

Switching devices – Contactors and contactor assemblies – for switching motors

Introduction

Overview

AC-3/AC-3e
 3RT20 110 A/55 kW/400 V
 3RT10 500 A/250 kW/400 V
 3-pole

AC-3/AC-3e
 Vacuum contactors
 3RT12 500 A/250 kW/400 V
 3TF6 820 A/450 kW/400 V
 3-pole

Reversing AC-3/AC-3e
 3RA23 110 A/55 kW/400 V
 Ready-assembled
 3-pole

Reversing AC-3/AC-3e
 3RT2 110 A/55 kW/400 V
 3RT1 250 A/250 kW/400 V
 3TF6 820 A/450 kW/400 V
 Customer assembly
 3-pole

Star-delta (wye-delta) starting AC-3
 3RA24 90 kW/400 V
 Ready-assembled
 3-pole

Star-delta (wye-delta) starting AC-3
 3RT2 90 kW/400 V
 3RT1 500 kW/400 V
 3TF6 710 kW/400 V
 Customer assembly
 3-pole

AC-3/AC-3e
 3TG10 8.4 A/4 kW/400 V
 Power relays/miniature contactors
 3-pole

IC01_001016

3RT and 3TF contactors, 3RA contactor assemblies, and 3TG10 power relays/miniature contactors

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More information

Homepage, see www.siemens.com/siriusSiePortal, see www.siemens.com/product_catalog_siep?3RT_3TK_3TCTopic page, see <https://support.industry.siemens.com/cs/ww/en/view/109800044>Conversion tool, see www.siemens.com/conversion-toolTIA Selection Tool Cloud (TST Cloud), see www.siemens.com/tstcloud/?node=ContactorSize
Type**S00**
3RT201**S0**
3RT202**3RT20 contactors**

Type	3RT2015 3RT2016 3RT2017 3RT2018 3RT2023 3RT2024 3RT2025 3RT2026 3RT2027 3RT2028
AC, DC operation	(p. 3/43, 3/49 ... 3/52) (p. 3/44, 3/45, 3/53 ... 3/55, 3/57)

AC-3 and AC-3e

I_e /AC-3/AC-3e/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
500 V	kW	6	7.7	9.2	12.4	9	12	17	18	32	32
690 V	kW	4	5.5	5.5	7.5	7.5	7.5	11	11	18.5	18.5
1 000 V	kW	--	--	--	--	--	--	--	--	--	--

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

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

AC-1 (40 °C, ≤ 690 V)

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

Auxiliary switches	<ul style="list-style-type: none"> On the front Lateral 	3RH29, 3RA28 3RH29	(p. 3/85 ... 3/94) (p. 3/89 ... 3/93)	3RH29, 3RA28 3RH29	(p. 3/85 ... 3/94) (p. 3/89 ... 3/93)
Function modules	<ul style="list-style-type: none"> Direct-on-line starting, star-delta (wye-delta) starting IO-Link 	3RA281. 3RA2711-AA00	(p. 3/98) (p. 3/99, 3/100)	3RA281. 3RA2711-AA00	(p. 3/98) (p. 3/99, 3/100)
Surge suppressors		3RT2916	(p. 3/95, 3/96)	3RT2926	(p. 3/95, 3/96)

3RU2 and 3RB3 overload relays

3RU thermal overload relays	3RU2116 (p. 7/86)	0.11 ... 16 A	3RU2126 (p. 7/86)	1.8 ... 40 A
3RB electronic overload relays	3RB3016, 3RB3113 (p. 7/98, 7/100, 7/102)	0.1 ... 16 A	3RB3026, 3RB3123 (p. 7/98, 7/100, 7/102)	0.1 ... 40 A

3RV20 motor starter protectors

Motor starter protectors	3RV2011 (p. 7/25)	0.11 ... 16 A	3RV2021 (p. 7/26)	0.45 ... 40 A
Link modules	3RA1921, 3RA2911	(p. 7/60)	3RA2921	(p. 7/60)
Intelligent link modules	3RC714-...E.0 (p. 3/102 or p. 8/90 onwards)	0.4 ... 12 A	3RC714-...E.1 (p. 3/102 or p. 8/90 onwards)	3.5 ... 32 A

3RA23 reversing contactor assemblies

Complete units	Type	3RA2315 3RA2316 3RA2317 3RA2318	--	3RA2324 3RA2325 3RA2326 3RA2327 3RA2328
		(p. 3/142)		(p. 3/143)
400 V	kW	3 4 5.5 7.5		5.5 7.5 11 15 18.5
Assembly kits/wiring modules		3RA2913-2AA.	(p. 3/103)	3RA2923-2AA.
				(p. 3/103)

3RA24 star-delta (wye-delta) combinations

Complete units	Type	3RA2415 3RA2416 3RA2417	3RA2423	3RA2425 3RA2426
		(p. 3/160)	(p. 3/161)	
400 V	kW	5.5 7.5 11	11	15/18.5 22
Assembly kits/wiring modules		3RA2913-2BB.	(p. 3/104)	3RA2923-2BB.
				(p. 3/104)

Note:

Safety-related characteristics for contactors, see [Standards and approvals](#), page 16/9.

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S2
3RT203



S3
3RT204

Size
Type

3RT20 contactors

Type	3RT2035	3RT2036	3RT2037	3RT2038	3RT2045	3RT2046	3RT2047
AC, DC operation	(p. 3/46, 3/56, 3/58, 3/60)				(p. 3/48, 3/56, 3/59, 3/60)		

AC-3 and AC-3e

I_e /AC-3/AC-3e/400 V	A	41	51	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
500 V	kW	22	30	37	37	45	55	75
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
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Accessories for contactors

Auxiliary switches	<ul style="list-style-type: none"> On the front Lateral 	3RH29, 3RA28	(p. 3/85 ... 3/94)	3RH29, 3RA28	(p. 3/85 ... 3/94)
		3RH29	(p. 3/89 ... 3/93)	3RH29	(p. 3/89 ... 3/93)
Function modules	<ul style="list-style-type: none"> Direct-on-line starting, star-delta (wye-delta) starting IO-Link 	3RA28	(p. 3/98)	3RA28	(p. 3/98)
		3RA2711-AA00	(p. 3/99, 3/100)	3RA2711-AA00	(p. 3/99, 3/100)
Surge suppressors		3RT2936	(p. 3/95, 3/96)	3RT2936, 3RT2946	(p. 3/95, 3/96)
Terminal covers		3RT2936-4EA2	(p. 3/112)	3RT2946-4EA2	(p. 3/112)

3RU2 and 3RB3 overload relays

3RU thermal overload relays	3RU2136	11 ... 80 A	3RU2146	28 ... 100 A
	(p. 7/87)		(p. 7/87)	
3RB electronic overload relays	3RB3036, 3RB3133	12.5 ... 80 A	3RB3046, 3RB3143	12.5 ... 115 A
	(p. 7/98, 7/100, 7/102)		(p. 7/98, 7/100, 7/102)	

3RV20 motor starter protectors

Motor starter protectors	3RV2031, 3RV2032	9.5 ... 80 A	3RV2041, 3RV2042	28 ... 100 A
	(p. 7/28)		(p. 7/28)	
Link modules	3RA2931	(p. 7/60)	3RA1941	(p. 7/60)

3RA23 reversing contactor assemblies

Complete units	Type	3RA2335	3RA2336	3RA2337	3RA2338	3RA2345	3RA2346	3RA2347
		(p. 3/144)				(p. 3/145)		
400 V	kW	18.5	22	30	37	37	45	55
Assembly kits/wiring modules		3RA2933-2AA.			(p. 3/103)	3RA2943-2AA.		(p. 3/103)
Mechanical interlocks		3RA2934-2B			(p. 3/108)	3RA2934-2B		(p. 3/108)

3RA24 star-delta (wye-delta) combinations

Complete units	Type	3RA2434	3RA2435	3RA2436	3RA2437	3RA2444	3RA2445	3RA2446
		(p. 3/162)				(p. 3/163)		
400 V	kW	22/30	37	45	55	55	75	90
Assembly kits/wiring modules		3RA2933-2BB./-2C			(p. 3/104)	3RA2943-2BB./-2C		(p. 3/105)

Note:

Safety-related characteristics for contactors, see Standards and approvals, page 16/9.



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. 3/61 ... 3/63)			(p. 3/61 ... 3/63)			(p. 3/61 ... 3/63)			
Type	--	--	--	3RT1264	3RT1265	3RT1266	3RT1275	3RT1276		
				(p. 3/123)			(p. 3/123)			
AC-3 and AC-3e										
$I_e/AC-3/AC-3e/400\text{ V}$	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	
500 V	kW	75	90	132	160	160	200	250	315 (355) ¹⁾	
690 V	kW	110	132	160	200	250	250	400	400 (500) ¹⁾	
1 000 V	kW	75	90	90	90 (on req.) ¹⁾	132 (on req.) ¹⁾	132 (on req.) ¹⁾	250 (on req.) ¹⁾	250 (on req.) ¹⁾	
AC-4 (at $I_a = 6 \times I_e$)										
400 V	kW	55	75	90	110	132	160	200	250	
400 V (200 000 operating cycles)	kW	29	38	45	54 (55) ¹⁾	66 (65) ¹⁾	71 (79) ¹⁾	84 (98) ¹⁾	98 (122) ¹⁾	
AC-1 (40 °C, ≤ 690 V)										
I_e	A	160	185	215	275 (330) ¹⁾	330	330	430 (610) ¹⁾	610	
3RT14 AC-1 contactors										
Type	3RT1456	(p. 4/17, 4/18)			3RT1466	3RT1467	(p. 4/17, 4/18)		3RT1476	(p. 4/17, 4/18)
$I_e/AC-1/40\text{ °C} \leq 690\text{ V}$	A	275				400	500	690		
Accessories for contactors										
Auxiliary switches	<ul style="list-style-type: none"> • On the front • Lateral 	3RH19							(p. 3/88)	
		3RH19, 3RP25							(p. 3/90, 3/93, 10/44)	
Surge suppressors		3RT1956-1C	(RC element)						(p. 3/96)	
Terminal covers		3RT1956-4EA.	(p. 3/112)			3RT1966-4EA.	(p. 3/112)			
Box terminal blocks		3RT1955-4G, 3RT1956-4G	(p. 3/110)			3RT1966-4G	(p. 3/110)			
3RB2 overload relays										
3RB electronic overload relays		3RB2056	50 ... 200 A	(p. 7/99, 7/101)	3RB2066	55 ... 250 A	(p. 7/99, 7/101)			
		3RB2153	(p. 7/103)			3RB2163	or 160 ... 630 A	(p. 7/103)		
3VA2 molded case motor starter protectors										
Molded case motor starter protectors									(see Catalog LV 10)	
• for 3RT10		3VA21	3VA22	3VA22	3VA23	3VA23	3VA24	3VA24	3VA25	
• for 3RT12		3VA21	3VA22	3VA22	3VA23	3VA23	3VA24	3VA24	3VA25	
Reversing contactor assemblies²⁾										
Complete units	Type	--								
400 V	kW	55	75	90	110	132	160	200	250	
Assembly kits/wiring modules		3RA1953-2A	(p. 3/103)			3RA1963-2A	(p. 3/103)		3RA1973-2A	(p. 3/103)
Mechanical interlocks		3RA1954-2A	(p. 3/108)							
Star-delta (wye-delta) combinations²⁾										
Complete units	Type	--								
400 V	kW	--								
Assembly kits/wiring modules		3RA1953-2B	(p. 3/106)			3RA1963-2B	(p. 3/106)		3RA1973-2B	(p. 3/106)

¹⁾ Value applies for 3RT12 contactors.

²⁾ Contactor assemblies for customer assembly:
 - Reversing contactor assemblies, see pages 3/147 to 3/149,
 - Star-delta (wye-delta) combinations, see pages 3/165 to 3/170.

Note:

Safety-related characteristics for contactors, see Standards and approvals, page 16/9.

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Size **14**
Type **3TF68**

Size **14**
Type **3TF69**

3TF68/3TF69 vacuum contactors

Type	3TF68 (p. 3/124, 3/125)	3TF69 (p. 3/124, 3/125)
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AC-3 and AC-3e

I_e /AC-3/AC-3e/690 V	A	630 (552) ¹⁾	820 (630) ¹⁾
400 V	kW	355 (315)¹⁾	450 (355)¹⁾
230 V	kW	200 (160) ¹⁾	260 (200) ¹⁾
690 V	kW	600 (560) ¹⁾	800 (600) ¹⁾
1 000 V	kW	On request	On request

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 switches**

- Lateral **3TY7561** (p. 3/126)

Surge suppressors **3TX7572** (p. 3/127)

Terminal covers **3TX7686, 3TX7696** (p. 3/127)

3RB2 overload relays

3RB electronic overload relays	3RB2066	55 ... 250 A	(p. 7/99, 7/101)	3RB3016-1NB0	0.32 ... 1.25 A	(p. 7/98)
	3RB2163	or 160 ... 630 A	(p. 7/103)	with series transformer 3UF1868-3GA00	205 ... 820 A	(p. 10/31)

3VA2 molded case motor starter protectors

Molded case motor starter protectors **3VA25** (see Catalog LV 10)

Reversing contactor assemblies²⁾

Complete units Type --

400 V kW **335**

Assembly kits/wiring modules **3TX7680-1A** (p. 3/128)

Mechanical interlocks **3TX7686-1A** (p. 3/128)

Star-delta (wye-delta) combinations²⁾

Complete units Type --

400 V kW **710**

Assembly kits/wiring modules **3TX7680-1B** (p. 3/128)

¹⁾ Value applies for utilization category AC-3e.

²⁾ Contactor assemblies for customer assembly:
- Reversing contactor assemblies, see page 3/150,
- Star-delta (wye-delta) combinations, see page 3/171.

Note:

Safety-related characteristics for contactors, see Standards and approvals, page 16/9.



Type | 3TG10

3TG10 power relays/miniature contactors

Number of main contacts | 4
AC, DC operation | (p. 3/131)

AC-1

I_e at 400 V | 55 °C | A | 20

P at 400 V | kW | 13

at 230 V | kW | 7.5

AC-3

I_e up to 400 V | A | 8.4

P at 400 V | kW | 4

AC-3e

I_e up to 400 V | A | 6.4

P at 400 V | kW | 3

Connection methods

The 3RT contactors are available with screw terminals (box terminals or flat connectors) or with spring-loaded terminals.

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



Screw terminals



Spring-loaded terminals

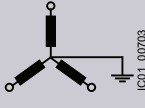
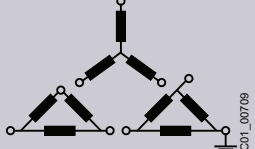


Flat connectors

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

Voltage data

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

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

-- Not specified