200 mm, 3.0 mm x 0.5 mm, titanium gray/black, partially insulated</p>				2	3RA2908-1A			
3RA2908-1A	3RT, 3RH	S00 ... S12				1	1 unit	41B
Blank labels								
 <p>Unit labeling plates For SIRIUS devices¹⁾</p>				20	3RT2900-1SB10			
3RT2	S00 ... S3			3RT2900-1SB20		100	816 units	41B
3RT1	S6 ... S12			3RT1900-1SB10		100	340 units	41B
3RT2900-1SB20				3RT1900-1SB20		100	340 units	41B
<p>Adhesive labels For SIRIUS devices</p>				5	3RT2900-1SB60			
3RT2	S00 ... S3			3RT1900-1SB60		100	3 060 units	41B
3RT1	S6 ... S12			3RT1900-1SD60		100	3 060 units	41B
				3RT1900-1SD60		100	3 060 units	41B

¹⁾ PC labeling system for individual inscription of unit labeling plates available from: murrplastik Systemtechnik GmbH (see page 16/16).

Power Contactors for Switching Motors

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays
Spare Parts

Solenoid coils

Selection and ordering data

Screw terminals and spring-type terminals



3RT2924-5A.01

For contactors	Rated control supply voltage U_s			SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	50 Hz	50/60 Hz	60 Hz						
Type	V	V	V	d					
Solenoid coils · AC operation									
Size S0									
3RT2023-A,	24	--	--	5	3RT2924-5AB01		1	1 unit	41B
3RT2024-A,	42	--	--	5	3RT2924-5AD01		1	1 unit	41B
3RT2025-A	48	--	--	5	3RT2924-5AH01		1	1 unit	41B
	110	--	--	5	3RT2924-5AF01		1	1 unit	41B
	230	--	--	5	3RT2924-5AP01		1	1 unit	41B
	400	--	--	5	3RT2924-5AV01		1	1 unit	41B
	--	24	--	5	3RT2924-5AC21		1	1 unit	41B
	--	42	--	5	3RT2924-5AD21		1	1 unit	41B
	--	48	--	5	3RT2924-5AH21		1	1 unit	41B
	--	110	--	5	3RT2924-5AG21		1	1 unit	41B
	--	220	--	5	3RT2924-5AN21		1	1 unit	41B
	--	230	--	5	3RT2924-5AL21		1	1 unit	41B
	--	--	24	X	3RT2924-5AC11		1	1 unit	41B
	110	--	120	5	3RT2924-5AK61		1	1 unit	41B
	220	--	240	5	3RT2924-5AP61		1	1 unit	41B
	--	100	110	5	3RT2924-5AG61		1	1 unit	41B
	--	200	220	5	3RT2924-5AN61		1	1 unit	41B
	--	400	440	5	3RT2924-5AR61		1	1 unit	41B
3RT2026-A,	24	--	--	5	3RT2926-5AB01		1	1 unit	41B
3RT2027-A,	42	--	--	5	3RT2926-5AD01		1	1 unit	41B
3RT2028-A	48	--	--	5	3RT2926-5AH01		1	1 unit	41B
3RT2325-A,	110	--	--	5	3RT2926-5AF01		1	1 unit	41B
3RT2326-A,	230	--	--	5	3RT2926-5AP01		1	1 unit	41B
3RT2327-A	400	--	--	5	3RT2926-5AV01		1	1 unit	41B
3RT2526-A	--	24	--	5	3RT2926-5AC21		1	1 unit	41B
	--	42	--	X	3RT2926-5AD21		1	1 unit	41B
	--	48	--	5	3RT2926-5AH21		1	1 unit	41B
	--	110	--	5	3RT2926-5AG21		1	1 unit	41B
	--	220	--	5	3RT2926-5AN21		1	1 unit	41B
	--	230	--	5	3RT2926-5AL21		1	1 unit	41B
	--	--	24	5	3RT2926-5AC11		1	1 unit	41B
	110	--	120	5	3RT2926-5AK61		1	1 unit	41B
	220	--	240	5	3RT2926-5AP61		1	1 unit	41B
	--	100	110	X	3RT2926-5AG61		1	1 unit	41B
	--	200	220	5	3RT2926-5AN61		1	1 unit	41B
	--	400	440	5	3RT2926-5AR61		1	1 unit	41B

Note:

Contactors with AC and AC/DC coils have different depths. It is only possible to replace the coils on AC contactors with AC coils. It is not possible to replace the coils on DC contactors.

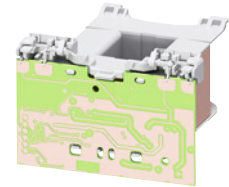
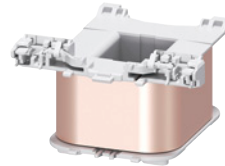
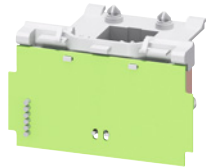
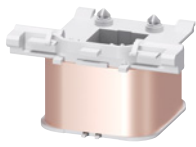
Power Contactors for Switching Motors

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays

Spare Parts

Solenoid coils

Screw terminals and spring-type terminals



3RT2934-5A.01

3RT2934-5N.31

3RT2944-5A..1

3RT2944-5N.31

For contactors	Rated control supply voltage U_s				SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	50 Hz	50/60 Hz	60 Hz	DC						
Type	V	V	V		d					

Solenoid coils · AC operation

Size S2

3RT203.-A,	24	--	--	--	5	3RT2934-5AB01		1	1 unit	41B
3RT233.-A,	42	--	--	--	5	3RT2934-5AD01		1	1 unit	41B
3RT243.-A,	48	--	--	--	5	3RT2934-5AH01		1	1 unit	41B
3RT253.-A	110	--	--	--	5	3RT2934-5AF01		1	1 unit	41B
	230	--	--	--	5	3RT2934-5AP01		1	1 unit	41B
	400	--	--	--	5	3RT2934-5AV01		1	1 unit	41B
	--	24	--	--	5	3RT2934-5AC21		1	1 unit	41B
		42	--	--	X	3RT2934-5AD21		1	1 unit	41B
		48	--	--	5	3RT2934-5AH21		1	1 unit	41B
		110	--	--	5	3RT2934-5AG21		1	1 unit	41B
		208	--	--	5	3RT2934-5AM21		1	1 unit	41B
		220	--	--	5	3RT2934-5AN21		1	1 unit	41B
		230	--	--	5	3RT2934-5AL21		1	1 unit	41B
	110	--	120	--	5	3RT2934-5AK61		1	1 unit	41B
	220	--	240	--	5	3RT2934-5AP61		1	1 unit	41B
	--	--	480	--	5	3RT2934-5AV61		1	1 unit	41B
	--	--	600	--	5	3RT2934-5AT61		1	1 unit	41B
	--	100	110	--	X	3RT2934-5AG61		1	1 unit	41B
	--	200	220	--	5	3RT2934-5AN61		1	1 unit	41B
	--	--	277	--	X	3RT2934-5AU61		1	1 unit	41B
	--	400	440	--	5	3RT2934-5AR61		1	1 unit	41B

Size S3

3RT204.-A,	24	--	--	--	5	3RT2944-5AB01		1	1 unit	41B
3RT234.-A,	42	--	--	--	5	3RT2944-5AD01		1	1 unit	41B
3RT244.-A,	48	--	--	--	5	3RT2944-5AH01		1	1 unit	41B
3RT254.-A	110	--	--	--	5	3RT2944-5AF01		1	1 unit	41B
	230	--	--	--	5	3RT2944-5AP01		1	1 unit	41B
	400	--	--	--	5	3RT2944-5AV01		1	1 unit	41B
	--	24	--	--	5	3RT2944-5AC21		1	1 unit	41B
		42	--	--	5	3RT2944-5AD21		1	1 unit	41B
		48	--	--	5	3RT2944-5AH21		1	1 unit	41B
		110	--	--	5	3RT2944-5AG21		1	1 unit	41B
		220	--	--	5	3RT2944-5AN21		1	1 unit	41B
		230	--	--	5	3RT2944-5AL21		1	1 unit	41B
	110	--	120	--	5	3RT2944-5AK61		1	1 unit	41B
	220	--	240	--	5	3RT2944-5AP61		1	1 unit	41B
	--	--	480	--	5	3RT2944-5AV61		1	1 unit	41B
	--	--	600	--	5	3RT2944-5AT61		1	1 unit	41B
	--	100	110	--	5	3RT2944-5AG61		1	1 unit	41B
	--	200	220	--	5	3RT2944-5AN61		1	1 unit	41B
	--	400	440	--	5	3RT2944-5AR61		1	1 unit	41B

Solenoid coils · AC/DC operation, with varistor

Size S2

3RT203.-N,	--	20 ... 33	--	20 ... 33	5	3RT2934-5NB31		1	1 unit	41B
3RT233.-N	--	30 ... 42	--	30 ... 42	X	3RT2934-5ND31		1	1 unit	41B
	--	48 ... 80	--	48 ... 80	5	3RT2934-5NE31		1	1 unit	41B
	--	83 ... 155	--	83 ... 155	X	3RT2934-5NF31		1	1 unit	41B
	--	175 ... 280	--	175 ... 280	5	3RT2934-5NP31		1	1 unit	41B

Size S3

3RT204.-N,	--	20 ... 33	--	20 ... 33	5	3RT2944-5NB31		1	1 unit	41B
3RT234.-N,	--	30 ... 42	--	30 ... 42	5	3RT2944-5ND31		1	1 unit	41B
3RT244.-N,	--	48 ... 80	--	48 ... 80	5	3RT2944-5NE31		1	1 unit	41B
3RT254.-N	--	83 ... 155	--	83 ... 155	5	3RT2944-5NF31		1	1 unit	41B
	--	175 ... 280	--	175 ... 280	5	3RT2944-5NP31		1	1 unit	41B

Note:

It is only possible to replace the coils on AC contactors with AC coils, and on AC/DC contactors with AC/DC coils.

Power Contactors for Switching Motors

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays
Spare Parts

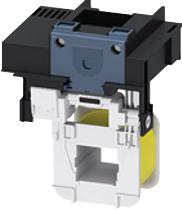
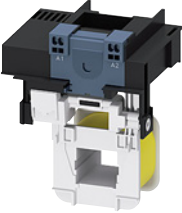

Solenoid coils

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


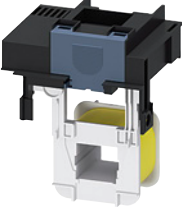

For contactors		Rated control supply voltage U_s	SD	Screw terminals	SD	Spring-type terminals	
Size	Type	V	d	Article No.	Price per PU	Article No.	Price per PU

Withdrawable coils

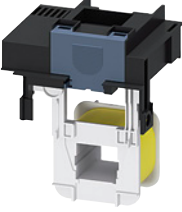


Standard operating mechanism for AC/DC

	S6	3RT105,	23 ... 26 AC/DC	5	3RT1955-5AB31	5	3RT1955-5AB32
		3RT145	42 ... 48 AC/DC	5	3RT1955-5AD31	5	3RT1955-5AD32
			110 ... 127 AC/DC	5	3RT1955-5AF31	5	3RT1955-5AF32
			200 ... 220 AC/DC	5	3RT1955-5AM31	5	3RT1955-5AM32
			220 ... 240 AC/DC	5	3RT1955-5AP31	5	3RT1955-5AP32
			240 ... 277 AC/DC	5	3RT1955-5AU31	5	3RT1955-5AU32
			380 ... 420 AC/DC	5	3RT1955-5AV31	5	3RT1955-5AV32
			440 ... 480 AC/DC	5	3RT1955-5AR31	5	3RT1955-5AR32
	S10	3RT106,	23 ... 26 AC/DC	5	3RT1965-5AB31	5	3RT1965-5AB32
		3RT146	42 ... 48 AC/DC	5	3RT1965-5AD31	5	3RT1965-5AD32
			110 ... 127 AC/DC	5	3RT1965-5AF31	5	3RT1965-5AF32
			200 ... 220 AC/DC	5	3RT1965-5AM31	5	3RT1965-5AM32
			220 ... 240 AC/DC	5	3RT1965-5AP31	5	3RT1965-5AP32
			240 ... 277 AC/DC	5	3RT1965-5AU31	5	3RT1965-5AU32
			380 ... 420 AC/DC	5	3RT1965-5AV31	5	3RT1965-5AV32
			440 ... 480 AC/DC	5	3RT1965-5AR31	5	3RT1965-5AR32
	S12	3RT107,	23 ... 26 AC/DC	5	3RT1975-5AB31	5	3RT1975-5AB32
		3RT147	42 ... 48 AC/DC	5	3RT1975-5AD31	5	3RT1975-5AD32
			110 ... 127 AC/DC	5	3RT1975-5AF31	5	3RT1975-5AF32
			200 ... 220 AC/DC	5	3RT1975-5AM31	5	3RT1975-5AM32
			220 ... 240 AC/DC	5	3RT1975-5AP31	5	3RT1975-5AP32
			240 ... 277 AC/DC	5	3RT1975-5AU31	5	3RT1975-5AU32
			380 ... 420 AC/DC	5	3RT1975-5AV31	5	3RT1975-5AV32
			440 ... 480 AC/DC	5	3RT1975-5AR31	5	3RT1975-5AR32
	500 ... 550 AC/DC	5	3RT1975-5AS31	5	3RT1975-5AS32		
	575 ... 600 AC/DC	5	3RT1975-5AT31	5	3RT1975-5AT32		

Solid-state operating mechanism for AC/DC with 24 V DC control signal input e.g. for control by PLC


	S6	3RT105,	21 ... 27.3 AC/DC	5	3RT1955-5NB31	5	3RT1955-5NB32
		3RT145	96 ... 127 AC/DC	5	3RT1955-5NF31	5	3RT1955-5NF32
			200 ... 277 AC/DC	5	3RT1955-5NP31	5	3RT1955-5NP32
	S10	3RT106,	21 ... 27.3 AC/DC	5	3RT1965-5NB31	5	3RT1965-5NB32
		3RT146	96 ... 127 AC/DC	5	3RT1965-5NF31	5	3RT1965-5NF32
			200 ... 277 AC/DC	5	3RT1965-5NP31	5	3RT1965-5NP32
	S12	3RT107,	21 ... 27.3 AC/DC	5	3RT1975-5NB31	5	3RT1975-5NB32
		3RT147	96 ... 127 AC/DC	5	3RT1975-5NF31	5	3RT1975-5NF32
			200 ... 277 AC/DC	5	3RT1975-5NP31	5	3RT1975-5NP32

• Additionally with PLC relay output and remaining lifetime indicator (RLT) (withdrawable coil with laterally mounted solid-state module)

	S6	3RT105,	96 ... 127 AC/DC	5	3RT1955-5PF31	---	---
		3RT145	200 ... 277 AC/DC	5	3RT1955-5PP31	---	---
	S10	3RT106,	96 ... 127 AC/DC	5	3RT1965-5PF31	---	---
		3RT146	200 ... 277 AC/DC	5	3RT1965-5PP31	---	---
	S12	3RT107,	96 ... 127 AC/DC	5	3RT1975-5PF31	---	---
		3RT147	200 ... 277 AC/DC	5	3RT1975-5PP31	---	---

Solid-state operating mechanism for DC with 24 ... 110 V DC control signal input e.g. for control from PLC with extended application range

(see also traction contactors on page 4/57)

	S6	3RT105...-X...-	24 DC	---	5	3RT1955-5XB42
		OLA2	72 DC	---	5	3RT1955-5XJ42
			110 DC	---	5	3RT1955-5XF42
	S10	3RT106...-X...-	24 DC	---	5	3RT1965-5XB42
		OLA2	72 DC	---	5	3RT1965-5XJ42
			110 DC	---	5	3RT1965-5XF42
	S12	3RT107...-X...-	24 DC	---	5	3RT1975-5XB42
		OLA2	72 DC	---	5	3RT1975-5XJ42
			110 DC	---	5	3RT1975-5XF42

Note:

In the case of 3RT10...-S contactors with fail-safe control inputs, removing and replacing the operating mechanism are not permitted.

Power Contactors for Switching Motors

Accessories and Spare Parts for SIRIUS 3RT Contactors and SIRIUS 3RH2 Contactor Relays

Spare Parts

Contacts and arc chambers

Selection and ordering data

For contactors	Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Size	Type	d					

Contacts with fixing parts

For contactors with 3 main contacts



3RT294.-6A

S2	3RT2035	Main contacts (3 NO contacts) for utilization category AC-3 (1 set = 3 movable and 6 fixed switching elements with fixing parts)	5	3RT2935-6A	1	1 unit	41B
	3RT2036		5	3RT2936-6A	1	1 unit	41B
	3RT2037		5	3RT2937-6A	1	1 unit	41B
	3RT2038		5	3RT2938-6A	1	1 unit	41B
S3	3RT2045		5	3RT2945-6A	1	1 unit	41B
	3RT2046		5	3RT2946-6A	1	1 unit	41B
	3RT2047		5	3RT2947-6A	1	1 unit	41B
S6	3RT1054		▶	3RT1954-6A	1	1 unit	41B
	3RT1055		▶	3RT1955-6A	1	1 unit	41B
	3RT1056		▶	3RT1956-6A	1	1 unit	41B
S10	3RT1064		▶	3RT1964-6A	1	1 unit	41B
	3RT1065		▶	3RT1965-6A	1	1 unit	41B
	3RT1066		▶	3RT1966-6A	1	1 unit	41B
S12	3RT1075		▶	3RT1975-6A	1	1 unit	41B
	3RT1076		2	3RT1976-6A	1	1 unit	41B
S3	3RT2446	Main contacts (3 NO contacts) for utilization category AC-1	NEW 5	3RT2946-6D	1	1 unit	41B
	3RT2448		NEW 5	3RT2948-6D	1	1 unit	41B
S6	3RT1456	(1 set = 3 movable and 6 fixed switching elements with fixing parts)	5	3RT1956-6D	1	1 unit	41B
S10	3RT1466		5	3RT1966-6D	1	1 unit	41B
	3RT1467		NEW 10	3RT1967-6D	1	1 unit	41B
S12	3RT1476		5	3RT1976-6D	1	1 unit	41B

For contactors with 4 main contacts



3RT2936-6E

S2	3RT2336	Main contacts (4 NO contacts) for utilization category AC-1 (1 set = 3 movable and 6 fixed switching elements and spare pole with fixing parts)	X	3RT2936-6E	1	1 unit	41B
	3RT2337		X	3RT2937-6E	1	1 unit	41B

Arc chambers

For contactors with 3 main contacts

S6	3RT1054	Only for contactors with AC/DC coil	5	3RT1954-7A	1	1 unit	41B
	3RT1055		5	3RT1955-7A	1	1 unit	41B
	3RT1056		5	3RT1956-7A	1	1 unit	41B
	3RT1456		5	3RT1956-7B	1	1 unit	41B
S10	3RT1064		5	3RT1964-7A	1	1 unit	41B
	3RT1065		5	3RT1965-7A	1	1 unit	41B
	3RT1066		5	3RT1966-7A	1	1 unit	41B
	3RT1466		5	3RT1966-7B	1	1 unit	41B
S12	3RT1075		5	3RT1975-7A	1	1 unit	41B
	3RT1076		5	3RT1976-7A	1	1 unit	41B
	3RT1476		5	3RT1976-7B	1	1 unit	41B

Power Contactors for Switching Motors

SIRIUS 3RT12 and 3TF6 vacuum contactors

Overview

Vacuum contactors

Standards

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

The SIRIUS 3RT12 and 3TF68/3TF69 vacuum contactors are suitable for use in any climate. They are finger-safe according to IEC 60529. Terminal covers may have to be fitted onto the connecting bars, depending on the configuration with other devices (see pages 3/118 and 3/139).

Connection methods

The vacuum contactors are available with screw terminals (box terminals).

Contact reliability

If voltages ≤ 110 V and currents ≤ 100 mA are to be switched, the auxiliary contacts of the vacuum 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.

Short-circuit protection

For short-circuit protection of the vacuum contactors with or without overload relays, refer to the Manuals and Configuration Manuals, see "More information" on page 3/127.

Electromagnetic compatibility (EMC)

The contactors with solid-state operating mechanism comply with the international standards IEC/EN 60947-1 and IEC/EN 60947-4-1.

These contactors have been developed for environment A.

Note:

Environment A refers to private low-voltage or industrial networks/locations/plants, including high-grade sources of interference.

Environment A corresponds to devices of Class A with CISPR 11, EN 55011.

Note:

In connection with converters, the control cables must be routed separately from the load cables to the converter.

Motor protection

For protection against overload, 3RB2 electronic overload relays (see page 7/117 onwards) can be mounted on the vacuum contactors. These must be ordered separately.

Ratings of three-phase motors

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

The power rating specifications of the vacuum contactors in kW are guide values for 4-pole standard motors at 50 Hz AC and specified voltage (e.g. 400 V). The specific starting and rated data of the motor to be switched are decisive when it comes to selecting the right devices, and the motor current, motor protection device and the permissible contactor current according to the utilization category must be aligned with each other when doing so.

Surge suppression

The vacuum contactors can be retrofitted with varistors for damping opening overvoltages in the coil.

Note:

The OFF-delay of the NO contact and the ON-delay of the NC contact are increased if the contactor coils are attenuated against voltage peaks (varistor +2 to 5 ms)

Vacuum contactors are basically unsuitable for switching DC voltage.

SIRIUS 3RT12 vacuum contactors, 3-pole, 110 to 250 kW

AC/DC operation

The contactors can be operated with AC (50 to 60 Hz) as well as with DC.

Two types of solenoid operation are available:

- Standard operating mechanism with economy circuit for AC and DC operation (switchover from closing coil to holding coil), version 3RT12...-A
- Solid-state operating mechanism, version 3RT12...-N

Withdrawable coils

For simple coil replacement, e.g. if the application is replaced, the solenoid coil can be pulled out upwards after the release mechanism has been actuated and can be replaced by any other coil of the same size.

Vacuum interrupters

In contrast to the 3RT10 contactors – the main contacts operate in air under atmospheric conditions – the contact gaps of the 3RT12 vacuum contactors are contained in hermetically enclosed vacuum interrupters. Neither arcs nor arcing gases are produced. The particular benefit of 3RT12 vacuum contactors, however, is that their electrical endurance is at least twice as long as that of 3RT10 contactors. They are therefore particularly well suited to frequent switching in inching/mixed operation, e.g. in crane control systems.

Auxiliary contact complement

The 3RT12 vacuum contactors of sizes S10 to S12 are supplied with laterally mounted auxiliary switch blocks. These can be fitted with up to eight lateral auxiliary contacts (identical auxiliary switch blocks for S10 and S12). Of these, no more than four are permitted to be NC contacts.

3TF6 vacuum contactors, 3-pole, 335 to 450 kW

Main contacts

Contact erosion indication with 3TF68/3TF69 vacuum contactors: The contact erosion of the vacuum interrupters can be checked during operation with the help of three white double slides on the contactor base. If the distance indicated by one of the double slides is < 0.5 mm while the contactor is in the closed position, the vacuum interrupter must be replaced. To ensure maximum reliability, it is recommended to replace all three vacuum interrupters simultaneously.

Auxiliary contacts

Contact reliability:

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

Protection of the main current paths

An integrated RC varistor connection for the main current paths dampens the switching overvoltage rises to safe values. This prevents multiple restricting. It can therefore be assumed that the motor winding cannot be damaged by switching overvoltages with steep voltage rises.

During operation in installations in which the emitted interference limits cannot be observed, e.g. when used for output contactors in converters, 3TF68/3TF69..-Q vacuum contactors – without connection of the main current path circuit – are recommended.

Technical specifications

Unless otherwise listed on subsequent pages, the technical specifications of the SIRIUS 3RT12 vacuum contactors correspond to those of the 3RT10 basic units, see pages 3/23, and 3/48 to 3/54.

More information

Technical specifications, see <https://support.industry.siemens.com/cs/ww/en/ps/16137/td>
 FAQs, see <https://support.industry.siemens.com/cs/ww/en/ps/16137/faq>
 System Manual, see "SIRIUS – System Overview", see <https://support.industry.siemens.com/cs/ww/en/view/60311318>
 Manual "SIRIUS – SIRIUS 3RT Contactors/Contactor Assemblies", see <https://support.industry.siemens.com/cs/ww/en/view/60306557>
 Application Manual "SIRIUS Controls with IE3/IE4 motors", see <https://support.industry.siemens.com/cs/ww/en/view/94770820>
 Configuration Manual "Load Feeders – Configuring the SIRIUS Modular System", see <https://support.industry.siemens.com/cs/ww/en/view/39714188>
 Configuration Manual "Configuring SIRIUS Innovations UL", see <https://support.industry.siemens.com/cs/ww/en/view/53433538>

Type
Size

SIRIUS vacuum contactors**3RT12****S10 and S12****Contact endurance of the main contacts**

The characteristic curves show the contact endurance of the contactors when switching resistive and inductive AC loads (AC-1/AC-3) depending on the breaking current and rated operational voltage. It is assumed that the operating mechanisms are switched randomly, i.e. not synchronized with the phase angle of the supply system.

The rated operational current I_e complies with utilization category AC-4 (breaking 6 times the rated operational current) and is intended for a contact endurance of approximately 200 000 operating cycles.

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

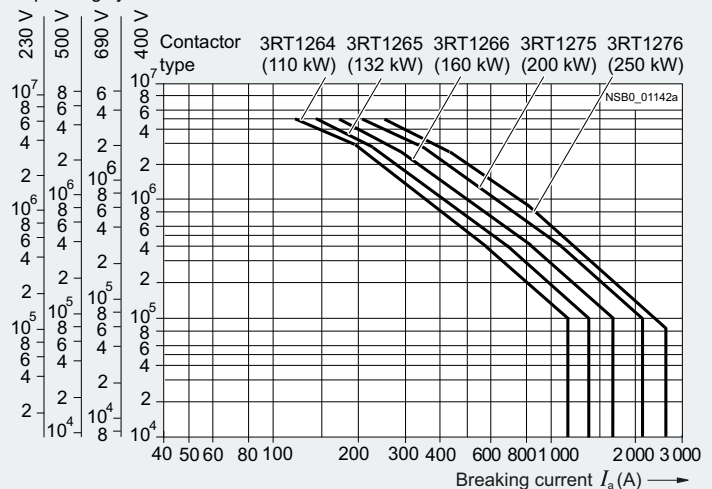
If the contacts are used for mixed operation, i.e. normal switching (breaking the rated operational current according to utilization category AC-3) in combination with intermittent inching (breaking several times the rated operational current according to utilization category AC-4), the contact endurance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

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

Characters in the equation:

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

Operating cycles at



Power Contactors for Switching Motors

SIRIUS 3RT12 and 3TF6 vacuum contactors

		Vacuum contactors	
Type		3TF6	
Size		14	
Rated data of the auxiliary contacts		According to IEC 60947-5-1	
Rated insulation voltage U_i (pollution degree 3)	V	690	
Conventional thermal current I_{th} = rated operational current $I_e/AC-12$	A	10	
AC load			
Rated operational current $I_e/AC-15/AC-14$			
• For rated operational voltage U_e			
- At 24 V	A	10	
- At 110 V	A	10	
- At 125 V	A	10	
- At 220 V	A	6	
- At 230 V	A	5.6	
- At 380 V	A	4	
- At 400 V	A	3.6	
- At 500 V	A	2.5	
- At 660 V	A	2.5	
- At 690 V	A	2.3	
DC load			
Rated operational current $I_e/DC-12$			
• For rated operational voltage U_e			
- At 24 V	A	10	
- At 60 V	A	10	
- At 110 V	A	3.2	
- At 125 V	A	2.5	
- At 220 V	A	0.9	
- At 440 V	A	0.33	
- At 600 V	A	0.22	
Rated operational current $I_e/DC-13$			
• For rated operational voltage U_e			
- At 24 V	A	10	Auxiliary contacts with delayed NC contact: 6
- At 60 V	A	5	N S
- At 110 V	A	1.14	0.98
- At 125 V	A	0.98	N S
- At 220 V	A	0.48	N S
- At 440 V	A	0.13	N S
- At 600 V	A	0.07	0.07

N S = No specification

Ⓢ and Ⓣ rated data of the auxiliary contacts

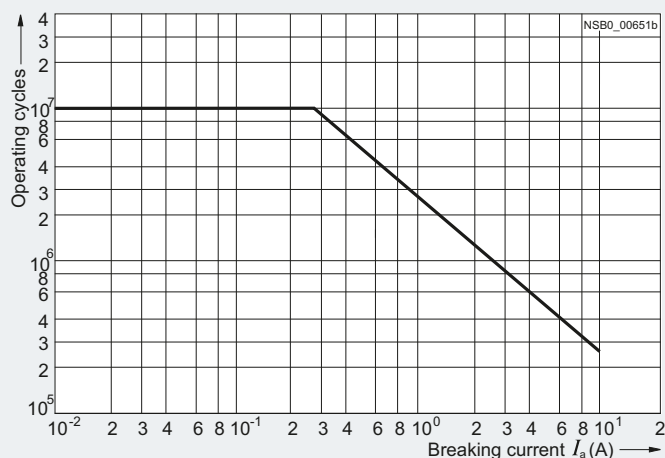
Rated voltage, max. V AC 600

Switching capacity A 600, P 600

Endurance of the auxiliary contacts

The contact endurance for utilization category AC-12 or AC-15/AC-14 depends mainly on the breaking current. It is assumed that the operating mechanisms are switched randomly, i.e. not synchronized with the phase angle of the supply system.

The characteristic curves apply to 230 V AC.



Contact erosion indication with vacuum contactors

The contact erosion of the vacuum interrupters can be checked during operation with the help of three white double slides on the contactor base.

If the distance indicated by one of the double slides is < 0.5 mm while the contactor is in the closed position, the vacuum interrupter must be replaced. To ensure maximum reliability, it is recommended to replace all three vacuum interrupters at once.

Type	Vacuum contactors
Size	3TF6
	14

Contact endurance of the main contacts

The characteristic curves show the contact endurance of the contactors when switching resistive and inductive AC loads (AC-1/AC-3) depending on the breaking current and rated operational voltage. It is assumed that the operating mechanisms are switched randomly, i.e. not synchronized with the phase angle of the supply system.

The rated operational current I_e complies with utilization category AC-4 (breaking 6 times the rated operational current) and is intended for a contact endurance of approximately 200 000 operating cycles.

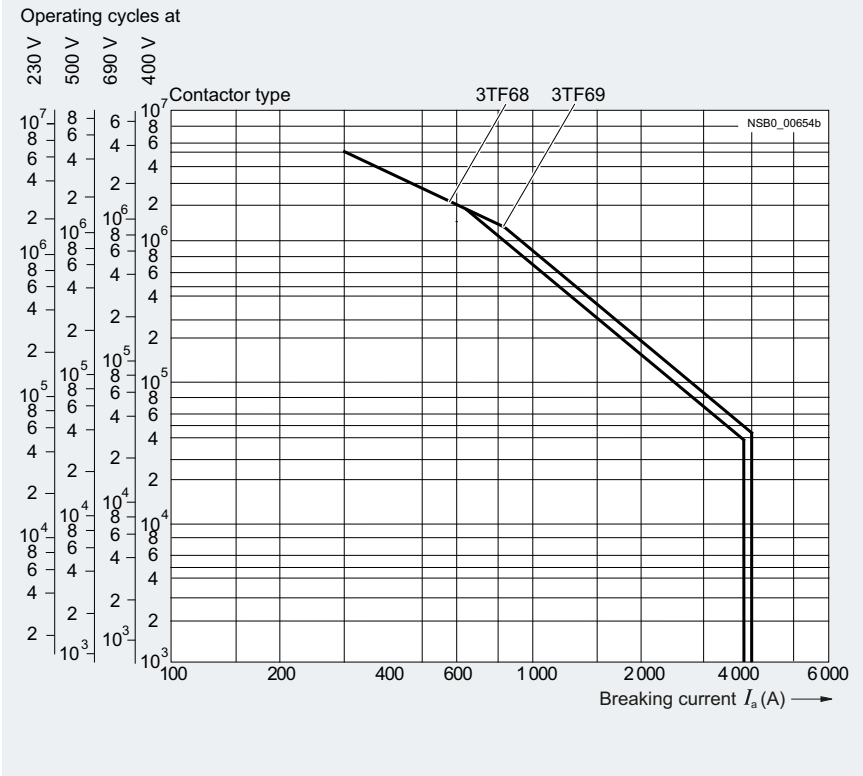
If a shorter contact endurance is sufficient, the rated operational current $I_e/AC-4$ can be increased.

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

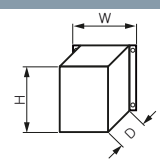
$$X = \frac{A}{1 + \frac{C}{100} \left(\frac{A}{B} - 1 \right)}$$

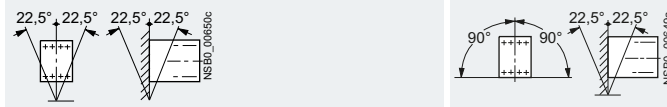
Characters in the equation:

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



Type	SIRIUS vacuum contactors		Vacuum contactors	
Size	3RT126	3RT127	3TF68	3TF69
	S10	S12	14	

General data						
Dimensions (W x H x D)		mm	145 x 210 x 206	160 x 214 x 225	230 x 276 x 237	230 x 295 x 237

Permissible mounting position			
The contactors are designed for operation on a vertical mounting surface.			

- To easily replace the laterally mounted auxiliary switches it is recommended to maintain a minimum distance of 30 mm between the contactors.
- If mounted at a 90° angle (current paths are horizontally above each other), the switching frequency is reduced by 80% compared with the normal values.

Mechanical endurance	Operating cycles	10 million	5 million
Electrical endurance	Contact endurance of the main contacts	See page 3/127	See above
Rated insulation voltage U_i (pollution degree 3)	kV	1	
Rated impulse withstand voltage U_{imp}	kV	8	
Protective separation between the coil and the main contacts acc. to IEC 60947-1, Appendix N	V	690	1 000
Mirror contacts		Yes, acc. to IEC 60947-4-1, Appendix F	Yes, acc. to IEC 60947-4-1, Appendix F
A mirror contact is an auxiliary NC contact that cannot be closed simultaneously with an NO main contact.			One NC contact each must be connected in series for the left and right auxiliary switch block respectively.



Power Contactors for Switching Motors

SIRIUS 3RT12 and 3TF6 vacuum contactors

Type Size	SIRIUS vacuum contactors		Vacuum contactors	
	3RT126 S10	3RT127 S12	3TF68 14	3TF69
General data (continued)				
Permissible ambient temperature				
• During operation	°C	-25 ... +60		-25 ... +55 ¹⁾
• During storage	°C	-55 ... +80		-55 ... +80
Degree of protection acc. to IEC 60529				
• On front		IP00 (IP20 with box terminal/cover)		2)3)
• Connecting terminal		IP00 (for higher degree of protection, use additional terminal covers)		
Touch protection acc. to IEC 60529				
		Finger-safe for vertical touching from the front with cover		
Shock resistance				
• Rectangular pulse				
- AC operation	g/ms	8.5/5 and 4.2/10		8.1/5 and 4.7/10
- DC operation	g/ms	8.5/5 and 4.2/10		9.5/5 and 5.7/10
• Sine pulse				
- AC operation	g/ms	13.4/5 and 6.5/10		12.8/5 and 7.4/10
- DC operation	g/ms	13.4/5 and 6.5/10		13.5/5 and 7.8/10
Electromagnetic compatibility (EMC)				
		See page 3/126		
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	500	800	1 000
• Type of coordination "2"	A	500	800	630
• Weld-free (test conditions acc. to IEC 60947-4-1)	A	400	500	400
Auxiliary circuit				
Short-circuit test				
• Fuse links, operational class gG: DIAZED, type 5SB; NEOZED, type 5SE (weld-free protection at $I_k \leq 1$ kA)	A	10		
• Miniature circuit breaker with C characteristic (short-circuit current $I_k \leq 400$ A)	A	10		
Short-circuit protection for contactors with overload relays				
		See Configuration Manual for load feeders		

¹⁾ For ambient temperatures > 55 °C, only 3TF6.33-.Q..-Z A02 contactors (= without connection of the main current path circuits) can be used. Then, derating is also possible with these contactors:
- AC-1: $I_e = 782$ A, 644 operating cycles/h;
- AC-3: Operating range 0.85 to 1.05 x U_s , 460 operating cycles/h, mech. endurance 5 million operating cycles, lateral clearance 10 mm.

²⁾ The following applies for 3TF6-.C.:
- IP00 without cover (the connecting bar is reached directly from the front)
- IP00 with cover for conductor entry
- IP20 on the front plate with cover.
³⁾ The following applies for 3TF6-.Q../-D.:
- IP00 without box terminal (the connecting bar, series resistor and the 3TC44 reversing contactor are reached directly from the front)
- IP00 with box terminal (the series resistor and the 3TC44 reversing contactor are reached directly).

Type Size	SIRIUS vacuum contactors		Vacuum contactors		
	3RT126 S10	3RT127 S12	3TF68 14	3TF69	
Control					
Solenoid coil operating range	AC/DC	0.8 x $U_{s \text{ min}}$... 1.1 x $U_{s \text{ max}}$			
Power consumption of the solenoid coils (for cold coil and 1.0 x U_s)					
<u>Standard operating mechanism</u>					
• AC operation	- Closing at $U_{s \text{ min}}/U_{s \text{ max}}$	VA	530/630	700/830	--
	- P.f.		0.9		--
- Closed at $U_{s \text{ min}}/U_{s \text{ max}}$		VA	6.1/7.4	7.6/9.2	--
	- P.f.		0.9		--
• DC operation	- Closing at $U_{s \text{ min}}/U_{s \text{ max}}$	W	580/780	770/920	--
	- Closed at $U_{s \text{ min}}/U_{s \text{ max}}$	W	6.8/8.2	8.5/10	--
<u>Solid-state operating mechanism</u>					
• AC operation	- Closing at $U_{s \text{ min}}/U_{s \text{ max}}$	VA	420/570	560/750	1 200/1 850
	- P.f.		0.8		1
- Closed at $U_{s \text{ min}}/U_{s \text{ max}}$		VA	5.5/8.5	5.6/9	13.5/49
	- P.f.		0.5/0.4		0.15
• AC operation for 3TF68/3TF69...Q	- Closing at $U_{s \text{ min}}$	VA	--		1 000
	- P.f.		--		0.99
- Closed at $U_{s \text{ min}}$		VA	--		11
	- P.f.		--		1
• DC operation	- Closing at $U_{s \text{ min}}/U_{s \text{ max}}$	W	460/630	600/800	--
	- Closed at $U_{s \text{ min}}/U_{s \text{ max}}$	W	2.8/3.4	3/3.6	--
• DC economy circuit ¹⁾	- Closing at $U_{s \text{ min}}$	W	--		1 010
	- Closed at $U_{s \text{ min}}$	W	--		28
PLC control input acc. to IEC 61131-2			Type 2		--
• Rated voltage	V DC		24		--
• Operating range	V DC		17 ... 30		--
• Power consumption	mA		≤ 30		--
Operating times (Total break time = Opening delay + Arcing time)					
(Values apply to cold and warm coil)					
<u>Standard operating mechanism</u>					
• For 0.8 x $U_{s \text{ min}}$... 1.1 x $U_{s \text{ max}}$	- Closing delay	ms	30 ... 95	45 ... 100	--
	- Opening delay	ms	40 ... 80	60 ... 100	--
• For $U_{s \text{ min}}$... $U_{s \text{ max}}$	- Closing delay	ms	35 ... 50	50 ... 70	--
	- Opening delay	ms	50 ... 80	70 ... 100	--
<u>Solid-state operating mechanism, actuated via A1/A2</u>					
• AC operation at 0.8 x $U_{s \text{ min}}$... 1.1 x $U_{s \text{ max}}$	- Closing delay	ms	105 ... 145	120 ... 150	70 ... 120 (22 ... 65)
	- Opening delay	ms	80 ... 100		80 ... 120
• AC operation for 3TF68/3TF69...Q at $U_{s \text{ min}}$ (including reversing contactor)	- Closing delay	ms	--		35 ... 90
	- Opening delay	ms	--		65 ... 90
• AC operation at $U_{s \text{ min}}$... $U_{s \text{ max}}$	- Closing delay	ms	110 ... 130	125 ... 150	80 ... 100 (30 ... 45)
	- Opening delay	ms	80 ... 100		85 ... 100
<u>Solid-state operating mechanism, actuated via PLC input</u>					
• For 0.8 x $U_{s \text{ min}}$... 1.1 x $U_{s \text{ max}}$	- Closing delay	ms	45 ... 80	60 ... 90	--
	- Opening delay	ms	80 ... 100		--
• DC economy circuit for 0.8 x $U_{s \text{ min}}$... 1.1 x $U_{s \text{ max}}$	- Closing delay	ms	--		76 ... 110
	- Opening delay	ms	--		50
• For $U_{s \text{ min}}$... $U_{s \text{ max}}$	- Closing delay	ms	50 ... 65	65 ... 80	--
	- Opening delay	ms	80 ... 100		--
• DC economy circuit for $U_{s \text{ min}}$... $U_{s \text{ max}}$	- Closing delay	ms	--		80 ... 90
	- Opening delay	ms	--		50
Arcing time		ms	10 ... 15		10 ... 15
Minimum command duration	Standard	ms	--		120
For closing	Reduced make-time	ms	--		90
Minimum interval time between two ON commands		ms	--		100
					300

1) At 24 V DC; for further voltages, deviations of up to ± 10 % are possible.

Power Contactors for Switching Motors





SIRIUS 3RT12 and 3TF6 vacuum contactors

Type Size	SIRIUS vacuum contactors					Vacuum contactors			
	3RT1264	3RT1265	3RT1266	3RT1275	3RT1276	3TF68	3TF69		
	S10			S12		14			
Rated data of the main contacts									
Load rating with AC									
Utilization category AC-1									
Switching resistive loads									
• Rated operational currents I_e	- At 40 °C up to 690 V	A	330		610		700	910	
	- At 40 °C up to 1 000 V	A	330		610		--	--	
	- At 55 °C up to 690 V	A	--		--		630	850	
	- At 55 °C up to 1 000 V	A	--		--		450	800	
	- At 60 °C up to 1 000 V	A	300		550		--	--	
• Rated power for AC loads ¹⁾ with p.f. = 0.95	- At 230 V	kW	At 60 °C		At 60 °C		At 55 °C		
	- At 400 V	kW	113		208		240	323	
	- At 500 V	kW	197		362		415	558	
	- At 690 V	kW	246		452		545	735	
	- At 1 000 V	kW	340		624		720	970	
	- At 1 000 V	kW	492		905		780	1 385	
• Minimum conductor cross-section for loads with I_e	- At 40 °C	mm ²	185		2 x 185		2 x 240	$I_e \geq 800$ A: 2 x 60 x 5 (copper busbars)	
	- At 55 °C	mm ²	--		--		2 x 185	$I_e < 800$ A: 2 x 240	
	- At 60 °C	mm ²	185		2 x 185		--	--	
Utilization categories AC-2 and AC-3									
• Rated operational currents I_e	- Up to 690 V	A	--		--		630	820	
	- Up to 1 000 V	A	225	265	300	400	500	435	580
• Rated power for slipring or squirrel-cage motors at 50 Hz and 60 Hz	- At 230 V	kW	73	85	97	132	164	200	260
	- At 400 V	kW	128	151	171	231	291	347	450
	- At 500 V	kW	160	189	215	291	363	434	600
	- At 690 V	kW	223	265	288	400	507	600	800
	- At 1 000 V	kW	320	378	428	578	728	600	800
Thermal load capacity, 10 s current		A	1 800	2 120	2 400	3 200	4 000	5 040	7 000
Power loss per conducting path at $I_e/AC-3$		W	9	12	14	21	32	45	70
Utilization category AC-4 (for $I_a = 6 \times I_e$)									
Maximum values:									
• Rated operational current I_e	- Up to 690 V	A	195	230	280	350	430	610	690
• Rated power for squirrel-cage motors with 50 Hz and 60 Hz	- At 400 V	kW	110	132	160	200	250	355	400
The following applies to a contact endurance of about 200 000 operating cycles:									
• Rated operational currents I_e	- Up to 690 V	A	97	115	140	175	215	300	360
	- Up to 1 000 V	A	68	81	98	123	151	210	250
• Rated power for squirrel-cage motors with 50 Hz and 60 Hz	- At 230 V	kW	30	37	45	56	70	97	110
	- At 400 V	kW	55	65	79	98	122	168	191
	- At 500 V	kW	68	81	98	124	153	210 ²⁾	250 ²⁾
	- At 690 V	kW	94	112	138	172	212	278 ²⁾	335 ²⁾
	- At 1 000 V	kW	95	114	140	183	217	290 ²⁾	350 ²⁾
Switching frequency									
Switching frequency z in operating cycles/hour									
Contactors without overload relays									
• No-load switching frequency	- AC/DC	1/h	Standard operating mechanism: 2 000, Solid-state operating mechanism: 1 000				--	--	
	- AC	1/h	--		--	2 000	1 000		
	- DC	1/h	--		--	1 000	1 000		
• Switching frequency z during rated operation ³⁾	- $I_e/AC-1$ at 400 V	1/h	800	750			700		
	- $I_e/AC-2$ at 400 V	1/h	300	250			200		
	- $I_e/AC-3$ at 400 V	1/h	750				500		
	- $I_e/AC-4$ at 400 V	1/h	250				150		
Contactors with overload relays									
• Mean value		1/h	60				15		

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

²⁾ Max. permissible rated operational current $I_e/AC-4 = I_e/AC-3$ up to 500 V, for reduced contact endurance and reduced switching frequency.

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

Type Size	SIRIUS vacuum contactors		Vacuum contactors	
	3RT126. S10	3RT127. S12	3TF68 14	3TF69
Conductor cross-sections				
Main conductors (1 or 2 conductors can be connected)				
 Screw terminals				
With mounted box terminals	Type	3RT1966-4G		--
• Terminal screws - Tightening torque	Nm	M12 (hexagon socket, A/F 5) 20 ... 22 (180 ... 195 lb.in)		--
Front clamping point connected				
	• Finely stranded with end sleeve (DIN 46228-1)	mm ²	70 ... 240	--
	• Finely stranded without end sleeve	mm ²	70 ... 240	--
	• Stranded	mm ²	95 ... 300	--
	• AWG cables, solid or stranded	AWG	3/0 ... 600 kcmil	--
• Ribbon cable conductors (number x width x thickness)	mm	Min. 6 x 9 x 0.8; max. 20 x 24 x 0.5		--
Rear clamping point connected				
	• Finely stranded with end sleeve (DIN 46228-1)	mm ²	120 ... 185	--
	• Finely stranded without end sleeve	mm ²	120 ... 185	--
	• Stranded	mm ²	120 ... 240	--
	• AWG cables, solid or stranded	AWG	250 ... 500 kcmil	--
• Ribbon cable conductors (number x width x thickness)	mm	Min. 6 x 9 x 0.8; max. 20 x 24 x 0.5		--
Both clamping points connected				
	• Finely stranded with end sleeve (DIN 46228-1)	mm ²	Min. 2 x 50, max. 2 x 185	--
	• Finely stranded without end sleeve	mm ²	Min. 2 x 50, max. 2 x 185	--
	• Stranded	mm ²	Min. 2 x 70, max. 2 x 240	--
	• AWG cables, solid or stranded	AWG	Min. 2 x 2/0, max. 1 x 500 kcmil	--
• Ribbon cable conductors (number x width x thickness)	mm	Max. 2 x (20 x 24 x 0.5)		--
Cable lug connection				
• Finely stranded with cable lug ¹⁾	mm ²	50 ... 240	--	--
• Stranded with cable lug ¹⁾	mm ²	70 ... 240	--	--
• AWG cables, solid or stranded	AWG	2/0 ... 500 kcmil	--	--
• Terminal screws - Tightening torque	Nm	M10 x 30 (A/F 17) 14 ... 24 (124 ... 210 lb.in)	--	--
Busbar connections				
• Finely stranded with cable lug	mm ²	--	50 ... 240	--
• Stranded with cable lug	mm ²	--	70 ... 240	50 ... 240
• Solid or stranded	AWG	--	2/0 ... 500 MCM	2/0 ... 500 MCM
• Connecting bar (max. width)	mm	25	50	60 (U _b ≤ 690 V), 50 (U _b > 690 V)
• Terminal screws - Tightening torque	Nm lb.in	-- --	M10 x 30 14 ... 24 124 ... 210	M12 x 40 20 ... 35 177 ... 310
With box terminal (see page 3/139)				
• Connectable laminated copper bars	--	--	Yes	--
• Width	mm	--	15 ... 25	15 ... 38
• Max. thickness	mm	--	1 x 26 or 2 x 11	1 x 46 or 2 x 18
• Terminal screw	--	--	A/F 6 (hexagon socket)	A/F 8 (hexagon socket)
• Tightening torque	Nm	--	25 ... 40 (221 ... 354 lb.in)	35 ... 50 (266 ... 443 lb.in)
Auxiliary conductors (1 or 2 conductors connectable)				
• Solid	mm ²	2 x (0.5 ... 1.5) ²⁾ ; 2 x (0.75 ... 2.5) ²⁾ acc. to IEC 60947; max. 2 x (0.75 ... 4)	2 x (0.5 ... 1) ²⁾ /2 x (1 ... 2.5) ²⁾	--
• Finely stranded with end sleeve (DIN 46228-1)	mm ²	2 x (0.5 ... 1.5) ²⁾ ; 2 x (0.75 ... 2.5) ²⁾	2 x (0.5 ... 1) ²⁾ ; 2 x (0.75 ... 2.5) ²⁾	--
• Pin-end connector to DIN 46231	mm ²	--	2 x (1 ... 1.5)	--
• AWG cables, solid or stranded	AWG	2 x (18 ... 14)	2 x (18 ... 12)	--
• Terminal screws - Tightening torque	Nm	M3 (Poqidriv size 2) 0.8 ... 1.2 (7 ... 10.3 lb.in)	-- 0.8 ... 1.4 (7 ... 12 lb.in)	--

¹⁾ When connecting cable lugs according to DIN 46234 for conductor cross-sections larger than 240 mm² and according to DIN 46235 for conductor cross-sections larger than 185 mm², the 3RT1966-4EA1 terminal cover is required to maintain phase separation, see page 3/118.

²⁾ If two different conductor cross-sections are connected to one clamping point, both cross-sections must lie in one of the ranges specified.

Power Contactors for Switching Motors

SIRIUS 3RT12 and 3TF6 vacuum contactors

Type Size	SIRIUS vacuum contactors					Vacuum contactors		
	3RT1264 S10	3RT1265	3RT1266	3RT1275 S12	3RT1276	3TF68 14	3TF69	
Ⓢ and Ⓜ rated data								
Rated insulation voltage	V AC	600					600	
Uninterrupted current at 40 °C, open and enclosed	A	330			540		630	820
Maximum horsepower ratings (from Ⓢ and Ⓜ approved values)								
• Rated power for three-phase motors at 60 Hz								
- At 200 V	hp	60	75	100	125	150	231	290
- At 230 V	hp	75	100	125	150	200	266	350
- At 460 V	hp	150	200	250	300	400	530	700
- At 575 V	hp	200	250	300	400	500	664	860
NEMA/EEMAC ratings								
SIZE	hp	--					6	7
• Uninterrupted current								
- Open	A	--					600	820
- Enclosed	A	--					540	810
• Rated power for three-phase motors at 60 Hz								
- At 200 V	hp	--					150	--
- At 230 V	hp	--					200	300
- At 460 V	hp	--					400	600
- At 575 V	hp	--					400	600
Short-circuit protection¹⁾								
	kA	10	18			30	100	
• CLASS L fuse	A	600	700	800	1 000	1 200	1 600	
• Circuit breakers acc. to UL 489	A	500	700	800	1 000	1 200	On request ¹⁾	


¹⁾ For more information about short-circuit values, e.g. for protection against short-circuit currents, see [Certificate of Compliance for the individual devices](#).

For the selection and dimensioning of load feeders, see [UL Configuration Manual](#) and the [UL guide "Industrial Control Panels and Electrical Equipment of Industrial Machinery for North America"](#).

IE3/IE4 ready

SIRIUS 3RT12 and 3TF6 vacuum contactors

Selection and ordering data

SIRIUS 3RT12 vacuum contactors, 3-pole, 110 ... 250 kWAC/DC operation 


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



3RT1264-6AF36



3RT127.-6N.36

Size	Rated data					AC-1, t_{ij} : 40 °C	Auxiliary contacts, lateral			Rated control supply voltage U_s 50/60 Hz AC or DC	SD	Screw terminals 	PU (UNIT, SET, M)	PS*	PG	
	AC-2 and AC-3, t_{ij} : Up to 60 °C	Rating of three-phase motors at 50 Hz and					Operational current I_e up to	NO	NC							V
	1 000 V	230 V	400 V	500 V	690 V	1 000 V										
A	kW	kW	kW	kW	kW	A				d						
Standard operating mechanism with economy circuit for AC and DC operation (switchover from closing coil to holding coil)																
S10	225	55	110	160	200	330	2	2	110 ... 127 220 ... 240	5 2	3RT1264-6AF36 3RT1264-6AP36	1 1	1 unit 1 unit	41B 41B		
	265	75	132	160	250	330	2	2	110 ... 127 220 ... 240	2 5	3RT1265-6AF36 3RT1265-6AP36	1 1	1 unit 1 unit	41B 41B		
	300	90	160¹⁾	200	250	330	2	2	110 ... 127 220 ... 240	2 2	3RT1266-6AF36 3RT1266-6AP36	1 1	1 unit 1 unit	41B 41B		
S12	400	132	200	250	400	610	2	2	110 ... 127 220 ... 240	5 2	3RT1275-6AF36 3RT1275-6AP36	1 1	1 unit 1 unit	41B 41B		
	500	160	250¹⁾	355	500	610	2	2	110 ... 127 220 ... 240	5 5	3RT1276-6AF36 3RT1276-6AP36	1 1	1 unit 1 unit	41B 41B		

Solid-state operating mechanism**With 24 V DC control signal input
e.g. for control by PLC**

S10	225	55	110	160	200	330	2	2	96 ... 127 200 ... 277	5 5	3RT1264-6NF36 3RT1264-6NP36	1 1	1 unit 1 unit	41B 41B
	265	75	132	160	250	330	2	2	96 ... 127 200 ... 277	5 5	3RT1265-6NF36 3RT1265-6NP36	1 1	1 unit 1 unit	41B 41B
	300	90	160	200	250	330	2	2	96 ... 127 200 ... 277	5 5	3RT1266-6NF36 3RT1266-6NP36	1 1	1 unit 1 unit	41B 41B
S12	400	132	200	250	400	610	2	2	96 ... 127 200 ... 277	5 5	3RT1275-6NF36 3RT1275-6NP36	1 1	1 unit 1 unit	41B 41B
	500	160	250	355	500	610	2	2	96 ... 127 200 ... 277	5 5	3RT1276-6NF36 3RT1276-6NP36	1 1	1 unit 1 unit	41B 41B

¹⁾ When using 3RT12.6-6A... vacuum contactors with IE3/IE4 motors from 8.5 times the starting current, use the versions with solid-state operating mechanism 3RT12.6-6N...
For more information about dimensioning and configuring, see page 3/7.

Other voltages according to page 3/75 on request.

For an overview of the 3RT12 vacuum contactors with mountable accessories, see pages 3/14 and 3/16.

The accessories for the 3RT1 vacuum contactors correspond to those for the basic units of the 3RT1 contactors, see from page 3/76 onwards.

For spare parts, see page 3/140.

Power Contactors for Switching Motors

SIRIUS 3RT12 and 3TF6 vacuum contactors


3TF6 vacuum contactors, 3-pole, 335 ... 450 kW

AC operation

- For screw fixing
- Main conductors: Busbar connections
- Auxiliary and control conductors: Screw terminals
- With overvoltage protection of the coil (varistor)



3TF68/3TF69

Size	Rated data						AC-1, t_U : 40 °C	Auxiliary contacts, lateral		Rated control supply voltage U_s 50/60 Hz AC	SD	Screw terminals 	PU (UNIT, SET, M)	PS*	PG	
	Operational current I_e up to	Rating of three-phase motors at 50 Hz and up to						Operational current I_e up to	NO							NC
A	230 V	400 V	500 V	690 V	1 000 V	A	4			4	V	d				
AC operation, 50/60 Hz¹⁾																
14	630	200	335²⁾	434	600	--	700	4	4	110 ... 132	X	3TF6844-0CF7	1	1 unit	41B	
																200 ... 240
							600	700	4	4	110 ... 132	X	3TF6844-8CF7	1	1 unit	41B
14	820	260	450³⁾	600	800	--	910	4	4	110 ... 132	X	3TF6944-0CF7	1	1 unit	41B	
							800	910	4	4	110 ... 132	X	3TF6944-8CF7	1	1 unit	41B

¹⁾ For use of 3TF6 vacuum contactors in the environment of frequency converters, we recommend ordering a special version: **3TF6...-Z A02**.

3TF68/3TF69 vacuum contactors in their basic version are supplied with integrated overvoltage damping for the main current paths. The surge suppression circuit is not required for operation in circuits with DC choppers, frequency converters or speed-variable operating mechanisms, for example.

The circuit could be damaged by the voltage peaks and harmonics and thus cause phase-to-phase short circuits. For this reason, the contactors can also be supplied without integrated overvoltage damping. Without additional price.

The article number must be supplemented by "-Z" and the order code "A02".

²⁾ When using 3TF68 vacuum contactors with IE3/IE4 motors from 8.5 times the starting current, please use 3TF69 vacuum contactors. For more information about dimensioning and configuring, see page 3/7.

³⁾ Please inquire about use of 3TF69 vacuum contactors with IE3/IE4 motors.

Accessories and spare parts, see pages 3/138 to 3/141.

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

Delivery time on request

Rated control supply voltage U_s	Contactor type	3TF6844-C...	3TF6944-C...
	Size	14	


AC operation

Solenoid coils for 50/60 Hz

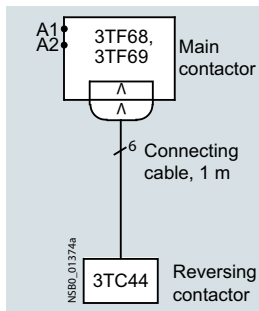
110 ... 132 V AC	F7
200 ... 240 V AC	M7
230 ... 277 V AC	P7
380 ... 460 V AC	Q7
500 ... 600 V AC	S7

IE3/IE4 ready


SIRIUS 3RT12 and 3TF6 vacuum contactors

DC operation and for AC operation subject to strong interference 

- Main conductors: Busbar connections
- Auxiliary and control conductors: Screw terminals
- DC solenoid system with 3TC44 reversing contactor for series resistor



3TF6.33-Q.7

Size	Rated data						AC-1, t_U : 40 °C	Auxiliary contacts, lateral			Rated control supply voltage U_s 50/60 Hz AC or DC	SD	Screw terminals 	PU (UNIT, SET, M)	PS*	PG
	AC-2 and AC-3, t_U : Up to 55 °C	Rating of three-phase motors at 50 Hz and up to						Operational current I_e up to								
	690 V	230 V	400 V	500 V	690 V	1 000 V	690 V	NO	NC	V	d					
DC operation · DC economy circuit¹⁾²⁾																
14	630	200	335 ³⁾	434	600	--	700	3	3	24 DC	X	3TF6833-1DB4	1	1 unit	41B	
						600	700	3	3	24 DC	X	3TF6833-8DB4	1	1 unit	41B	
14	820	260	450 ⁴⁾	600	800	--	910	3	3	24 DC	X	3TF6933-1DB4	1	1 unit	41B	
						800	910	3	3	24 DC	X	3TF6933-8DB4	1	1 unit	41B	
AC operation 50/60 Hz with DC economy circuit²⁾⁵⁾. For AC operation subject to strong interference																
14	630	200	335 ³⁾	434	600	--	700	3	3	110 ... 120 AC X 220 ... 240 AC X 380 ... 420 AC X	X	3TF6833-1QG7 3TF6833-1QL7 3TF6833-1QV7	1 1 1	1 unit 1 unit 1 unit	41B 41B 41B	
						600	700	3	3	220 ... 240 AC X	X	3TF6833-8QL7	1	1 unit	41B	
14	820	260	450 ⁴⁾	600	800	--	910	3	3	110 ... 120 AC X 220 ... 240 AC X 380 ... 420 AC X	X	3TF6933-1QG7 3TF6933-1QL7 3TF6933-1QV7	1 1 1	1 unit 1 unit 1 unit	41B 41B 41B	
						800	910	3	3	110 ... 120 AC X 220 ... 240 AC X	X	3TF6933-8QG7 3TF6933-8QL7	1 1	1 unit 1 unit	41B 41B	

1) On this version, a magnetic system is used in the DC economy circuit. A varistor can be retrofitted. A 3TC4417-4A.. reversing contactor is included in the scope of supply of the vacuum contactor.

2) For use of 3TF6 vacuum contactors in the environment of frequency converters, we recommend ordering a special version: **3TF6...-Z A02**.

3TF68/3TF69 vacuum contactors in their basic version are supplied with integrated overvoltage damping for the main current paths. The surge suppression circuit is not required for operation in circuits with DC choppers, frequency converters or speed-variable operating mechanisms, for example.

The circuit could be damaged by the voltage peaks and harmonics and thus cause phase-to-phase short circuits. For this reason, the contactors can also be supplied without integrated overvoltage damping. Without additional price.

The article number must be supplemented by "-Z" and the order code "A02".

3) When using 3TF68 vacuum contactors with IE3/IE4 motors from 8.5 times the starting current, please use 3TF69 vacuum contactors. For more information about dimensioning and configuring, see page 3/7.

4) Please inquire about use of 3TF69 vacuum contactors with IE3/IE4 motors.

5) On this version, a magnetic system with rectifier is used in the DC economy circuit. Varistor integrated. A 3TC4417-.... reversing contactor with preassembled connecting cable (approx. 1 m) and plug is included in the scope of supply of the vacuum contactor.

Accessories and spare parts, see pages 3/138 to 3/141.

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

Delivery time on request

Rated control supply voltage U_s	Contactor type 3TF6833-D.., 3TF6933-D..
	Size 14

DC operation

Solenoid coils for DC economy circuit

24 V DC	B4
110 V DC	F4
125 V DC	G4
220 V DC	M4
230 V DC	P4



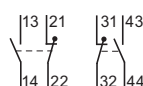
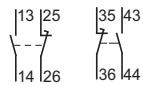
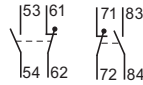
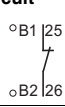
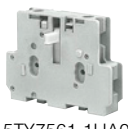

Power Contactors for Switching Motors

Accessories and Spare Parts for SIRIUS 3RT12 and 3TF6 Vacuum Contactors

Accessories

Selection and ordering data




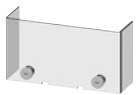
For further accessories for the SIRIUS 3RT12 vacuum contactors, see [3RT1 basic devices](#), from page 3/76 onwards.

For contactors	Version	Auxiliary contacts Version	Connections	SD	Screw terminals 	PU (UNIT, SET, M)	PS*	PG	
Size	Type	NO NC NC	Left Right	d	Article No.	Price per PU			
Auxiliary switch blocks, instantaneous									
For lateral mounting									
	14	3TF68, 3TF69	1st auxiliary switch block (replacement for 3TY7561-1A/3TY7561-1B)		▶ 3TY7561-1AA00	1	1 unit	41B	
			1 1 --						
					20	3TY7561-1EA00	1	1 unit	41B
			1 -- 1						
			1 1 --						
			1 1 --		5 3TY7561-1KA00	1	1 unit	41B	
For switchover of the coil with DC economy circuit									
	14	3TF68, 3TF69	-- -- -- 1		20	3TY7681-1G	1	1 unit	41B
Solid-state compatible auxiliary switch blocks									
For lateral mounting									
	14	3TF68, 3TF69	2nd auxiliary switch block, left or right (replacement for 3TY6561-1U/3TY6561-1V)		5 3TY7561-1UA00	1	1 unit	41B	
			1 CO contact						

Power Contactors for Switching Motors

Accessories and Spare Parts for SIRIUS 3RT12 and 3TF6 Vacuum Contactors

Accessories

For contactors	Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Size	Type	d					
Main current path surge suppression modules							
 3RT1966-1PV3	S10/ S12	3RT12	For damping overvoltages and protecting motor windings against multiple re-ignition when switching off three-phase motors For connection on the contactor feeder side (2-T1/4-T2/6-T3), for separate installation Rated operational voltage U_e				
			<ul style="list-style-type: none"> • 690 V AC • 1 000 V AC 	10	3RT1966-1PV3	1	1 unit 41B
 3RT1966-1PV4				10	3RT1966-1PV4	1	1 unit 41B
Surge suppressors							
 3TX7572-3.	14	3TF68, 3TF69	Varistors <u>AC operation</u> The surge suppressor (varistor) is included in the scope of supply of the 3TF68 and 3TF69 contactors with AC operation. <u>DC operation · DC economy circuit</u> Varistor for snapping onto the side of the auxiliary switch (includes the peak value of the alternating voltage on the DC side) Rated control supply voltage U_s				
			<ul style="list-style-type: none"> • 24 ... 48 V DC • 127 ... 240 V DC 	20	3TX7572-3G	1	1 unit 41B
				20	3TX7572-3J	1	1 unit 41B
Terminal covers							
 3TX7686-0A	14		Two units required per contactor (1 set = 2 units).				
		3TF68	For protection against inadvertent contact with exposed busbar connections	5	3TX7686-0A	1	1 unit 41B
		3TF69	Can be screwed onto free screw end on middle connecting bar	5	3TX7696-0A	1	1 unit 41B
Links for paralleling (star jumpers), 3-pole							
	14	3TF68, 3TF69	Links for paralleling Without connecting terminal (the link for paralleling can be reduced by one pole)	5	3TX7680-0D	1	1 unit 41B
	14	3TF68, 3TF69	Cover plates for links for paralleling A cover plate must be used to protect against inadvertent contact with exposed busbar connections (IEC 60529).	15	3TX7680-0E	1	1 unit 41B
Box terminals for laminated copper bars							
	14	3TF68	Without auxiliary conductor connection (1 set = 3 units) With single covers for protection against inadvertent contact (IEC 60529)	30	3TX7570-1E	1	1 unit 41B
	14	3TF69	With auxiliary conductor connection (1 set = 3 units) Conductor cross-sections for auxiliary conductors: • Solid 2 x (0.75 ... 2.5) mm ² • Finely stranded with end sleeve 2 x (0.5 ... 2.5) mm ² • AWG, solid or stranded 2 x (18 ... 12) • Tightening torque 0.8 ... 1.4 Nm (7 ... 12 lb.in)	30	3TX7690-1F	1	1 unit 41B
Locking devices for mechanical interlock							
	14	3TF68	For two contactors of the same size	15	3TX7686-1A	1	1 unit 41B

Power Contactors for Switching Motors

Accessories and Spare Parts for SIRIUS 3RT12 and 3TF6 Vacuum Contactors

Spare parts

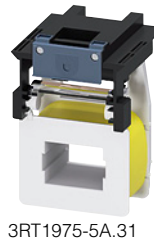
Selection and ordering data

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

For contactors		Rated control supply voltage $U_{s \text{ min}} \dots U_{s \text{ max}}$	SD	Screw terminals	SD	Spring-type terminals	
Size	Type	V AC/DC	d	Article No.	Price per PU	Article No.	Price per PU

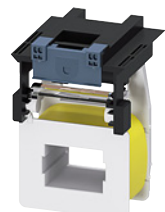
Withdrawable coils

Standard operating mechanism for AC/DC



3RT1975-5A.31

Size	Type	V AC/DC	d	Article No.	Price per PU	Article No.	Price per PU
S10	3RT126	23 ... 26	5	3RT1966-5AB31		--	
		42 ... 48	5	3RT1966-5AD31		--	
		110 ... 127	2	3RT1966-5AF31		--	
		200 ... 220	5	3RT1966-5AM31		--	
		220 ... 240	5	3RT1966-5AP31		--	
		240 ... 277	5	3RT1966-5AU31		--	
		380 ... 420	5	3RT1966-5AV31		--	
		440 ... 480	5	3RT1966-5AR31		--	
		500 ... 550	5	3RT1966-5AS31		--	
		575 ... 600	5	3RT1966-5AT31		--	



3RT1975-5A.32

Size	Type	V AC/DC	d	Article No.	Price per PU	Article No.	Price per PU
S12	3RT127	23 ... 26	5	3RT1975-5AB31	5	3RT1975-5AB32	
		42 ... 48	5	3RT1975-5AD31	5	3RT1975-5AD32	
		110 ... 127	5	3RT1975-5AF31	5	3RT1975-5AF32	
		200 ... 220	5	3RT1975-5AM31	5	3RT1975-5AM32	
		220 ... 240	5	3RT1975-5AP31	5	3RT1975-5AP32	
		240 ... 277	5	3RT1975-5AU31	5	3RT1975-5AU32	
		380 ... 420	5	3RT1975-5AV31	5	3RT1975-5AV32	
		440 ... 480	5	3RT1975-5AR31	5	3RT1975-5AR32	
		500 ... 550	5	3RT1975-5AS31	5	3RT1975-5AS32	
		575 ... 600	5	3RT1975-5AT31	5	3RT1975-5AT32	



3RT1975-5N.31

Solid-state operating mechanism for AC/DC with 24 V DC control signal input e.g. for control by PLC

Size	Type	V AC/DC	d	Article No.	Price per PU	Article No.	Price per PU
S10	3RT126	21 ... 27.3	5	3RT1966-5NB31		--	
		96 ... 127	5	3RT1966-5NF31		--	
		200 ... 277	5	3RT1966-5NP31		--	
S12	3RT127	21 ... 27.3	5	3RT1975-5NB31	5	3RT1975-5NB32	
		96 ... 127	5	3RT1975-5NF31	5	3RT1975-5NF32	
		200 ... 277	5	3RT1975-5NP31	5	3RT1975-5NP32	

For contactors	Version	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Size	Type	d					

Solenoid coils



3TY76.3-0...

Size	Type	Description	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
14	3TF68	AC operation¹⁾ The solenoid coils are fitted as standard with varistors against overvoltage; the coil is supplied with switch-on electronics.		3TY7683-0C..				
	3TF69			3TY7693-0C..				
14	3TF68	DC operation¹⁾ - DC economy circuit The solenoid coils are supplied without reversing contactor.		3TY7683-0D..				
	3TF69			3TY7693-0D..				

Vacuum interrupters

Size	Type	Description	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
S10	3RT1264	Set with 3 vacuum interrupters with fixing parts	5	3RT1964-6V		1	1 unit	41B
	3RT1265		5	3RT1965-6V		1	1 unit	41B
	3RT1266		5	3RT1966-6V		1	1 unit	41B
S12	3RT1275		5	3RT1975-6V		1	1 unit	41B
	3RT1276		5	3RT1976-6V		1	1 unit	41B
14	3TF68	Set with 3 vacuum interrupters with components	5	3TY7680-0B		1	1 unit	41B
	3TF69		15	3TY7690-0B		1	1 unit	41B

Note:


In order to ensure reliable operation of the contactors, only **original replacement interrupters** should be used.

¹⁾ Rated control supply voltages for solenoid coils:
 The 10th and 11th digits of the article number must be supplemented accordingly, see the tables on pages 3/136 and 3/137.

Power Contactors for Switching Motors

Accessories and Spare Parts for SIRIUS 3RT12 and 3TF6 Vacuum Contactors

Spare parts

For contactors		Version	Rated control supply voltage U_s	SD	Screw terminals		PU (UNIT, SET, M)	PS*	PG
Size	Type		V AC	d	Article No.	Price per PU			
Solenoid coils for main contactor									
14	3TF68...-Q	With rectifier bridge	110 ... 120	20	3TY7683-0QG7		1	1 unit	41B
			220 ... 240	X	3TY7683-0QL7		1	1 unit	41B
			380 ... 420	X	3TY7683-0QV7		1	1 unit	41B
14	3TF69...-Q	With rectifier bridge	110 ... 120	20	3TY7693-0QG7		1	1 unit	41B
			220 ... 240	20	3TY7693-0QL7		1	1 unit	41B
			380 ... 420	X	3TY7693-0QV7		1	1 unit	41B
3TC44 reversing contactors									
14	3TF68...-Q, 3TF69...-Q	Complete with series resistor, 1 m connecting cable and plug-in connector	110 ... 120	20	3TY7684-0QG7		1	1 unit	41B
			220 ... 240	20	3TY7684-0QL7		1	1 unit	41B
			380 ... 420	X	3TY7684-0QV7		1	1 unit	41B

Power Contactors for Switching Motors

3TF2 miniature contactors, 3-pole

Overview

Standards

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

The 3TF2 miniature contactors are climate-proof, and the versions with screw terminals are finger-safe according to IEC 60529.

Connection methods

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

Ratings of three-phase motors

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

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

Technical specifications

More information

Technical specifications, see <https://support.industry.siemens.com/cs/ww/en/ps/16142/td>

FAQs, see <https://support.industry.siemens.com/cs/ww/en/ps/16142/faq>

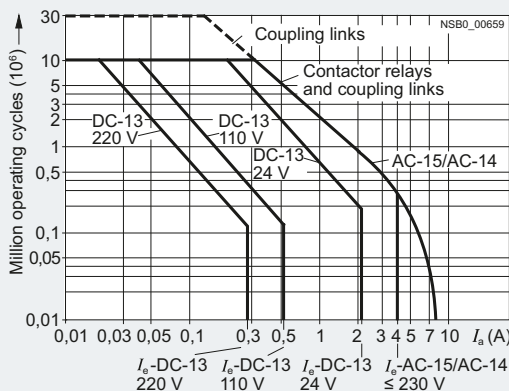
Type	3TF2
Size	00

Contact endurance of the auxiliary contacts

The contact endurance for utilization category AC-12 or AC-15/AC-14 depends mainly on the breaking current. It is assumed that the operating mechanisms are switched randomly, i.e. not synchronized with the phase angle of the supply system.

Diagram legend:

I_a = Breaking current
 I_e = Rated operational current



Contact endurance of the main contacts

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

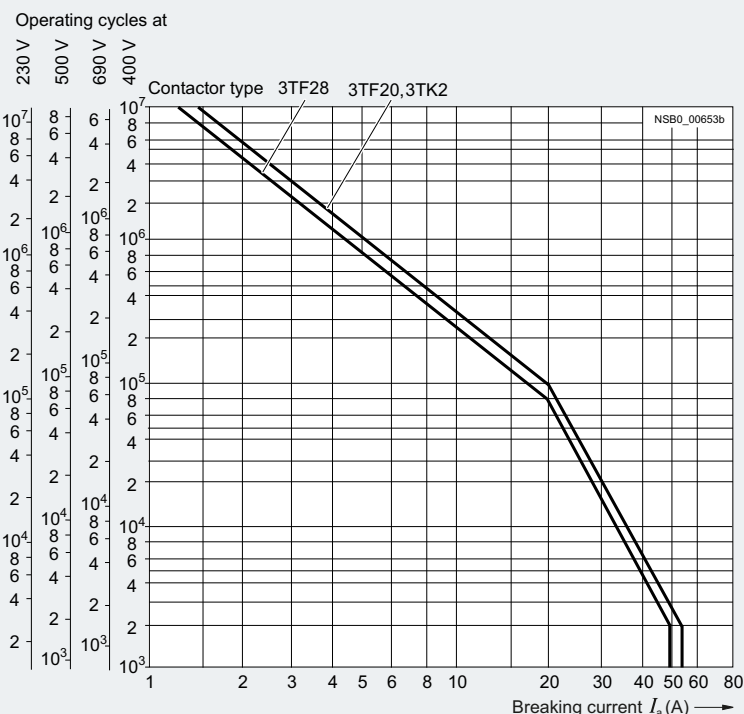
The rated operational current I_e in accordance with utilization category AC-4 (breaking 6 times the rated operational current) is determined for a contact endurance of approximately 200 000 operating cycles. If a shorter contact endurance is sufficient, the rated operational current $I_e/AC-4$ can be increased.

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

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

Characters in the equation:

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



Type	3TF20, 3TF28		3TF22, 3TF29		
Size	00				
General data					
Dimensions (W x H x D)					
<ul style="list-style-type: none"> Basic unit Basic unit with mounted auxiliary switch block Basic unit with 3TX4490 surge suppressor 		mm	45 x 48 x 63	--	
		mm	45 x 48 x 91		
		mm	45 x 48 x 88	45 x 48 x 116	
Permissible mounting position					
Any					
Mechanical endurance					
<ul style="list-style-type: none"> AC operation DC operation Auxiliary switch block 	Operat- ing cycles		10 million 30 million 10 million		
Rated insulation voltage U_i (Pollution degree 3)					
<ul style="list-style-type: none"> Screw terminals Flat connectors 6.3 mm x 0.8 mm Solder pin connections 	V		690 500 500	690 (auxiliary contacts 500 V) -- --	
Rated impulse withstand voltage U_{imp} (Pollution degree 3)					
<ul style="list-style-type: none"> Screw terminals Flat connectors 6.3 mm x 0.8 mm Solder pin connections 	kV		6 (control circuit max. 4 kV) 6 6	-- -- --	
Protective separation between coil and main contacts (according to IEC 60947-1, Appendix N)					
V Up to 300					
Mirror contacts					
A mirror contact is an auxiliary NC contact that cannot be closed simultaneously with an NO main contact.			Yes, this applies to both the basic unit as well as to between the basic unit and the mounted auxiliary switch block according to IEC 60947-4-1, Appendix F	Yes, acc. to IEC 60947-4-1, Appendix F and SUVA	
Permissible ambient temperature¹⁾					
<ul style="list-style-type: none"> During operation During storage 	°C		-25 ... +55 -55 ... +80		
Degree of protection acc. to IEC 60529					
<ul style="list-style-type: none"> On front Connecting terminal 			IP20 (with screw terminals) IP20 (with screw terminals)		
Touch protection acc. to IEC 60529					
Finger-safe (for screw terminals)					
Shock resistance					
<ul style="list-style-type: none"> Without 3TX44 auxiliary switch block - Rectangular pulse - Sine pulse 	AC operation DC operation	<i>g/ms</i>	8.3/5 and 5.2/10 11.3/5 and 9.2/10	-- -- --	
	AC operation DC operation	<i>g/ms</i>	13/5 and 8/10 17.4/5 and 12.9/10	-- --	
<ul style="list-style-type: none"> With 3TX44 auxiliary switch block - Rectangular pulse - Sine pulse 	AC operation DC operation	<i>g/ms</i>	5/5 and 3.6/10 9/5 and 6.9/10	9/5 and 7.3/10	
	AC operation DC operation	<i>g/ms</i>	7.8/5 and 5.6/10 13.9/5 and 10.1/10	14/5 and 11/10	
Short-circuit protection					
Main circuit²⁾					
<ul style="list-style-type: none"> 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" - Type of coordination "2"³⁾ - Weld-free Miniature circuit breaker with C characteristic 				A	25 10 10 10
Auxiliary circuit					
Short-circuit test					
<ul style="list-style-type: none"> With fuse links of operational class gG: DIAZED, type 5SB; NEOZED, type 5SE with short-circuit current $I_k = 1$ kA acc. to IEC 60947-5-1 	A		6		

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

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

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

Power Contactors for Switching Motors

3TF2 miniature contactors, 3-pole

Type	3TF2		
Size	00		
Control			
Solenoid coil operating range¹⁾		0.8 ... 1.1 x U_s	
Solenoid coil power consumption (for cold coil and 1.0 x U_s)			
<u>Standard version</u>			
• AC operation, 50 Hz	Closing P.f. Closed P.f.	VA VA	15 0.41 6.8 0.42
• AC operation, 60 Hz	Closing P.f. Closed P.f.	VA VA	14.4 0.36 6.1 0.46
• AC operation, 50/60 Hz ¹⁾	Closing P.f. Closed P.f.	VA VA	16.5/13.2 0.43/0.38 8.0/5.4 0.48/0.42
<u>For USA and Canada</u>			
• AC operation, 50 Hz	Closing P.f. Closed P.f.	VA VA	14.6 0.38 6.5 0.40
• AC operation, 60 Hz	Closing P.f. Closed P.f.	VA VA	14.4 0.30 6.0 0.44
• DC operation	Closing = Closed	W	3
Permissible residual current of the electronic circuit²⁾ (with 0 signal)			
• AC operation		mA	$\leq 3 \times (230 \text{ V}/U_s)$
• DC operation		mA	$\leq 1 \times (230 \text{ V}/U_s)$
Operating times for 0.8 ... 1.1 x U_s³⁾ Total break time = Opening delay and arcing time Values apply with coil in cold state and at operating temperature for operating range			
• AC operation	Closing delay Opening delay Dead interval	ms ms	5 ... 19 2 ... 22 To use the 3TF2 AC-operated contactor in reversing an additional dead interval of 50 ms is required along with an NC contact interlock.
• DC operation	Closing delay Opening delay	ms ms	16 ... 65 2 ... 5
• Arcing time		ms	10 ... 15
Operating times for 1.0 x U_s³⁾			
• AC operation	Closing delay Opening delay Dead interval	ms ms	5 ... 18 3 ... 21 To use the 3TF2 AC-operated contactor in reversing an additional dead interval of 50 ms is required along with an NC contact interlock.
• DC operation	Closing delay Opening delay	ms ms	19 ... 31 3 ... 4
• Arcing time		ms	10 ... 15

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

²⁾ The 3TX4490-1J additional load module is recommended for higher residual currents, see page 3/151.

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

Type			3TF28, 3TF29	3TF20...-0..., 3TF22...-0...	3TF20...-3..., 3TF20...-6..., 3TF20...-7...
Size			00		
Rated data of the main contacts					
Load rating with AC					
Utilization category AC-1, switching resistive loads					
• Rated operational current I_e (at 40 °C)	Up to 400/380 V	A	18		
	690/660 V	A	18		--
• Rated operational current I_e (at 55 °C)	400/380 V	A	16		
	690/660 V	A	16		--
• Rated power of AC loads P.f. = 1	At 230/220 V	kW	6.0		
	400/380 V	kW	10		
	500 V	kW	13		
	690/660 V	kW	17		--
• Minimum conductor cross-section for loads with I_e		mm ²	2.5		
Utilization categories AC-2 and AC-3					
• Rated operational current I_e	Up to 220 V	A	5.1	9.0	
	230 V	A	5.1	9.0	
	380 V	A	5.1	9.0	
	400 V	A	5.1	8.4	
	500 V	A	4.8	6.5	
	660 V	A	4.8	5.2	--
	690 V	A	4.8	5.2	--
• Rated power for motors with slipping or squirrel cage at 50 Hz and 60 Hz and	At 110 V	kW	0.7	1.2	
	115 V	kW	0.7	1.2	
	120 V	kW	0.7	1.3	
	127 V	kW	0.8	1.4	
	200 V	kW	1.2	2.2	
	220 V	kW	1.3	2.4	
	230 V	kW	1.4	2.5	
	240 V	kW	1.5	2.6	
	380 V	kW	2.2	4.0	
	400 V	kW	2.2	4.0	
	415 V	kW	2.5	4.0	
	440 V	kW	2.5	4.0	
	460 V	kW	2.7	4.0	
	500 V	kW	2.9	4.0	
	575 V	kW	3.2	4.0	--
	660 V	kW	3.8	4.0	--
	690 V	kW	4.0		
Utilization category AC-4					
(Contact endurance approx. 200 000 operating cycles at $I_a = 6 \times I_e$)					
• Rated operational current I_e (max. permissible operational current $I_e/AC-4 \cong I_e/AC-3$ up to 500 V, for reduced contact endurance and reduced switching frequency)	Up to 400 V	A	1.9	2.6	
	690 V	A	1.4	1.8	--
• Rated power for motors with squirrel cage at 50 Hz and 60 Hz and	At 110 V	kW	0.23	0.32	
	115 V	kW	0.24	0.33	
	120 V	kW	0.26	0.35	
	127 V	kW	0.27	0.37	
	200 V	kW	0.42	0.58	
	220 V	kW	0.47	0.64	
	230 V	kW	0.49	0.67	
	240 V	kW	0.51	0.70	
	380 V	kW	0.81	1.10	
	400 V	kW	0.85	1.15	
	415 V	kW	0.93	1.20	
	440 V	kW	1.0	1.27	
	460 V	kW	1.0	1.33	
	500 V	kW	1.1	1.45	
	575 V	kW	1.0	1.30	--
	660 V	kW	0.86	1.10	--
	690 V	kW	0.89	1.15	--
Thermal load capacity	10 s current	A	70		
Power loss per conducting path	At $I_e/AC-3$	W	0.3		

Power Contactors for Switching Motors

3TF2 miniature contactors, 3-pole

Type			3TF28, 3TF29	3TF20, 3TF22
Size			00	
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 55 °C)				
- 1 conducting path	Up to 24 V	A	10	16
	60 V	A	4	6
	110 V	A	1.5	2
	220/240 V	A	0.6	1
- 2 conducting paths in series	Up to 24 V	A	10	16
	60 V	A	10	16
	110 V	A	4	6
	220/240 V	A	1.5	2
- 3 conducting paths in series	Up to 24 V	A	10	16
	60 V	A	10	16
	110 V	A	10	16
	220/240 V	A	4	6
Utilization category DC-3/DC-5, shunt-wound and series-wound motors ($L/R \leq 15$ ms)				
• Rated operational currents I_e (at 55 °C)				
- 1 conducting path	Up to 24 V	A	4	6
	60 V	A	1.8	3
	110 V	A	0.3	0.5
	220/240 V	A	--	0.1
- 2 conducting paths in series	Up to 24 V	A	6	10
	60 V	A	3	5
	110 V	A	1.5	2
	220/240 V	A	0.3	0.5
- 3 conducting paths in series	Up to 24 V	A	10	16
	60 V	A	10	16
	110 V	A	10	16
	220/240 V	A	1.5	2
Switching frequency				
Switching frequency z in operating cycles/hour				
• Contactors without overload relays for rated operation	No-load switching frequency	1/h	10 000	
Dependence of the switching frequency z' on the operational current I' and operational voltage U': $z' = z \cdot (I_e/I') \cdot (U_e/U')^{1.5}$	AC-1	1/h	1 000	
	AC-2	1/h	500	
	AC-3	1/h	1 000	
• Contactors with overload relays (mean value)		1/h	15	
Conductor cross-sections				
Main and auxiliary conductors (1 or 2 conductors connectable)				
• Solid		mm ²	2 x (0.5 ... 2.5), 1 x 4	
• Finely stranded with end sleeve		mm ²	2 x (0.5 ... 1.5), 1 x 2.5	
• AWG cables, solid or stranded		AWG	2 x (20 ... 14), 1 x 12	
• Pin-end connector (DIN 46231)		mm ²	1 x 1 ... 2.5	
• Terminal screw			M3	
• Prescribed tightening torque for terminal screws		Nm lb.in	0.8 ... 1.3 7 ... 11	
Main and auxiliary conductors (1 or 2 conductors connectable)				
• When using a plug-in sleeve 6.3–2.1		mm ²	0.5 ... 1	
• Solid with 6.3–2.5		mm ²	1 ... 2.5	
Screw terminals				
Flat connectors				
• Solder pin cross-section	(does not apply to plug-in bases)	mm ²	0.8 x 1.2	
• Solder pin cross-section, plug-in base		mm ²	0.32 x 1.0	

Type	3TF2		
Size	00		
Rated data of the auxiliary contacts according to IEC 60947-5-1			
General data			
Rated insulation voltage U_i (Pollution degree 3)	V	690	
Conventional thermal current I_{th} = Rated operational current $I_e/AC-12$	A	10	
Load rating with AC			
Rated operational current $I_e/AC-15/AC-14$			
• For rated operational voltage U_e	24 V	A	4
	110 V	A	4
	125 V	A	4
	220 V	A	4
	230 V	A	4
	380 V	A	3
	400 V	A	3
	500 V	A	2
	660 V	A	1
	690 V	A	1
Load rating with DC			
Rated operational current $I_e/DC-12$			
• For rated operational voltage U_e	24 V	A	4
	48 V	A	2.2
	110 V	A	1.1
	125 V	A	1.1
	220 V	A	0.5
	440 V	A	--
	600 V	A	--
Rated operational current $I_e/DC-13$			
• For rated operational voltage U_e	24 V	A	2.1
	48 V	A	1.1
	110 V	A	0.52
	125 V	A	0.52
	220 V	A	0.27
	440 V	A	--
	600 V	A	--

Type	3TF20..-7...		3TF20..-3..., 3TF20..-6..., 3TF20..-7...
Size	00		
Ⓢ and Ⓣ rated data			
Rated insulation voltage U_i	V AC	600	300
Uninterrupted current	Open and enclosed	A	16 (10 for solder pin connection)
Maximum horsepower ratings (Ⓢ and Ⓣ approved values)			
• Rated power for three-phase motors at 60 Hz			
- Single-phase	At 115 V	hp	0.5
	200 V	hp	1
	230 V	hp	1.5
	460/575 V	hp	--
			1
- Three-phase	At 115 V	hp	--
	200 V	hp	3 (1 for 3TF20..-6)
	230 V	hp	3 (1 for 3TF20..-6)
	460/575 V	hp	5
			--
Ⓢ, Ⓣ and Ⓜ rated data of the auxiliary contacts			
Rated voltage, max.	V AC	600	
Auxiliary switch blocks, max.	V AC	300	
Switching capacity	A 600, Q 300		
Uninterrupted current at 240 V AC	A	10	


Power Contactors for Switching Motors

3TF2 miniature contactors, 3-pole

Selection and ordering data

AC operation or DC operation

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

Rated data		Auxiliary contacts		SD	Screw terminals 	PU (UNIT, SET, M)	PS*	PG
Utilization categories AC-2 and AC-3		Ident. No.	Version					
Operational current I_e At 380 V	Ratings of three-phase motors at 50 Hz and				Article No.	Price per PU		
	230 V	400/ 380 V	500 V	690 V				
A	kW	kW	kW	kW				
					NO	NC	d	

Miniature contactors with screw terminals



3TF20..-0...,
3TF28..-0...



3TF22..-0...,
3TF29..-0...

AC operation, rated control supply voltage $U_s = 50$ Hz 230/220 V AC ¹⁾

5.1	1.4	2.2	2.9	4	10	1	--	20	3TF2810-0AP0	1	1 unit	41B
					01	--	1	20	3TF2801-0AP0	1	1 unit	41B
9	2.5	4	4	4	10	1	--	▶	3TF2010-0AP0	1	1 unit	41B
					01	--	1	2	3TF2001-0AP0	1	1 unit	41B
With permanently mounted auxiliary switch blocks												
5.1	1.4	2.2	2.9	4	11	1	1	20	3TF2911-0AP0	1	1 unit	41B
					22	2	2	20	3TF2922-0AP0	1	1 unit	41B
9	2.5	4	4	4	11	1	1	20	3TF2211-0AP0	1	1 unit	41B
					22	2	2	2	3TF2222-0AP0	1	1 unit	41B

DC operation, rated control supply voltage $U_s = 24$ V DC

5.1	1.4	2.2	2.9	4	10	1	--	5	3TF2810-0BB4	1	1 unit	41B
					01	--	1	5	3TF2801-0BB4	1	1 unit	41B
9	2.5	4	4	4	10	1	--	▶	3TF2010-0BB4	1	1 unit	41B
					01	--	1	▶	3TF2001-0BB4	1	1 unit	41B
With permanently mounted auxiliary switch blocks												
5.1	1.4	2.2	2.9	4	11	1	1	20	3TF2911-0BB4	1	1 unit	41B
					22	2	2	20	3TF2922-0BB4	1	1 unit	41B
9	2.5	4	4	4	11	1	1	20	3TF2211-0BB4	1	1 unit	41B
					22	2	2	2	3TF2222-0BB4	1	1 unit	41B

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

For further rated control supply voltages, see page 3/149.

Accessories, see pages 3/150 and 3/151.

AC operation  or **DC operation** 

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

Rated data Utilization categories AC-2 and AC-3					Auxiliary contacts		SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Operational current I_e At 380 V	Ratings of three-phase motors at 50 Hz and				Ident. No.	Version	d					
	230 V	400/380 V	500 V	690 V				NO	NC			
A	kW	kW	kW	kW								

Miniature contactors with 6.3 mm x 0.8 mm flat connectors**Flat connectors** 

3TF20..-3...

AC operation, rated control supply voltage $U_s = 50$ Hz 230/220 V AC¹⁾

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

9	2.5	4	4	--	10	1	--	20	3TF2010-3AP0 3TF2001-3AP0	1	1 unit	41B
					01	--	1	15		1	1 unit	41B
9	2.5	4	4	--	10	1	--	20	3TF2010-7AP0 3TF2001-7AP0	1	1 unit	41B
					01	--	1	20		1	1 unit	41B

DC operation, rated control supply voltage $U_s = 24$ V DC

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

9	2.5	4	4	--	10	1	--	20	3TF2010-3BB4 3TF2001-3BB4	1	1 unit	41B
					01	--	1	20		1	1 unit	41B
9	2.5	4	4	--	10	1	--	20	3TF2010-7BB4 3TF2001-7BB4	1	1 unit	41B
					01	--	1	20		1	1 unit	41B



3TF20..-7...

Miniature contactors with solder pin connections for printed circuit boards**Solder pin connections** 

3TF20..-6...

AC operation, rated control supply voltage $U_s = 50$ Hz 230/220 V AC¹⁾

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

9	2.5	4	4	--	10	1	--	5	3TF2010-6AP0 3TF2001-6AP0	1	1 unit	41B
					01	--	1	20		1	1 unit	41B

DC operation, rated control supply voltage $U_s = 24$ V DC

For screw fixing (diagonal)

9	2.5	4	4	--	10	1	--	5	3TF2010-6BB4 3TF2001-6BB4	1	1 unit	41B
					01	--	1	▶		1	1 unit	41B

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

Accessories, see pages 3/150 and 3/151.

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

Delivery time on request

Rated control supply voltage U_s	Contactor type 3TF20, 3TF28	
	Size 00	
AC operation		
Solenoid coils for AC 50 Hz and 60 Hz		
50 Hz	60 Hz	
24 V AC	29 V AC	B0
110 V AC	132 V AC	F0
230/220 V AC	276 V AC	P0 ¹⁾
Solenoid coils for AC 50/60 Hz		
230 V AC		L2
DC operation		
24 V DC		B4

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

Other voltages and delivery times on request.

Rated control supply voltage U_s	Contactor type 3TF22, 3TF29	
	Size 00	
AC operation		
Solenoid coils for AC 50 Hz and 60 Hz		
50 Hz	60 Hz	
230/220 V AC	276 V AC	P0 ¹⁾
DC operation		
24 V DC		B4


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

Other voltages and delivery times on request.

Power Contactors for Switching Motors

Accessories for 3TF2 miniature contactors

Selection and ordering data

Rated operational current I_e /AC-15/AC-14 at			Auxiliary contacts			SD	Screw terminals	⊕	PU (UNIT, SET, M)	PS*	PG
230/ 220 V	400/ 380 V	500 V	Ident. No.	Version	Connections		Article No.	Price per PU			
A	A	A			 NO NC NO NC	d					

Snap-on auxiliary switch blocks for 3TF2 miniature contactor relays







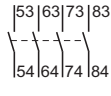
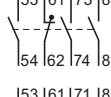
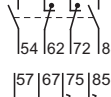
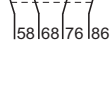
3TX44...-A

For expansion to 2, 4 or 5 auxiliary contacts according to EN 50012

only for 3TF2.10, Ident. No. 10 (with auxiliary contact 1 NO)

4	3	2	11	--	1	--	--	20	3TX4401-1A		1	1 unit	41A
			22	1	2	--	--	2	3TX4412-1A		1	1 unit	41A
			23	1	3	--	--	5	3TX4413-1A		1	1 unit	41A
			32	2	2	--	--	2	3TX4422-1A		1	1 unit	41A

For expansion to 3 or 5 auxiliary contacts according to EN 50005

4	3	2	20	2	--	--	--		2	3TX4420-2A		1	1 unit	41A
			11	1	1	--	--		2	3TX4411-2A		1	1 unit	41A
			02	--	2	--	--		20	3TX4402-2A		1	1 unit	41A
			11; U	--	--	1	1		20	3TX4411-2G		1	1 unit	41A
4	3	2	40	4	--	--	--		2	3TX4440-2A		1	1 unit	41A
			31	3	1	--	--		2	3TX4431-2A		1	1 unit	41A
			22	2	2	--	--		2	3TX4422-2A		1	1 unit	41A
			22; 2 U	--	--	2	2		2	3TX4422-2G		1	1 unit	41A

Accessories for 3TF2 miniature contactors

For contactors Type	Rated control supply voltage U_s		Power consumption of LED at U_s mW	SD d	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
	V AC	V DC							
Surge suppressors¹⁾ For plugging onto 3TF2 miniature contactors with and without auxiliary switch blocks									
Version without LED									
RC elements									
3TF2...-0...	24 ... 48	24 ... 70	--	5	3TX4490-3R		1	1 unit	41B
3TF2...-1...	48 ... 127	70 ... 150	--	5	3TX4490-3S		1	1 unit	41B
	127 ... 240	150 ... 250	--	5	3TX4490-3T		1	1 unit	41B
	240 ... 400	--	--	5	3TX4490-3U		1	1 unit	41B
	400 ... 600	--	--	5	3TX4490-3V		1	1 unit	41B
Varistors									
3TF2...-0...	≤ 48	24 ... 70	--	▶ 5	3TX4490-3G		1	1 unit	41B
3TF2...-1...	48 ... 127	70 ... 150	--	5	3TX4490-3H		1	1 unit	41B
	127 ... 240	150 ... 250	--	5	3TX4490-3J		1	1 unit	41B
	240 ... 400	--	--	5	3TX4490-3K		1	10 units	41B
	400 ... 600	--	--	5	3TX4490-3L		1	10 units	41B
Noise suppression diodes									
3TF2...-0...	--	12 ... 250	--	▶ 5	3TX4490-3A		1	1 unit	41B
3TF2...-1...	--	12 ... 250	--	▶ 5	3TX4490-3A		1	1 unit	41B
Diode assemblies (diode and Zener diode) For DC operation and short break times									
3TF2...-0...	--	24 ... 250	--	5	3TX4490-3B		1	1 unit	41B
3TF2...-1...	--	24 ... 250	--	5	3TX4490-3B		1	1 unit	41B
Version with LED									
Varistors									
3TF2...-0...	24 ... 48	12 ... 24	10 ... 120	5	3TX4490-4G		1	1 unit	41B
3TF2...-1...	48 ... 127	24 ... 70	20 ... 470	5	3TX4490-4H		1	1 unit	41B
	127 ... 240	70 ... 150	50 ... 700	5	3TX4490-4J		1	1 unit	41B
	--	150 ... 250	160 ... 950	20	3TX4490-4K		1	1 unit	41B
Noise suppression diodes									
3TF2...-0...	--	24 ... 70	20 ... 470	5	3TX4490-4A		1	1 unit	41B
3TF2...-1...	--	70 ... 150	50 ... 700	5	3TX4490-4B		1	1 unit	41B
	--	150 ... 250	160 ... 950	5	3TX4490-4C		1	1 unit	41B
Additional load modules For plugging onto 3TF2 miniature contactors with and without auxiliary switch blocks									
To increase the permissible residual current and limit the residual voltage, identical dimensions to 3TX4490-3 surge suppressor.									
3TF2...-0A...	230/220, 50 Hz	--	--	20	3TX4490-1J		1	1 unit	41B
3TF2...-1A...	230, 60 Hz 230, 50/60 Hz Operating range 0.8 ... 1.1 x U_s	--	--	20	3TX4490-1J		1	1 unit	41B
Plug-in bases with solder pin connections for printed circuit boards, 45 mm									
Rated insulation voltage U_i : 400 V (for pollution degree 3); rated impulse withstand voltage U_{imp} : 6 kV; rated operational current I_e : 6 A; Ⓢ and Ⓜ rated data: max. 300 V, 6 A									
3TF20...-3...	For contactors with flat con-	--	--	20	3TX4491-2A		1	5 units	41A
3TF20...-7...	nectors, 6.3 mm x 0.8 mm	--	--	20	3TX4491-2A		1	5 units	41A
3TK20...-3...		--	--	20	3TX4491-2A		1	5 units	41A
3TK20...-7...		--	--	20	3TX4491-2A		1	5 units	41A
Release tools									
For releasing miniature contactors from 3TX4491-2A plug-in bases									
3TF2...-7...	--	--	--	20	3TX4491-2K		1	1 unit	41A
3TK2...-7...	--	--	--	20	3TX4491-2K		1	1 unit	41A

¹⁾ The OFF-delay times of the NO contacts and the ON-delay times of the NC contacts increase if the contactor coils are attenuated against voltage peaks (suppression diode 6x to 10x; diode assembly 2x to 6x; varistor +2 to 5 ms).

Power Contactors for Switching Motors

3TG10 power relays/miniature contactors

Overview

Standards

IEC 60947-1, IEC 60947-4-1, IEC 60947-5-1

Version

The 3TG10 power relays/miniature contactors are available with screw terminals or 6.3 mm × 0.8 mm flat connectors. The versions with screw terminals are suitable for use in any climate and finger-safe according to IEC 60529.

The 3TG10 miniature contactors are characterized by their width of just 36 mm.

Surge suppression

The 3TG10 power relays/miniature contactors have an integrated protective circuit against opening surges.

Application

Because they are hum-free they are suitable for use in household appliances and distribution boards in office and residential areas.

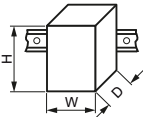
They can also be used for applications where there is little space such as air conditioners, heating systems, pumps and fans, i.e. for simple electrical controls.

Technical specifications

More information

Technical specifications, see <https://support.industry.siemens.com/cs/ww/en/ps/16186/td>

Reference Manual "Switching Devices - Contactors and Contactor Assemblies", see <https://support.industry.siemens.com/cs/ww/en/view/35554359>
FAQs, see <https://support.industry.siemens.com/cs/ww/en/ps/16186/faq>



Type	3TG10	
General data		
Dimensions (W x H x D)		mm 36 x 56 x 56
Endurance		
• Mechanical	Operating cycles	3 million
• Electrical		
- AC-1 at I_e	Operating cycles	0.1 million
- AC-3 at I_e	Operating cycles	0.4 million
Rated insulation voltage U_i (pollution degree 3)	V	400
Rated impulse withstand voltage U_{imp}	kV	4
Protective separation		
Between coil and contacts acc. to IEC 60947-1, Appendix N	V	Up to 300
Permissible ambient temperature		
• During operation ¹⁾	°C	-25 ... +55
• During storage	°C	-50 ... +80
Degree of protection acc. to IEC 60529		IP00
Touch protection acc. to IEC 60529		Finger-safe for vertical touching from the front (with screw terminals)
Short-circuit protection		
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
• Type of coordination "2"	A	10
Miniature circuit breakers , C characteristic	A	10
Control		
Solenoid coil operating range		0.85 ... 1.1 × U_n
Power consumption of the solenoid coils (for cold coil and 1.0 × U_n)		
• AC operation, 45 ... 450 Hz	VA	4.4
- P.f.		0.9 (hum-free)
• DC operation	W	4
Rated data of the main contacts		
Load rating with AC		
Utilization category AC-1, switching resistive loads		
• Rated operational current I_e up to 400 V at 55 °C ¹⁾	A	20 for screw terminals, 16 for flat connectors
• Rated power U_e for AC loads with p.f. = 1, 230/220 V		
- For screw terminals	kW	7.5 (13 at 400 V)
- For flat connectors	kW	6 (10 at 400 V)
• Minimum conductor cross-section for loads with I_e	mm ²	2.5

¹⁾ If the three main current paths carry a load of 20 A, the following applies if $I > 10$ A in the fourth current path: Permissible ambient temperature 40 °C.

Type	3TG10				
Rated data of the main contacts (continued)					
Load rating with AC					
Utilization categories AC-2 and AC-3					
• Operational current for AC-3 at $U_e \leq 400$ V rated value			A	8.4	
• Rated power for slipping or squirrel-cage motors with 50 Hz and 60 Hz and at $U_e \leq 400$ V			kW	4	
Utilization category AC-5a (permissible nominal impedance: $\geq 0.5 \Omega$)					
Switching of gas discharge lamps					
Per main current path at 230 V, 50 Hz					
Rated power/rated operational current per lamp					
• Uncompensated	18 W	0.37 A	Unit(s)	43	
	36 W	0.43 A	Unit(s)	37	
	58 W	0.67 A	Unit(s)	24	
• DUO switching	18 W	2 x 0.11 A	Unit(s)	2 x 81	
	36 W	2 x 0.21 A	Unit(s)	2 x 42	
	58 W	2 x 0.32 A	Unit(s)	2 x 28	
Switching gas discharge lamps with compensation or ECG					
Per main current path 230 V, 50 Hz					
Connection	Rated power per lamp	Capacitor capacitance	Rated operational current per lamp		
• Shunt compensation	L18 W	4.5 μ F	0.11 A	Unit(s) 15	
	L36 W	4.5 μ F	0.21 A	Unit(s) 15	
	L58 W	7 μ F	0.32 A	Unit(s) 10	
• With ECG (single lamp)	L18 W	6.8 μ F	0.10 A	Unit(s) 39	
	L36 W	6.8 μ F	0.18 A	Unit(s) 39	
	L58 W	10 μ F	0.27 A	Unit(s) 26	
• With ECG (two lamps)	L18 W	10 μ F	0.18 A	Unit(s) 2 x 26	
	L36 W	10 μ F	0.35 A	Unit(s) 2 x 26	
	L58 W	22 μ F	0.52 A	Unit(s) 2 x 12	
Utilization category AC-5b, switching incandescent lamps				kW	1.6
Per main current path at 230 V, 50 Hz					
Load rating with DC					
Utilization category DC-1, switching resistive loads ($L/R \leq 15$ ms)					
• Rated operational currents I_e					
- 1 conducting path			Up to 24 V	A 16	
			60 V	A 6	
			110 V	A 2	
			220 V/240 V	A 0.8	
- 2 conducting paths in series			Up to 24 V	A 16	
			60 V	A 16	
			110 V	A 6	
			220 V/240 V	A 1.6	
- 3 conducting paths in series			Up to 24 V	A 18	
			60 V	A 18	
			110 V	A 16	
			220 V/240 V	A 6	
- 4 conducting paths in series			Up to 24 V	A 20	
			60 V	A 20	
			110 V	A 20	
			220 V/240 V	A 20	
Utilization category DC-3 and DC-5					
Shunt-wound and series-wound motors ($L/R \leq 15$ ms)					
• Rated operational currents I_e					
- 1 conducting path			Up to 24 V	A 10	
			60 V	A 0.5	
			110 V	A 0.15	
			220 V/240 V	A 0	
- 2 conducting paths in series			Up to 24 V	A 16	
			60 V	A 5	
			110 V	A 0.35	
			220 V/240 V	A 0	
- 3 conducting paths in series			Up to 24 V	A 16	
			60 V	A 16	
			110 V	A 10	
			220 V/240 V	A 1.75	
- 4 conducting paths in series			Up to 24 V	A 18	
			60 V	A 16	
			110 V	A 10	
			220 V/240 V	A 2	

Power Contactors for Switching Motors

3TG10 power relays/miniature contactors

Type	3TG10	
Conductor cross-sections		
<ul style="list-style-type: none"> Terminal screws Finely stranded with end sleeve (DIN 46228 Form A/D/C) Solid Permissible opening tool (screwdriver) 		 Screw terminals M3 2 x (0.75 ... 2.5) 2 x (1 ... 2.5), 1 x 4 3.0 mm x 0.5 mm (3RA2908-1A) or Pozidriv 2
<ul style="list-style-type: none"> Finely stranded 6.3 mm plug-in sleeve acc. to DIN 46245/DIN 46247 <ul style="list-style-type: none"> - 6.3 ... 1 - 6.3 ... 2.5 		 Flat connectors 0.5 ... 1 1 ... 2.5
Ⓢ and Ⓣ rating (screw terminals)		
Rated insulation voltage	V AC	600
Uninterrupted current	Open and enclosed	A
Maximum horsepower ratings (from Ⓢ and Ⓣ approved values)		Single-phase/three-phase
<ul style="list-style-type: none"> Rated power for three-phase motors at 60 Hz 	At 115 V hp 200 V hp 230 V hp 460 ... 600 V hp	0.5/ -- 1/ 3 1.5/ 3 0/ 5

Selection and ordering data

AC operation  or DC operation 

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

Rated data		Main contacts		Rated control supply voltage U_s	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Utilization category	AC-1	AC-2 and AC-3		Version	d					
Switching of resistive loads at 55 °C	Operational current I_e up to 400 V	Power of AC loads at 50 Hz and 400 V	Operational current I_e up to 400 V ¹⁾							
A	kW	A	kW	NO NC	V					

Hum-free · with screw terminals



3TG10..-0...

Screw terminals 

AC operation, 45 ... 450 Hz

20	13	8.4	4	4	--	24 AC	▶	3TG1010-0AC2	1	1 unit	41H
						110 AC	5	3TG1010-0AG2	1	1 unit	41H
						230 AC	▶	3TG1010-0AL2	1	1 unit	41H
				3	1	24 AC	▶	3TG1001-0AC2	1	1 unit	41H
						110 AC	5	3TG1001-0AG2	1	1 unit	41H
						230 AC	▶	3TG1001-0AL2	1	1 unit	41H

DC operation

20	13	8.4	4	4	--	24 DC	▶	3TG1010-0BB4	1	1 unit	41H
				3	1	24 DC	▶	3TG1001-0BB4	1	1 unit	41H

Hum-free · with 6.3 mm x 0.8 mm flat connectors



3TG10..-1...

Flat connectors 

AC operation, 45 ... 450 Hz


16	10	8.4	4	4	--	24 AC	5	3TG1010-1AC2	1	1 unit	41H
						110 AC	30	3TG1010-1AG2	1	1 unit	41H
						230 AC	5	3TG1010-1AL2	1	1 unit	41H
				3	1	24 AC	30	3TG1001-1AC2	1	1 unit	41H
						110 AC	30	3TG1001-1AG2	1	1 unit	41H
						230 AC	▶	3TG1001-1AL2	1	1 unit	41H

DC operation

16	10	8.4	4	4	--	24 DC	5	3TG1010-1BB4	1	1 unit	41H
		8.4	4	3	1	24 DC	5	3TG1001-1BB4	1	1 unit	41H

¹⁾ The rated operational currents apply to each pole.

Accessories

Version	Max. rated operational currents I_e /AC-1 (at 55 °C) of the contactors	Max. conductor cross-sections	SD	Screw terminals 	PU (UNIT, SET, M)	PS*	PG
A		mm ²	d	Article No.	Price per PU		

Links for paralleling (insulated star jumpers)¹⁾

3RT1916-4BB31

3-pole

• Without connection terminal (replacement for 3TX4490-2C)	16	--	▶	3RT1916-4BA31	1	1 unit	41B
• With connection terminal (replacement for 3TX4490-2A)	40	25	▶	3RT1916-4BB31	1	1 unit	41B

4-pole

• With connection terminal (replacement for 3TX4490-2B)	40	25	15	3RT1916-4BB41	1	1 unit	41B
---	----	----	----	----------------------	---	--------	-----

¹⁾ The links for paralleling can be reduced by one pole. The rated operational currents apply to each pole.

Reversing Contactor Assemblies

SIRIUS 3RA23 reversing contactor assemblies, up to 55 kW

Overview

More information

Homepage, see www.siemens.com/sirius

Industry Mall, see www.siemens.com/product?3RA23_3RT1

Conversion tool, e.g. from 3RT10 to 3RT20, see www.siemens.com/sirius/conversion-tool

TIA Selection Tool Cloud (TST Cloud), see <https://mall.industry.siemens.com/spice/TSTWeb/?kmat=LoadFeeder>

The 3RA23 reversing contactor assemblies in sizes S00 to S3 can be ordered as follows:

- Fully wired and tested, with mechanical and electrical interlock, see from [page 3/163 onwards](#).
- For all individual parts for customer assembly, see from [page 3/76 onwards](#).

The 3RA23 reversing contactor assemblies have screw or spring-type terminals (main and control circuits) and are suitable for screw fixing and snap-on mounting onto TH 35 standard mounting rails.

Complete 3RA23 reversing contactor assemblies

The fully wired reversing contactor assemblies are suitable for use in any climate.

They are finger-safe according to IEC 60529.

The 3RA23 reversing contactor assemblies of size S00 to S3 each consist of two contactors with the same power, with one NC contact (S00) or one NO contact and one NC contact (S0 to S3) in the basic unit. The contactors are mechanically and electrically interlocked (NC contact interlock).

3RU2 overload relays (see from [page 7/92 onwards](#)) or 3RB3 overload relays (see from [page 7/105 onwards](#)) for contactor mounting or stand-alone installation, SIMOCODE pro 3UF7 motor management and control devices (from [page 10/16 onwards](#)) or 3RN thermistor motor protection relays ([page 10/161](#)) can be used for motor protection.



3RA23 reversing contactor assemblies with voltage tap-off

The reversing contactor assemblies with voltage tap-off (see [pages 3/163 to 3/166](#)) are required for mounting the function modules for connection to the controller via the IO-Link or AS-Interface communication systems. The 3RA27 function modules must be ordered separately, see [page 3/107](#).

For more information on IO-Link and AS-Interface, see "Industrial Communication", from [page 2/1 onwards](#).

SIRIUS 3RA23 reversing contactor assemblies, up to 55 kW

Sizes S00 to S3

Rated data AC-2 and AC-3 for 50 Hz 400 V AC		Size	Type		
Rating kW	Operational current I_e A		Contactors (See from page 3/55 onwards)	Assembly kit (See page 3/110)	Fully-wired and tested reversing contactor assemblies
 Screw terminals					
3	7	S00	3RT2015-1...2	3RA2913-2AA1	3RA2315-8XB30-1...
4	9		3RT2016-1...2	3RA2913-2AA1	3RA2316-8XB30-1...
5.5	12		3RT2017-1...2	3RA2913-2AA1	3RA2317-8XB30-1...
7.5	16		3RT2018-1...2	3RA2913-2AA1	3RA2318-8XB30-1...
5.5	12	S0	3RT2024-1...0	3RA2923-2AA1	3RA2324-8XB30-1...
7.5	16		3RT2025-1...0	3RA2923-2AA1	3RA2325-8XB30-1...
11	25		3RT2026-1...0	3RA2923-2AA1	3RA2326-8XB30-1...
15	32		3RT2027-1...0	3RA2923-2AA1	3RA2327-8XB30-1...
18.5	38		3RT2028-1...0	3RA2923-2AA1	3RA2328-8XB30-1...
18.5	40	S2	3RT2035-1...0	3RA2933-2AA1	3RA2335-8XB30-1...
22	55		3RT2036-1...0	3RA2933-2AA1	3RA2336-8XB30-1...
30	65		3RT2037-1...0	3RA2933-2AA1	3RA2337-8XB30-1...
37	80		3RT2038-1...0	3RA2933-2AA1	3RA2338-8XB30-1...
37	80	S3	3RT2045-1...0	3RA2943-2AA1	3RA2345-8XB30-1...
45	90		3RT2046-1...0	3RA2943-2AA1	3RA2346-8XB30-1...
55	110		3RT2047-1...0	3RA2943-2AA1	3RA2347-8XB30-1...
 Spring-type terminals					
3	7	S00	3RT2015-2...2	3RA2913-2AA2	3RA2315-8XB30-2...
4	9		3RT2016-2...2	3RA2913-2AA2	3RA2316-8XB30-2...
5.5	12		3RT2017-2...2	3RA2913-2AA2	3RA2317-8XB30-2...
7.5	16		3RT2018-2...2	3RA2913-2AA2	3RA2318-8XB30-2...
5.5	12	S0	3RT2024-2...0	3RA2923-2AA2	3RA2324-8XB30-2...
7.5	16		3RT2025-2...0	3RA2923-2AA2	3RA2325-8XB30-2...
11	25		3RT2026-2...0	3RA2923-2AA2	3RA2326-8XB30-2...
15	32		3RT2027-2...0	3RA2923-2AA2	3RA2327-8XB30-2...
18.5	38		3RT2028-2...0	3RA2923-2AA2	3RA2328-8XB30-2...

Note:

The 3RA2934-2B mechanical interlock for sizes S2 and S3 must be ordered separately, [see page 3/114](#).

Article No. scheme

Product versions	Article number
SIRIUS reversing contactor assembly	3RA23 <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"/>
Rating dependent on size e.g. 5 = 37 kW for size S3	<input type="checkbox"/>
Type of overload relay e.g. 8X = without	<input type="checkbox"/> <input type="checkbox"/>
Assembly e.g. E = communication-capable installation	<input type="checkbox"/>
Interlock e.g. 3 = mechanical and electrical	<input type="checkbox"/>
Free auxiliary switches e.g. 0 = S3: 2 NO total	<input type="checkbox"/>
Type of electrical connection e.g. 1 = screw terminals (main and auxiliary circuits)	<input type="checkbox"/>
Operating range/solenoid coil circuit e.g. A = AC standard/without coil circuit	<input type="checkbox"/>
Rated control supply voltage e.g. L2 = 230 V AC, 50/60 Hz	<input type="checkbox"/> <input type="checkbox"/>
Example	3RA23 4 5 - 8 X E 3 0 - 1 A L 2

Note:

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

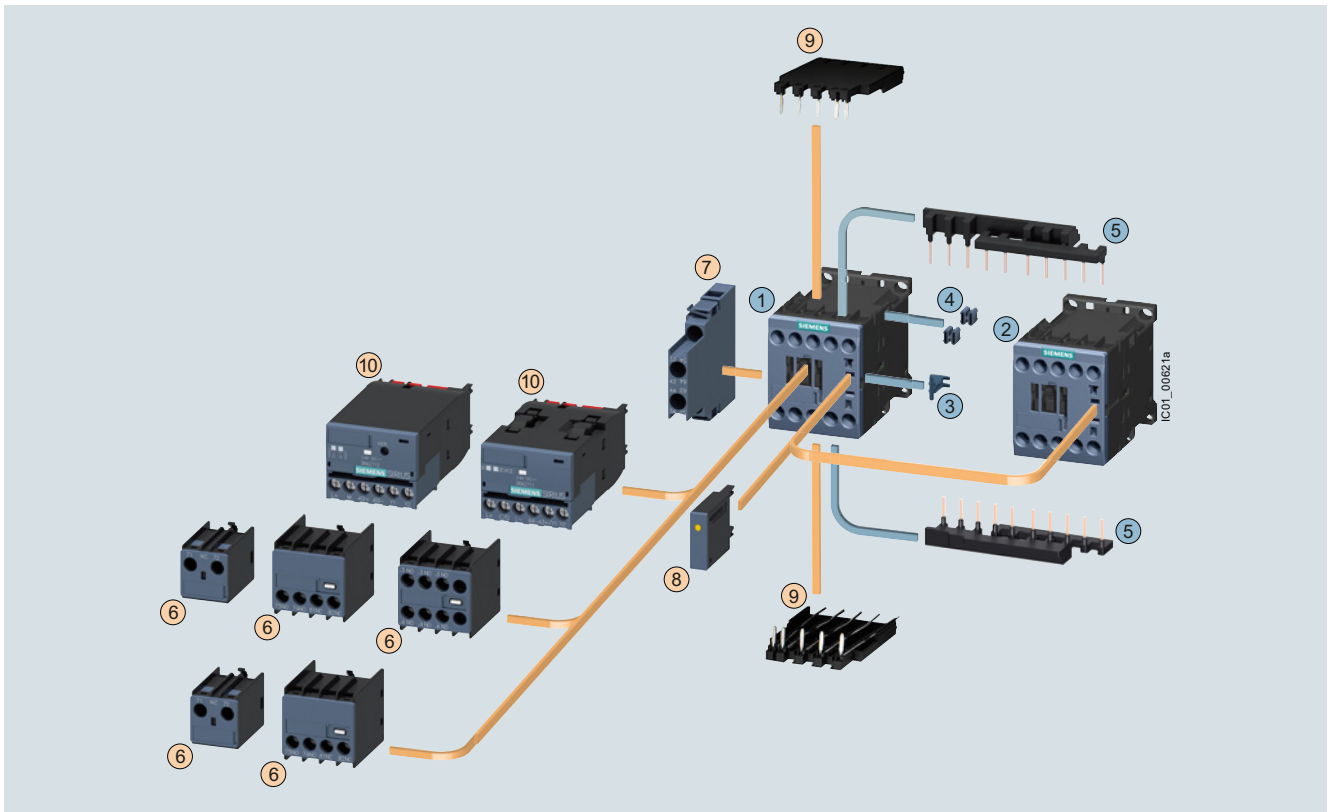
For your orders, please use the article numbers quoted in the selection and ordering data.

Reversing Contactor Assemblies

SIRIUS 3RA23 reversing contactor assemblies, up to 55 kW

Fully wired and tested reversing contactor assemblies · Size S00 · Up to 7.5 kW

The figure shows the version with screw terminals



Mountable accessories (optional)

To be ordered separately	Type	Page
⑥ Auxiliary switch block, front ¹⁾	3RH2911	3/94 ... 3/96
⑦ Auxiliary switch block, lateral	3RH2921	3/98
⑧ Surge suppressors	3RT2916	3/103, 3/104
⑨ Solder pin adapters	3RT1916-4KA1	3/117
⑩ Function module for connection to the control system	3RA271.-1BA00	3/107

Complete reversing contactor assembly

Individual parts	Type		Page
	Q11	Q12	
① ② Contactors, 3 kW	3RT2015	3RT2015	3/55, 3/62
① ② Contactors, 4 kW	3RT2016	3RT2016	3/55, 3/62
① ② Contactors, 5.5 kW	3RT2017	3RT2017	3/55, 3/62
① ② Contactors, 7.5 kW	3RT2018	3RT2018	3/55, 3/62
③ ... ⑤ Assembly kit comprising:	3RA2913-2AA1		3/110
③ Mechanical interlock ²⁾			
④ Two connecting clips for two contactors ²⁾			
⑤ Wiring modules on the top and bottom for connecting the main current paths, electrical interlock included ³⁾ , interruptible (NC contact interlock)			

¹⁾ Auxiliary switch block according to EN 50005 must be used.

²⁾ The parts ③ and ④ can only be ordered together as 3RA2912-2H mechanical connectors.

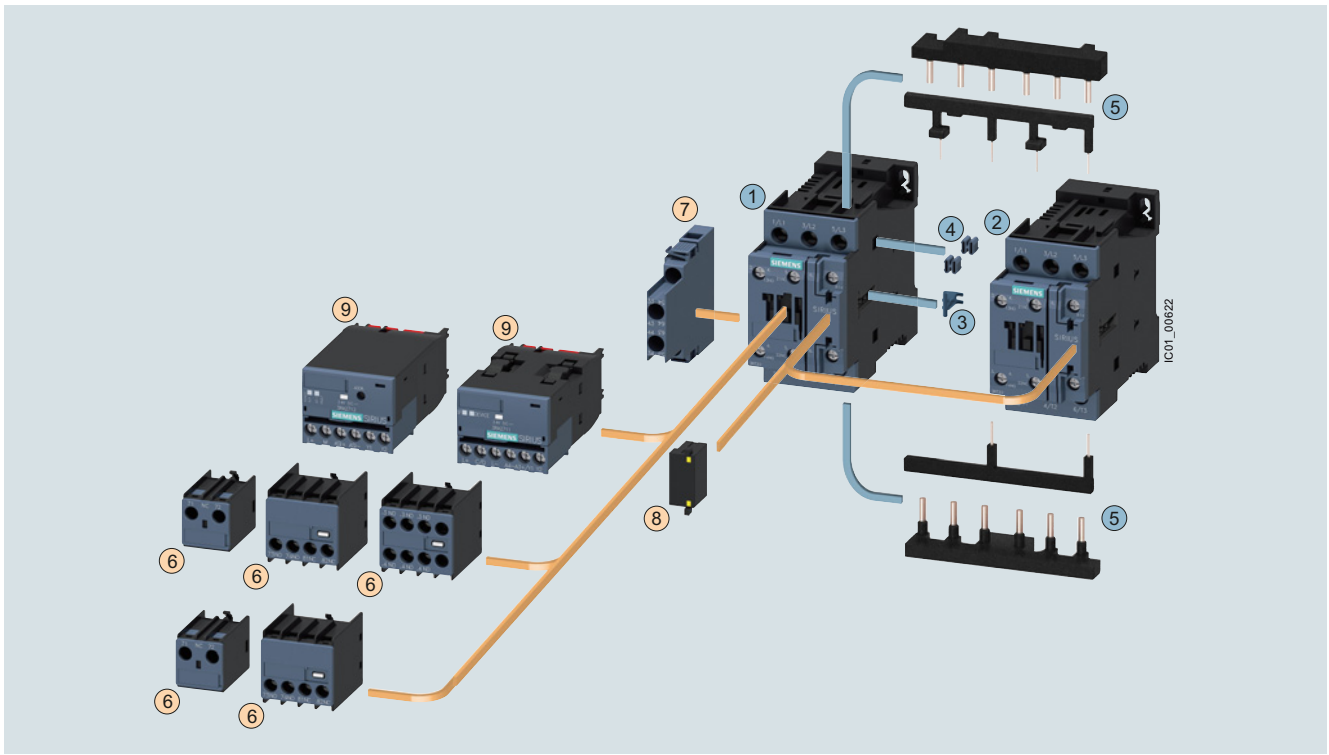
³⁾ 3RT201. contactors with one NC contact in the basic unit are required for the electrical interlock. An additional NO contact is required for momentary-contact operation.

For complete reversing contactor assemblies, see page 3/163.

SIRIUS 3RA23 reversing contactor assemblies, up to 55 kW

Fully wired and tested reversing contactor assemblies · Size S0 · Up to 18.5 kW

The figure shows the version with screw terminals



Mountable accessories (optional)

To be ordered separately	Type	Page
⑥ Auxiliary switch block, front	3RH2911	3/94 ... 3/96
⑦ Auxiliary switch block, lateral	3RH2921	3/98
⑧ Surge suppressors	3RT2926	3/103, 3/104
⑨ Function module for connection to the control system	3RA271.-1BA00	3/107

Complete reversing contactor assembly

Individual parts	Type		Page
	Q11	Q12	
① ② Contactors, 5.5 kW	3RT2024	3RT2024	3/56, 3/66
① ② Contactors, 7.5 kW	3RT2025	3RT2025	3/56, 3/66
① ② Contactors, 11 kW	3RT2026	3RT2026	3/56, 3/66
① ② Contactors, 15 kW	3RT2027	3RT2027	3/56, 3/66
① ② Contactors, 18.5 kW	3RT2028	3RT2028	3/56, 3/66
③ ... ⑤ Assembly kit comprising:	3RA2923-2AA1		3/110
	③ Mechanical interlock ¹⁾		
	④ Two connecting clips for two contactors ¹⁾		
	⑤ Wiring modules on the top and bottom for connecting the main current paths, electrical interlock included (NC contact interlock)		

¹⁾ The parts ③ and ④ can only be ordered together as 3RA2922-2H mechanical connectors.

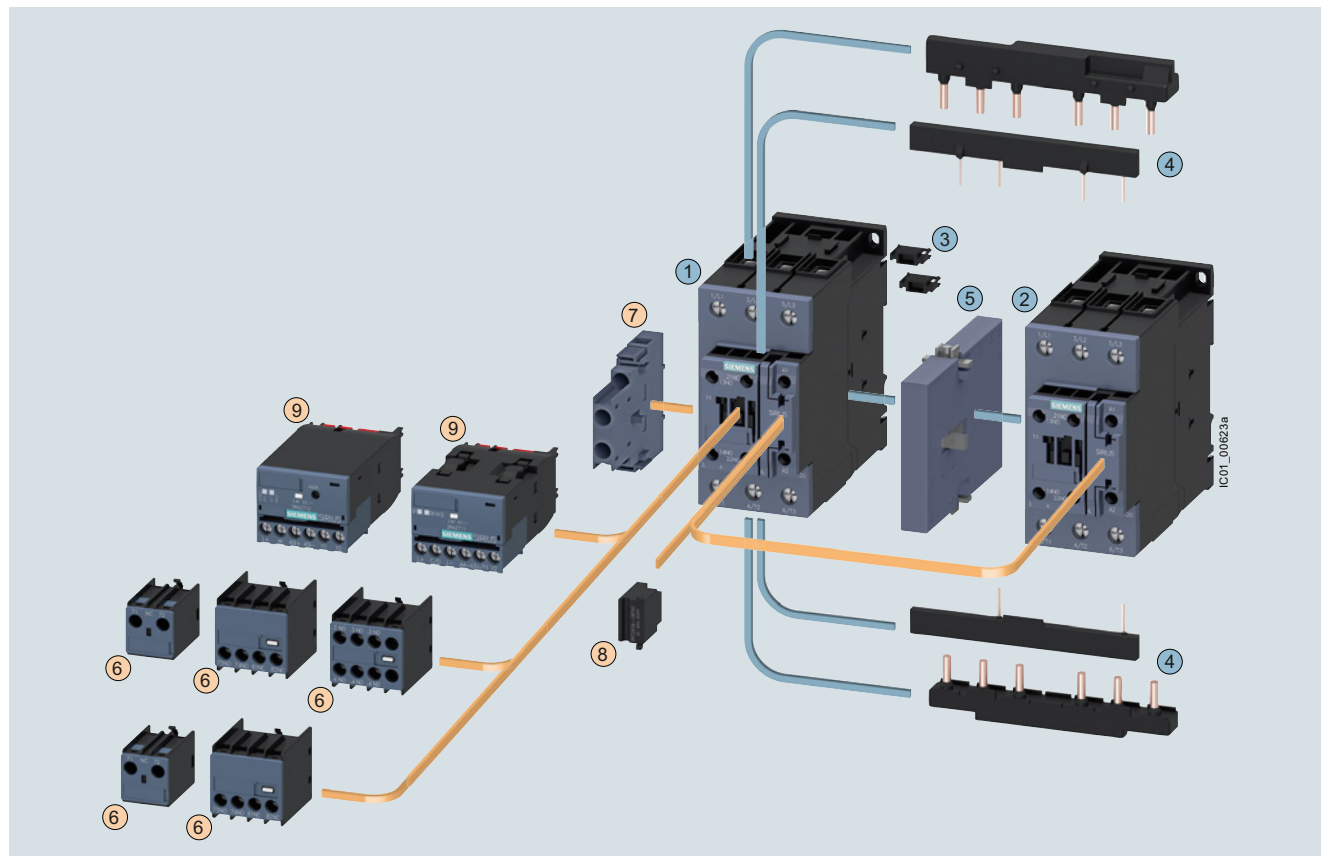
For complete reversing contactor assemblies, see page 3/164.

Reversing Contactor Assemblies

SIRIUS 3RA23 reversing contactor assemblies, up to 55 kW

Fully wired and tested reversing contactor assemblies · Size S2 · Up to 37 kW

The figure shows the version with screw terminals



Mountable accessories (optional)

To be ordered separately	Type	Page
⑥ Auxiliary switch block, front	3RH2911	3/94 ... 3/96
⑦ Auxiliary switch block, lateral	3RH2921	3/98
⑧ Surge suppressors	3RT2936	3/103, 3/104
⑨ Function module for connection to the control system	3RA271.-1BA00	3/107

Complete reversing contactor assembly

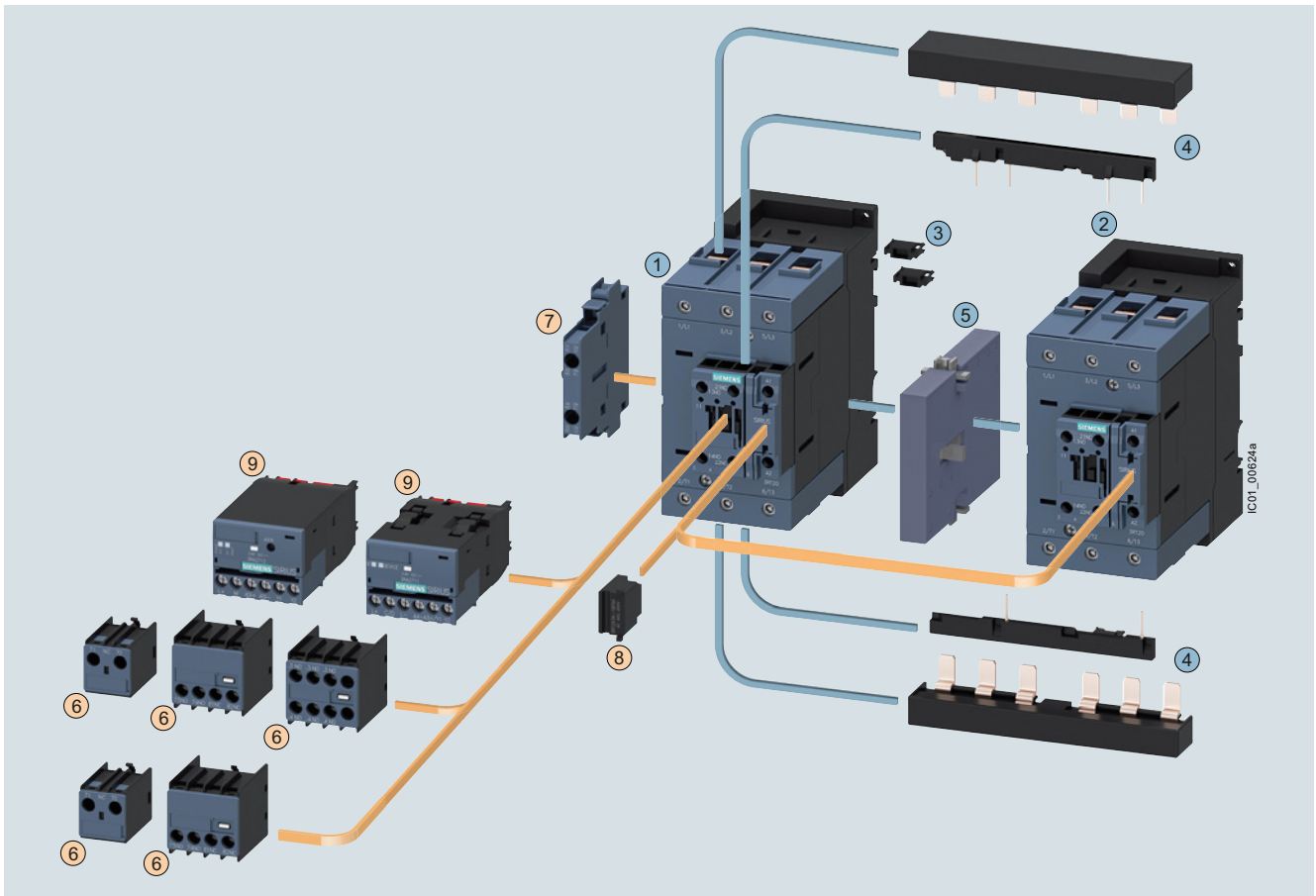
Individual parts	Type		Page
	Q11	Q12	
①② Contactors, 18.5 kW	3RT2035	3RT2035	3/58, 3/67
①② Contactors, 22 kW	3RT2036	3RT2036	3/58, 3/67
①② Contactors, 30 kW	3RT2037	3RT2037	3/58, 3/67
①② Contactors, 37 kW	3RT2038	3RT2038	3/58, 3/67
③④ Assembly kit comprising:	3RA2933-2AA1		3/110
③ Two connectors for two contactors			
④ Wiring modules on the top and bottom for connecting the main and auxiliary circuits, electrical interlock included (NC contact interlock)			
⑤ Mechanical interlock (must be ordered separately)	3RA2934-2B		3/114

For complete reversing contactor assemblies, see page 3/165.

SIRIUS 3RA23 reversing contactor assemblies, up to 55 kW

Fully wired and tested reversing contactor assemblies · Size S3 · Up to 55 kW

The figure shows the version with screw terminals



Mountable accessories (optional)

To be ordered separately	Type	Page
⑥ Auxiliary switch block, front	3RH2911	3/94 ... 3/96
⑦ Auxiliary switch block, lateral	3RH2921	3/98
⑧ Surge suppressors	3RT2936 ¹⁾ , 3RT2946	3/103, 3/104
⑨ Function module for connection to the control system (the associated module connectors 3RA2711-0EE17 must be ordered separately, see page 3/108)	3RA271.-1BA00	3/107

Complete reversing contactor assembly

Individual parts	Type		Page
	Q11	Q12	
①② Contactors, 37 kW	3RT2045	3RT2045	3/59, 3/67
①② Contactors, 45 kW	3RT2046	3RT2046	3/59, 3/67
①② Contactors, 55 kW	3RT2047	3RT2047	3/59, 3/67
③④ Assembly kit comprising:	3RA2943-2AA1		3/110
③ Two connectors for two contactors			
④ Wiring modules on the top and bottom for connecting the main and auxiliary circuits, electrical interlock included (NC contact interlock)			
⑤ Mechanical interlock (must be ordered separately)	3RA2934-2B		3/114

¹⁾ From product version E03 onwards, 3RT2936-1B/-1E surge suppressors can be used for 3RT2.4 contactors.

For complete reversing contactor assemblies, see page 3/166.

Reversing Contactor Assemblies

SIRIUS 3RA23 reversing contactor assemblies, up to 55 kW

Benefits

Using wiring kits for reversing contactor assemblies has the following advantages:

- Notable reduction of wiring in the control circuit
- Integrated mechanical interlock for sizes S00 and S0
- Prevention of wiring errors in the main circuit

Connecting combs for screw terminals also result in:

- Prevention of wiring errors in the control circuit
- Reduction of testing costs
- Ready-jumpered actuation of the auxiliary switches and the frame (A2)
- Integrated electrical interlocking

Accessories

Selecting the auxiliary switches

The following points should be noted:

Size S00

- For maintained-contact operation:
Use contactors with an NC contact in the basic unit for the electrical interlock.
- For momentary-contact operation:
Use contactors with an NC contact in the basic unit for the electrical interlock; in addition, an auxiliary switch block with at least one NO contact for latching is required per contactor.

Sizes S0 to S3

- For maintained-contact operation:
The contactors have two integrated auxiliary contacts (1 NO + 1 NC); the NC contact can be used for electrical interlocking.
- For momentary-contact operation:
Electrical interlock as for maintained-contact operation; the NO contact in the basic unit can be used for the latching.

Surge suppression

Sizes S00 to S3

All reversing contactor assemblies can be fitted with RC elements or varistors for damping opening surges in the coil.

As with the individual contactors, the surge suppressors can either be plugged onto the top of the contactors (S00) or be plugged into the front of the contactors (S0 to S3).

Technical specifications

More information

Technical specifications, see <https://support.industry.siemens.com/cs/ww/en/ps/16146/td>
FAQs, see <https://support.industry.siemens.com/cs/ww/en/ps/16146/faq>

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

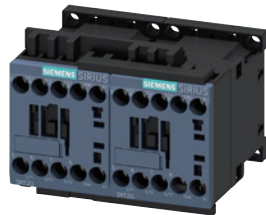
The technical specifications are the same as for the individual contactors (see page 3/23 onwards).

IE3/IE4 ready SIRIUS 3RA23 reversing contactor assemblies, up to 55 kW

Selection and ordering data

Fully wired and tested reversing contactor assemblies¹⁾ · Size S00 · Up to 7.5 kW
 AC operation  or DC operation 

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





3RA231.-8XB30-1A.0



3RA231.-8XE30-1BB4



3RA231.-8XB30-2A.0

Rated data AC-2 and AC-3				Rated control supply voltage U_s	SD	Screw terminals 		SD	Spring-type terminals 	
Operational current I_e up to 400 V	Rating of three-phase motors at 50 Hz and					Article No.	Price per PU		Article No.	Price per PU
	A	230 V	400 V	690 V	kW			kW		
AC operation, 50/60 Hz										
7	2.2	3	4	24 AC	5	3RA2315-8XB30-1AB0	5	3RA2315-8XB30-2AB0		
				110 AC	5	3RA2315-8XB30-1AF0	5	3RA2315-8XB30-2AF0		
				230 AC	2	3RA2315-8XB30-1AP0	2	3RA2315-8XB30-2AP0		
9	3	4	5.5	24 AC	5	3RA2316-8XB30-1AB0	5	3RA2316-8XB30-2AB0		
				110 AC	5	3RA2316-8XB30-1AF0	5	3RA2316-8XB30-2AF0		
				230 AC	2	3RA2316-8XB30-1AP0	2	3RA2316-8XB30-2AP0		
12	3	5.5	5.5	24 AC	5	3RA2317-8XB30-1AB0	5	3RA2317-8XB30-2AB0		
				110 AC	5	3RA2317-8XB30-1AF0	5	3RA2317-8XB30-2AF0		
				230 AC	2	3RA2317-8XB30-1AP0	2	3RA2317-8XB30-2AP0		
16	4	7.5	7.5	24 AC	5	3RA2318-8XB30-1AB0	5	3RA2318-8XB30-2AB0		
				110 AC	5	3RA2318-8XB30-1AF0	5	3RA2318-8XB30-2AF0		
				230 AC	2	3RA2318-8XB30-1AP0	2	3RA2318-8XB30-2AP0		
DC operation										
7	2.2	3	4	24 DC	2	3RA2315-8XB30-1BB4	2	3RA2315-8XB30-2BB4		
9	3	4	5.5	24 DC	2	3RA2316-8XB30-1BB4	2	3RA2316-8XB30-2BB4		
12	3	5.5	5.5	24 DC	2	3RA2317-8XB30-1BB4	2	3RA2317-8XB30-2BB4		
16	4	7.5	7.5	24 DC	2	3RA2318-8XB30-1BB4	2	3RA2318-8XB30-2BB4		
With voltage tap-off										
7	2.2	3	4	24 DC	2	3RA2315-8XE30-1BB4	5	3RA2315-8XE30-2BB4		
9	3	4	5.5	24 DC	2	3RA2316-8XE30-1BB4	5	3RA2316-8XE30-2BB4		
12	3	5.5	5.5	24 DC	2	3RA2317-8XE30-1BB4	2	3RA2317-8XE30-2BB4		
16	4	7.5	7.5	24 DC	2	3RA2318-8XE30-1BB4	2	3RA2318-8XE30-2BB4		

¹⁾ The contactors integrated in the reversing contactor assemblies have no unassigned auxiliary contacts. When used with a voltage tap-off and function module, the auxiliary contacts are unassigned.

Representation of the complete reversing contactor assemblies with optionally mountable accessories, see page 3/158.

Reversing Contactor Assemblies

SIRIUS 3RA23 reversing contactor assemblies, up to 55 kW **IE3/IE4 ready**

Fully wired and tested reversing contactor assemblies · Size S0 · Up to 18.5 kW
AC operation  **or DC operation** 

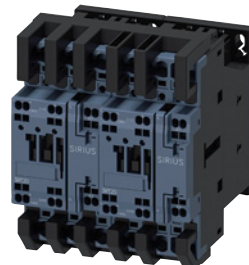
PU (UNIT, SET, M) = 1
 PS* = 1 unit
 PG = 41B





3RA232.-8XB30-1A.2



3RA2324-8XE30-1BB4





3RA232.-8XB30-2A.2

Rated data AC-2 and AC-3				Rated control supply voltage U_s	SD	Screw terminals 		SD	Spring-type terminals 		
Operational current I_e up to 400 V	Rating of three-phase motors at 50 Hz and					Article No.	Price per PU		Article No.	Price per PU	
	230 V	400 V	690 V	A	kW			kW			kW
AC operation, 50/60 Hz											
12	3	5.5	7.5	24 AC	5	3RA2324-8XB30-1AC2	5	3RA2324-8XB30-2AC2			
				110 AC	5	3RA2324-8XB30-1AG2	5	3RA2324-8XB30-2AG2			
				230 AC	5	3RA2324-8XB30-1AL2	5	3RA2324-8XB30-2AL2			
17	4	7.5	11	24 AC	5	3RA2325-8XB30-1AC2	5	3RA2325-8XB30-2AC2			
				110 AC	5	3RA2325-8XB30-1AG2	5	3RA2325-8XB30-2AG2			
				230 AC	5	3RA2325-8XB30-1AL2	5	3RA2325-8XB30-2AL2			
25	5.5	11	11	24 AC	5	3RA2326-8XB30-1AC2	5	3RA2326-8XB30-2AC2			
				110 AC	5	3RA2326-8XB30-1AG2	5	3RA2326-8XB30-2AG2			
				230 AC	5	3RA2326-8XB30-1AL2	5	3RA2326-8XB30-2AL2			
32	7.5	15	18.5	24 AC	5	3RA2327-8XB30-1AC2	5	3RA2327-8XB30-2AC2			
				110 AC	5	3RA2327-8XB30-1AG2	5	3RA2327-8XB30-2AG2			
				230 AC	5	3RA2327-8XB30-1AL2	5	3RA2327-8XB30-2AL2			
38	11	18.5	18.5	24 AC	5	3RA2328-8XB30-1AC2	5	3RA2328-8XB30-2AC2			
				110 AC	5	3RA2328-8XB30-1AG2	5	3RA2328-8XB30-2AG2			
				230 AC	5	3RA2328-8XB30-1AL2	5	3RA2328-8XB30-2AL2			
DC operation											
12	3	5.5	7.5	24 DC	2	3RA2324-8XB30-1BB4	2	3RA2324-8XB30-2BB4			
17	4	7.5	11	24 DC	2	3RA2325-8XB30-1BB4	2	3RA2325-8XB30-2BB4			
25	5.5	11	11	24 DC	2	3RA2326-8XB30-1BB4	2	3RA2326-8XB30-2BB4			
32	7.5	15	18.5	24 DC	2	3RA2327-8XB30-1BB4	2	3RA2327-8XB30-2BB4			
38	11	18.5	18.5	24 DC	2	3RA2328-8XB30-1BB4	2	3RA2328-8XB30-2BB4			
With voltage tap-off											
12	3	5.5	7.5	24 DC	2	3RA2324-8XE30-1BB4	2	3RA2324-8XE30-2BB4			
17	4	7.5	11	24 DC	2	3RA2325-8XE30-1BB4	5	3RA2325-8XE30-2BB4			
25	5.5	11	11	24 DC	2	3RA2326-8XE30-1BB4	2	3RA2326-8XE30-2BB4			
32	7.5	15	18.5	24 DC	5	3RA2327-8XE30-1BB4	2	3RA2327-8XE30-2BB4			
38	11	18.5	18.5	24 DC	2	3RA2328-8XE30-1BB4	2	3RA2328-8XE30-2BB4			

Representation of the complete reversing contactor assemblies with optionally mountable accessories, [see page 3/159](#).

IE3/IE4 ready SIRIUS 3RA23 reversing contactor assemblies, up to 55 kW

Fully wired and tested reversing contactor assemblies · Size S2 · Up to 37 kW

AC operation  **or AC/DC operation** 



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



3RA233.-8XB30-1A.2



3RA233.-8XE30-1NB3

Rated data AC-2 and AC-3					Rated control supply voltage U_s	SD	Screw terminals 		SD	Spring-type terminals 	
Operational current I_e up to 400 V	Rating of three-phase motors at 50 Hz and			V	d	Article No.	Price per PU	d	Article No.	Price per PU	
	A	230 V	400 V								690 V
AC operation, 50/60 Hz											
40	11	18.5	22	110 AC	2	3RA2335-8XB30-1AG2	--	--	--	--	
				230 AC	2	3RA2335-8XB30-1AL2	--	--	--	--	
50	15	22	22	110 AC	5	3RA2336-8XB30-1AG2	--	--	--	--	
				230 AC	2	3RA2336-8XB30-1AL2	--	--	--	--	
65	18.5	30	37	110 AC	5	3RA2337-8XB30-1AG2	--	--	--	--	
				230 AC	2	3RA2337-8XB30-1AL2	--	--	--	--	
80	22	37	45	110 AC	5	3RA2338-8XB30-1AG2	--	--	--	--	
				230 AC	2	3RA2338-8XB30-1AL2	--	--	--	--	
AC/DC operation¹⁾											
40	11	18.5	22	20 ... 33 AC/DC	2	3RA2335-8XB30-1NB3	--	--	--	--	
50	15	22	22	20 ... 33 AC/DC	2	3RA2336-8XB30-1NB3	--	--	--	--	
65	18.5	30	37	20 ... 33 AC/DC	2	3RA2337-8XB30-1NB3	--	--	--	--	
80	22	37	45	20 ... 33 AC/DC	2	3RA2338-8XB30-1NB3	--	--	--	--	
With voltage tap-off											
40	11	18.5	22	20 ... 33 AC/DC	5	3RA2335-8XE30-1NB3	--	--	--	--	
50	15	22	22	20 ... 33 AC/DC	5	3RA2336-8XE30-1NB3	--	--	--	--	
65	18.5	30	37	20 ... 33 AC/DC	5	3RA2337-8XE30-1NB3	--	--	--	--	
80	22	37	45	20 ... 33 AC/DC	5	3RA2338-8XE30-1NB3	--	--	--	--	

¹⁾ With integrated coil circuit (varistor).

Representation of the complete reversing contactor assemblies with optionally mountable accessories, see page 3/160.

Reversing Contactor Assemblies

SIRIUS 3RA23 reversing contactor assemblies, up to 55 kW **IE3/IE4 ready**

Fully wired and tested reversing contactor assemblies · Size S3 · Up to 55 kW
AC operation  **or AC/DC operation** 



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



3RA234.-8XB30-1A.2



3RA234.-8XE30-1NB3

Rated data AC-2 and AC-3						SD	Screw terminals 		SD	Spring-type terminals 	
Operational current I_e up to 400 V	Rating of three-phase motors at 50 Hz and			Rated control supply voltage U_s ¹⁾	d		Article No.	Price per PU		Article No.	Price per PU
	A	230 V	400 V			690 V			V		
	kW	kW	kW								
AC operation, 50/60 Hz											
80	22	37	55	110 AC	X	3RA2345-8XB30-1AG2		--			
				230 AC	X	3RA2345-8XB30-1AL2		--			
95	22	45	75	110 AC	X	3RA2346-8XB30-1AG2		--			
				230 AC	X	3RA2346-8XB30-1AL2		--			
110	30	55	75	110 AC	X	3RA2347-8XB30-1AG2		--			
				230 AC	X	3RA2347-8XB30-1AL2		--			
AC/DC operation¹⁾											
80	22	37	55	20 ... 33 AC/DC	X	3RA2345-8XB30-1NB3		--			
95	22	45	75	20 ... 33 AC/DC	X	3RA2346-8XB30-1NB3		--			
110	30	55	75	20 ... 33 AC/DC	X	3RA2347-8XB30-1NB3		--			
With voltage tap-off²⁾											
80	22	37	55	20 ... 33 AC/DC	X	3RA2345-8XE30-1NB3		--			
95	22	45	75	20 ... 33 AC/DC	X	3RA2346-8XE30-1NB3		--			
110	30	55	75	20 ... 33 AC/DC	X	3RA2347-8XE30-1NB3		--			

¹⁾ With integrated coil circuit (varistor).

²⁾ The associated module connectors 3RA2711-0EE17 for the 3RA271. function modules must be ordered separately, [see page 3/108](#).

Representation of the complete reversing contactor assemblies with optionally mountable accessories, [see page 3/161](#).

Overview

The individual parts for the reversing contactor assemblies for customer assembly must be ordered separately.

- 3RT contactors: The operating times of the individual 3RT10 contactors are rated in such a way that no overlapping of the contact making and the arcing time between two contactors can occur on reversing, provided they are interlocked by way of their auxiliary switches (NC contact interlock) and the mechanical interlock.

For assemblies with AC operation and 50/60 Hz, a dead interval of 50 ms must be provided when used with voltages over 500 V; a dead interval of 30 ms is recommended for use with voltages up to and including 400 V. These dead times do not apply to assemblies with DC operation.

The operating times of the individual contactors are not affected by the mechanical interlock.

- Mechanical interlock
- Wiring kits consisting of link rails
- Base plate

Additional components

- For momentary-contact operation: auxiliary switch (NO contact) for self-locking
- 3RB2 overload relays (see from page 7/117 onwards), SIMOCODE pro 3UF7 motor management and control devices (from page 10/16 onwards) or 3RN thermistor motor protection relays (page 10/161) can be used for overload protection.

More information

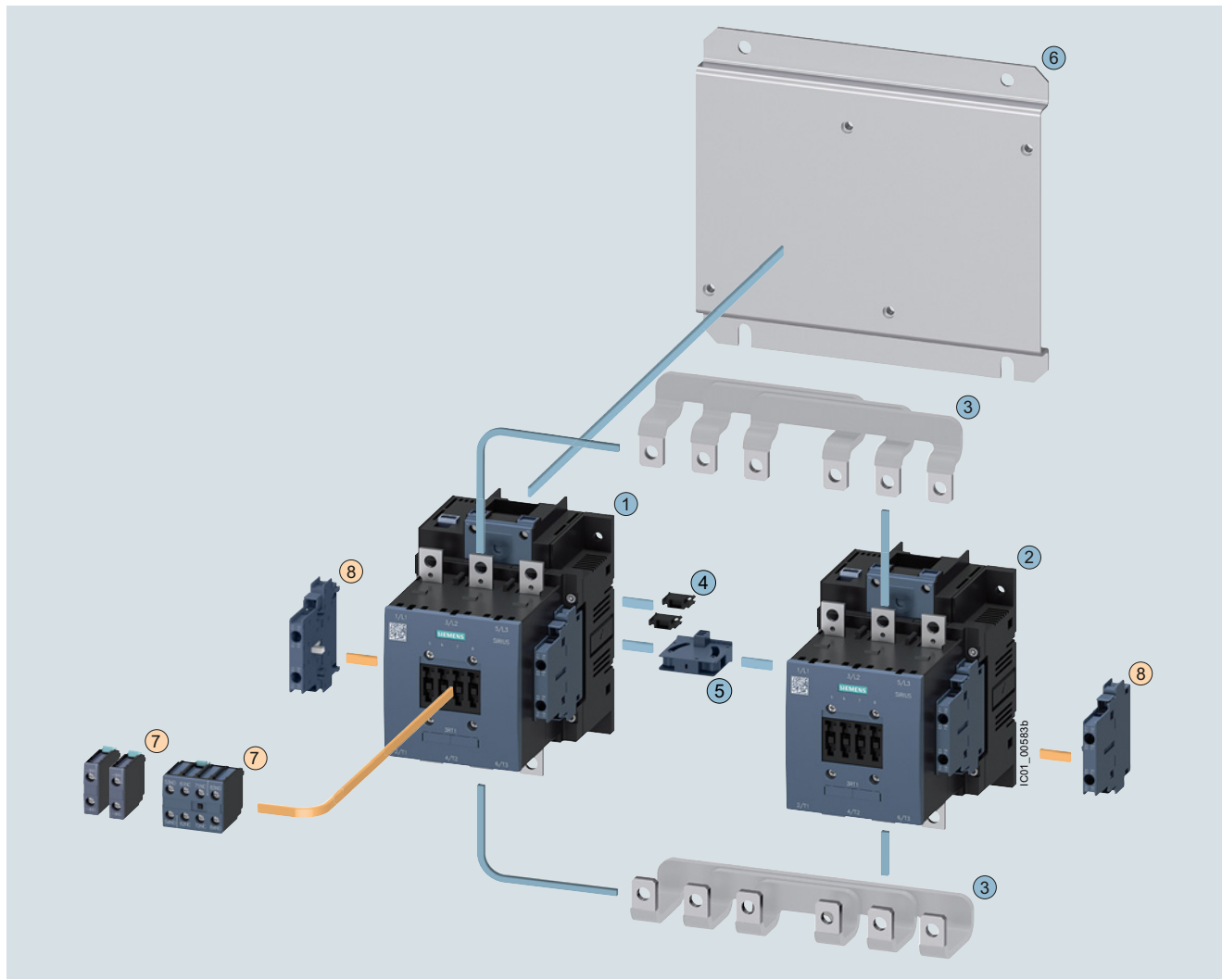
Homepage, see www.siemens.com/sirius

Industry Mall, see www.siemens.com/product?3RA23_3RT1

Reversing Contactor Assemblies

Reversing contactor assemblies consisting of SIRIUS 3RT1 contactors, up to 250 kW

Reversing contactor assemblies for customer assembly · Size S6 · Up to 90 kW



Mountable accessories (optional)

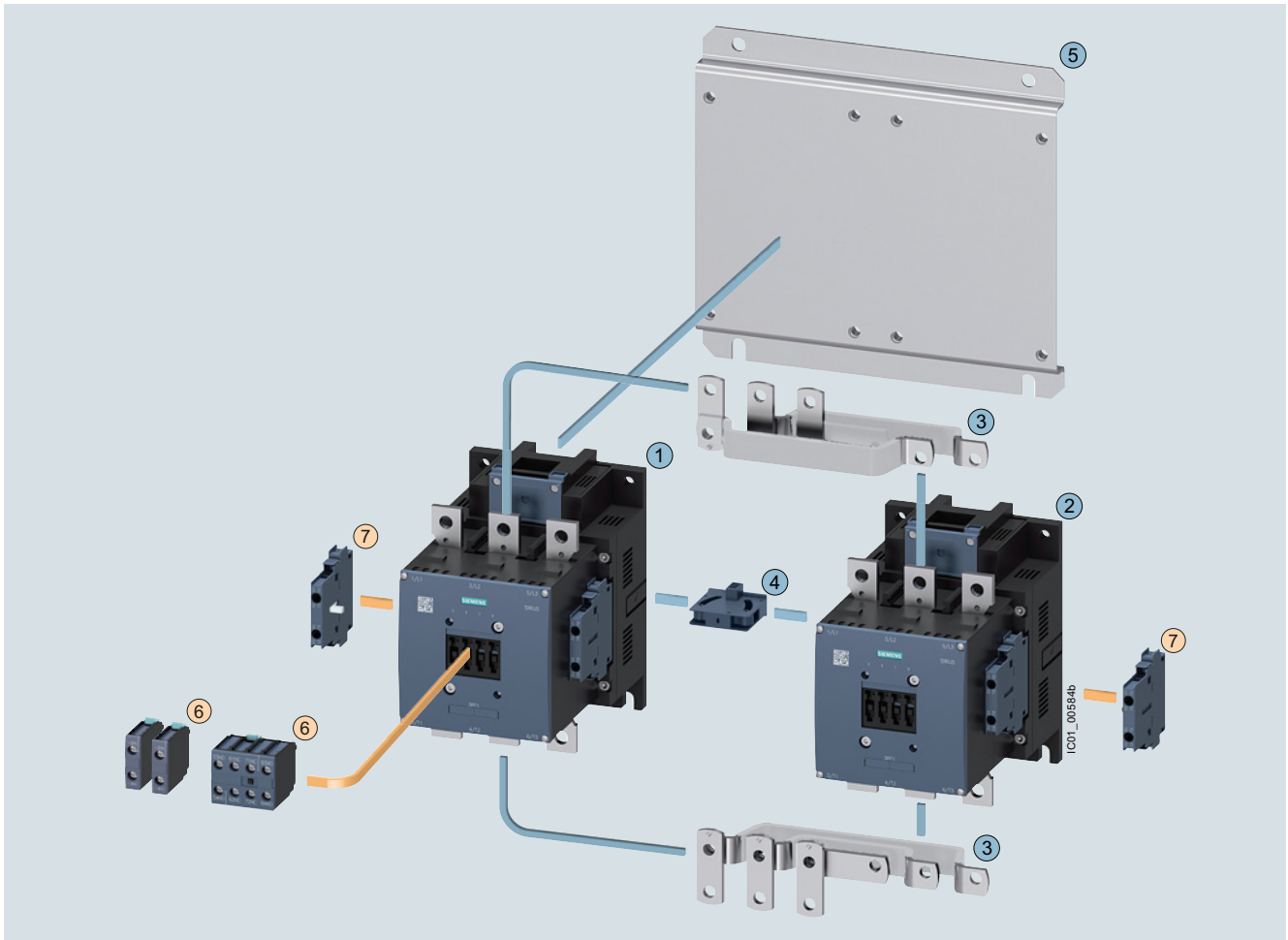
To be ordered separately	Type	Page
⑦ Auxiliary switch block, front	3RH1921	3/97
⑧ Auxiliary switch block, lateral	3RH1921	3/99

Reversing contactor assembly for customer assembly

Individual parts	Type		Page
	Q11	Q12	
①② Contactors, 55 kW	3RT1.54	3RT1.54	3/71 ... 3/73
①② Contactors, 75 kW	3RT1.55	3RT1.55	3/71 ... 3/73
①② Contactors, 90 kW	3RT1.56	3RT1.56	3/71 ... 3/73
③ Assembly kit consisting of: Wiring modules on the top and bottom for contactors without box terminals for connecting the main and auxiliary circuits, electrical interlock included (NC contact interlock)	3RA1953-2A		3/110
④ Two connectors for two contactors	3RA1932-2D		3/114
⑤ Mechanical interlock (must be ordered separately)	3RA1954-2A		3/114
⑥ Base plate for reversing contactor assemblies	3RA1952-2A		3/119

Reversing contactor assemblies consisting of SIRIUS 3RT1 contactors, up to 250 kW

Reversing contactor assemblies for customer assembly · Size S10 · Up to 160 kW



Mountable accessories (optional)

To be ordered separately	Type	Page
⑥ Auxiliary switch block, front	3RH1921	3/97
⑦ Auxiliary switch block, lateral	3RH1921	3/99

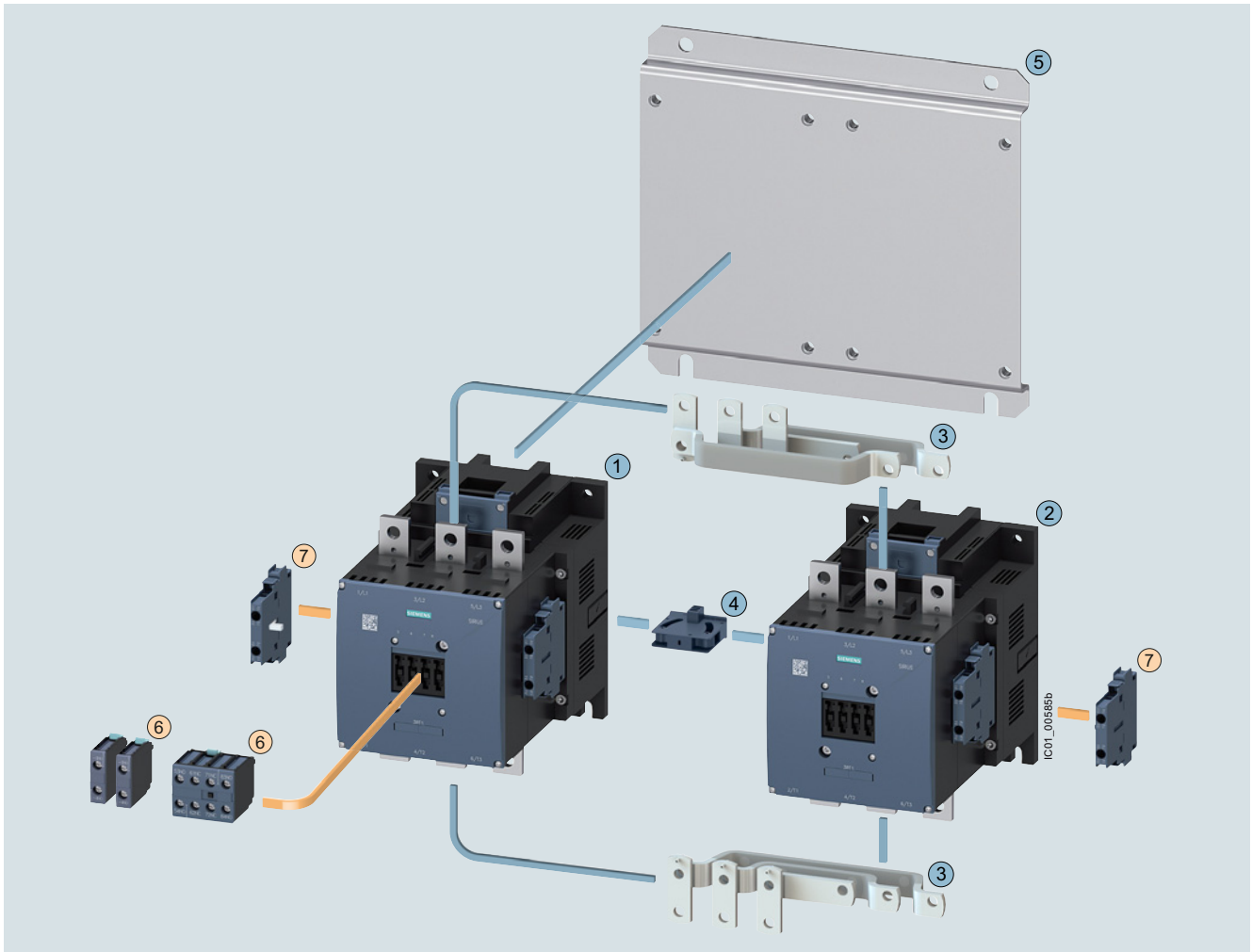
Reversing contactor assembly for customer assembly

Individual parts	Type	Page
①② Contactors, 110 kW	Q11 3RT1.64	3/71 ... 3/73
①② Contactors, 132 kW	Q12 3RT1.65	3/71 ... 3/73
①② Contactors, 160 kW	3RT1.66	3/71 ... 3/73
③ Assembly kit consisting of: Wiring modules on the top and bottom for contactors without box terminals for connecting the main and auxiliary circuits, electrical interlock included (NC contact interlock)	3RA1963-2A	3/110
④ Mechanical interlock (must be ordered separately)	3RA1954-2A	3/114
⑤ Base plate for reversing contactor assemblies	3RA1962-2A	3/119

Reversing Contactor Assemblies

Reversing contactor assemblies consisting of SIRIUS 3RT1 contactors, up to 250 kW

Reversing contactor assemblies for customer assembly · Size S12 · Up to 250 kW



Mountable accessories (optional)

To be ordered separately	Type	Page
⑥ Auxiliary switch block, front	3RH1921	3/97
⑦ Auxiliary switch block, lateral	3RH1921	3/99

Reversing contactor assembly for customer assembly

Individual parts	Type		Page
	Q11	Q12	
① ② Contactors, 200 kW	3RT1.74	3RT1.74	3/71 ... 3/73
① ② Contactors, 250 kW	3RT1.75	3RT1.75	3/71 ... 3/73
③ Assembly kit consisting of: Wiring modules on the top and bottom for contactors without box terminals for connecting the main and auxiliary circuits, electrical interlock included (NC contact interlock)	3RA1973-2A		3/110
④ Mechanical interlock (must be ordered separately)	3RA1954-2A		3/114
⑤ Base plate for reversing contactor assemblies	3RA1972-2A		3/119

Contactor Assemblies for Star-Delta (Wye-Delta) Starting

SIRIUS 3RA24 contactor assemblies for star-delta (wye-delta) starting, up to 90 kW

Overview

More information

Homepage, see www.siemens.com/sirius
 Industry Mall, see www.siemens.com/product?3RA24_3RT

Conversion tool, e.g. from 3RT10 to 3RT20, see www.siemens.com/sirius/conversion-tool
 TIA Selection Tool Cloud (TST Cloud), see <https://mall.industry.siemens.com/spice/TSTWeb/?kmat=LoadFeeder>

The 3RA24 contactor assemblies for star-delta (wye-delta) starting in sizes S00 to S3 can be ordered as follows:

- Fully wired and tested, with electrical and mechanical interlock, see [page 3/180 onwards](#).
- For all individual parts for customer assembly, see from [page 3/76 onwards](#).

The 3RA24 contactor assemblies for star-delta (wye-delta) starting have screw or spring-type terminals and are suitable for screwing and snapping onto TH 35 standard mounting rails.

A base plate is also available for the size S2 and S3 assemblies.

A dead interval of 50 ms on reversing is already integrated in the 3RA28 function module for star-delta (wye-delta) starting.

With the fully wired and tested 3RA24 contactor assemblies for star-delta (wye-delta) starting, the auxiliary contacts included in the basic units are unassigned.

The 3RA24 contactor assemblies for star-delta (wye-delta) starting are designed for standard applications.

Note:

Contactor assemblies for star-delta (wye-delta) starting in special applications such as very heavy starting¹⁾ or star-delta (wye-delta) starting of special motors must be customized. Help with designing such special applications is available from our Technical Support:

<https://support.industry.siemens.com/My/ww/en/requests>

¹⁾ For effective support from Technical Support you must provide the following details:

- Rated motor voltage
- Rated motor current
- Service factor, operating values
- Motor starting current factor
- Starting time
- Ambient temperature.

Surge suppression

Surge suppression (varistor) is included in the 3RA28 function modules for star-delta (wye-delta) starting.

Motor protection

3RU2 overload relays (see from [page 7/92 onwards](#)) or 3RB3 overload relays (see from [page 7/105 onwards](#)) for contactor mounting or stand-alone installation, SIMOCODE pro 3UF7 motor management and control devices (from [page 10/16 onwards](#)) or 3RN thermistor motor protection relays ([page 10/161](#)) can be used for motor protection.

The overload relay can be either mounted onto the line contactor or separately fitted. It must be set to 0.58 times the rated motor current.

SIRIUS 3RA28 function module for star-delta (wye-delta) starting

The 3RA2816-0EW20 star-delta (wye-delta) function module (see [page 3/106](#)) replaces the complete wiring in the control circuit and can be used in the voltage range from 24 to 240 V AC/DC. It is snapped onto the front of the contactor assembly for star-delta (wye-delta) starting size S00, S0, S2 or S3.

One function module comprises a complete module kit:

- Basic module with integrated control logic and time setting
- Two coupling modules with corresponding connecting cables

The scope of supply thus comprises a complete module kit for one contactor assembly for star-delta (wye-delta) starting in size S00, S0, S2 or S3, regardless of the connection method.

Data of the control circuit:

- Wide voltage range 24 to 240 V AC/DC
- Time setting range 0.5 to 60 s (3 selectable settings)
- Dead interval of 50 ms, non-adjustable



Contactors Assemblies for Star-Delta (Wye-Delta) Starting

SIRIUS 3RA24 contactor assemblies for star-delta (wye-delta) starting, up to 90 kW

Complete units

Note:

The selection of contactor types refers to fused designs.

Rated data at 50 Hz 400 V AC			Size	Type		Fully-wired and tested contactor assemblies for star-delta (wye-delta) starting
Rating P kW	Operational current I_e A	Motor current A		Line/delta contactor	Star contactor	
 Screw terminals						
5.5	12	9.5 ... 13.8	S00-S00-S00	3RT2015-1...	3RT2015-1...	3RA2415-8XF31-1...
7.5	16	12.1 ... 17		3RT2017-1...	3RT2015-1...	3RA2416-8XF31-1...
11	25	19 ... 25		3RT2018-1...	3RT2016-1...	3RA2417-8XF31-1...
11	25	19 ... 25	S0-S0-S0	3RT2024-1...0	3RT2024-1...0	3RA2423-8XF32-1...
15	32	24.1 ... 34		3RT2026-1...0	3RT2024-1...0	3RA2425-8XF32-1...
18.5	40	34.5 ... 40		3RT2026-1...0	3RT2024-1...0	3RA2425-8XF32-1...
22	50	31 ... 43		3RT2027-1...0	3RT2026-1...0	3RA2426-8XF32-1...
22/30	50	31 ... 43	S2-S2-S0	3RT2035-1...0	3RT2026-1...0	3RA2434-8XF32-1...
37	80	62.1 ... 77.8		3RT2035-1...0	3RT2027-1...0	3RA2435-8XF32-1...
45	86	69 ... 86		3RT2036-1...0	3RT2028-1...0	3RA2436-8XF32-1...
55	115	77.6 ... 108.6	S2-S2-S2	3RT2037-1...0	3RT2035-1...0	3RA2437-8XF32-1...
55	115	77.6 ... 108.6	S3-S3-S2	3RT2045-1...0	3RT2035-1...0	3RA2444-8XF32-1...
75	150	120.7 ... 150		3RT2045-1...0	3RT2036-1...0	3RA2445-8XF32-1...
90	160	86 ... 160		3RT2046-1...0	3RT2037-1...0	3RA2446-8XF32-1...
 Spring-type terminals						
5.5	12	9.5 ... 13.8	S00-S00-S00	3RT2015-2...	3RT2015-2...	3RA2415-8XF31-2...
7.5	16	12.1 ... 17		3RT2017-2...	3RT2015-2...	3RA2416-8XF31-2...
11	25	19 ... 25		3RT2018-2...	3RT2016-2...	3RA2417-8XF31-2...
11	25	19 ... 25	S0-S0-S0	3RT2024-2...0	3RT2024-2...0	3RA2423-8XF32-2...
15	32	24.1 ... 34		3RT2026-2...0	3RT2024-2...0	3RA2425-8XF32-2...
18.5	40	34.5 ... 40		3RT2026-2...0	3RT2024-2...0	3RA2425-8XF32-2...
22	50	31 ... 43		3RT2027-2...0	3RT2026-2...0	3RA2426-8XF32-2...

Article No. scheme

Product versions	Article number
SIRIUS contactor assembly for star-delta (wye-delta) starting	3RA24 <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"/>
Contactor size	e.g. 4 = S3 <input type="checkbox"/>
Rating dependent on size	e.g. 5 = 75 kW for size S3 <input type="checkbox"/>
Type of overload relay	e.g. 8X = without <input type="checkbox"/>
Assembly	e.g. F = ready-assembled with function modules <input type="checkbox"/>
Interlock	e.g. 3 = mechanical and electrical <input type="checkbox"/>
Free auxiliary switches	e.g. 2 = S3: 3 NO + 3 NC total <input type="checkbox"/>
Type of electrical connection	e.g. 1 = screw terminals (main and auxiliary circuits) <input type="checkbox"/>
Operating range/solenoid coil circuit	e.g. A = AC standard/without coil circuit <input type="checkbox"/>
Rated control supply voltage	e.g. L2 = 230 V AC, 50/60 Hz <input type="checkbox"/>
Example	3RA24 4 5 - 8 X F 3 2 - 1 A L 2

Note:

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

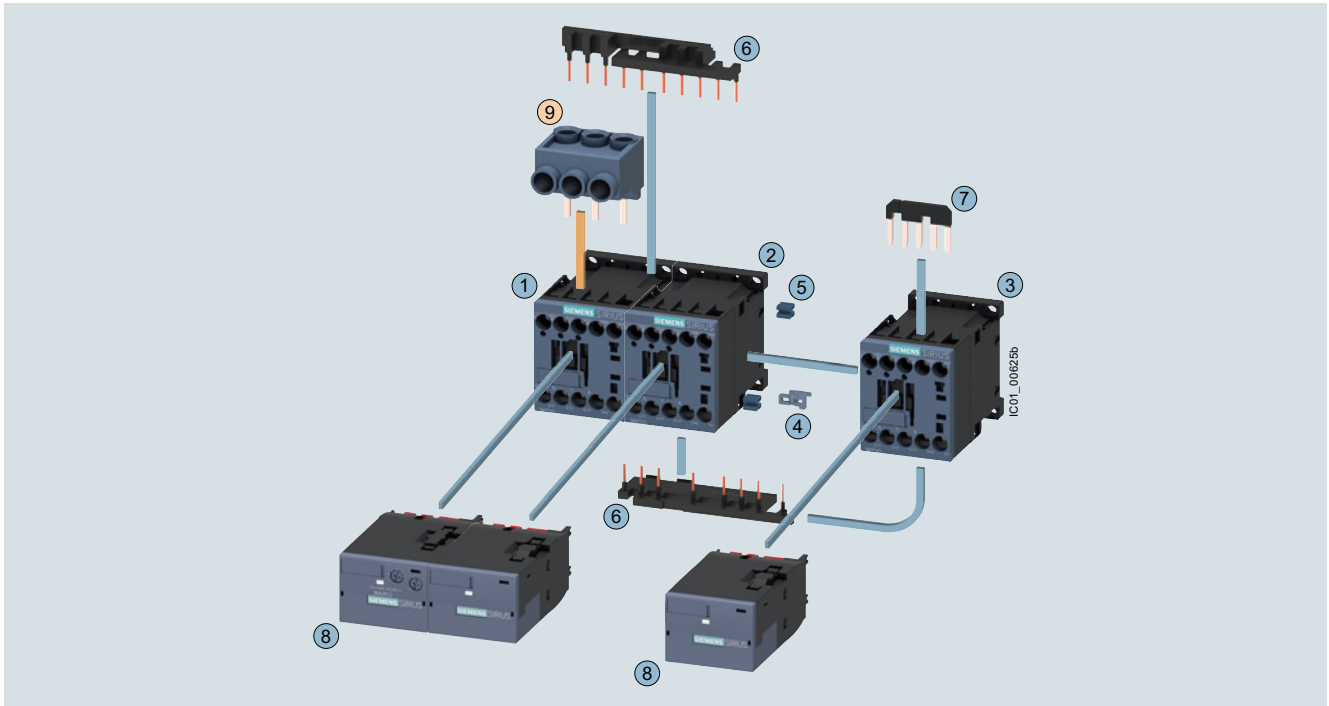
For your orders, please use the article numbers quoted in the selection and ordering data.

Contactor Assemblies for Star-Delta (Wye-Delta) Starting

SIRIUS 3RA24 contactor assemblies for star-delta (wye-delta) starting, up to 90 kW

Fully wired and tested contactor assemblies for star-delta (wye-delta) starting · Size S00-S00-S00 · Up to 11 kW

The figure shows the version with screw terminals



Mountable accessories (optional)

To be ordered separately	Type	Page
⑨ Three-phase infeed terminal ¹⁾	3RA2913-3K	3/116

Complete contactor assembly for star-delta (wye-delta) starting

Individual parts	Type			Page
	Q11 ²⁾	Q13	Q12	
①②③ Contactors, 5.5 kW	3RT2015	3RT2015	3RT2015	3/55, 3/62
①②③ Contactors, 7.5 kW	3RT2017	3RT2017	3RT2015	3/55, 3/62
①②③ Contactors, 11 kW	3RT2018	3RT2018	3RT2016	3/55, 3/62
④ ... ⑦ Assembly kit S00-S00-S00 comprising:	3RA2913-2BB1			3/111
④ Mechanical interlock				
⑤ Four connecting clips for three contactors				
⑥ Wiring modules on top and bottom for connecting the main and auxiliary circuits				
⑦ Star jumper				
⑧ Function modules for star-delta (wye-delta) starting	3RA2816-0EW20			3/106

¹⁾ Part ⑨ can only be mounted in the case of contactors with screw terminal.

²⁾ The version with 1 NO is required for momentary-contact operation.

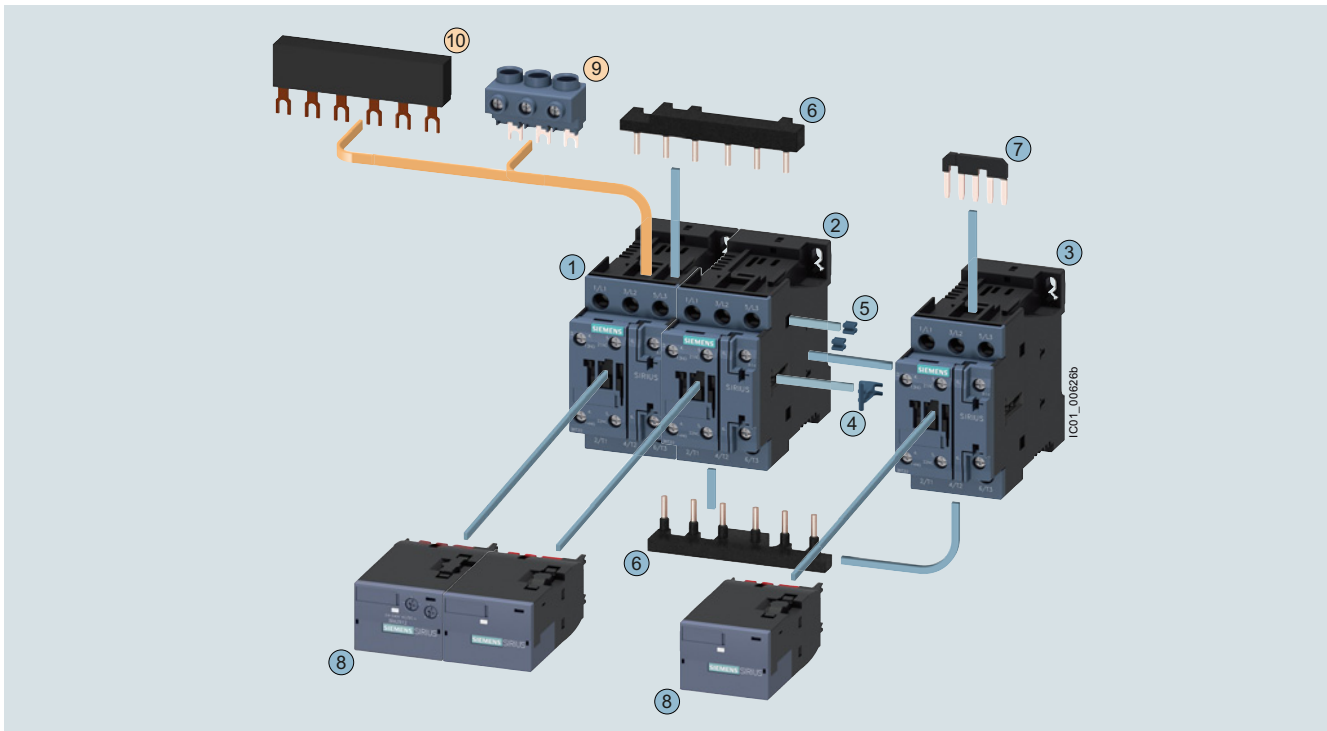
Complete contactor assemblies for star-delta (wye-delta) starting, see page 3/180.

Contactor Assemblies for Star-Delta (Wye-Delta) Starting

SIRIUS 3RA24 contactor assemblies for star-delta (wye-delta) starting, up to 90 kW

Fully wired and tested contactor assemblies for star-delta (wye-delta) starting · Size S0-S0-S0 · Up to 22 kW

The figure shows the version with screw terminals



Mountable accessories (optional)

To be ordered separately	Type	Page
⑨ Three-phase infed terminal ¹⁾	3RV2925-5AB	3/116
⑩ Three-phase busbar ¹⁾	3RV1915-1AB	3/116

Complete contactor assembly for star-delta (wye-delta) starting

Individual parts	Type	Q11	Q13	Q12	Page
①②③ Contactors, 11 kW	3RT2024	3RT2024	3RT2024		3/56, 3/66
①②③ Contactors, 15/18.5 kW	3RT2026	3RT2026	3RT2024		3/56, 3/66
①②③ Contactors, 22 kW	3RT2027	3RT2027	3RT2026		3/56, 3/66
④ ... ⑦ Assembly kit S0-S0-S0 comprising:	3RA2923-2BB1				3/111
④ Mechanical interlock					
⑤ Four connecting clips for three contactors					
⑥ Wiring modules on top and bottom for connecting the main and auxiliary circuits					
⑦ Star jumper					
⑧ Function modules for star-delta (wye-delta) starting	3RA2816-0EW20				3/106

¹⁾ The parts ⑨ and ⑩ can only be mounted with contactors with screw terminal, the ⑥ wiring modules must be removed beforehand.

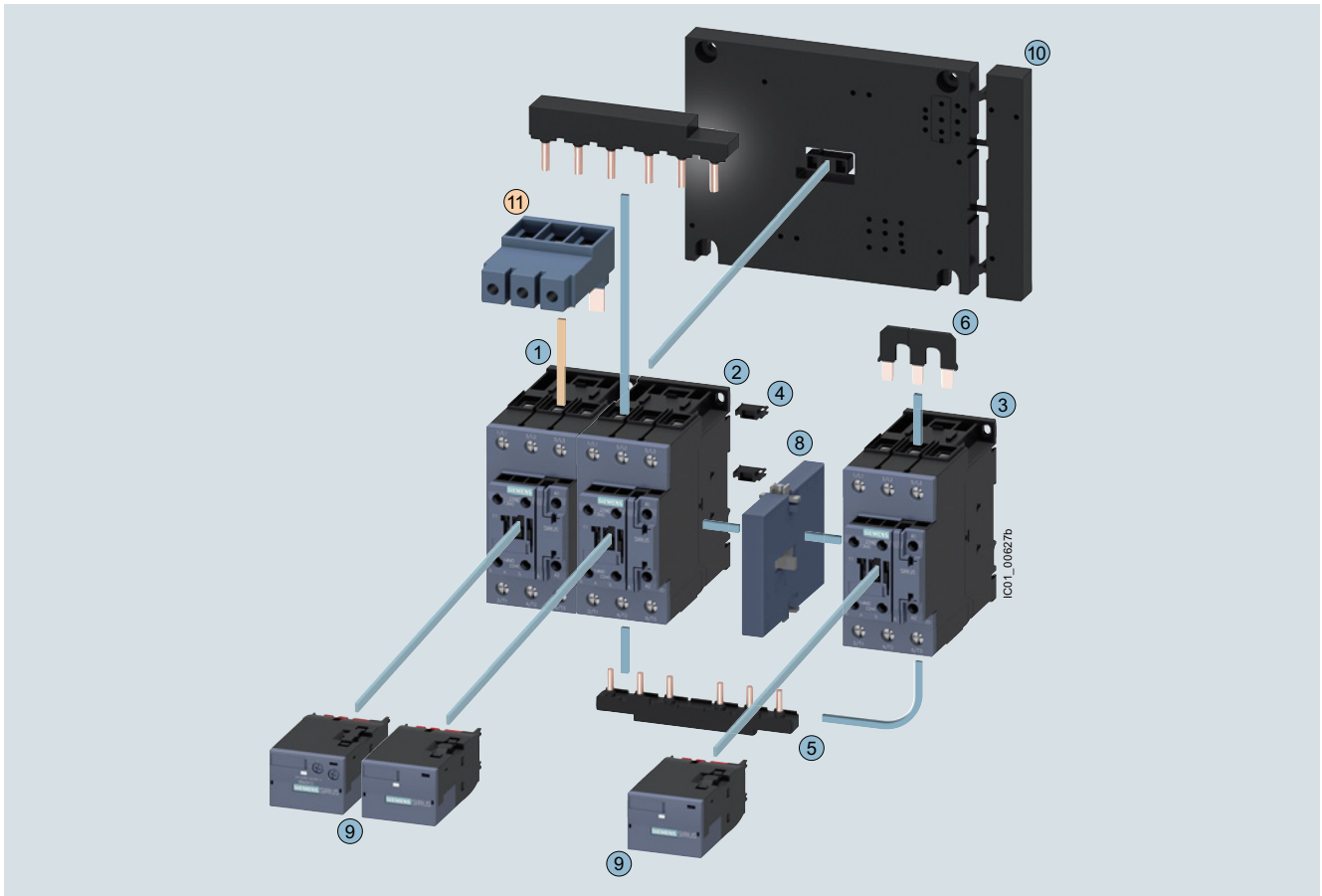
Complete contactor assemblies for star-delta (wye-delta) starting, see page 3/181.

Contactor Assemblies for Star-Delta (Wye-Delta) Starting

SIRIUS 3RA24 contactor assemblies for star-delta (wye-delta) starting, up to 90 kW

Fully wired and tested contactor assemblies for star-delta (wye-delta) starting · Size S2-S2-S0¹⁾ · Up to 45 kW and S2-S2-S2 · 55 kW

The figure shows the version with screw terminals in S2-S2-S2



Mountable accessories (optional)

To be ordered separately	Type	Page
⑪ Three-phase infeed terminal	3RV2935-5A	3/116

Complete contactor assembly for star-delta (wye-delta) starting

Individual parts	Type			Page
	Q11	Q13	Q12	
①②③ Contactors, 22/30 kW	3RT2035	3RT2035	3RT2026	3/58, 3/67
①②③ Contactors, 37 kW	3RT2035	3RT2035	3RT2027	3/58, 3/67
①②③ Contactors, 45 kW	3RT2036	3RT2036	3RT2028	3/58, 3/67
①②③ Contactors, 55 kW	3RT2037	3RT2037	3RT2035	3/58, 3/67
④ ... ⑦ Assembly kit S2-S2-S2 comprising:	3RA2933-2BB1			3/111
④ Four connectors for three contactors (not required for fully pre-wired contactor assemblies for star-delta (wye-delta) starting)				
⑤ Wiring modules on top and bottom for connecting the main and auxiliary circuits				
⑥ Star jumper S2				
⑦ Cable for connecting the A2 coil contact from the line contactor with the A2 coil contact of the delta contactor (not shown in the drawing)				
⑧ Mechanical interlock	3RA2934-2B			3/114
⑨ Function modules for star-delta (wye-delta) starting	3RA2816-0EW20			3/106
⑩ Base plate star-delta (wye-delta)	3RA2932-2F			3/119

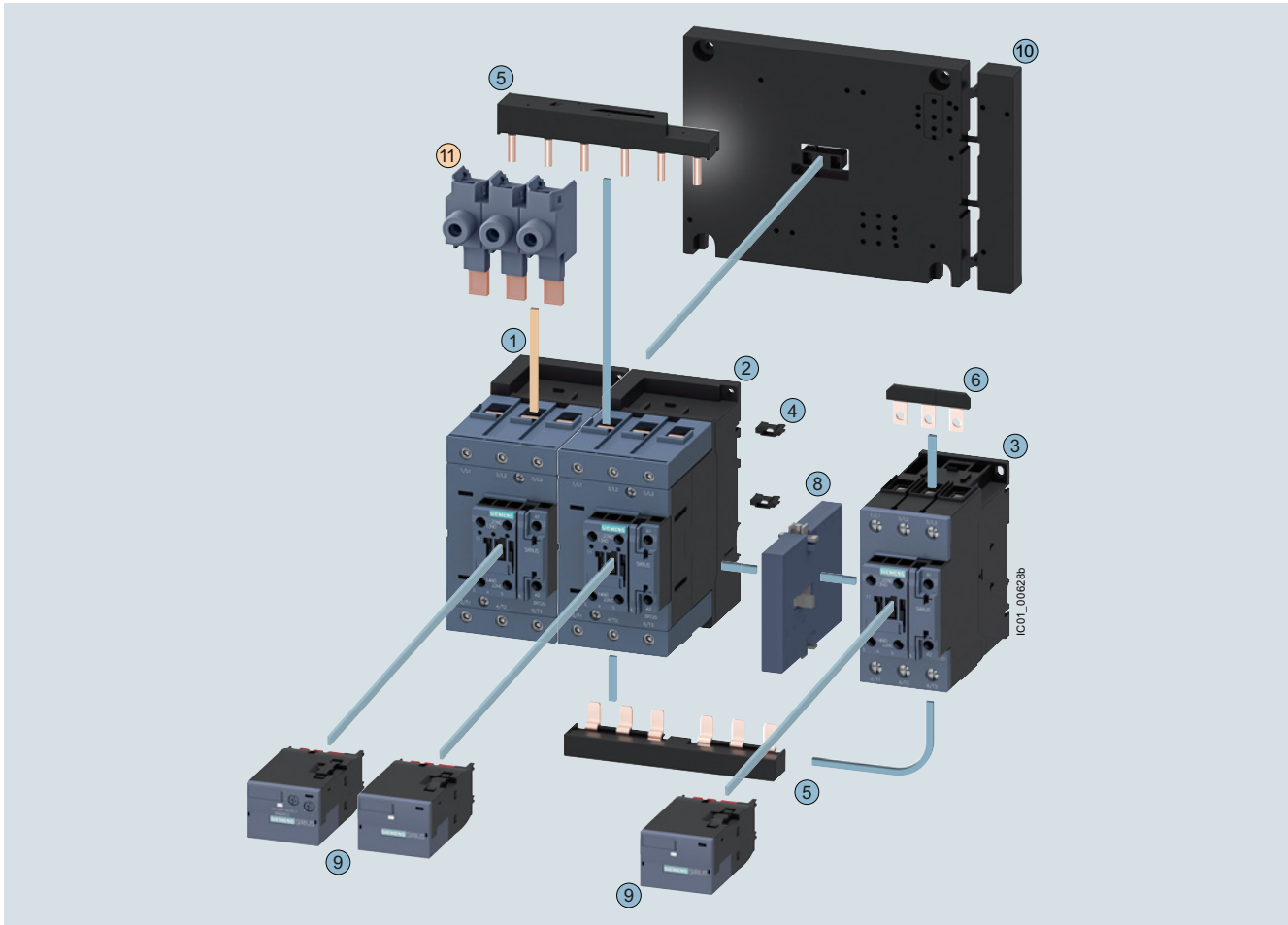
¹⁾ Complete contactor assembly for star-delta (wye-delta) starting in size S2-S2-S0 (not shown): The 3RA2933-2C assembly kit is to be used here, see page 3/111.

Complete contactor assemblies for star-delta (wye-delta) starting, see page 3/182.

Contactor Assemblies for Star-Delta (Wye-Delta) Starting

SIRIUS 3RA24 contactor assemblies for star-delta (wye-delta) starting, up to 90 kW

Fully wired and tested contactor assemblies for star-delta (wye-delta) starting · Size S3-S3-S2¹⁾ · Up to 90 kW



Mountable accessories (optional)

To be ordered separately	Type	Page
⑪ Single-phase infeed terminal (3 units are required)	3RA2943-3L	3/116

Complete contactor assembly for star-delta (wye-delta) starting

Individual parts	Type			Page
	Q11	Q13	Q12	
① ② ③ Contactors, 55 kW	3RT2045	3RT2045	3RT2035	3/59, 3/67
① ② ③ Contactors, 75 kW	3RT2045	3RT2045	3RT2036	3/59, 3/67
① ② ③ Contactors, 90 kW	3RT2046	3RT2046	3RT2037	3/59, 3/67
④ ... ⑦ Assembly kit S3-S3-S2 comprising:	3RA2943-2C			3/111
④ Two connectors for three contactors (not required for fully pre-wired contactor assemblies for star-delta (wye-delta) starting)				
⑤ Wiring modules on top and bottom (S3-S2) for connecting the main and auxiliary circuits and a cable set for the auxiliary circuit				
⑥ Star jumper S2				
⑦ Cable for connecting the A2 coil contact from the line contactor with the A2 coil contact of the delta contactor (not shown in the drawing)				
⑧ Mechanical interlock	3RA2934-2B			3/114
⑨ Function modules for star-delta (wye-delta) starting	3RA2816-0EW20			3/106
⑩ Base plate star-delta (wye-delta)	3RA2942-2F			3/119

¹⁾ Contactor assembly for star-delta (wye-delta) starting for customer assembly in size S3-S3-S3 (not shown): The 3RA2943-2BB assembly kit is to be used here, see page 3/111.

Complete contactor assemblies for star-delta (wye-delta) starting, see page 3/183.

Contactor Assemblies for Star-Delta (Wye-Delta) Starting

SIRIUS 3RA24 contactor assemblies for star-delta (wye-delta) starting, up to 90 kW

Technical specifications

More information

Technical specifications, see <https://support.industry.siemens.com/cs/ww/en/ps/16150/td>
FAQs, see <https://support.industry.siemens.com/cs/ww/en/ps/16150/faq>

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

Unless otherwise indicated, the technical specifications correspond to those of the 3RT individual contactors (see from page 3/23 onwards) and 3RU2 overload relays (see from page 7/88 onwards).

Type		3RA2415	3RA2416	3RA2417	3RA2423	3RA2425	3RA2426
Sizes		S00-S00-S00	S00-S00-S00	S00-S00-S00	S0-S0-S0	S0-S0-S0	S0-S0-S0
General data							
Dimensions (W x H x D) with function module							
• AC operation							
- Screw terminals		mm	135 x 68 x 145		135 x 101 x 171		
- Spring-type terminals		mm	135 x 84 x 145		135 x 114 x 171		
• DC operation							
- Screw terminals		mm	135 x 68 x 145		135 x 101 x 181		
- Spring-type terminals		mm	135 x 84 x 145		135 x 114 x 181		
Individual contactors							
• Q11 line contactor	Type	3RT2015	3RT2017	3RT2018	3RT2024	3RT2026	3RT2027
• Q13 delta contactor	Type	3RT2015	3RT2017	3RT2018	3RT2024	3RT2026	3RT2027
• Q12 star contactor	Type	3RT2015	3RT2015	3RT2016	3RT2024	3RT2024	3RT2026
Mechanical endurance		Operating cycles	3 million				
Unassigned auxiliary contacts of the individual contactors		For circuit diagrams of the control circuit, see Manual for Contactors/Contactor assemblies .					
Short-circuit protection							
Main circuit without overload relays							
• Fuse links, operational class gG: LV HRC, type 3NA; DIAZED, type 5SB; NEOZED, type 5SE with single or double infeed							
Greatest rated current of the fuse according to IEC 60947-4-1							
- Type of coordination "1"	A	35		63		100	125
- Type of coordination "2"	A	20		25		35	63
Auxiliary circuit							
Short-circuit test							
• With fuse links, operational class gG: DIAZED, type 5SB; NEOZED, type 5SE with short-circuit current $I_k = 1$ kA acc. to IEC 60947-5-1	A A	10 6 (up to $I_k < 0.5$ kA; ≤ 260 V), if the auxiliary contact of the overload relay is connected in the contactor coil circuit.					
• With miniature circuit breaker, C characteristic with short-circuit current $I_k = 400$ A	A A	10 6 (up to $I_k < 0.5$ kA; ≤ 260 V), if the auxiliary contact of the overload relay is connected in the contactor coil circuit					
Short-circuit protection with overload relay		See Configuration Manual for load feeders					

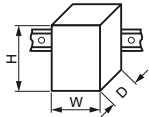
Contactors Assemblies for Star-Delta (Wye-Delta) Starting

SIRIUS 3RA24 contactor assemblies for star-delta (wye-delta) starting, up to 90 kW

Type		3RA2415	3RA2416	3RA2417	3RA2423	3RA2425	3RA2426
Sizes		S00-S00-S00	S00-S00-S00	S00-S00-S00	S0-S0-S0	S0-S0-S0	S0-S0-S0
Rated data of the main contacts							
Current-carrying capacity with reversing time up to 10 s							
• Rated operational current I_e	At 400 V	A	12	17	25	40	55
	690 V	A	6.9	9	20.8	22.5	35
• Rated power for three-phase motors with 50 Hz and 60 Hz	At 230 V	kW	3.3	4.7	7.2	12	16.6
	400 V	kW	5.8	8.2	12.5	21	30.1
	690 V	kW	5.8	7.5	18	20.4	33
• Switching frequency with overload relay		1/h	15				
Current-carrying capacity with reversing time up to 15 s							
• Rated operational current I_e	At 400 V	A	12	17	25	31	44
	690 V	A	6.9	9	20.8	22.5	35
• Rated power for three-phase motors with 50 Hz and 60 Hz	At 230 V	kW	3.3	4.7	7.2	9.4	13.8
	400 V	kW	5.8	8.2	12.5	16.3	24
	690 V	kW	5.8	7.5	18	20.4	33
• Switching frequency with overload relay		1/h	15				
Current-carrying capacity with reversing time up to 20 s							
• Rated operational current I_e	At 400 V	A	12	17	25	28	39
	690 V	A	6.9	9	20.8	22.5	35
• Rated power for three-phase motors with 50 Hz and 60 Hz	At 230 V	kW	3.3	4.7	7.2	8.5	12.2
	400 V	kW	5.8	8.2	12.5	14.7	21.3
	690 V	kW	5.8	7.5	18	20.4	33
• Switching frequency with overload relay		1/h	15				

Contactor Assemblies for Star-Delta (Wye-Delta) Starting

SIRIUS 3RA24 contactor assemblies for star-delta (wye-delta) starting, up to 90 kW

Type		3RA2434	3RA2435	3RA2436	3RA2437	3RA2444	3RA2445	3RA2446	
Sizes		S2-S2-S0	S2-S2-S0	S2-S2-S0	S2-S2-S2	S3-S3-S2	S3-S3-S2	S3-S3-S2	
General data									
Dimensions (W x H x D) with function module									
<ul style="list-style-type: none"> AC and DC operation Screw terminals 									
mm		177.5 x 142 x 223			220 x 180 x 244				
Individual contactors									
• Q11 line contactor		Type	3RT2035	3RT2035	3RT2036	3RT2037	3RT2045	3RT2045	3RT2046
• Q13 delta contactor		Type	3RT2035	3RT2035	3RT2036	3RT2037	3RT2045	3RT2045	3RT2046
• Q12 star contactor		Type	3RT2026	3RT2027	3RT2028	3RT2035	3RT2035	3RT2036	3RT2037
Mechanical endurance		Operating cycles	1 million						
Unassigned auxiliary contacts of the individual contactors		For circuit diagrams of the control circuit, see Manual .							
Short-circuit protection									
Main circuit without overload relays									
<ul style="list-style-type: none"> Fuse links, operational class gG: LV HRC, type 3NA; DIAZED, type 5SB; NEOZED, type 5SE with single or double infeed 									
Greatest rated current of the fuse according to IEC 60947-4-1									
- Type of coordination "1"		A	160			250			
- Type of coordination "2"		A	80			125		160	
Auxiliary circuit									
Short-circuit test									
• With fuse links, 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						
		A	6 (up to $I_k < 0.5$ kA; ≤ 260 V), if the auxiliary contact of the overload relay is connected in the contactor coil circuit.						
• With miniature circuit breaker, C characteristic with short-circuit current $I_k = 400$ A		A	10						
		A	6 (up to $I_k < 0.5$ kA; ≤ 260 V), if the auxiliary contact of the overload relay is connected in the contactor coil circuit						
Short-circuit protection with overload relay		See Configuration Manual for load feeders					On request		
Rated data of the main contacts									
Current-carrying capacity with reversing time up to 10 s									
• Rated operational current I_e		At 400 V	A	On request					
		690 V	A	On request					
• Rated power for three-phase motors with 50 Hz and 60 Hz		At 230 V	kW	On request					
		400 V	kW	On request					
		690 V	kW	On request					
• Switching frequency with overload relay		1/h	15						
Current-carrying capacity with reversing time up to 15 s									
• Rated operational current I_e		At 400 V	A	On request					
		690 V	A	On request					
• Rated power for three-phase motors with 50 Hz and 60 Hz		At 230 V	kW	On request					
		400 V	kW	On request					
		690 V	kW	On request					
• Switching frequency with overload relay		1/h	15						
Current-carrying capacity with reversing time up to 20 s									
• Rated operational current I_e		At 400 V	A	On request					
		690 V	A	On request					
• Rated power for three-phase motors with 50 Hz and 60 Hz		At 230 V	kW	On request					
		400 V	kW	On request					
		690 V	kW	On request					
• Switching frequency with overload relay		1/h	15						

Contactors Assemblies for Star-Delta (Wye-Delta) Starting

SIRIUS 3RA24 contactor assemblies for star-delta (wye-delta) starting, up to 90 kW

IE3/IE4 ready

Selection and ordering data

Fully wired and tested contactor assemblies for star-delta (wye-delta) starting · Size S00-S00-S00 · Up to 11 kW
AC operation  or DC operation 



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



3RA241.-8XF31-1A.0

3RA241.-8XF31-2A.0

3RA241.-8XE31-2BB4

Rated data AC-3				Rated control supply voltage U_s	SD	Screw terminals 		Spring-type terminals 	
Operational current I_e up to 400 V	Rating of three-phase motors at 50 Hz and					Article No.	Price per PU	Article No.	Price per PU
A	230 V	400 V	690 V	V	d		d		
AC operation, 50/60 Hz									
12	3.3	5.5	9.2	24 AC	2	3RA2415-8XF31-1AB0	2	3RA2415-8XF31-2AB0	
				110 AC	2	3RA2415-8XF31-1AF0	5	3RA2415-8XF31-2AF0	
				230 AC	2	3RA2415-8XF31-1AP0	2	3RA2415-8XF31-2AP0	
16	4.7	7.5	9.2	24 AC	2	3RA2416-8XF31-1AB0	5	3RA2416-8XF31-2AB0	
				110 AC	2	3RA2416-8XF31-1AF0	5	3RA2416-8XF31-2AF0	
				230 AC	2	3RA2416-8XF31-1AP0	2	3RA2416-8XF31-2AP0	
25	5.5	11	11	24 AC	2	3RA2417-8XF31-1AB0	5	3RA2417-8XF31-2AB0	
				110 AC	2	3RA2417-8XF31-1AF0	5	3RA2417-8XF31-2AF0	
				230 AC	2	3RA2417-8XF31-1AP0	2	3RA2417-8XF31-2AP0	
DC operation									
12	3.3	5.5	9.2	24 DC	2	3RA2415-8XF31-1BB4	2	3RA2415-8XF31-2BB4	
16	4.7	7.5	9.2	24 DC	2	3RA2416-8XF31-1BB4	2	3RA2416-8XF31-2BB4	
25	5.5	11	11	24 DC	2	3RA2417-8XF31-1BB4	2	3RA2417-8XF31-2BB4	
For IO-Link connection									
12	3.3	5.5	9.2	24 DC	2	3RA2415-8XE31-1BB4	2	3RA2415-8XE31-2BB4	
16	4.7	7.5	9.2	24 DC	2	3RA2416-8XE31-1BB4	2	3RA2416-8XE31-2BB4	
25	5.5	11	11	24 DC	2	3RA2417-8XE31-1BB4	2	3RA2417-8XE31-2BB4	
For AS-Interface connection									
12	3.3	5.5	9.2	24 DC	5	3RA2415-8XH31-1BB4	2	3RA2415-8XH31-2BB4	
16	4.7	7.5	9.2	24 DC	2	3RA2416-8XH31-1BB4	5	3RA2416-8XH31-2BB4	
25	5.5	11	11	24 DC	2	3RA2417-8XH31-1BB4	2	3RA2417-8XH31-2BB4	

Representation of the complete contactor assemblies for star-delta (wye-delta) starting with optionally mountable accessories, see page 3/173.

Contactors Assemblies for Star-Delta (Wye-Delta) Starting

IE3/IE4 ready SIRIUS 3RA24 contactor assemblies for star-delta (wye-delta) starting, up to 90 kW

Fully wired and tested contactor assemblies for star-delta (wye-delta) starting · Size S0-S0-S0 · Up to 22 kW
AC operation  **or DC operation** 



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



3RA242.-8XF32-1A.2

3RA242.-8XE32-1BB4

3RA242.-8XF32-2A.2

Rated data AC-3				Rated control supply voltage U_s	SD	Screw terminals 		Spring-type terminals 		
Operational current I_e up to 400 V	Rating of three-phase motors at 50 Hz and					Article No.	Price per PU	Article No.	Price per PU	
	A	230 V	400 V	690 V	kW					kW
AC operation, 50/60 Hz										
25	7.1	11	19	24 AC	2	3RA2423-8XF32-1AC2	2	3RA2423-8XF32-2AC2		
				110 AC	2	3RA2423-8XF32-1AG2	5	3RA2423-8XF32-2AG2		
				230 AC	5	3RA2423-8XF32-1AL2	5	3RA2423-8XF32-2AL2		
32/40	11.4	15/18.5	19	24 AC	2	3RA2425-8XF32-1AC2	2	3RA2425-8XF32-2AC2		
				110 AC	2	3RA2425-8XF32-1AG2	5	3RA2425-8XF32-2AG2		
				230 AC	5	3RA2425-8XF32-1AL2	5	3RA2425-8XF32-2AL2		
50	--	22	19	24 AC	2	3RA2426-8XF32-1AC2	5	3RA2426-8XF32-2AC2		
				110 AC	2	3RA2426-8XF32-1AG2	5	3RA2426-8XF32-2AG2		
				230 AC	5	3RA2426-8XF32-1AL2	5	3RA2426-8XF32-2AL2		
DC operation										
25	7.1	11	19	24 DC	2	3RA2423-8XF32-1BB4	2	3RA2423-8XF32-2BB4		
32/40	11.4	15/18.5	19	24 DC	2	3RA2425-8XF32-1BB4	2	3RA2425-8XF32-2BB4		
50	--	22	19	24 DC	2	3RA2426-8XF32-1BB4	2	3RA2426-8XF32-2BB4		
For IO-Link connection										
25	7.1	11	19	24 DC	2	3RA2423-8XE32-1BB4	5	3RA2423-8XE32-2BB4		
32/40	11.4	15/18.5	19	24 DC	2	3RA2425-8XE32-1BB4	5	3RA2425-8XE32-2BB4		
50	--	22	19	24 DC	2	3RA2426-8XE32-1BB4	5	3RA2426-8XE32-2BB4		
For AS-Interface connection										
25	7.1	11	19	24 DC	5	3RA2423-8XH32-1BB4	2	3RA2423-8XH32-2BB4		
32/40	11.4	15/18.5	19	24 DC	5	3RA2425-8XH32-1BB4	5	3RA2425-8XH32-2BB4		
50	--	22	19	24 DC	2	3RA2426-8XH32-1BB4	5	3RA2426-8XH32-2BB4		

Representation of the complete contactor assemblies for star-delta (wye-delta) starting with optionally mountable accessories, see page 3/174.

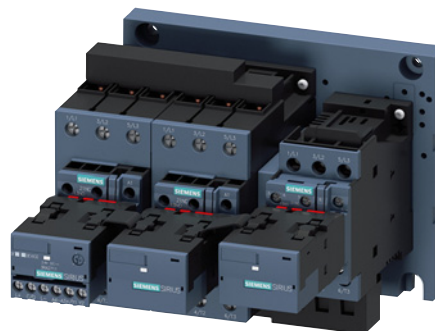
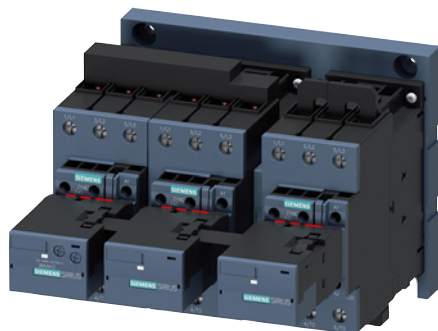
Contactor Assemblies for Star-Delta (Wye-Delta) Starting

SIRIUS 3RA24 contactor assemblies for star-delta (wye-delta) starting, up to 90 kW

IE3/IE4 ready



Fully wired and tested contactor assemblies for star-delta (wye-delta) starting · Size S2-S2-S0 · Up to 45 kW and S2-S2-S2 · 55 kW
AC operation , **AC/DC operation**  or **DC operation** 

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



3RA2437-8XF32-1A.2

3RA2434-8XE32-1NB3

Rated data AC-3					SD	Screw terminals 		SD	Spring-type terminals 	
Operational current I_e up to 400 V	Rating of three-phase motors at 50 Hz and			Rated control supply voltage U_s		Article No.	Price per PU		Article No.	Price per PU
A	230 V	400 V	690 V	V	d	d	d	d	d	
AC operation, 50/60 Hz										
50/65	19.6	22/30	34	24 AC	5	3RA2434-8XF32-1AC2	--	--	--	--
				110 AC	5	3RA2434-8XF32-1AG2	--	--	--	--
				230 AC	2	3RA2434-8XF32-1AL2	--	--	--	--
80	25	37	63	24 AC	2	3RA2435-8XF32-1AC2	--	--	--	--
				110 AC	2	3RA2435-8XF32-1AG2	--	--	--	--
				230 AC	2	3RA2435-8XF32-1AL2	--	--	--	--
86	27	45	63	24 AC	2	3RA2436-8XF32-1AC2	--	--	--	--
				110 AC	2	3RA2436-8XF32-1AG2	--	--	--	--
				230 AC	2	3RA2436-8XF32-1AL2	--	--	--	--
115	37	55	93	24 AC	5	3RA2437-8XF32-1AC2	--	--	--	--
				110 AC	5	3RA2437-8XF32-1AG2	--	--	--	--
				230 AC	2	3RA2437-8XF32-1AL2	--	--	--	--
AC/DC operation										
50/65	19.6	22/30	34	24 ... 33 AC/DC	2	3RA2434-8XF32-1NB3	--	--	--	--
80	25	37	63	24 ... 33 AC/DC	2	3RA2435-8XF32-1NB3	--	--	--	--
86	27	45	63	24 ... 33 AC/DC	2	3RA2436-8XF32-1NB3	--	--	--	--
115	37	55	93	24 ... 33 AC/DC	5	3RA2437-8XF32-1NB3	--	--	--	--
DC operation										
For IO-Link connection										
50/65	19.6	22/30	34	24 DC	5	3RA2434-8XE32-1NB3	--	--	--	--
80	25	37	63	24 DC	5	3RA2435-8XE32-1NB3	--	--	--	--
86	27	45	63	24 DC	5	3RA2436-8XE32-1NB3	--	--	--	--
115	37	55	93	24 DC	5	3RA2437-8XE32-1NB3	--	--	--	--
For AS-Interface connection										
50/65	19.6	22/30	34	24 DC	5	3RA2434-8XH32-1NB3	--	--	--	--
80	25	37	63	24 DC	5	3RA2435-8XH32-1NB3	--	--	--	--
86	27	45	63	24 DC	5	3RA2436-8XH32-1NB3	--	--	--	--
115	37	55	93	24 DC	5	3RA2437-8XH32-1NB3	--	--	--	--

Representation of the complete contactor assemblies for star-delta (wye-delta) starting in size S2-S2-S2 with optionally mountable accessories, [see page 3/175](#).

Contactor Assemblies for Star-Delta (Wye-Delta) Starting

IE3/IE4 ready SIRIUS 3RA24 contactor assemblies for star-delta (wye-delta) starting, up to 90 kW

Fully wired and tested contactor assemblies for star-delta (wye-delta) starting · Size S3-S3-S2 · Up to 90 kW
AC operation , **AC/DC operation**  or **DC operation** 



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



3RA244.-8XF32-1A.2

3RA244.-8XE32-1NB3

3RA244.-8XH32-1NB3

Rated data AC-3				Rated control supply voltage U_s		SD	Screw terminals 	SD	Spring-type terminals 
Operational current I_e up to 400 V	Rating of three-phase motors at 50 Hz and			V	d	Article No.	Price per PU	Article No.	Price per PU
	230 V	400 V	690 V						
A	kW	kW	kW	V	d				
AC operation, 50/60 Hz									
115	30	55	90	24 AC	X	3RA2444-8XF32-1AC2		--	
				110 AC	X	3RA2444-8XF32-1AG2		--	
				230 AC	X	3RA2444-8XF32-1AL2		--	
150	37	75	110	24 AC	X	3RA2445-8XF32-1AC2		--	
				110 AC	X	3RA2445-8XF32-1AG2		--	
				230 AC	X	3RA2445-8XF32-1AL2		--	
160	45	90	132	24 AC	X	3RA2446-8XF32-1AC2		--	
				110 AC	X	3RA2446-8XF32-1AG2		--	
				230 AC	X	3RA2446-8XF32-1AL2		--	
AC/DC operation									
115	30	55	90	24 ... 33 AC/DC	X	3RA2444-8XF32-1NB3		--	
150	37	75	110	24 ... 33 AC/DC	X	3RA2445-8XF32-1NB3		--	
160	45	90	132	24 ... 33 AC/DC	X	3RA2446-8XF32-1NB3		--	
DC operation									
For IO-Link connection									
115	30	55	90	24 DC	X	3RA2444-8XE32-1NB3		--	
150	37	75	110	24 DC	X	3RA2445-8XE32-1NB3		--	
160	45	90	132	24 DC	X	3RA2446-8XE32-1NB3		--	
For AS-Interface connection									
115	30	55	90	24 DC	X	3RA2444-8XH32-1NB3		--	
150	37	75	110	24 DC	X	3RA2445-8XH32-1NB3		--	
160	45	90	132	24 DC	X	3RA2446-8XH32-1NB3		--	

Representation of the complete contactor assemblies for star-delta (wye-delta) starting with optionally mountable accessories, see page 3/176.

Contactors Assemblies for Star-Delta (Wye-Delta) Starting

Contactors assemblies for star-delta (wye-delta) starting consisting of SIRIUS 3RT contactors, up to 500 kW

Overview

The individual parts for the contactor assemblies for star-delta (wye-delta) starting for customer assembly must be ordered separately.

- 3RT contactors: The operating times of the individual 3RT10 contactors are rated in such a way that no overlapping of the contact making and the arcing time between two contactors can occur on reversing, provided they are interlocked by way of their auxiliary switches (NC contact interlock) and the mechanical interlock.
For assemblies with AC operation and 50/60 Hz, a dead interval of 50 ms must be provided when used with voltages over 500 V; a dead interval of 30 ms is recommended for use with voltages up to and including 400 V. These dead times do not apply to assemblies with DC operation.
The operating times of the individual contactors are not affected by the mechanical interlock.
- Mechanical interlock
- Wiring kits: consisting of wiring modules or link rails and star jumpers
- Adapter for the mechanical interlock between S6 and S3
- Base plate

Additional components

- For momentary-contact operation: auxiliary switch (NO contact) for self-locking
- 3RB2 overload relays ([from page 7/117 onwards](#)), SIMOCODE pro 3UF7 motor management and control devices ([from page 10/16 onwards](#)) or 3RN thermistor motor protection relays ([page 10/161](#)) can be used for overload protection.
The overload relay can either be mounted onto the line contactor or separately fitted. It must be set to 0.58 times the rated motor current.
- Optional surge suppression for the S3 contactors; the contactors in sizes S6 to S12 are wired as standard with varistors.

The contactor assemblies for star-delta (wye-delta) starting for customer assembly are designed for standard applications.

Note:

Contactors assemblies for star-delta (wye-delta) starting in special applications such as very heavy starting¹⁾ or star-delta (wye-delta) starting of special motors must be customized. Help with designing such special applications is available from our Technical Support:

<https://support.industry.siemens.com/My/ww/en/requests>

¹⁾ For effective support from Technical Support you must provide the following details:

- Rated motor voltage
- Rated motor current
- Service factor, operating values
- Motor starting current factor
- Starting time
- Ambient temperature.

More information

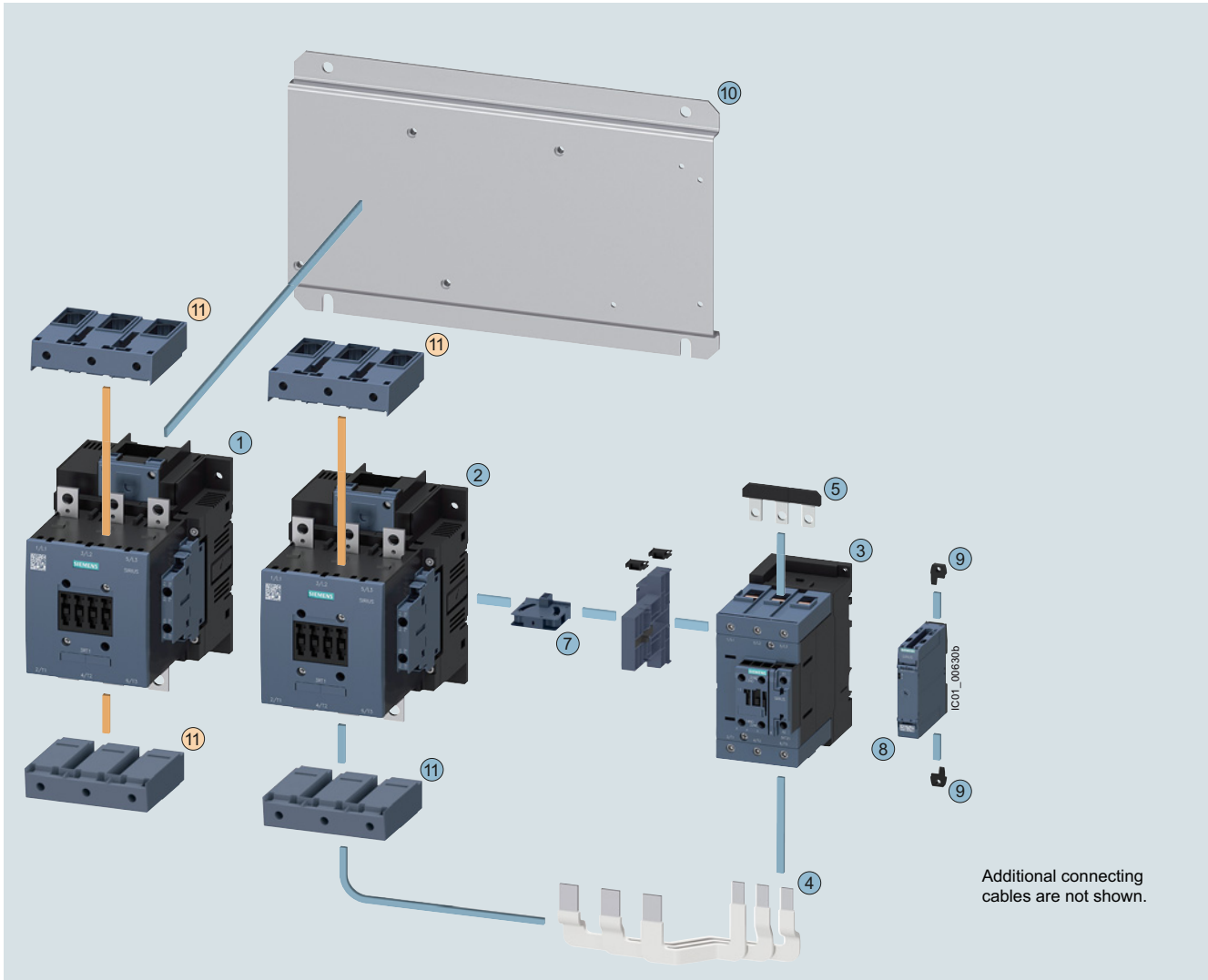
Homepage, see www.siemens.com/sirius

Industry Mall, see www.siemens.com/product?3RA24_3RT

Contactor Assemblies for Star-Delta (Wye-Delta) Starting

Contactor assemblies for star-delta (wye-delta) starting consisting of SIRIUS 3RT contactors, up to 500 kW

Contactor assemblies for star-delta (wye-delta) starting for customer assembly · Size S6-S6-S3 · Up to 160 kW



Mountable accessories (optional)

To be ordered separately	Type	Page
⑪ Box terminal blocks	3RT1955-4G	3/116

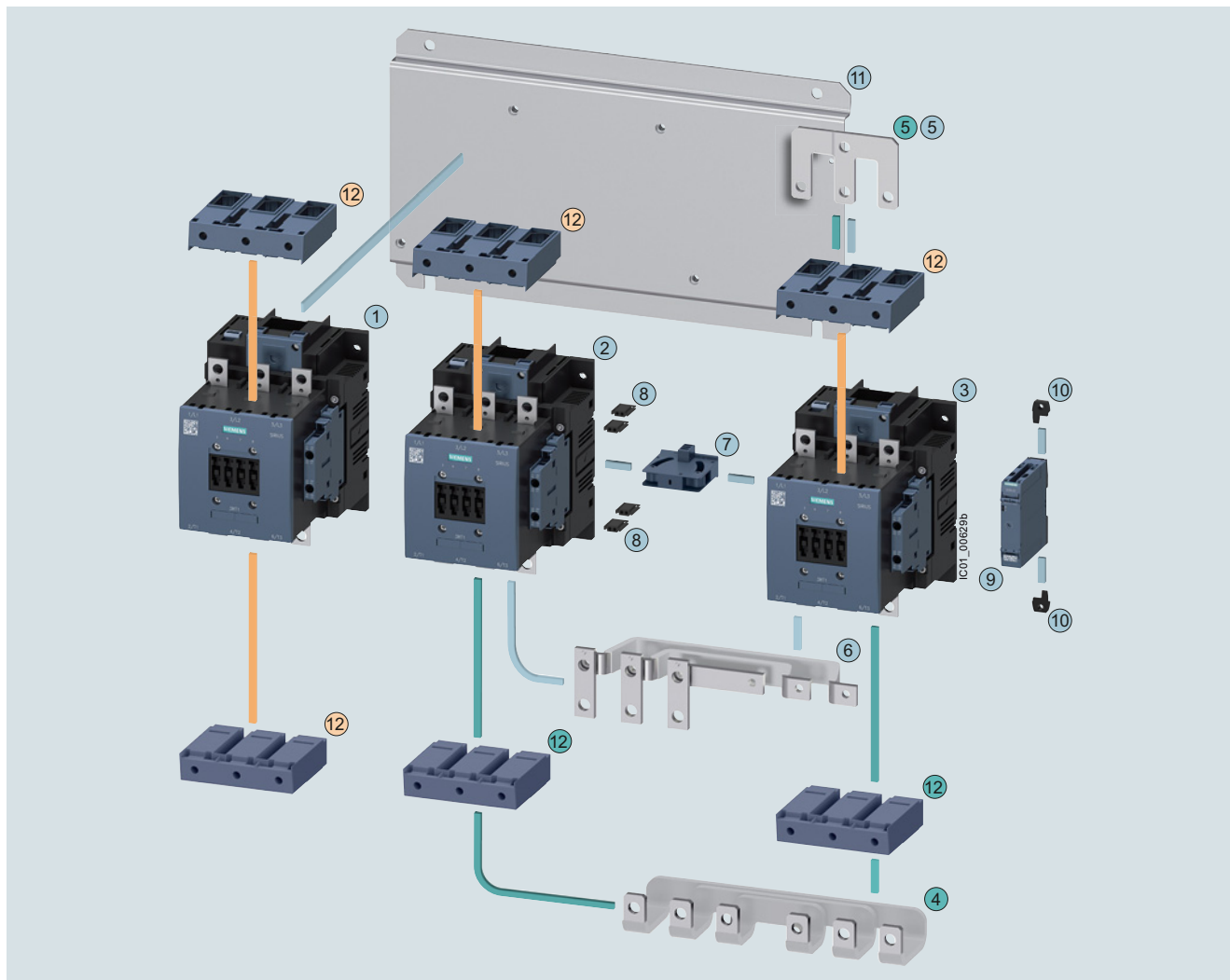
Contactor assemblies for star-delta (wye-delta) starting for customer assembly

Individual parts	Type			Page
	Q11	Q13	Q12	
①②③ Contactors, 110 kW	3RT1.54	3RT1.54	3RT2045	3/59, 3/67, 3/70 ... 3/73
①②③ Contactors, 132 kW	3RT1.55	3RT1.55	3RT2046	3/59, 3/67, 3/70 ... 3/73
①②③ Contactors, 160 kW	3RT1.56	3RT1.56	3RT2047	3/59, 3/67, 3/70 ... 3/73
④ Assembly kit S6-S6-S3 for contactors with box terminals consisting of: Wiring modules, bottom	3RA1953-3G			3/112
⑤ Star jumper S3	3RT1946-4BA31			3/113
⑥ Adapter for the mechanical interlock between S6 and S3 (including two connectors)	3RA1954-2G			3/114
⑦ Mechanical interlock between S6 and S3	3RA1954-2A			3/114
⑧ Timing relay with star-delta (wye-delta) function	3RP257.			10/49
⑨ Push-in lugs for star-delta (wye-delta) timing relays	3ZY1311-0AA00			10/50
⑩ Base plate star-delta (wye-delta)	3RA1952-2E			3/119
⑪ Box terminal block	3RT1955-4G			3/116

Contactor Assemblies for Star-Delta (Wye-Delta) Starting

Contactor assemblies for star-delta (wye-delta) starting consisting of SIRIUS 3RT contactors, up to 500 kW

Contactor assemblies for star-delta (wye-delta) starting for customer assembly · Size S6-S6-S6 · Up to 160 kW



Mountable accessories (optional)

To be ordered separately	Type	Page
12	Box terminal blocks	3/116

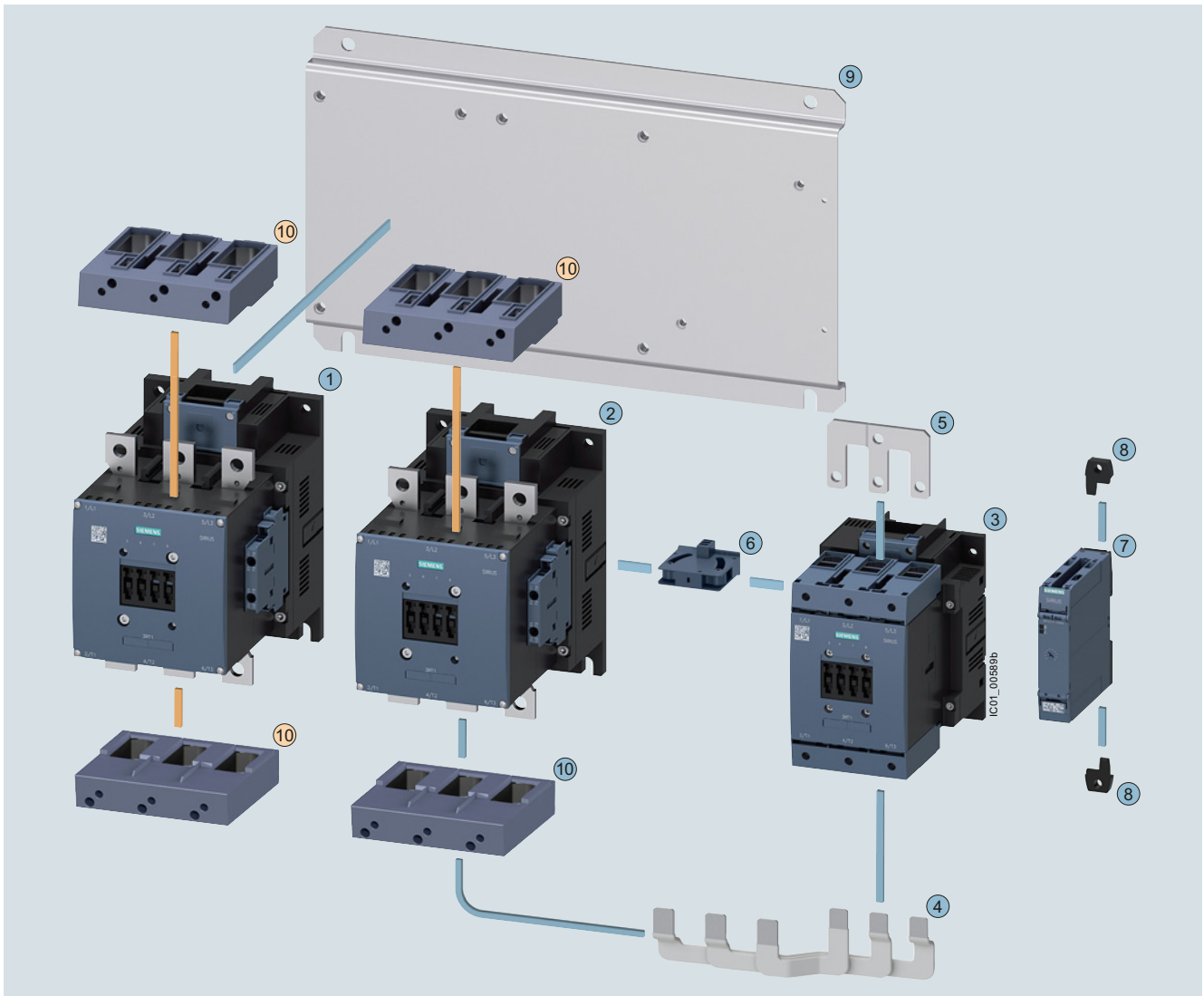
Contactor assemblies for star-delta (wye-delta) starting for customer assembly

Individual parts	Type			Page
	Q11	Q13	Q12	
1 2 3	3RT1.54	3RT1.54	3RT1.54	3/71 ... 3/73
1 2 3	3RT1.55	3RT1.55	3RT1.55	3/71 ... 3/73
1 2 3	3RT1.56	3RT1.56	3RT1.56	3/71 ... 3/73
4 5	3RA1953-2B			3/112
Assembly kit S6-S6-S6 for contactors with box terminals consisting of:				
4				
5				
5 6	3RA1953-2N			3/112
Assembly kit S6-S6-S6 for contactors without box terminals consisting of:				
6				
5				
7	3RA1954-2A			3/114
8	3RA1932-2D			3/114
9	3RP257			10/49
10	3ZY1311-0AA00			10/50
11	3RA1952-2F			3/119
12	3RT1955-4G			3/116

Contactor Assemblies for Star-Delta (Wye-Delta) Starting

Contactor assemblies for star-delta (wye-delta) starting consisting of SIRIUS 3RT contactors, up to 500 kW

Contactor assemblies for star-delta (wye-delta) starting for customer assembly · Size S10-S10-S6 · Up to 250 kW



Mountable accessories (optional)

To be ordered separately	Type	Page
⑩ Box terminal blocks	3RT1966-4G	3/116

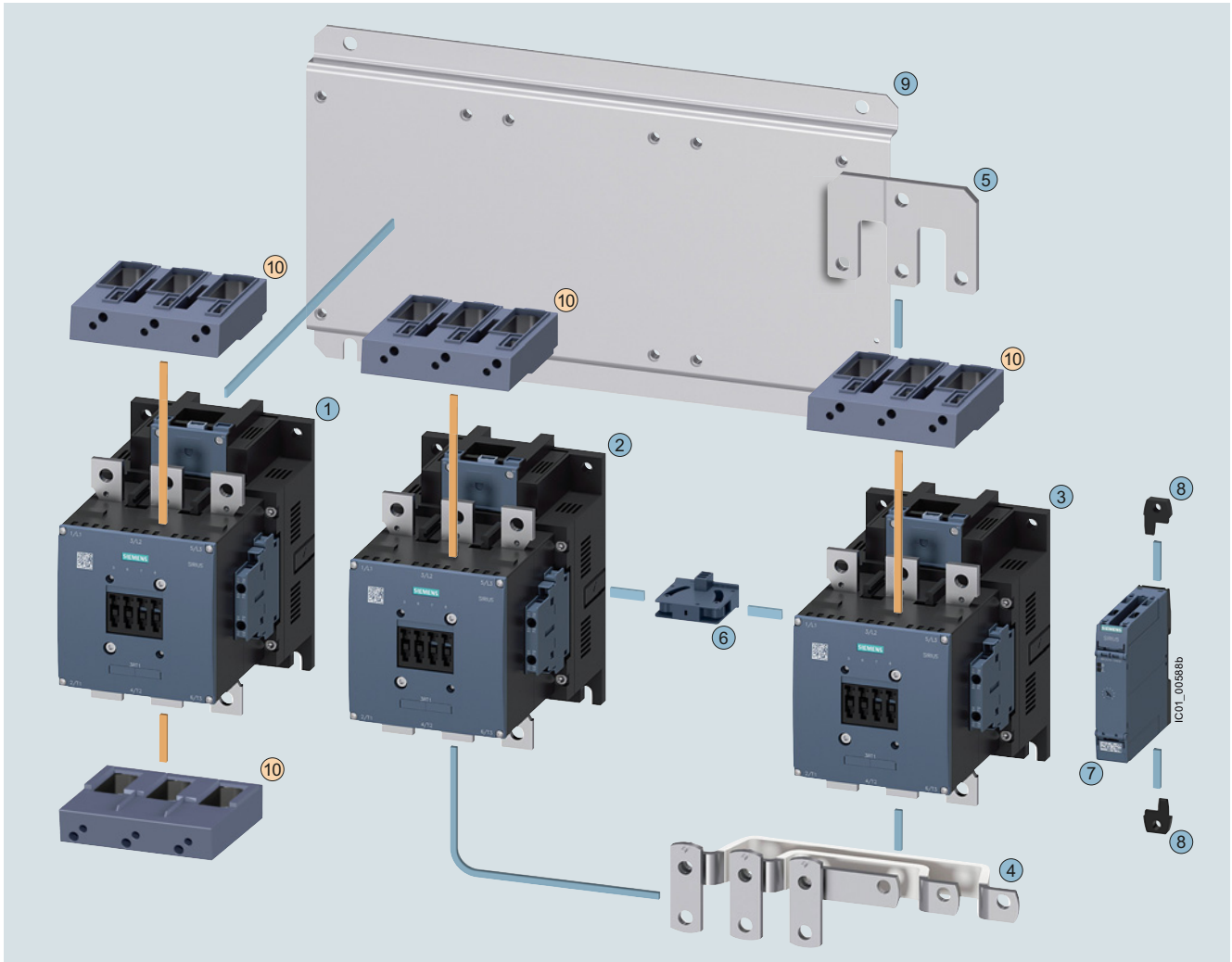
Contactor assemblies for star-delta (wye-delta) starting for customer assembly

Individual parts	Type			Page
	Q11	Q13	Q12	
①②③ Contactors, 200 kW	3RT1.64	3RT1.64	3RT1.54	3/71 ... 3/73, 3/135
①②③ Contactors, 250 kW	3RT1.65	3RT1.65	3RT1.55	3/71 ... 3/73, 3/135
④ Assembly kit S10-S10-S6 for contactors with box terminals consisting of: Wiring modules, bottom	3RA1963-3E			3/112
⑤ Star jumper S6	3RT1956-4BA31			3/113
⑥ Mechanical interlock between S10 and S6	3RA1954-2A			3/114
⑦ Timing relay with star-delta (wye-delta) function	3RP257.			10/49
⑧ Push-in lugs for star-delta (wye-delta) timing relays	3ZY1311-0AA00			10/50
⑨ Base plate star-delta (wye-delta)	3RA1962-2E			3/119
⑩ Box terminal block	3RT1966-4G			3/116

Contactor Assemblies for Star-Delta (Wye-Delta) Starting

Contactor assemblies for star-delta (wye-delta) starting consisting of SIRIUS 3RT contactors, up to 500 kW

Contactor assemblies for star-delta (wye-delta) starting for customer assembly · Size S10-S10-S10 · Up to 250 kW



Mountable accessories (optional)

To be ordered separately	Type	Page
⑩ Box terminal blocks	3RT1966-4G	3/116

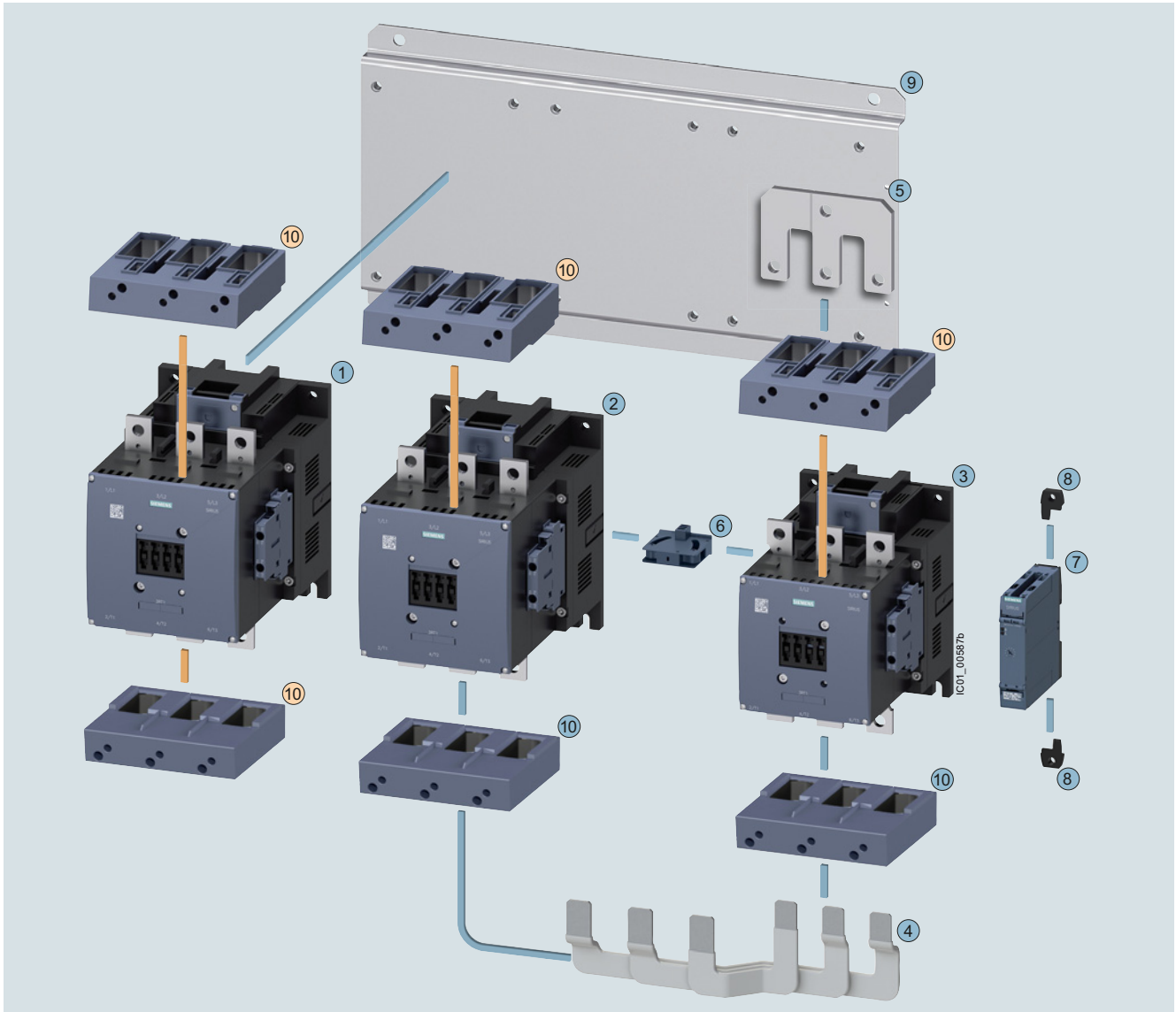
Contactor assemblies for star-delta (wye-delta) starting for customer assembly

Individual parts	Type			Page
	Q11	Q13	Q12	
①②③ Contactors, 200 kW	3RT1.64	3RT1.64	3RT1.64	3/71 ... 3/73, 3/135
①②③ Contactors, 250 kW	3RT1.65	3RT1.65	3RT1.65	3/71 ... 3/73, 3/135
④⑤ Assembly kit S10-S10-S10 for contactors without box terminals consisting of:	3RA1963-2B			3/112
④ Link rails, bottom				
⑤ Star jumper S10				
⑥ Mechanical interlock	3RA1954-2A			3/114
⑦ Timing relay with star-delta (wye-delta) function	3RP257.			10/49
⑧ Push-in lugs for star-delta (wye-delta) timing relays	3ZY1311-0AA00			10/50
⑨ Base plate star-delta (wye-delta)	3RA1962-2F			3/119

Contactor Assemblies for Star-Delta (Wye-Delta) Starting

Contactor assemblies for star-delta (wye-delta) starting consisting of SIRIUS 3RT contactors, up to 500 kW

Contactor assemblies for star-delta (wye-delta) starting for customer assembly · Size S12-S12-S10 · Up to 500 kW



Mountable accessories (optional)

To be ordered separately	Type	Page
⑩ Box terminal blocks	3RT1966-4G	3/116

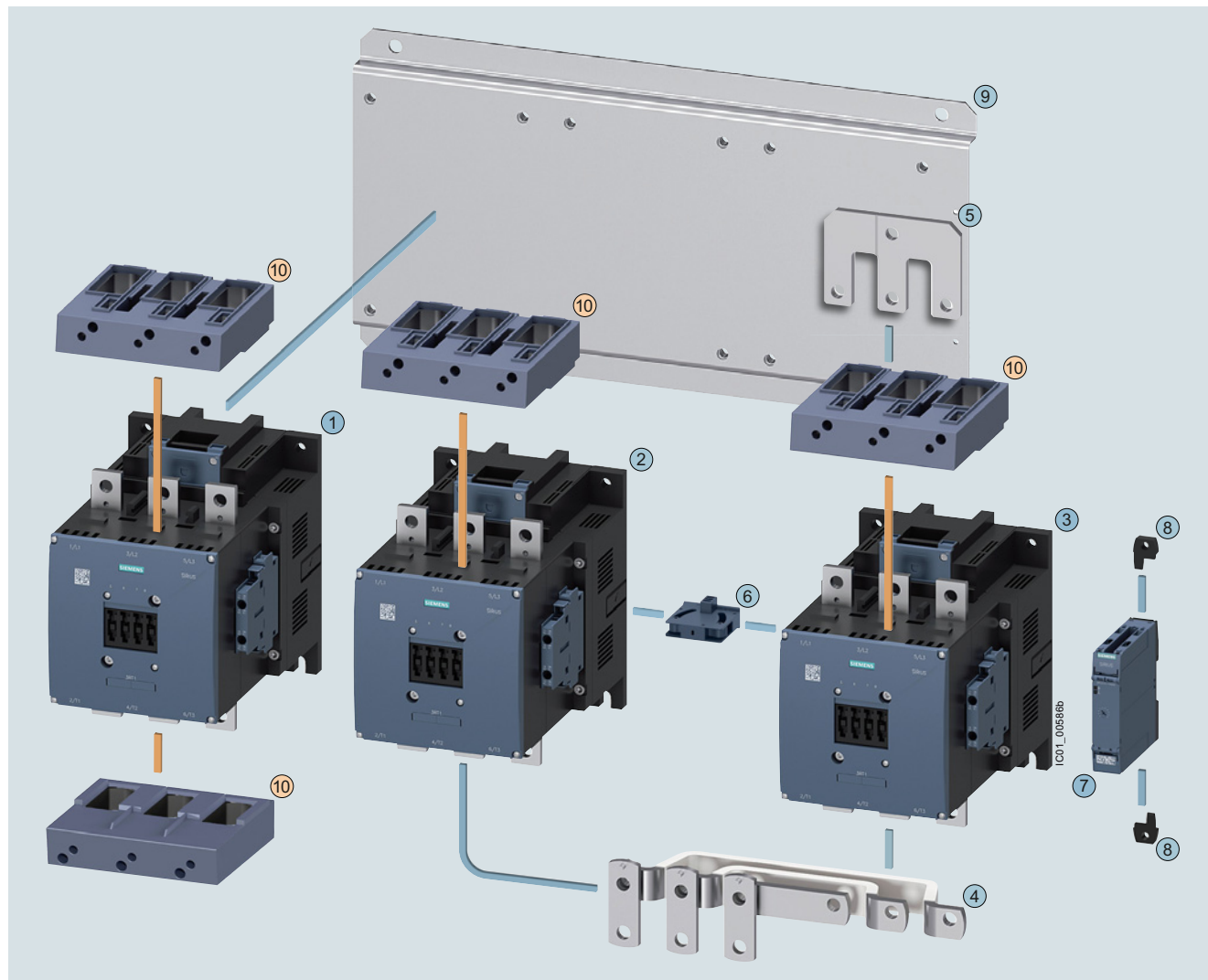
Contactor assemblies for star-delta (wye-delta) starting for customer assembly

Individual parts	Type			Page
	Q11	Q13	Q12	
①②③ Contactors, 355 kW	3RT1.75	3RT1.75	3RT1.64	3/71 ... 3/73, 3/135
①②③ Contactors, 400 kW	3RT1.75	3RT1.75	3RT1.65	3/71 ... 3/73, 3/135
①②③ Contactors, 500 kW	3RT1.76	3RT1.76	3RT1.66	3/71 ... 3/73, 3/135
④ Assembly kit S12-S12-S10 for contactors with box terminals consisting of: Wiring modules, bottom	3RA1973-3E			3/112
⑤ Star jumper S10	3RT1966-4BA31			3/113
⑥ Mechanical interlock between S12 and S10	3RA1954-2A			3/114
⑦ Timing relay with star-delta (wye-delta) function	3RP257.			10/49
⑧ Push-in lugs for star-delta (wye-delta) timing relays	3ZY1311-0AA00			10/50
⑨ Base plate star-delta (wye-delta)	3RA1972-2E			3/119
⑩ Box terminal blocks	3RT1966-4G			3/116

Contactor Assemblies for Star-Delta (Wye-Delta) Starting

Contactor assemblies for star-delta (wye-delta) starting consisting of SIRIUS 3RT contactors, up to 500 kW

Contactor assemblies for star-delta (wye-delta) starting for customer assembly · Size S12-S12-S12 · Up to 500 kW



Mountable accessories (optional)

To be ordered separately	Type	Page
⑩	Box terminal blocks	3/116

Contactor assemblies for star-delta (wye-delta) starting for customer assembly

Individual parts	Type			Page
	Q11	Q13	Q12	
①②③	3RT1.75	3RT1.75	3RT1.75	3/71 ... 3/73, 3/135
①②③	3RT1.76	3RT1.76	3RT1.76	3/71 ... 3/73, 3/135
④⑤	3RA1973-2B			3/112
Assembly kit S12-S12-S12 for contactors without box terminals consisting of:				
④	Link rails, bottom			
⑤	Star jumper S12			
⑥	Mechanical interlock	3RA1954-2A		3/114
⑦	Timing relay with star-delta (wye-delta) function	3RP257.		10/49
⑧	Push-in lugs for star-delta (wye-delta) timing relays	3ZY1311-0AA00		10/50
⑨	Base plate star-delta (wye-delta)	3RA1972-2F		3/119