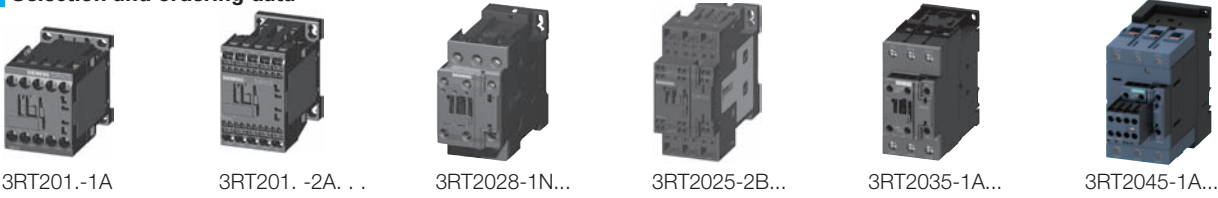


Contactors for Switching Motors

3RT contactors, 3-pole – Size S00 to S3

CONTACTORS AND ASSEMBLIES 2

Selection and ordering data



Frame Size	Amp Ratings		Single-phase HP ratings			Three-phase HP ratings				Auxiliary contacts		Screw Terminals	Spring-Loaded Terminals	Weight approx. kg
	AC3	AC1	115V	208V	230V	208V	230V	460V	575V	NO	NC	Order No.	Order No.	
3RT 3-pole contactors														
S00	6	18	0.25	0.5	0.75	1.5	2	3	5	1	0	3RT2015-1□●●1	3RT2015-2□●●1	0.24/0.29
	9	22	0.33	1	1	2	3	5	7.5	1	0	3RT2016-1□●●1	3RT2016-2□●●1	
	12	22	0.5	1.5	2	3	3	7.5	10	1	0	3RT2017-1□●●1	3RT2017-2□●●1	
	16	22	1	2	2	3	5	10	10	1	0	3RT2018-1□●●1	3RT2018-2□●●1	
S0	9	40	1	1	1	2	3	5	7.5	1	1	3RT2023-1□●●0	3RT2023-2□●●0	0.42/0.60
	12	40	1	2	2	3	3	7.5	10	1	1	3RT2024-1□●●0	3RT2024-2□●●0	
	17	40	1	2	3	5	5	10	15	1	1	3RT2025-1□●●0	3RT2025-2□●●0	
	25	40	2	3	3	7.5	7.5	15	20	1	1	3RT2026-1□●●0	3RT2026-2□●●0	
	32	50	2	5	5	10	10	20	25	1	1	3RT2027-1□●●0	3RT2027-2□●●0	
S2	40	50	3	5	5	10	10	25	25	1	1	3RT2028-1□●●0	3RT2028-2□●●0	0.99/1.121
	50	60	3	5	7.5	10	15	30	40	1	1	3RT2035-1□●●0	3RT2035-3□●●0	
	65	70	3	7.5	10	15	15	40	50	1	1	3RT2036-1□●●0	3RT2036-3□●●0	
	80 ²⁾	80	5	10	10	20	20	50	50	1	1	3RT2037-1□●●0	3RT2037-3□●●0	
S3	80	90	5	10	15	20	25	50	60	1	1	3RT2038-1□●●0	3RT2038-3□●●0	1.8/2.8
	80	125	7.5	10	15	25	30	60	60	1	1	3RT2045-1□●●0	3RT2045-3□●●0	
	95	130	10	10	20	30	30	75	75	1	1	3RT2046-1□●●0	3RT2046-3□●●0	
	110	130	10	10	20	30	40	75	100	1	1	3RT2047-1□●●0	3RT2047-3□●●0	

Size S2 only: Replace "B" with "K" for 24VDC coil only
 Size S0 and S2 only: UC Electronic with integrated varistor

□ AC Coil = A
 □ DC Coil = B
 □ UC Coil = N

NEMA Size	Amp Ratings	Single-phase HP ratings		Three-phase HP ratings				Auxiliary contacts		Screw Terminals with AC coil	Screw Terminals with 24 VDC coil	Weight approx. kg
		115V	230V	208V	230V	460V	575V	NO	NC	Order No.	Order No.	
NEMA Labeled Contactors												
0	18	1	2	3	3	5	5	1	0	3RT2018-1A●●1-0UA0	3RT2018-1BB41-0UA0	0.28
1	27	2	3	7.5	7.5	10	10	1	1	3RT2027-1A●●0-0UA0	3RT2027-1BB40-0UA0	0.42
2	45	3	7.5	10	15	25	25	1	1	3RT2036-1A●●0-0UA0	3RT2036-1NB30-0UA0	0.986/1.121
3	90	7.5	15	25	30	50	50	1	1	3RT2046-1A●●0-0UA0	3RT2046-1NB40-0UA0	1.8 / 2.8

1) All terminals are spring loaded on frame sizes S00 & S0.
 Only the coil terminals are spring loaded on frame sizes S2 & S3.
 2) Max UL FLA = 65A at 460V

Note: Ring lug terminals are also available in size S00 & S0 contactors, except contactors with communication interface or UC coil. Change the 8th digit of the order number to a "4", e. g. 3RT2015-4AK61.

For further coil voltages, see page 2/49.
 For auxiliaries and accessories, see page 2/66-2/83.
 For spare parts, see page 2/94-2/99.
 For technical data, see page 2/121-2/142.
 For description, see page 2/104-2/105.
 For int. circuit diagrams, see page 2/190-2/197.
 For dimension drawings, see page 2/209-2/212.

AC Coil Selection for 3RT201 through 3RT204

●●Coil Code	C2 ²⁾	H2 ³⁾	K6	P6	U6	V6	T6
60 Hz	24 V	48 V	120 V	240 V	277 V	480 V	600 V
50 Hz	24 V	48 V	110 V	220 V	—	—	—

²⁾ Use Code B0 for 3RT201, S00
³⁾ Use Code H0 for 3RT201, S00

DC Coil Selection for 3RT201 & 3RT202 (for 3RT203 & 3RT204 see UC)

●●Coil Code	A4 ⁴⁾	B4	W4	E4	F4	G4	M4
DC	12 V	24 V	48 V	60 V	110 V	125 V	220 V

⁴⁾ 3RT201 and 3RT202 only

UC Coil Selection for 3RT202

●●Coil Code	B3	F3	P3 ⁴⁾
UC	21-28V	95-130V	200-280V

UC Coil Selection for 3RT203 & 3RT204

●●	B3	F3	P3 ⁵⁾
UC	20-33V	83-155V	175-280V

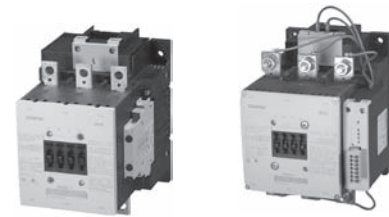
⁵⁾ at upper limit = 1.1 x U_S

Contactors for Switching Motors

3RT contactors, 3-pole – Size S6-S12 and NEMA size 4-6

Selection and ordering data

- * AC/DC Coils with built in surge suppressor
- * Coil Types (40Hz to 60Hz, DC):
- * Conventional Coil
- * Solid-state operated coil with wider range and 24 V DC PLC input
- * Solid-state operated coil with Remaining Lifetime Indication (RLT)
- * Box terminals ordered separately



3RT1054-6A . . 6

3RT1065-6P . . 5

Frame Size	Amp Ratings		Single-phase HP ratings		Three-phase HP ratings				Auxiliary contacts		Screw Terminals on coil and aux.	Spring-type terminals on coil and aux. contacts	Weight approx. kg
	AC3	AC1	115V	230V	200V	230V	460V	575V	NO	NC	Order No.	Order No.	
3RT 3-pole Contactors													
S6	115	160	—	25	40	50	100	125	2	2	3RT1054-6□●●6	3RT1054-2□●●6	3.5
	150	185	—	30	50	60	125	150	2	2	3RT1055-6□●●6	3RT1055-2□●●6	
	185	215	—	30	60	75	150	200	2	2	3RT1056-6□●●6	3RT1056-2□●●6	
S10	225	275	—	—	60	75	150	200	2	2	3RT1064-6□●●6	3RT1064-2□●●6	6.7
	265	330	—	—	75	100	200	250	2	2	3RT1065-6□●●6	3RT1065-2□●●6	
	300	330	—	—	100	125	250	300	2	2	3RT1066-6□●●6	3RT1066-2□●●6	
S12	400	430	—	—	125	150	300	400	2	2	3RT1075-6□●●6	3RT1075-2□●●6	10.5
	500	610	—	—	150	200	400	500	2	2	3RT1076-6□●●6	3RT1076-2□●●6	
UC Conventional Coil □ Solid State Operated Coil = A Solid State Operated Coil with RLT = N P●●5													

NEMA Size	Amp Ratings	Single-phase HP ratings		Three-phase HP ratings				Auxiliary contacts		Screw Terminals on coil and aux.	Spring-type terminals on coil and aux. contacts	Weight approx. kg
		115V	230V	208V	230V	460V	575V	NO	NC	Order No.	Order No.	
NEMA Labeled Contactors												
4	135	—	30	40	50	100	100	2	2	3RT1056-6A●●6-0UA0	—	3.5
5	300	—	—	100	125	250	300	2	2	3RT1066-6A●●6-0UA0	—	6.7
6	400	—	—	150	200	400	500	2	2	3RT1076-6A●●6-0UA0	—	10.5

All coil voltages are in the adjacent table.
 For auxiliaries and accessories, see page 2/66-2/83.
 For spare parts, see page 2/94-2/99.
 For technical data, see page 2/143-2/151.
 For description, see page 2/106-2/107.
 For int. circuit diagrams, see page 2/196-2/198.
 For dimension drawings, see page 2/213-2/214.

Sizes S6 to S12 Coil Codes - UC operation (AC 50 to 60 Hz and DC)

UC Conventional Coil		Solid-State Coil		
Rated control supply voltage Us	3RT1. 5.-.A	Rated control supply voltage Us	3RT1. 5.-.N	3RT1. 5.-.P
Us min ... Us max ¹⁾	3RT1. 6.-.A	Us min ... Us max ¹⁾	3RT1. 6.-.N	3RT1. 6.-.P
	3RT1. 7.-.A		3RT1. 7.-.N	3RT1. 7.-.P
Coil Codes	●●	Coil Codes	●●	●●
23 ... 26 V AC/DC	B3	21 ... 27.3 V AC/DC	B3	—
42 ... 48 V AC/DC	D3	96 ... 127 V AC/DC	F3	F3
110 ... 127 V AC/DC	F3	200 ... 277 V AC/DC	P3	P3
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			

1) Operating range:
0.8 x Us min to 1.1 x Us max.

Contactors for Switching Motors

3RT12 vacuum contactors, 3-pole

CONTACTORS AND ASSEMBLIES 2

Selection and ordering data

- AC/DC operation (40 Hz ... 60 Hz, DC)
- Withdrawable coils
- Integrated coil circuit (varistor)
- Auxiliary and control conductors: screw connections
- Main conductor: bar connections

Size	Horsepower ratings and utilization categories					Auxiliary contacts, lateral			Rated control supply voltage U_s	Order No.	Weight approx. kg	
	AC-3 Maximum inductive current	Ratings of three-phase motors				AC-1 Maximum resistive current	NO	NC				AC/DC V
	Amps	HP	HP	HP	HP	Amps						
Conventional operating mechanism												
3RT12 6.	S10	225	60	75	150	200	330	2	2	110 ... 127 220 ... 240	3RT12 64-6AF36 3RT12 64-6AP36	6.4
		265	75	100	200	250	330	2	2	110 ... 127 220 ... 240	3RT12 65-6AF36 3RT12 65-6AP36	
		300	100	125	250	300	330	2	2	110 ... 127 220 ... 240	3RT12 66-6AF36 3RT12 66-6AP36	
3RT12 7.	S12	400	125	150	300	400	610	2	2	110 ... 127 220 ... 240	3RT12 75-6AF36 3RT12 75-6AP36	9.6
		500	150	200	400	500	610	2	2	110 ... 127 220 ... 240	3RT12 76-6AF36 3RT12 76-6AP36	
Solid-state operating mechanism - for DC 24 V PLC output												
3RT12 6.	S10	225	60	75	150	200	330	2	2	96 ... 127 200 ... 277	3RT12 64-6NF36 3RT12 64-6NP36	6.4
		265	75	100	200	250	330	2	2	96 ... 127 200 ... 277	3RT12 65-6NF36 3RT12 65-6NP36	
		300	100	125	250	300	330	2	2	96 ... 127 200 ... 277	3RT12 66-6NF36 3RT12 66-6NP36	
3RT12 7.	S12	400	125	150	300	400	610	2	2	96 ... 127 200 ... 277	3RT12 75-6NF36 3RT12 75-6NP36	9.6
		500	150	200	400	500	610	2	2	96 ... 127 200 ... 277	3RT12 76-6NF36 3RT12 76-6NP36	



Universal Coil Selection for 3RT126 through 3RT127: Conventional Operation										
Coil Code	B3	D3	F3	M3	P3	U3	V3	R3	S3	T3
Volts AC/DC 40 - 60 Hz, DC	23 .. 26 V	42 .. 48 V	110 .. 127 V	200 .. 220 V	220 .. 240 V	240 .. 277 V	380 .. 420 V	440 .. 480 V	500 .. 550 V	575 .. 600 V

Solid State Selection for 3RT126 through 3RT127: Solid-State			
Coil Code	B3	F3	P3
Volts AC/DC 40 - 60 Hz, DC	21 .. 27.3 V	96 .. 127 V	200 .. 277 V

For further vacuum contactors, 500Hp and 700Hp (3TF68/69), see page 2/53.
 For auxiliaries and accessories, see page 2/68.
 For spare parts, see page 2/98-2/99.
 For technical data, see page 2/152-2/157.
 For int. circuit diagrams, see page 2/196
 For dimension drawings, see page 2/215.

Contactors for Special Applications

3RT23 contactors, 4-pole (4 NO contacts) for switching resistive loads (AC-1)

Standards

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

Design

The contactors are suitable for use in any climate. They are safe from touch to DIN VDE 0106, Part 100. The accessories for the 3-pole SIRIUS contactors can also be used for the 4-pole designs.

Mountable auxiliary contacts

Size S00: 4 auxiliary contacts of which up to 3 can be NC.
 Size S0 & S2: 4 additional auxiliary contacts up to 3 can be NC.
 Sizes S2 and S3: Up to 4 auxiliary contacts (either laterally mounted or snapped onto the top).

Contactor assemblies with mechanical interlock

The 4-pole 3RT23 contactors with 4 NO contacts as the main contacts are suitable for making contactor assemblies with a mechanical interlock, e.g. for system transfers.

Size S00: Contactor assemblies can be made using two 3RT23.1 contactors in conjunction with the mechanical interlock and two connecting clips (Order No. 3RA2912-2H, pack comprising 10 interlocking elements and 20 clips for 10 contactor assemblies, see accessories on page 2/72).

Size S0: In order to make 4-pole contactor assemblies using two 3RT23.2 contactors, the fourth pole of the left-hand contactor must always be moved to the left-hand side. The contactor assembly can then be made easily with the aid of the 3RA2922-2H mechanical interlock and connecting clip set fitted between the two contactors.

Sizes S2 and S3: Contactor assemblies can be made using two 3RT23 3 or 3RT23 4 contactors in conjunction with the laterally mountable mechanical interlock and the mechanical connectors. The mechanical interlock for fitting onto the front cannot be used for size S2 and S3 contactors.

Application

- Switching resistive loads
- Isolating systems with unearthed or poorly earthed neutral conductors
- System transfers when alternative AC power supplies are used
- As contactors which only carry current and do not have to switch in case of inductive loads – e.g. variable-speed operating mechanisms
- Switching mixed loads in distribution systems (e.g. for supplying heaters, lamps, motors, PC power supply units) with p.f. > 0.8 according to IEC 60947-4-1, test conditions for utilization category AC-1

Selection and ordering data

Rating data			Auxiliary contacts			Rated control supply voltage U_s 50/60 Hz	AC Operation Screw Terminals ¹⁾ Order No.	Rated control supply voltage U_s V DC	DC Operation Screw Terminals ¹⁾ Order No.
AC-1 Max resist. current I_e	UL ratings AC loads at 600 V, 60 Hz		Ident-ification No.	Version					
40°C 60°C Amps	Amps			NO	NC		V AC	V DC	

For screwing and stepping onto 35 mm mounting rail

3RT23 17-1AP60



Size S00 – Auxiliary switches can be retrofitted

18	16	18	—	—	—	24 110/120 220/240	3RT23 16-1AB00 3RT23 16-1AK60 3RT23 16-1AP60	24 125 220	3RT23 16-1BB40 3RT23 16-1BG40 3RT23 16-1BM40
22	20	20	—	—	—	24 110/120 220/240	3RT23 17-1AB00 3RT23 17-1AK60 3RT23 17-1AP60	24 125 220	3RT23 17-1BB40 3RT23 17-1BG40 3RT23 17-1BM40

Size S0 – Terminal designations according to EN 50012 —1 NO + 1 NC, identification number 11E

35 ²⁾	30 ²⁾	30	11E	1	1	24 110/120 220/240	3RT23 25-1AC20 3RT23 25-1AK60 3RT23 25-1AP60	24 125 220	3RT23 25-1BB40 3RT23 25-1BG40 3RT23 25-1BM40
40 ²⁾	35 ²⁾	35	11E	1	1	24 110/120 220/240	3RT23 26-1AC20 3RT23 26-1AK60 3RT23 26-1AP60	24 125 220	3RT23 26-1BB40 3RT23 26-1BG40 3RT23 26-1BM40
50 ²⁾	42 ²⁾	38	11E	1	1	24 110/120 220/240	3RT23 27-1AC20 3RT23 27-1AK60 3RT23 27-1AP60	24 125 220	3RT23 27-1BB40 3RT23 27-1BG40 3RT23 27-1BM40

Size S2

60	55	60	11E	1	1	24 110/120 220/240	3RT23 36-1AC20 3RT23 36-1AK60 3RT23 36-1AP60	20-33 83-155 175-280	3RT23 36-1NB30 3RT23 36-1NF30 3RT23 36-1NP30
110	95	105	11E	1	1	24 110/120 220/240	3RT23 37-1AC20 3RT23 37-1AK60 3RT23 37-1AP60	20-33 83-155 175-280	3RT23 37-1NB30 3RT23 37-1NF30 3RT23 37-1NP30

Size S3

140	130	120	—	—	—	24 110/120 220/240	3RT23 46-1AC20 3RT23 46-1AK60 3RT23 46-1AP60	20-33 83-155 175-280	3RT23 46-1NB30 3RT23 46-1NF30 3RT23 46-1NP30
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3RT23 27-1AP60



3RT23 36-1AP60



1) Size S00 and S0 contactors are also available with spring-type terminals. Replace the 8th digit of the order no. with a "2" e.g. "3RT23 16-2AK60"

2) Minimum conductor cross-section 8 AWG.

For further voltages, see page 2/49.
 For coil voltage tolerance, p. 2/49
 For auxiliaries and accessories, see page 2/66-2/83.
 For spare parts, see page 2/94-2/99.

For technical data, see page 2/166-2/167.
 For in. circuit diagrams, see page 2/191-2/196.
 For dimension drawings, see page 2/216.

Contactors for Special Applications

3RT24, 3-pole for switching resistive loads (AC-1)

Application

AC and DC operation (size S3)
UC operation (AC/DC)
 (sizes S6 to S12)

IEC 60 947, EN 60 947
 (VDE 0660)

The contactors are suitable for use in any climate. They are safe from touch to DIN VDE 0106 Part 100.

3RT14/3RT24 contactors are used for switching resistive loads.

(AC-1) or as contactors, for example in variable-speed drives which normally only have to carry the current.

The accessories for the SIRIUS 3RT10/3RT20 contactors can also be used here.

Selection and ordering data

3RT24 46-1A..0



Ratings AC-1 utilization category,		UL Ratings			Rated control supply voltage U_s	Order No.	Weight approx. kg
IEC Ratings		Max Current	230/240V Hp	460/480V Hp			
Maximum current	Rated power of three phase loads $\cos \varnothing = 0.95$ (@ 60°C)				Amps	Amps	Amps
Amps	230V kW 400V kW 500V kW 690V kW						

With screw connections · for screwing and snapping onto 35 mm and 75 mm standard mounting rails

Size S3 · (without auxiliary contacts)

• **AC operation**

140	50	86	107	148	140	15	30	40	24 V, 50/60 Hz 120 V, 60 Hz 240 V, 60 Hz	3RT24 46-1AC2 0 3RT24 46-1AK6 0 3RT24 46-1AP6 0	1.8
-----	----	----	-----	-----	-----	----	----	----	--	---	-----

• **DC operation · DC solenoid system**

140	50	86	107	148	131	15	30	40	DC 24 V DC 48 V	3RT24 46-1BB4 0 3RT24 46-1BW40	2.7
-----	----	----	-----	-----	-----	----	----	----	--------------------	-----------------------------------	-----

• **AC/DC operation** (40 Hz ... 60 Hz, DC)
 • **Withdrawable coils**

• **Integrated coil circuit** (varistor)

• **Auxiliary and control conductors: screw connections**

• **Main conductor: bar connections**

3RT14 6.



Size	Ratings AC-1 utilization category,		UL Rating	Auxiliary contacts, lateral		Rated control supply voltage U_s	Order No.	Weight approx. kg
	IEC Ratings			Max Current	NO			
AC-1	Rated power of three phase loads $\cos \varnothing = 0.95$ (@ 60°C)	Amps	Amps			AC/DC V		
Maximum resistive current	230V kW 400V kW 500V kW 690V kW							

Conventional operating mechanism

S6	275	95	165	205	285	210	2	2	110 ... 127 220 ... 240	3RT14 56-6AF36 3RT14 56-6AP36	3.1
S10	400	145	250	315	430	360	2	2	110 ... 127 220 ... 240	3RT14 66-6AF36 3RT14 66-6AP36	5.7
S12	690	245	430	535	740	580	2	2	110 ... 127 220 ... 240	3RT14 76-6AF36 3RT14 76-6AP36	9.1

Solid-state operating mechanism · for DC 24 V PLC output

S6	275	95	165	205	285	210	2	2	96 ... 127 200 ... 277	3RT14 56-6NF36 3RT14 56-6NP36	3.1
S10	400	145	250	315	430	360	2	2	96 ... 127 200 ... 277	3RT14 66-6NF36 3RT14 66-6NP36	5.7
S12	690	245	430	535	740	580	2	2	96 ... 127 200 ... 277	3RT14 76-6NF36 3RT14 76-6NP36	9.1

Solid-state operating mechanism · for DC 24 V PLC with remaining lifetime indication

S6	275	95	165	205	285	210	1	1	96 ... 127 200 ... 277	3RT14 56-6PF35 3RT14 56-6PP35	3.1
S10	400	145	250	315	430	360	1	1	200 ... 277	3RT14 66-6PP35	5.7
S12	690	245	430	535	740	580	1	1	200 ... 277	3RT14 76-6PP35	9.1

3RT14 7.



Universal Coil Selection for 3RT145 through 3RT147: Conventional Operation										
Coil Code	B3	D3	F3	M3	P3	U3	V3	R3	S3	T3
Volts AC/DC 40 - 60 Hz, DC	23 .. 26 V	42 .. 48 V	110 .. 127 V	200 .. 220 V	220 .. 240 V	240 .. 277 V	380 .. 420 V	440 .. 480 V	500 .. 550 V	575 .. 600 V

Universal Coil Selection for 3RT145 through 3RT147: Solid-State			
Coil Code	B3	F3	P3
Volts AC/DC 40 - 60 Hz, DC	21 .. 27.3 V	96 .. 127 V	200 .. 277 V

Note: B3 code not available for Remaining Lifetime Contactors.

For further coil voltages, see page 2/49.
 For auxiliaries and accessories, see page 2/66-2/83.
 For spare parts, see page 2/94-2/99.
 For technical data, see page 2/158-2/165.
 For int. circuit diagrams, see page 2/196.
 For dimension drawings, see page 2/211, 2/213-2/214.

Contactors for Special Applications

3RT25 contactors, 4-pole (2 NO + 2 NC) contacts for switching motors

AC and DC operation

IEC 60 947-4-1/EN 60 947-4-1
(VDE 0660, Part 102)

Design

The contactors are suitable for use in any climate. They are safe to touch according to EN 50274. The accessories for the 3-pole SIRIUS contactors can also be used for the 4-pole designs.

Mountable auxiliary contacts

Size S00 and S0:

4 auxiliary contacts, of which up to 4 can be NC contacts.

Size S2

Up to 4 auxiliary contacts (either laterally mounted or snapped onto the top; auxiliary switch blocks to EN 50 012 and EN 50 005)

Application

- Changing the polarity of hoisting gear motors
- Switching two separate loads from the same source

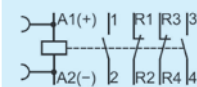
Selection and ordering data

Rating data			AC-1 Max resistive current	Auxiliary contacts Version		Rated control supply voltage U_s	AC Operation ²⁾ Screw terminals	Rated control supply voltage U_s	DC Operation ²⁾ Screw terminals
AC-2/AC-3 T_U : up to 60°C	Max Current I_e at 400 V	Max motor HP at 460 V, 60 Hz							
	Amps	NO NC	Amps	NO	NC	V AC, 50/60 Hz		V DC	

For screwing and snapping onto 35 mm standard mounting rail

3RT25 16-1AB00

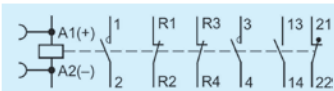
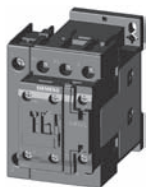
Size S00 ³⁾ - Auxiliary switches can be retrofitted



9	5	18	16	—	—	24 110/120 220/240	3RT25 16-1AB00 3RT25 16-1AK60 3RT25 16-1AP60	24 125 220	3RT25 16-1BB40 3RT25 16-1BG40 3RT25 16-1BM40
12	7.5 ⁴⁾	22	20	—	—	24 110/120 220/240	3RT25 17-1AB00 3RT25 17-1AK60 3RT25 17-1AP60	24 125 220	3RT25 17-1BB40 3RT25 17-1BG40 3RT25 17-1BM40
16	10 ⁴⁾	22	20	—	—	24 110/120 220/240	3RT25 18-1AB00 3RT25 18-1AK60 3RT25 18-1AP60	24 125 220	3RT25 18-1BB40 3RT25 18-1BG40 3RT25 18-1BM40

3RT25 26-1AC20

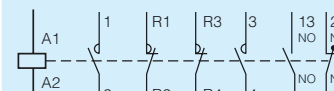
Size S0 - Terminal designations according to EN 50012, 1 NO + 1 NC, identification number 11E



25	15	15	40	35	1	1	24 110/120 220/240	3RT25 26-1AC20 3RT25 26-1AK60 3RT25 26-1AP60	24 125 220	3RT25 26-1BB40 3RT25 26-1BG40 3RT25 26-1BM40
----	----	----	----	----	---	---	--------------------------	---	------------------	---

3RT25 35-1AC20

Size S2



35	30	20	60	55	1	1	24 110/120 220/240	3RT25 35-1AC20 3RT25 35-1AK60 3RT25 35-1AP60	V UC 20-33 83-155 175-280	3RT25 35-1NB30 3RT25 35-1NF30 3RT25 35-1NP30
41	30	25	70	60	1	1	24 110/120 220/240	3RT25 36-1AC20 3RT25 36-1AK60 3RT25 36-1AP60	20-33 83-155 175-280	3RT25 36-1NB30 3RT25 36-1NF30 3RT25 36-1NP30

For further voltages, see page 2/49.
For auxiliaries and accessories, see page 2/66-2/83.
For spare parts, see page 2/94-2/99.
For technical data, see page 2/168-2/169.
For int. circuit diagrams, see page 2/191-2/196.
For dimension drawings, see page 2/216.

1) For changing polarity; not suitable for reversing.
2) Size S00 and S0 contactors are also available with spring-type terminals. Replace the 8th digit of the order no. with a "2" e.g. "3RT25 16-2AK60"

3) Size S00:
Coil voltage tolerance
at 50 Hz: 0.8 ... 1.1 x U_s
at 60 Hz: 0.85 ... 1.1 x U_s
4) The NC contact can switch up to 5 HP.

3RT, 3RH Contactors for Special Applications

3RH21 contactor relays

Overview

DC operation

IEC 60947-4-1, EN 60947-4-1, for requirements according to IEC 60077-1 and IEC 60077-2.

The contactor relays are finger-safe according to EN 50274. The size S00 contactor relays have spring-type connections for all terminals.

Ambient temperature

The permissible ambient temperature for operation of the contactor relays (across the full coil operating range) is -40 to +70 °C.

Uninterrupted duty at temperatures > +60 °C reduces the mechanical endurance, the current carrying capacity of the conducting paths and the switching frequency.

Control and auxiliary circuits

The solenoid coils of the contactor relays have an extended coil operating range from 0.7 to $1.25 \times U_s$ and are fitted as standard with suppressor diodes to provide protection against overvoltage. The opening delay is consequently 2 to 5 ms longer than for standard contactors.

Application

For operation in installations which are subject both to considerable variations in the control voltage and to high ambient temperatures, e. g. railway applications under extreme climatic conditions, rolling mills, etc.

Also for control supply voltages with battery buffer for longer operating times should the battery charging fail.

Contactor relays without series resistor

Control and auxiliary circuits

These contactor relays have an extended operating range from 0.7 to $1.25 \times U_s$; the solenoid coils are fitted with a suppressor diode. An additional series resistor is not required.

Note:

An additional auxiliary switch block cannot be mounted.

Side-by-side mounting

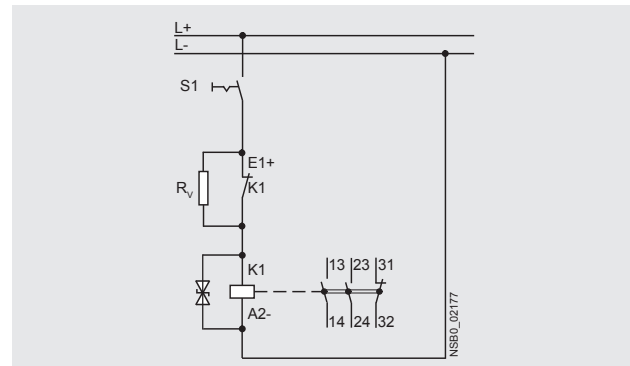
A clearance of 10 mm is required for side-by-side mounting at ambient temperatures > 60 °C ≤ 70 °C.

Contactor relays with series resistor

Control and auxiliary circuits

The DC solenoid systems of the contactor relays are modified (to hold-in coil) by means of a series resistor.

The size S00 contactor relays are supplied prewired with a plug-on module containing the series resistor. The suppressor diode is integrated.



A 4-pole auxiliary switch block (according to EN 50005) can be fitted additionally.

Side-by-side mounting

Side-by-side mounting is permitted at ambient temperatures up to 70 °C.

3RT, 3RH Contactors for Special Applications

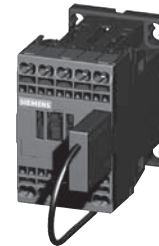
3RH21 contactor relays

Selection and ordering data

DC operation · DC solenoid system
Spring-type terminals
For screw and snap-on mounting onto standard mounting rail
Solenoid coil fitted with suppressor diode



3RH21 22-2K.40



3RH21 22-2K.40-0LA0

Rated operational current $I_e/AC-15/AC-14$ $T_{ij}: 70\text{ °C at}$	Contacts	Rated control supply voltage U_s	Spring-type terminals	Weight approx.
230 V 400 V 500 V 690 V	Version			
A A A A	NO NC	V DC	Order No.	kg

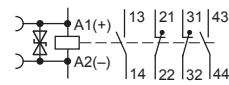
3RH21 contactor relays

Size S00

Without series resistor

Terminal designations according to EN 50011

2 NO + 2 NC, identification number 22E



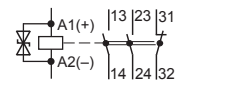
10	3	2	1	2	2 ¹⁾	24	110
----	---	---	---	---	-----------------	----	-----

3RH21 22-2KB40	0.300
3RH21 22-2KF40	0.300

With series resistor

Terminal designations according to EN 50005

2 NO + 1 NC, identification number 21E



10	3	2	1	2	1 ²⁾	24	110
----	---	---	---	---	-----------------	----	-----

3RH21 22-2KB40-0LA0	0.300
3RH21 22-2KF40-0LA0	0.300

¹⁾ It is not possible to mount an auxiliary switch block.
²⁾ 4-pole auxiliary switch block according to EN 50005 can be mounted.

More information

Contactors	Type	3RH21 ..
Upright mounting position		
• Contactors with series resistor		Special version (on request)
• Contactors without series resistor		Special version (on request)
Ambient temperature		
• During operation	°C	-40 ... +70
• During storage	°C	-55 ... +80
Solenoid coil operating range	DC	0.7 ... 1.25 × U_s
Power consumption of the solenoid coils		
• Contactors with series resistor	- Closing	W 13
	- Closed	W 4
• Contactors without series resistor	- Closing	W 2.8
	- Closed	W 2.8

All specifications and technical specifications not mentioned here are identical to those of the standard contactor relays.

3RT, 3RH Contactors for Special Applications

3RT20 motor contactors, 7.5 ... 25 HP

Overview

DC operation

IEC 60947-4-1, EN 60947-4-1, for requirements according to IEC 60077-1 and IEC 60077-2.

The contactors are finger-safe according to EN 50274. The contactors have spring-type connections as well as screw connections. The size S00 and S0 contactors have spring-type connections for all terminals.

Ambient temperature

The permissible ambient temperature for operation of the contactors (across the full coil operating range) is -40 to +70 °C.

Uninterrupted duty at temperatures > +60 °C reduces the mechanical endurance, the current carrying capacity of the conducting paths and the switching frequency.

Control and auxiliary circuits

The solenoid coils of the contactor relays have an extended coil operating range from 0.7 to 1.25 or 1.3 x U_s and are fitted as standard with suppressor diodes. The opening delay is consequently 2 to 5 ms longer than for standard contactors.

Application

For operation in installations which are subject both to considerable variations in the control voltage and to high ambient temperatures, e. g. railway applications under extreme climatic conditions, rolling mills, etc.

Also for control supply voltages with battery buffer for longer operating times should the battery charging fail.

Contactors without series resistor

Control and auxiliary circuits

These contactors have an extended operating range from 0.7 to 1.25 x U_s ; on size S00 the coils are fitted with suppressor diodes, on size S0 with varistors. An additional series resistor is not required.

Note:

An additional auxiliary switch block cannot be mounted.

Side-by-side mounting

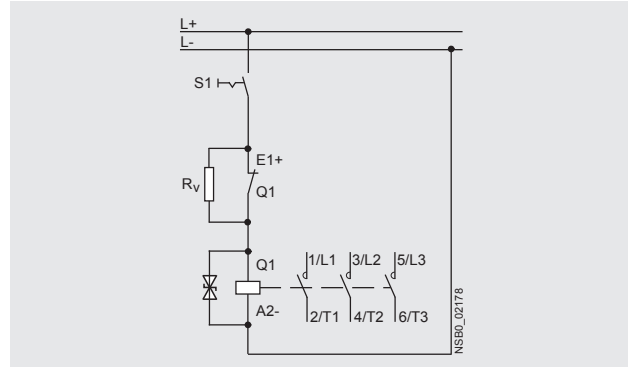
A clearance of 10 mm is required for side-by-side mounting at ambient temperatures > 60 °C ≤ 70 °C.

3RT20 1. contactors with series resistor

Control and auxiliary circuits

The solenoid coils of the contactors have an extended coil operating range from 0.7 to 1.25 x U_s and are fitted as standard with suppressor diodes to provide protection against overvoltage.

The DC solenoid systems of the contactors are modified (to holding excitation) by means of a series resistor.



The size S00 contactors are supplied prewired with a plug-on module containing the series resistor. The suppressor diode is integrated. A 4-pole auxiliary switch block (according to EN 50005) can be fitted additionally.

A circuit diagram showing the terminals is labeled on each contactor. One NC of the auxiliary contacts is required for the series resistor function. The selection and ordering data shows the number of additional, unassigned auxiliary contacts. With size S00 it is possible to extend the number of auxiliary contacts.

Side-by-side mounting

At ambient temperatures up to 70 °C, the size S00 contactors and contactor relays are allowed to be mounted side by side.

3RT20 2. contactors with solid-state operating mechanism, extended operating range

Control and auxiliary circuits

The solenoid coils of the contactors have an extended coil operating range from 0.7 to 1.3 x U_s and are fitted as standard with varistors to provide protection against overvoltage.

The contactors are energized via upstream control electronics which ensure the coil operating range of 0.7 to 1.3 x U_s at an ambient temperature of 70 °C. They are supplied as complete units with integrated coil electronics. A varistor is integrated for damping opening surges in the coil.

The mounting possibilities for auxiliary switches correspond to those of the standard contactors for switching motors in the matching size (see page 2/58).

Side-by-side mounting

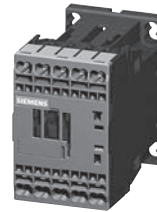
Side-by-side mounting is permitted at ambient temperatures up to 70 °C for these contactor versions in size S0.

3RT, 3RH Contactors for Special Applications

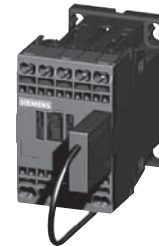
3RT20 motor contactors, 7.5 ... 25 HP

Selection and ordering data

DC operation · DC solenoid system
Spring-type terminals
For screw and snap-on mounting onto standard mounting rail
Solenoid coil fitted with suppressor diode (S00)



3RT20 1.-2K.4.



3RT20 1.-2K.42-0LA0

Rated data		Auxiliary contacts		Rated control supply voltage U_s	Spring-type terminals	Weight approx.
AC-3	Operational current I_e at	Ident. No.	Version			
400 V	200 V 230 V 460 V 575 V			V DC		
A	HP HP HP HP		NO NC		Order No.	kg

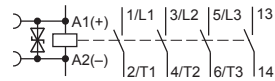
3RT20 contactors for switching motors

Size S00

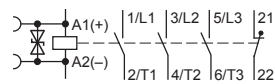
Without series resistor⁴⁾

Terminal designations according to EN 50012 or EN 50005

- 1 NO, identification number **10E**

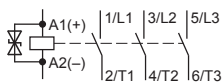


- 1 NC, identification number **01**



12	--	3	7.5	10	10E¹⁾	1	--	24	3RT20 17-2KB41	0.300
								125	3RT20 17-2KG41	0.300
12	--	3	7.5	10	01¹⁾	--	1	24	3RT20 17-2KB42	0.300
								125	3RT20 17-2KG42	0.300

With series resistor



12	--	3	7.5	10	-- ²⁾	--	1 ³⁾	24	3RT20 17-2KB42-0LA0	0.300
								125	3RT20 17-2KG42-0LA0	0.300
16	--	5	10	10	-- ²⁾	--	1 ³⁾	24	3RT20 18-2KB42-0LA0	0.300
								125	3RT20 18-2KG42-0LA0	0.300

For accessories and spare parts, see page 2/66-2/69.

- ¹⁾ It is not possible to mount an auxiliary switch block. A clearance of 10 mm is required for side-by-side mounting at ambient temperatures > 60 °C.
- ²⁾ One 4-pole auxiliary switch block according to EN 50005 can be mounted; no distance required up to 70 °C.
- ³⁾ NC contact cannot be used because it is required for switching the series resistor.
- ⁴⁾ Versions available with screw terminals.

3RT, 3RH Contactors for Special Applications

3RT20 motor contactors, 7.5 ... 25 HP

DC operation · DC solenoid system
Spring-type terminals
 For screw and snap-on mounting onto standard mounting rail
 Solenoid coil fitted with varistor (S0)



3RT20 2.-2K.40



3RT20 2.-2X.40-0LA2

CONTACTORS AND ASSEMBLIES

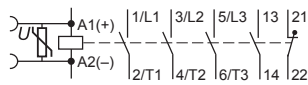
Rated data AC-3	Auxiliary contacts	Rated control supply voltage U_s	Spring-type terminals	Weight approx.
Operational current I_e at	Ident. No.	Version	Order No.	
400 V		NO NC		kg
200 V HP				
230 V HP				
460 V HP				
575 V HP				
A		V DC		

3RT20 contactors for switching motors

Size S0

Terminal designations according to EN 50012

1 NO + 1 NC, identification number **11E**



Without series resistor¹⁾

16	--	5	10	15	11E	1	1	24 125	3RT20 25-2KB40 3RT20 25-2KG40	0.600 0.600
25	--	7.5	15	20	11E	1	1	24 125	3RT20 26-2KB40 3RT20 26-2KG40	0.600 0.600
32	--	10	20	25	11E	1	1	24 125	3RT20 27-2KB40 3RT20 27-2KG40	0.600 0.600

With solid-state operating mechanism

16	--	5	10	15	11E	1	1	24 125	3RT20 25-2XB40-0LA2 3RT20 25-2XG40-0LA2	0.580 0.580
25	--	7.5	15	20	11E	1	1	24 125	3RT20 26-2XB40-0LA2 3RT20 26-2XG40-0LA2	0.580 0.580
32	--	10	20	25	11E	1	1	24 125	3RT20 27-2XB40-0LA2 3RT20 27-2XG40-0LA2	0.580 0.580
38	--	10	25	25	11E	1	1	24 125	3RT20 28-2XB40-0LA2 3RT20 28-2XG40-0LA2	0.580 0.580

For accessories and spare parts, see page 2/66-2/69.

¹⁾ It is not possible to mount an auxiliary switch block. A clearance of 10 mm is required for side-by-side mounting at ambient temperatures > 60 °C.

More information

Contactors	Type		3RT20 17	3RT20 2.	3RT20 2.-2XB40-0LA2	3RT20 2.-2XF40-0LA2
Ambient temperature						
• During operation		°C	-40 ... +70			
• During storage		°C	-55 ... +80			
Solenoid coil operating range			DC		0.7 ... 1.25 x U_s	
Power consumption of the solenoid coils			For cold coil and 1.0 x U_s			
• Contactors with series resistor	- Closing	W	13	--	--	--
	- Closed	W	4	--	--	--
• Contactors without series resistor	- Closing	W	2.8	4.5	--	--
	- Closed	W	2.8	4.5	--	--
• Contactors with solid-state operating mechanism	- Closing	W	--	--	6.7	13.2
	- Closed	W	--	--	0.8	1.56

All specs and technical specs not mentioned here are identical to those of the standard contactors for switching motors.

Contactors for Special Applications

3RT26 capacitor contactors

AC operation

IEC 60947-5, DIN EN 60947-5-1, (VDE 0660 Part 200)

The contactors are suitable for use in any climate and are finger safe per DIN EN 50274.

The 3RT26 capacitor contactors are application specific variants of the size S00 to S2 SIRIUS Innovations contactors. The capacitors are precharged by means of the mounted leading NO contacts and resistors; only then do the main contacts close.

This prevents disturbances in the power system and welding of the contactors.

Only discharged capacitors are permitted to be switched on with capacitor contactors. Recommendation: use discharge chokes for parallel connection with the capacitors.

The capacitor contactors of size S00 contain either 1NO or 1NC in the basic unit and another unassigned NC contact in the auxiliary switch block fitted to the basic unit.

The auxiliary switch block which is snapped onto the capacitor contactor of sizes S0 contains the three leading NO contacts and one standard NO contact, which is unassigned.

The capacitor contactors of size S2 can be fitted additionally with a 2-pole auxiliary switch on the right side (2 NO, 2 NC or 1 NO + 1 NC), type 3RH19 21-1EA.. for lateral mounting.

For the capacitor making and breaking capacity of the basic 3RT20 contactor variant, see the technical data.

Selection and ordering data

AC operation

AC-6b utilization category For switching three-phase capacitors at an ambient temperature of 60 °C ²⁾					Current	Auxiliary contacts, unassigned	Rated control supply voltage $U_s^{1)3)}$	Screw connection	Weight approx.
UL capacitor rating at operational voltage									
200/208 230/240 460/480 575/600								Order No.	
Phase	kvar	kvar	kvar	kvar			AC		kg

For screwing and snapping onto 35 mm standard mounting rail

3RT26 17-1AK63



• Size S00					Current	Auxiliary contacts, unassigned	Rated control supply voltage $U_s^{1)3)}$	Screw connection	Weight approx.
1Ø	3.6	4	8.3	10					
3Ø	6.2	6.9	14	17			120 V, 60 Hz	3RT26 17-1AK63	
							240 V, 60 Hz	3RT26 17-1AP63	

• Size S0					Current	Auxiliary contacts, unassigned	Rated control supply voltage $U_s^{1)3)}$	Screw connection	Weight approx.
1Ø	4.8	5.3	11	13					
3Ø	8.3	9.1	18	23			120 V, 60 Hz	3RT26 25-1AK65	
							240 V, 60 Hz	3RT26 25-1AP65	

1Ø	5.8	6.4	13	16	29	1NO / 2NC	24 V, 50/60 Hz	3RT26 26-1AC25	0.49
3Ø	10	11	22	28			120 V, 60 Hz	3RT26 26-1AK65	
							240 V, 60 Hz	3RT26 26-1AP65	

3RT2637-1NF35



1Ø	6.6	7.3	15	18	33	1NO / 2NC	24 V, 50/60 Hz	3RT26 27-1AC25	0.49
3Ø	11	13	25	31			120 V, 60 Hz	3RT26 27-1AK65	
							240 V, 60 Hz	3RT26 27-1AP65	

1Ø	8.6	9.5	20	24	43	1NO / 2NC	24 V, 50/60 Hz	3RT26 28-1AC25	0.59
3Ø	15	16	33	41			120 V, 60 Hz	3RT26 28-1AK65	
							240 V, 60 Hz	3RT26 28-1AP65	

• Size S2					Current	Auxiliary contacts, unassigned	Rated control supply voltage $U_s^{1)3)}$	Screw connection	Weight approx.
1Ø	14	16	33	40					
3Ø	25	27	55	69			83-155 VUC	3RT26 36-1NF35	
							175-280 VUC	3RT26 36-1NP35	

1Ø	20	22	45	54	98A	2 NC	20-33 VUC	3RT26 37-1NB35	1.11
3Ø	34	38	75	94			83-155 VUC	3RT26 37-1NF35	
							175-280 VUC	3RT26 37-1NP35	

1) Coil voltage tolerance: 0.85 ... 1.1 x U_s .

2) A clearance of 10 mm is required for side-by-side mounting at ambient temperatures > 60 °C

For further voltages, see page 2/49.
 For auxiliaries and accessories, see page 2/66-2/83.
 For technical data, see page 2/170.
 For wiring diagram, see page 2/198.
 For dimension drawings, see page 2/217.

DC Coil Selection for 3RT261 only

Coil Code	B4	W4	E4	F4	G4	M4
DC	24 V	48 V	60 V	110 V	125 V	220 V

UC Coil Selection for 3RT262

Coil Code	NB3	NF3	NP3
UC	21-28V	95-130V	200-280V

UC Coil Selection for 3RT263

Coil Code	B3	F3	P3
UC	20-33V	83-155V	175-280V

3) at upper limit = 1.1 x U_s

Contactors for Special Applications

3RT20 coupling contactors (interface) for switching motors, 3-pole

AC and DC operation

IEC 60947, EN 60947.

The 3RT20 coupling contactors for switching motors are tailored to the special requirements of working with electronic controls.

The 3RT20 1 coupling contactors cannot be expanded with auxiliary switch blocks. Coupling contactors have a low power consumption and an extended solenoid coil operating range.

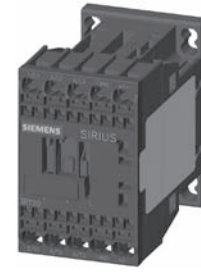
Depending on the version, the solenoid coils are supplied either without overvoltage damping or with a diode, suppressor diode or varistor connected as standard.

Selection and ordering data

DC operation



3RT2015-1HB41



3RT2015-2HB41

Surge suppressor	Ratings Utilization category		Auxiliary contacts		Screw connection	Spring-type connection	Weight approx. (screw/spring) kg
	AC-3	Maximum inductive current	Ident. no.	Design no.	Order No.	Order No.	
	Maximum ¹⁾ horsepower ratings at 460 V						
	Amps	HP		NO NC			

For screwing and snapping onto 35 mm standard mounting rail

• Size S00

Terminal designations according to EN 50 012

Rated control supply voltage $U_s = DC 24 V$, coil voltage tolerance 0.7 to $1.25 \times U_s$

Power consumption of the coils **2.8 W** at 24 V (no auxiliary switch blocks can be mounted)

Diode, varistor or RC element can be mounted	7	3	10E01	1 –	3RT20 15-1HB41 3RT20 15-1HB42	3RT20 15-2HB41 3RT20 15-2HB42	0.28/0.30
Diode integrated	7	3	10E01	1 –	3RT20 15-1J B41 3RT20 15-1J B42	3RT20 15-2J B41 3RT20 15-2J B42	0.28/0.30
Suppressor diode integrated	7	3	10E01	1 –	3RT20 15-1KB41 3RT20 15-1KB42	3RT20 15-2KB41 3RT20 15-2KB42	0.28/0.30
Diode, varistor or RC element can be mounted	9	5	10E01	1 –	3RT20 16-1HB41 3RT20 16-1HB42	3RT20 16-2HB41 3RT20 16-2HB42	0.28/0.30
Diode integrated	9	5	10E01	1 –	3RT20 16-1J B41 3RT20 16-1J B42	3RT20 16-2J B41 3RT20 16-2J B42	0.28/0.30
Suppressor diode integrated	9	5	10E01	1 –	3RT20 16-1KB41 3RT20 16-1KB42	3RT20 16-2KB41 3RT20 16-2KB42	0.28/0.30
Diode, varistor or RC element can be mounted	12	7.5	10E01	1 –	3RT20 17-1HB41 3RT20 17-1HB42	3RT20 17-2HB41 3RT20 17-2HB42	0.28/0.30
Diode integrated	12	7.5	10E01	1 –	3RT20 17-1J B41 3RT20 17-1J B42	3RT20 17-2J B41 3RT20 17-2J B42	0.28/0.30
Suppressor diode integrated	12	7.5	10E01	1 –	3RT20 17-1KB41 3RT20 17-1KB42	3RT20 17-2KB41 3RT20 17-2KB42	0.28/0.30

For technical data, see page 2/171.

For int. circuit diagrams, see page 2/190-2/195.

For dimension drawings, see page 2/209.

1) Complete HP ratings on page 2/124

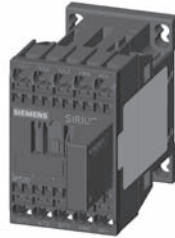
Contactors for Special Applications

3RT20 coupling contactors (interface) for switching motors

Selection and ordering data
DC operation



3RT2015-1VB41



3RT2015-2VB41



3RT2024-1KB40

Surge suppressor	Ratings Utilization category		Auxiliary contacts		Screw connection	Spring-type connection	Weight approx. (screw/spring) kg
	AC-3		Ident. no.	Design	Order No.	Order No.	
	Maximum inductive current	Maximum horsepower ratings at 460 V					
	Amps	HP		NO NC			

For screwing and snapping onto 35 mm standard mounting rail

• **Size S00**

Terminal designations according to EN 50 012

Rated control supply voltage $U_s = DC 24 V$, coil voltage tolerance 0.85 to $1.85 \times U_s$

Power consumption of the coils **1.6 W** at 24 V (no auxiliary switch blocks can be mounted)

Diode, varistor or RC element can be mounted	7	3	10E 01	1 – – 1	3RT20 15-1MB41-0KT0 3RT20 15-1MB42-0KT0	3RT20 15-2M B41-0KT0 3RT20 15-2M B42-0KT0	0.28/0.30
Diode integrated	7	3	10E 01	1 – – 1	3RT20 15-1VB41 3RT20 15-1VB42	3RT20 15-2VB41 3RT20 15-2VB42	0.28/0.30
Suppressor diode integrated	7	3	10E 01	1 – – 1	3RT20 15-1SB41 3RT20 15-1SB42	3RT20 15-2SB41 3RT20 15-2SB42	0.28/0.30
Diode, varistor or RC element can be mounted	9	5	10E 01	1 – – 1	3RT20 16-1MB41-0KT0 3RT20 16-1MB42-0KT0	3RT20 16-2M B41-0KT0 3RT20 16-2M B42-0KT0	0.28/0.30
Diode integrated	9	5	10E 01	1 – – 1	3RT20 16-1VB41 3RT20 16-1VB42	3RT20 16-2VB41 3RT20 16-2VB42	0.28/0.30
Suppressor diode integrated	9	5	10E 01	1 – – 1	3RT20 16-1SB41 3RT20 16-1SB42	3RT20 16-2SB41 3RT20 16-2SB42	0.28/0.30
Diode, varistor or RC element can be mounted	12	7.5	10E 01	1 – – 1	3RT20 17-1MB41-0KT0 3RT20 17-1MB42-0KT0	3RT20 17-2M B41-0KT0 3RT20 17-2M B42-0KT0	0.28/0.30
Diode integrated	12	7.5	10E 01	1 – – 1	3RT20 17-1VB41 3RT20 17-1VB42	3RT20 17-2VB41 3RT20 17-2VB42	0.28/0.30
Suppressor diode integrated	12	7.5	10E 01	1 – – 1	3RT20 17-1SB41 3RT20 17-1SB42	3RT20 17-2SB41 3RT20 17-2SB42	0.28/0.30

• **Size S0**

Rated control supply voltage $U_s = DC 24 V$, coil voltage tolerance 0.7 to $1.25 \times U_s$

Power consumption of the coils **4.5 W** at 24 V no auxiliary switch blocks can be mounted.

Varistor integrated	12	7.5	11E	1 1	3RT20 24-1KB40	3RT20 24-2KB40	0.58/0.60
	16	10	11E	1 1	3RT20 25-1KB40	3RT20 25-2KB40	0.58/0.60
	25	15	11E	1 1	3RT20 26-1KB40	3RT20 26-2KB40	0.58/0.60
	32	20	11E	1 1	3RT20 27-1KB40	3RT20 27-2KB40	0.58/0.60

For technical data, see page 2/171.

For int. circuit diagrams, see page 2/190-2/195.

For dimension drawings, see page 2/209.

Contactors & Relays for Safety Applications

3RT, 3TF safety contactors and 3RH2, 3TH2 safety control relays

CONTACTORS AND ASSEMBLIES 2

Applications

“Safety” Contactors

Safety rated contactors are required to have mirrored contact construction according to IEC 60947-4-1 Annex F. A mirror contact is a Normally Closed (NC) auxiliary contact which can not be closed simultaneously with a Normally Open (NO) main contact.

In some industries, such as automotive, requirements have been established that a safety rated contactor must also have permanently mounted auxiliary contact blocks. See page 2/23 for Contactors with permanently mounted auxiliary contacts.

Siemens Contactors for “Safety” applications:

All Siemens standard 3RT, 3TF6, 40HN & 40PH Contactors are provided with positively driven (mirror) contacts which meet or exceed the criteria for “Safety Contactors” according to IEC 60947-4 Annex F which describes the requirements for mirror contact performance.

When applying Safety Contactors in safety circuits, the NC auxiliary contacts must be wired in series or parallel and must be used as monitoring contacts with feedback to the safety evaluation device (i.e. safety relay or failsafe logic controller).

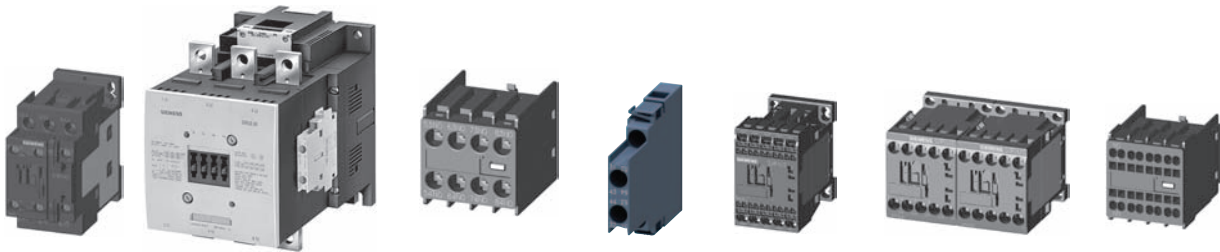
“Safety” Control Relays

Safety rated control relays are required to have positively driven contact elements according to IEC 60947-5-1 Annex L. Positively driven contact elements are a combination of NO auxiliary contacts and NC auxiliary contacts whose construction prevents them from being closed simultaneously.

In some industries, such as automotive, requirements have been established that a safety rated control relays must also have permanently mounted auxiliary contact blocks. See page 2/18 for Control Relays with permanently mounted auxiliary contacts.

Siemens Control Relays for “Safety” applications:

All SIRIUS 3RH control relays (with at least 1 NC contact) meet or exceed the criteria for “Safety Control Relays” according to IEC 60947-5-1 Annex L. This is true for the basic 3RH relay with or without an additional auxiliary contact block.



3RT20 2.-1A..00

3RT10 7.-6A..6

3RH29 21.-1F

3RH29 21.-1DA 11

3RH21

3RH24

3RH2911-2HA..

Frame size	Contactors	Auxiliary contact block
S00	3RT201	3RH2911
	3RT231	
	3RT251	
	3RT261	
S0	3RT202	3RH2921
	3RT232	
	3RT252	
	3RT262	
S2	3RT203	3RH2921
	3RT233	
	3RT253	
S3	3RT204	3RH2921
	3RT234	
	3RT244	
S6	3RT105	3RH1921
	3RT145	
S10	3RT106	3RH1921
	3RT126	
	3RT146	
S12	3RT107	3RH1921
	3RT127	
	3RT147	
	3TF6	3TY7561-1UA00

Frame size	Control Relays	Auxiliary contact block
S00	3RH21	3RH2911
	3RH24	
	3TH20	3TX44

For contactors, see pages 2/8-2/9.
 For auxiliaries contact blocks, see pages 2/66-2/68.
 For control relays, see pages 2/50-2/52.
 For auxiliaries contact blocks, see page 2/66-2/68..

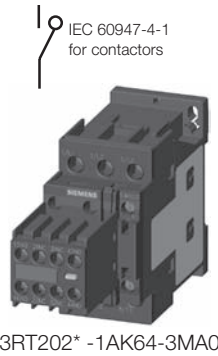
Contactors & Relays for Safety Applications

3RT safety contactors, 3RH2 safety control relays with permanently mounted auxiliary contact blocks

Application

"Safety" Contactors

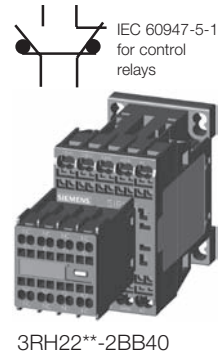
Safety rated contactors are required to have mirrored contact construction according to IEC 60947-4 Annex F. A mirror contact is a Normally Closed (NC) auxiliary contact which can not be closed simultaneously with a Normally Open (NO) main contact. In some industries, such as Automotive, the auxiliary contact blocks are required to be permanently attached to meet the requirements of "unintentional misuse" as specified in IEC 60292, paragraph 3.12. Tested by SUVA.



3RT202* -1AK64-3MA0

"Safety" Control Relays

Safety rated control relays are required to have positively driven contact elements according to IEC 60947-5-1 Annex L. Positively driven contact elements are a combination of NO auxiliary contacts and NC auxiliary contacts whose construction prevents them from being closed simultaneously. In some industries, such as automotive, the auxiliary contact blocks are required to be permanently attached to meet the requirements of "unintentional misuse" as specified in IEC 60292, paragraph 3.12. Tested by SUVA.



3RH22** -2BB40

2 CONTACTORS AND ASSEMBLIES

Application

Frame Size	Max. current		Single-phase HP ratings		Three-phase HP ratings				Auxiliary contacts			Screw Terminals	Spring-Type Terminals ¹⁾
	AC3	AC1	115V	220/240V	200V	230V	460V	575V	Ident. No.	NO	NC	Order No.	Order No.
Contactors with permanently mounted auxiliary contact blocks													
S00	6	18	¼	¾	1 ½	2	3	5	22E	2	2	3RT2015-1●●●4-3MA0	3RT2015-2●●●4-3MA0
	9	22	½	1	2	3	5	7 ½	22E	2	2	3RT2016-1●●●4-3MA0	3RT2016-2●●●4-3MA0
	12	22	½	2	3	3	7 ½	10	22E	2	2	3RT2017-1●●●4-3MA0	3RT2017-2●●●4-3MA0
	16	22	1	2	3	5	10	10	22E	2	2	3RT2018-1●●●4-3MA0	3RT2018-2●●●4-3MA0
S0	9	40	1	1	2	3	5	7 ½	22E	2	2	3RT2023-1●●●4-3MA0	3RT2023-2●●●4-3MA0
	12	40	1	2	3	3	7 ½	10	22E	2	2	3RT2024-1●●●4-3MA0	3RT2024-2●●●4-3MA0
	17	40	1	3	5	5	10	15	22E	2	2	3RT2025-1●●●4-3MA0	3RT2025-2●●●4-3MA0
	25	40	2	3	7 ½	7 ½	15	20	22E	2	2	3RT2026-1●●●4-3MA0	3RT2026-2●●●4-3MA0
	32	50	2	5	10	10	20	25	22E	2	2	3RT2027-1●●●4-3MA0	3RT2027-2●●●4-3MA0
	38	50	3	5	10	10	25	25	22E	2	2	3RT2028-1●●●4-3MA0	3RT2028-2●●●4-3MA0
S2	40	60	3	7 ½	10	15	30	40	22E	2	2	3RT2035-1●●●4-3MA0	3RT2035-3●●●4-3MA0
	50	70	3	10	15	15	40	50	22E	2	2	3RT2036-1●●●4-3MA0	3RT2036-3●●●4-3MA0
	65	80	5	10	20	20	50	50	22E	2	2	3RT2037-1●●●4-3MA0	3RT2037-3●●●4-3MA0
S3	80 ⁴⁾	90	5	15	20	25	50	60	22E	2	2	3RT2038-1●●●4-3MA0	3RT2038-3●●●4-3MA0
	80	120	7 ½	15	25	30	60	75	22E	2	2	3RT2045-1●●●4-3MA0	3RT2045-3●●●4-3MA0
S6	95	120	10	20	30	30	75	100	22E	2	2	3RT2046-1●●●4-3MA0	3RT2046-3●●●4-3MA0
	150	185	--	30	50	60	125	150	22E	2	2	3RT1055-6●●●6-3PA0	—
	185	215	--	30	60	75	150	200	22E	2	2	3RT1056-6●●●6-3PA0	—
S10	225	275	--	--	60	75	150	200	22E	2	2	3RT1064-6●●●6-3PA0	—
	265	330	--	--	75	100	200	250	22E	2	2	3RT1065-6●●●6-3PA0	—
	300	330	--	--	100	125	250	300	22E	2	2	3RT1066-6●●●6-3PA0	—

Control circuit coil options: Replace ●●● with the desired code

Frame Size S00 - S0	●●●	Frame Size S2	●●●	Frame Size S3	●●●	Frame Size S6 - S10	●●●
120 V AC	AK6	120 V AC	AK6	120 V AC **	AK6	23 ... 26 V UC*, conventional coil	AB3
120 V AC, integrated varistor	CK6	120 V AC w/ Varistor	CK6	24 V DC	BB4	21-27 V UC*, solid state coil	NB3
230 V AC	AP0	24 V DC w/Varistor	KB4	24 V DC w/diode assy	QB4	w/ PLC interface	
24 V DC	BB4					110 ... 127 V UC*, conventional coil	AF3
24 V DC, integrated varistor	DB4			**Available in 3RT1046 only		*UC coil: accepts DC voltage or AC voltage, 40 to 60 Hz.	
24 V DC, integrated diode assy.	FB4						

Frame Size	Max. current at 240 V ²⁾	Rated control supply voltage U _s	Auxiliary contacts			Screw Terminals ³⁾	Spring Terminals ³⁾
A			Ident. No.	NO	NC	Order No.	Order No.

Control relays with permanently mounted auxiliary contact blocks

S00-S00	10	110 V AC, 50 Hz / 120 V AC, 60 Hz	44E	4	4	3RH2244-1AK60	3RH2244-2AK60
	10	24 V DC	44E	4	4	3RH2244-1BB40	3RH2244-2BB40
	10	110 V AC, 50 Hz / 120 V AC, 60 Hz	62E	6	2	3RH2262-1AK60	3RH2262-2AK60
	10	24 V DC	62E	6	2	3RH2262-1BB40	3RH2262-2BB40

For other voltages see page 2/49.

For accessories, see pages 2/73-2/78.

For spare parts, see pages 2/94-2/97.

For technical data, see pages 2/121-2/142.

For description, see pages 2/104-2/105.

For int. circuit diagrams, see page 2/190-2/196.

For dimension drawings, see pages 2/209-2/215.

1) All terminals are spring loaded on frame size S00 and S0.

Only the coil and auxiliary contact terminals are spring loaded on frame sizes S2 & S3.

2) For AC-15/AC-14, max current for front mounted auxiliary contacts = 6 A.

3) The 3RH22 control relays are also available with ring lug terminals. Replace the 8th digit of the order number with a "4", e.g. 3RH2244-4AK60

4) Max UL FLA = 65A at 460V