

Switching Devices – Contactors and Contactor Assemblies

Power Contactors for Switching Motors

Introduction

Overview



Size
Type

S00
3RT201

S0
3RT202

3RT20 contactors

Type		3RT2015	3RT2016	3RT2017	3RT2018	3RT2023	3RT2024	3RT2025	3RT2026	3RT2027	3RT2028
AC, DC operation		(p. 3/35, 3/37)				(p. 3/42, 3/44, 3/47)					
AC-3											
I_e /AC-3/400 V	A	7	9	12	16	9	12	17	25	32	38
400 V	kW	3	4	5.5	7.5	4	5.5	7.5	11	15	18.5
230 V	kW	1.5	2.2	3	4	2.2	3	4	5.5	7.5	11
690 V	kW	4	5.5	5.5	7.5	7.5	7.5	11	11	18.5	18.5
1 000 V	kW	--	--	--	--	--	--	--	--	--	--
AC-4 (for $I_a = 6 \times I_e$)											
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	3RT20 A	18	22	22	22	40	40	40	40	50	50

Accessories for contactors

Auxiliary switch blocks	On front	3RH2911	(p. 3/64)	3RH2911	(p. 3/64)
	Lateral	3RH2911	(p. 3/66)	3RH2921	(p. 3/66)
Function modules (timing relays)		3RA281.	(p. 3/196)	3RA281.	(p. 3/196)
Function modules (IO-Link, AS-i)		3RA271.-. AA00	(p. 3/201, 3/206)	3RA271.-. AA00	(p. 3/201, 3/206)
Surge suppressors		3RT2916	(p. 3/71)	3RT2926	(p. 3/71)

3RU2 and 3RB3 overload relays (Chapter 7, "Protection Equipment" → "Overload Relays")

3RU thermal overload relays		3RU2116	0.11 ... 16 A	3RU2126	1.8 ... 40 A
3RB electronic overload relays					
• For standard applications		3RB3016 3RB3113	0.1 ... 16 A	3RB3026 3RB3123	0.1 ... 40 A
• For High-Feature applications		3RB22, 3RB23 and 3RB24 with 3RB2906-2.G1 current measuring module	0.3 ... 100 A	3RB22, 3RB23 and 3RB24 with 3RB2906-2.G1 current measuring module	0.3 ... 100 A

3RV20 motor starter protectors (Chapter 7, "Protection Equipment" → "Motor Starter Protectors")

Type		3RV2011	0.11 ... 16 A	3RV2021	0.45 ... 40 A
Link modules		3RA2911		3RA2921	

3RA23 reversing contactor assemblies

Complete units	Type	3RA2315	3RA2316	3RA2317	3RA2318	--	3RA2324	3RA2325	3RA2326	3RA2327	3RA2328
		(p. 3/163)					(p. 3/165)				
400 V	kW	3	4	5.5	7.5		5.5	7.5	11	15	18.5
Assembly kits/wiring modules		3RA2913-2AA.	(p. 3/168)			--	3RA2923-2AA.	(p. 3/168)			
Function modules		3RA271.-. BA00	(p. 3/169)			--	3RA271.-. BA0	(p. 3/169)			

3RA24 contactor assemblies for wye-delta starting

Complete units	Type	3RA2415	3RA2416	3RA2417		3RA2423	3RA2425	3RA2426
		(p. 3/180)				(p. 3/182)		
400 V	kW	5.5	7.5	11		11	15/18.5	22
Assembly kits/wiring modules		3RA2913-2BB.	(p. 3/185)			3RA2923-2BB.	(p. 3/185)	
Function modules		3RA271.-. CA00	(p. 3/187)			3RA271.-. CA00	(p. 3/187)	

Note:

Safety characteristics for contactors, see Chap. 16,
"Appendix" → "Standards and Approvals" → "Overview".

Article No. scheme

Digit of the article No.	1st - 3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	13th	14th	15th	16th
	□□□	□	□	□	□	–	□	□	□	□	–	□	□	□
SIRIUS power contactors	3 R T													
2nd generation	2													
Device type (e.g. 0 = 3-pole motor contactor, 3 = 4-pole AC-1 contactor)	□													
Contactor size (1 = S00, 2 = S0, 3 = S2)	□													
Power dependent on size (e.g. 27 = 15 kW)	□													
Connection type (1 = screw, 2 = spring)	□													
Operating range / solenoid coil circuit (e.g. A = AC standard / without)	□													
Rated control supply voltage (e.g. P0 = 230 V, 50 Hz)	□													
Auxiliary switches (e.g. S0: 0 = 1 NO + 1 NC integrated)	□													
Special version	□													
Example	3 R T 2 0 2 7 – 1 A P 0 0													

Note:

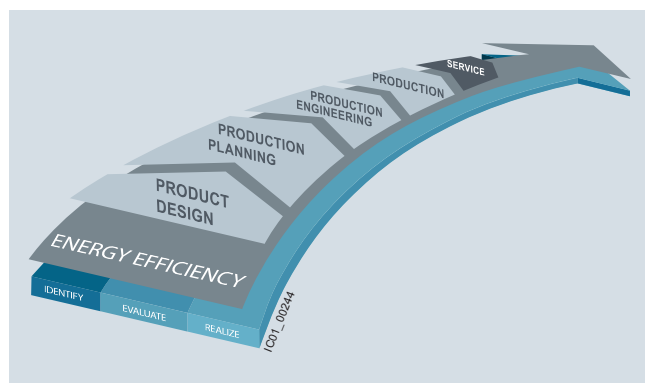
The article No. scheme is presented here merely for information purposes and for better understanding of the logic behind the article numbers.

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

Manuals

For more information, see

- System manual "SIRIUS Innovations – System Overview", <http://support.automation.siemens.com/WW/view/en/60311318>
- Manual "SIRIUS Innovations – SIRIUS 3RT2 Contactors/Contactor Assemblies", <http://support.automation.siemens.com/WW/view/en/60306557>

Benefits**Advantages through energy efficiency**

Overview of the energy management process

We offer you a unique portfolio for industrial energy management, using an energy management system that helps to optimally define your energy needs. We split up our industrial energy management into three phases – identify, evaluate, and realize – and we support you with the appropriate hardware and software solutions in every process phase.

The innovative products of the SIRIUS industrial controls portfolio can also make a substantial contribution to a plant's energy efficiency (see www.siemens.com/sirius/energysaving).

3RT20 contactors contribute to energy efficiency throughout the plant as follows:

- UC coils with electric control for reduced power consumption when closing and in the closed state
- Smaller power supply units in the control circuit through lower power consumption in the closed state with 24 V DC
- Reduced heating of control cabinet:
Technology-reduced inherent power loss of the contactors, resulting in lower cooling costs and a more compact design

Accessories**Auxiliary switch blocks**

Terminal designations according to EN 50012 or EN 50005.

Size S00 contactors have an auxiliary contact (NO or NC) integrated in the basic unit. Size S0 and S2 contactors have 2 auxiliary contacts (1 NO and 1 NC) integrated in the basic unit.

The contactors can be expanded with front-mounting 3RH2911 auxiliary switch blocks to form contactors with up to 5 auxiliary contacts (S00) or up to 6 auxiliary contacts (S0 and S2). Of the auxiliary contacts (integrated plus mountable) possible on the device, no more than four NC contacts are permitted.

Single- or 2-pole auxiliary switch blocks with connection options from above or below enable easy and clearly arranged wiring especially for the installation of feeders. These auxiliary switch blocks are offered only with screw terminals.

All the previously mentioned auxiliary switch variants can be snap-fitted onto the front of the contactor. The auxiliary switch block has a centrally positioned release lever for disassembly.

If the installation space is limited in depth, 2-pole auxiliary switch blocks can be attached laterally on the left or on the right. These auxiliary switch blocks can be used only when no 4-pole auxiliary switch blocks are snapped onto the front.

The solid-state compatible 3RH2911-NF... auxiliary switch blocks include 2 enclosed contacts. They are suitable in particular for switching small voltages and currents (hard gold-plated contacts) and for operation in dusty atmospheres. The front NC auxiliary contacts are not mirror contacts. There are also versions for mounting on the side.

For details of selecting the auxiliary switches, see pages 3/58 to 3/63.

Power Contactors for Switching Motors

Accessories for 3RT2 Contactors

Auxiliary switch blocks

Additional auxiliary switch blocks		3-pole contactors			4-pole contactors				Contactor relays		
Article No.	Auxiliary contacts	S00	S0/S2	S00	S0/S2	S00	S0/S2	S00	3RH21, 3RH24		
	Version	3RT201	3RT201	3RT20.	3RT231	3RT251	3RT23.	3RT25.	40E	31E	22E
	NO NC	10	01	11	--	--	11	11			
		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		

Front auxiliary switches

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

With complete inscription²⁾

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 do not have a mirror contact function.

²⁾ Terminals from the top or bottom; see page 3/65.

Power Contactors for Switching Motors

Accessories for 3RT2 Contactors

Auxiliary switch blocks

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



3RH2911-1FC22



3RH2911-2FC22



3RH2911-1LA11



3RH2911-1MA11



3RH2911-1AA01



3RH2911-1BA01

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

Auxiliary switch blocks for snapping onto the front

Sizes S00 to S2

3RT2. 1., 3RT2. 2., 3RT2. 3.	4	--	--	--		▶	3RH2911-1FA40	▶	3RH2911-2FA40
3RH21, 3RH24	2	2	--	--		B	3RH2911-1FA22	B	3RH2911-2FA22
	--	4	--	--		B	3RH2911-1FA04	B	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.	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 3/59 and 3/60.