3RT2028-1BB44-3MA0

Data sheet



power contactor, AC-3e/AC-3, 38 A, 18.5 kW / 400 V, 3-pole, 24 V DC, auxiliary contacts: 2 NO + 2 NC, screw terminal, size: S0, captive auxiliary switch, no surge suppressor retrofittable

product brand name	SIRIUS
product designation	Power contactor
product type designation	3RT2
General technical data	
size of contactor	S0
product extension	
 function module for communication 	No
auxiliary switch	No
power loss [W] for rated value of the current	
 at AC in hot operating state 	9.6 W
 at AC in hot operating state per pole 	3.2 W
without load current share typical	5.9 W
type of calculation of power loss depending on pole	quadratic
insulation voltage	
 of main circuit with degree of pollution 3 rated value 	690 V
 of auxiliary circuit with degree of pollution 3 rated value 	690 V
surge voltage resistance	
 of main circuit rated value 	6 kV
of auxiliary circuit rated value	6 kV
maximum permissible voltage for protective separation between coil and main contacts according to EN 60947-1	400 V
shock resistance at rectangular impulse	
• at DC	10g / 5 ms, 7,5g / 10 ms
shock resistance with sine pulse	
• at DC	15g / 5 ms, 10g / 10 ms
mechanical service life (operating cycles)	
 of contactor typical 	10 000 000
 of the contactor with added electronically optimized auxiliary switch block typical 	5 000 000
 of the contactor with added auxiliary switch block typical 	10 000 000
reference code according to IEC 81346-2	Q
Substance Prohibitance (Date)	10/01/2009
SVHC substance name	2-(2H-benzotriazol-2-yl)-4-(1,1,3,3-tetramethylbutyl)phenol (UV-329) - 3147-75-9
Weight	0.662 kg
Ambient conditions	
installation altitude at height above sea level maximum	2 000 m
ambient temperature	
 during operation 	-25 +60 °C
during storage	-55 +80 °C
relative humidity minimum	10 %

relative humidity at 55 °C according to IEC 60068-2-30	95 %
maximum	
Environmental footprint	V.
Environmental Product Declaration(EPD)	Yes
global warming potential [CO2 eq] total	221 kg
global warming potential [CO2 eq] during manufacturing	2.65 kg
global warming potential [CO2 eq] during operation	219 kg
global warming potential [CO2 eq] after end of life	-0.639 kg
Main circuit	
number of poles for main current circuit number of NO contacts for main contacts	3
	3
operating voltage	600.1/
at AC-3 rated value maximum	690 V
at AC-3e rated value maximum	690 V
operational current	50 A
 at AC-1 at 400 V at ambient temperature 40 °C rated value 	50 A
• at AC-1	
— up to 690 V at ambient temperature 40 °C rated value	50 A
— up to 690 V at ambient temperature 60 °C rated value	42 A
• at AC-3	20.4
— at 400 V rated value	38 A
— at 500 V rated value	32 A
— at 690 V rated value	21 A
• at AC-3e	00.4
— at 400 V rated value	38 A
— at 500 V rated value	32 A
— at 690 V rated value	21 A
at AC-4 at 400 V rated value	22 A
at AC-5a up to 690 V rated value	44 A
at AC-5b up to 400 V rated valueat AC-6a	31.5 A
 up to 230 V for current peak value n=20 rated value 	30.8 A
 up to 400 V for current peak value n=20 rated value 	30.8 A
 up to 500 V for current peak value n=20 rated value 	30.8 A
— up to 690 V for current peak value n=20 rated value	21 A
• at AC-6a	
 up to 230 V for current peak value n=30 rated value 	20.5 A
— up to 400 V for current peak value n=30 rated value	20.5 A
— up to 500 V for current peak value n=30 rated value	21.4 A
— up to 690 V for current peak value n=30 rated value	21 A
minimum cross-section in main circuit at maximum AC-1 rated value	10 mm²
operational current for approx. 200000 operating cycles at AC-4	
• at 400 V rated value	12 A
at 690 V rated value	12 A
operational current	
at 1 current path at DC-1	
— at 24 V rated value	35 A
— at 60 V rated value	20 A
— at 110 V rated value	4.5 A
— at 220 V rated value	1 A
— at 440 V rated value	0.4 A
— at 600 V rated value	0.25 A
 with 2 current paths in series at DC-1 	
— at 24 V rated value	35 A
— at 60 V rated value	35 A
— at 110 V rated value	35 A
— at 220 V rated value	5 A

at 440 V rated value	4.6
— at 440 V rated value	1 A 0.8 A
— at 600 V rated value	0.0 A
with 3 current paths in series at DC-1 at 24 V rated value	35 A
— at 60 V rated value	35 A
— at 110 V rated value	35 A
— at 220 V rated value	35 A
— at 440 V rated value	2.9 A
— at 440 V rated value — at 600 V rated value	1.4 A
	I.4 A
at 1 current path at DC-3 at DC-5 — at 24 V rated value	20 A
— at 60 V rated value	5 A
— at 110 V rated value	2.5 A
— at 220 V rated value	1A
— at 440 V rated value	0.09 A
— at 600 V rated value	0.06 A
with 2 current paths in series at DC-3 at DC-5	0.0071
— at 24 V rated value	35 A
— at 60 V rated value	35 A
— at 110 V rated value	15 A
— at 220 V rated value	3 A
— at 440 V rated value	0.27 A
— at 600 V rated value	0.16 A
with 3 current paths in series at DC-3 at DC-5	
— at 24 V rated value	35 A
— at 60 V rated value	35 A
— at 110 V rated value	35 A
— at 220 V rated value	10 A
— at 440 V rated value	0.6 A
— at 600 V rated value	0.6 A
operating power	
• at AC-3	
— at 230 V rated value	11 kW
— at 400 V rated value	18.5 kW
— at 500 V rated value	18.5 kW
— at 690 V rated value	18.5 kW
• at AC-3e	
— at 230 V rated value	11 kW
— at 400 V rated value	18.5 kW
— at 500 V rated value	18.5 kW
— at 690 V rated value	18.5 kW
operating power for approx. 200000 operating cycles at AC-	
at 400 V rated value	6 kW
at 690 V rated value	10.3 kW
operating apparent power at AC-6a	
up to 230 V for current peak value n=20 rated value	12.2 kVA
• up to 400 V for current peak value n=20 rated value	21.3 kVA
 up to 500 V for current peak value n=20 rated value 	26.6 kVA
up to 690 V for current peak value n=20 rated value	25 kVA
operating apparent power at AC-6a	
• up to 230 V for current peak value n=30 rated value	8.1 kVA
• up to 400 V for current peak value n=30 rated value	14.2 kVA
• up to 500 V for current peak value n=30 rated value	18.5 kVA
• up to 690 V for current peak value n=30 rated value	25 kVA
short-time withstand current in cold operating state up to 40 °C	
Iimited to 1 s switching at zero current maximum	593 A; Use minimum cross-section acc. to AC-1 rated value
Ilmited to 5 s switching at zero current maximum	341 A; Use minimum cross-section acc. to AC-1 rated value
Iimited to 10 s switching at zero current maximum	260 A; Use minimum cross-section acc. to AC-1 rated value
Iimited to 30 s switching at zero current maximum	199 A; Use minimum cross-section acc. to AC-1 rated value

Iimited to 60 s switching at zero current maximum	162 A; Use minimum cross-section acc. to AC-1 rated value
no-load switching frequency	
• at DC	1 500 1/h
operating frequency	
• at AC-1 maximum	1 000 1/h
• at AC-2 maximum	750 1/h
• at AC-3 maximum	750 1/h
• at AC-3e	
— maximum	750 1/h
• at AC-4 maximum	250 1/h
Control circuit/ Control	250 1111
	DC
type of voltage of the control supply voltage	
control supply voltage at DC rated value	24 V
operating range factor control supply voltage rated value of magnet coil at DC	
• initial value	0.8
full-scale value	1.1
closing power of magnet coil at DC	5.9 W
holding power of magnet coil at DC	5.9 W
closing delay	
• at DC	50 170 ms
opening delay	
• at DC	15 18 ms
arcing time	10 10 ms
control version of the switch operating mechanism	Standard A1 - A2
Auxiliary circuit	Otanidard A1 - A2
	an the fresh was detected to
design of the auxiliary switch	on the front, non-detachable
number of NC contacts for auxiliary contacts instantaneous contact	2
number of NO contacts for auxiliary contacts instantaneous contact	2
operational current at AC-12 maximum	10 A
operational current at AC-15	
• at 230 V rated value	6 A
at 400 V rated value	3 A
at 500 V rated value	2 A
at 690 V rated value	1 A
operational current at DC-12	
at 24 V rated value	10 A
	6 A
at 48 V rated value at 60 V rated value	
• at 60 V rated value	6 A
at 110 V rated value	3 A
at 125 V rated value	2 A
at 220 V rated value	1 A
at 600 V rated value	1 A 0.15 A
at 600 V rated value operational current at DC-13	0.15 A
at 600 V rated value	0.15 A 6 A
at 600 V rated value operational current at DC-13	0.15 A
at 600 V rated value operational current at DC-13 at 24 V rated value	0.15 A 6 A
at 600 V rated value operational current at DC-13 at 24 V rated value at 48 V rated value	0.15 A 6 A 2 A
 at 600 V rated value operational current at DC-13 at 24 V rated value at 48 V rated value at 60 V rated value 	0.15 A 6 A 2 A 2 A
 at 600 V rated value operational current at DC-13 at 24 V rated value at 48 V rated value at 60 V rated value at 110 V rated value 	0.15 A 6 A 2 A 2 A 1 A
at 600 V rated value operational current at DC-13 at 24 V rated value at 48 V rated value at 60 V rated value at 110 V rated value at 125 V rated value	0.15 A 6 A 2 A 2 A 1 A 0.9 A
 at 600 V rated value operational current at DC-13 at 24 V rated value at 48 V rated value at 60 V rated value at 110 V rated value at 125 V rated value at 220 V rated value 	0.15 A 6 A 2 A 2 A 1 A 0.9 A 0.3 A
at 600 V rated value operational current at DC-13 at 24 V rated value at 48 V rated value at 60 V rated value at 110 V rated value at 125 V rated value at 220 V rated value at 600 V rated value contact reliability of auxiliary contacts	0.15 A 6 A 2 A 2 A 1 A 0.9 A 0.3 A 0.1 A
at 600 V rated value operational current at DC-13 at 24 V rated value at 48 V rated value at 60 V rated value at 110 V rated value at 125 V rated value at 220 V rated value at 600 V rated value contact reliability of auxiliary contacts UL/CSA ratings	0.15 A 6 A 2 A 2 A 1 A 0.9 A 0.3 A 0.1 A
at 600 V rated value operational current at DC-13 at 24 V rated value at 48 V rated value at 10 V rated value at 110 V rated value at 125 V rated value at 220 V rated value at 600 V rated value contact reliability of auxiliary contacts UL/CSA ratings full-load current (FLA) for 3-phase AC motor	0.15 A 6 A 2 A 2 A 1 A 0.9 A 0.3 A 0.1 A 1 faulty switching per 100 million (17 V, 1 mA)
at 600 V rated value operational current at DC-13 at 24 V rated value at 48 V rated value at 60 V rated value at 110 V rated value at 125 V rated value at 220 V rated value at 600 V rated value at 600 V rated value at 600 V rated value contact reliability of auxiliary contacts UL/CSA ratings full-load current (FLA) for 3-phase AC motor at 480 V rated value	0.15 A 6 A 2 A 2 A 1 A 0.9 A 0.3 A 0.1 A 1 faulty switching per 100 million (17 V, 1 mA)
at 600 V rated value operational current at DC-13 at 24 V rated value at 48 V rated value at 60 V rated value at 110 V rated value at 125 V rated value at 220 V rated value at 600 V rated value tontact reliability of auxiliary contacts UL/CSA ratings full-load current (FLA) for 3-phase AC motor at 480 V rated value at 600 V rated value at 600 V rated value at 600 V rated value	0.15 A 6 A 2 A 2 A 1 A 0.9 A 0.3 A 0.1 A 1 faulty switching per 100 million (17 V, 1 mA)
at 600 V rated value operational current at DC-13 at 24 V rated value at 48 V rated value at 60 V rated value at 110 V rated value at 125 V rated value at 220 V rated value at 600 V rated value tontact reliability of auxiliary contacts UL/CSA ratings full-load current (FLA) for 3-phase AC motor at 480 V rated value at 600 V rated value yielded mechanical performance [hp]	0.15 A 6 A 2 A 2 A 1 A 0.9 A 0.3 A 0.1 A 1 faulty switching per 100 million (17 V, 1 mA)
at 600 V rated value operational current at DC-13 at 24 V rated value at 48 V rated value at 60 V rated value at 110 V rated value at 125 V rated value at 220 V rated value at 600 V rated value tontact reliability of auxiliary contacts UL/CSA ratings full-load current (FLA) for 3-phase AC motor at 480 V rated value at 600 V rated value at 600 V rated value at 600 V rated value	0.15 A 6 A 2 A 2 A 1 A 0.9 A 0.3 A 0.1 A 1 faulty switching per 100 million (17 V, 1 mA)

● for 3-phase AC motor — at 200/208 V rated value 10 hp — at 220/230 V rated value 10 hp — at 460/480 V rated value 25 hp — at 575/600 V rated value 25 hp contact rating of auxiliary contacts according to UL A600 / Q600		
at 200208 V rated value at 200208 V rated value at 400480 V rated value 25 hp at 575000 V rated value 25 hp at 57500 V rate	— at 230 V rated value	5 hp
at 220230 V rated value at 480485 V rated value 25 hp	 for 3-phase AC motor 	
= -at 400490 V rated value 25 hp contact rating of auxillary contacts according to UL A8007 GB00 Short activating of auxillary contacts according to UL A8007 GB00 Short activating of auxillary contacts according to UL A8007 GB00 Short activating position treaser for short-circuit protection of the auxillary circuit up to 230 V design of the maintaine cricuit breaker for short-circuit protection of the annual circuit in the period of a contact and in the period of a contact and in the period of a contact and in the period of accordination 2 required	— at 200/208 V rated value	10 hp
	— at 220/230 V rated value	10 hp
	— at 460/480 V rated value	25 hp
Short-circult protection Seeing of the misulative circuit streaker for short-circult protection of the save tiles Seeing of the misulative circuit sprotection of the fuse tiles Seeing of tiles Seeing of tiles Seeing of tiles	— at 575/600 V rated value	25 hp
design of the ministure circuit breakter for short-circuit protection of the auxiliary control up to 230 V design of the fuse link - with type of coordination 2 required - for short-circuit protection of the auxiliary switch required - fastening method 500-0-3 de mounting - solid 500-0-3 de mounting - forwards 500-0-3 de mounting - forwards 100 mm - at the side 500 mm - at the side 500 mm - at the side 600 mm - downwards 100 mm - at the side 600 mm - downwards 100 mm - at the side 600 mm - downwards 100 mm - downwards 100 mm - at the side 600 mm - downwards 100 mm - forwards	contact rating of auxiliary contacts according to UL	A600 / Q600
March Marc	Short-circuit protection	
• for short-circuit protection of the main circuit — with type of coordination 1 required • with type of coordination 2 required • for short-circuit protection of the auxiliary switch required • for short-circuit protection of the auxiliary switch required • for short-circuit protection of the auxiliary switch required • for short-circuit protection of the auxiliary switch required • for short-circuit protection of the auxiliary switch required • for short-circuit protection of the auxiliary switch required • for short-circuit protection of the auxiliary switch required • fasterining method side-by-side mounting • fasterining method • screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715 • S8 mm • with side-by-side mounting • for main side mounting • for main side mounting • for main command • for main contacts • solid or stranded • finely stranded with core end processing • for wide additional processing • for wide additional processing		C characteristic: 10 A; 0.4 kA
	design of the fuse link	
Accordance Sci. 20 (890 V. 100 kA), abit 25 A (890 V. 100 kA), BS88: 50 A (415 V. 80 kA)	 for short-circuit protection of the main circuit 	
National protection of the auxiliary switch required Installation/mounting protection of the auxiliary switch required Installation/mounting protection in mounting protection of the auxiliary switch required and backward by 47-225° on vertical mounting surface; can be tilted forward and backward by 47-225° on vertical mounting surface; can be tilted forward and backward by 47-225° on vertical mounting surface; can be tilted forward and backward by 47-225° on vertical mounting surface; can be tilted forward and backward by 47-225° on vertical mounting surface; can be tilted forward and backward by 47-225° on vertical mounting surface; can be tilted forward and backward by 47-225° on vertical mounting surface; can be tilted forward and backward by 47-225° on vertical mounting surface; can be tilted forward and backward by 47-225° on vertical mounting surface; can be tilted forward and backward by 47-225° on vertical mounting surface; can be tilted forward and backward by 47-225° on vertical mounting surface; can be tilted forward and backward by 47-225° on vertical mounting surface; can be tilted forward and backward by 47-225° on vertical mounting surface; can be tilted forward and backward by 47-225° on vertical mounting surface; can be tilted forward and backward by 47-225° on vertical mounting surface; can be tilted forward and backward by 47-225° on vertical mounting surface; can be tilted forward and backward by 47-225° on vertical mounting surface; can be tilted forward and backward by 47-225° on vertical mounting surface; can be tilted forward and backward by 47-225° on vertical mounting surface; can be tilted forward and backward by 47-225° on vertical mounting surface; can be tilted forward and backward by 47-225° on vertical mounting surface; can be tilted forward and backward by 47-225° on vertical mounting surface; can be tilted forward and backward by 47-225° on vertical mounting surface; can be tilted forward and backward by 47-225° on vertical mounting surface; can be tilted forward and backward	— with type of coordination 1 required	
National protection of the auxiliary switch required Installation/mounting protection of the auxiliary switch required Installation/mounting protection in mounting protection of the auxiliary switch required and backward by 47-225° on vertical mounting surface; can be tilted forward and backward by 47-225° on vertical mounting surface; can be tilted forward and backward by 47-225° on vertical mounting surface; can be tilted forward and backward by 47-225° on vertical mounting surface; can be tilted forward and backward by 47-225° on vertical mounting surface; can be tilted forward and backward by 47-225° on vertical mounting surface; can be tilted forward and backward by 47-225° on vertical mounting surface; can be tilted forward and backward by 47-225° on vertical mounting surface; can be tilted forward and backward by 47-225° on vertical mounting surface; can be tilted forward and backward by 47-225° on vertical mounting surface; can be tilted forward and backward by 47-225° on vertical mounting surface; can be tilted forward and backward by 47-225° on vertical mounting surface; can be tilted forward and backward by 47-225° on vertical mounting surface; can be tilted forward and backward by 47-225° on vertical mounting surface; can be tilted forward and backward by 47-225° on vertical mounting surface; can be tilted forward and backward by 47-225° on vertical mounting surface; can be tilted forward and backward by 47-225° on vertical mounting surface; can be tilted forward and backward by 47-225° on vertical mounting surface; can be tilted forward and backward by 47-225° on vertical mounting surface; can be tilted forward and backward by 47-225° on vertical mounting surface; can be tilted forward and backward by 47-225° on vertical mounting surface; can be tilted forward and backward by 47-225° on vertical mounting surface; can be tilted forward and backward by 47-225° on vertical mounting surface; can be tilted forward and backward by 47-225° on vertical mounting surface; can be tilted forward and backward	 — with type of coordination 2 required 	gG: 50 A (690 V, 100 kA), aM: 25 A (690 V, 100 kA), BS88: 50 A (415 V, 80 kA)
Installation/ mounting/ dimensions mounting position	 for short-circuit protection of the auxiliary switch required 	gG: 10 A (500 V, 1 kA)
#15180** rotation possible on vertical mounting surface: can be tilted forward and backward by +/- 22.5° on vertical mounting surface: can be tilted forward and backward by +/- 22.5° on vertical mounting surface: can be tilted forward and backward by +/- 22.5° on vertical mounting surface: can be tilted forward and backward by +/- 22.5° on vertical mounting surface: can be tilted forward and backward by +/- 22.5° on vertical mounting surface: can be tilted forward and backward by +/- 22.5° on vertical mounting surface: can be tilted forward and backward by +/- 22.5° on vertical mounting surface: can be tilted forward and backward by +/- 22.5° on vertical mounting surface: can be tilted forward and backward by +/- 22.5° on vertical mounting surface: can be tilted forward and backward by +/- 22.5° on vertical mounting surface: can be tilted forward and backward by +/- 22.5° on vertical mounting surface: can be tilted forward and backward by +/- 22.5° on vertical mounting surface: can be tilted forward and backward by +/- 22.5° on vertical mounting surface: can be tilted forward and backward by +/- 22.5° on vertical mounting surface: can be tilted forward and backward by +/- 22.5° on vertical mounting surface: can be tilted forward and backward by +/- 22.5° on vertical mounting surface: can be tilted forward and packward and	Installation/ mounting/ dimensions	
sakening method side-by-side mounting fastening method side-by-side mounting fastening method screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715 height width 45 mm depth 151 mm required spacing • with side-by-side mounting — forwards — upwards — of ownwards — upwards — of ownwards — of ownwards — of ownwards — of ownwards — upwards — of ownwards — of ownwards — of ownwards — upwards — of ownwards — of ownwards — upwards — of ownwards — of in live parts — forwards — ownwards — ownwards — ownwards — of man — ownwards — of man — ownwards — ownwards — ownwards — ownwards — ownwards — of man — ownwards — ownwards — ownwards — ownwards — ownwards — of man — ownwards — ownwar		+/-180° rotation possible on vertical mounting surface; can be tilted forward and
Secrew and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715		
height width 45 mm depth 151 mm required spacing 151 mm • with side-by-side mounting 10 mm — forwards 10 mm — upwards 10 mm — downwards 0 mm — for grounded parts 10 mm — forwards 10 mm — upwards 10 mm — at the side 6 mm — downwards 10 mm — for live parts 10 mm — for wards 10 mm — downwards 10 mm — downwards 10 mm — downwards 10 mm — downwards 10 mm — at the side 6 mm Connections/ Torminals 5 mm type of electrical connection 6 mm • for main current circuit screw-type terminals • at contactor for auxiliary contacts Screw-type terminals • of main current circuit screw-type terminals • for main current circuit screw-type terminals • for main current circuit screw-type terminal	fastening method side-by-side mounting	Yes
width 45 mm depth 151 mm required spacing 151 mm e with side-by-side mounting 10 mm — forwards 10 mm — downwards 10 mm — at the side 0 mm • for grounded parts 10 mm — upwards 10 mm — at the side 6 mm — downwards 10 mm • for live parts 10 mm — forwards 10 mm — upwards 10 mm — downwards 10 mm — for ive parts 10 mm — for ive parts 5 mm Oconsections Terminals 5 crew-type terminals type of electrical connection 5 crew-type terminals • for main current circuit 5 crew-type terminals • for main current circuit 5 crew-type	fastening method	screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715
width 45 mm depth 151 mm required spacing 10 mm - with side-by-side mounting 10 mm - paywards 10 mm - downwards 10 mm - at the side 0 mm • for grounded parts 10 mm - upwards 10 mm - at the side 6 mm - downwards 10 mm - for live parts 10 mm - for wards 10 mm - upwards 10 mm - downwards 10 mm - for ive parts 10 mm - for ive parts 10 mm - for main contact screw-type terminals type of electrical connection screw-type terminals • for main contacts screw-type terminals • for main contacts screw-type terminals </td <td></td> <td></td>		
New Nith side-by-side mounting		45 mm
New Nith side-by-side mounting		151 mm
	·	
forwards upwards upwards downwards downwards downwards downwards at the side downwards upwards for grounded parts forwards upwards upwards downwards upwards downwards downwards downwards downwards downwards downwards upwards downwards upwards upwards upwards downwards upwards downwards upwards downwards dow		
— upwards 10 mm — downwards 10 mm — at the side 0 mm • for grounded parts 10 mm — upwards 10 mm — at the side 6 mm — downwards 10 mm — downwards 10 mm — upwards 10 mm — upwards 10 mm — downwards 10 mm — for main cortactic screw-type terminals • for main cortacts screw-type terminals • for main contacts 2x (1 2.5 mm²)	•	10 mm
- downwards - at the side 0 mm - at the side 10 mm - for grounded parts - forwards 10 mm - at the side 6 mm - at the side 6 mm - downwards 10 mm - if ive parts - forwards 10 mm - upwards 10 mm - upwards 10 mm - upwards 10 mm - at the side 6 mm - upwards 10 mm - at the side 6 mm - at the side 6 mm - connections/ Terminals **Type of electrical connection • for main current circuit screw-type terminals • at contactor for auxiliary contacts • of magnet coil screw-type terminals • for naincurrent circuit screw-type terminals • at contactor for auxiliary contacts • of magnet coil screw-type terminals • for main contacts - solid Screw-type terminals • for main contacts - solid - solid or stranded 2x (1 2.5 mm²), 2x (2.5 10 mm²) • for AWG cables for main contacts • solid 1 10 mm² • stranded 1 10 mm² • stranded 5 2.5 mm², 2x (2.5 6 mm²), 1x 10 mm² • stranded 1 10 mm² • stranded 1 10 mm² • stranded 5 2.5 mm² • finely stranded with core end processing 1 10 mm² • stranded 6 10 mm² • stranded 6 2.5 mm² • solid or stranded 9 10 mm² • stranded 1 10 mm² • stranded 6 10 mm² • stranded 7 10 mm² • stranded 6 10 mm² • stranded 6 10 mm² • stranded 7 10 mm² • stranded 6 10 mm² • stranded 6 10 mm² • stranded 7 10 mm² • stranded 6 10 mm² • stranded 7 10 mm² • stranded 8 10 mm² • stranded 9 10 mm² • stranded 1 10 mm²		
- at the side • for grounded parts - forwards - upwards - upwards - at the side - downwards • for live parts - forwards - upwards - forwards - forwards - forwards - forwards - upwards - downwards - downwards - at the side - formaliconnections - for main current circuit • for auxiliary and control circuit • at contactor for auxiliary contacts • of magnet coil - solid or stranded - solid or stranded - finely stranded with core end processing • for AWG cables for main contacts • solid • stranded • finely stranded • finely stranded with core end processing	·	
for grounded parts — forwards — upwards — at the side — downwards — forwards — forwards — at the side — downwards — forwards — forwards — upwards — forwards — upwards — upwards — upwards — upwards — upwards — upwards — downwards — at the side — at the side Connections/ Torminals type of electrical connection • for main current circuit • for auxiliary and control circuit • for auxiliary and control circuit • at contactor for auxiliary contacts • of magnet coil type of connectable conductor cross-sections • for main contacts — solid — solid or stranded — finely stranded with core end processing • for AWG cables for main contacts • solid		
forwards 10 mm 10 mm upwards 10 mm upwards 10 mm upwards 10 mm upwards 10 mm downwards 10 mm downwards 10 mm upwards 10 mm downwards 10 mm downwards 10 mm upwards 10 mm upwards 10 mm downwards 10 mm upwards upwards 10 mm upwards		Ollini
- upwards - at the side - downwards • for live parts - forwards - upwards - upwards - upwards - upwards - upwards - upwards - downwards - downwards - at the side Connections/ Terminals type of electrical connection • for auxiliary and control circuit • for auxiliary and control circuit • at contactor for auxiliary contacts • of magnet coil type of connectable conductor cross-sections • for main contacts - solid - solid or stranded - finely stranded with core end processing • for AWG cables for main contacts • solid • finely stranded with core end processing	-	10 mm
- at the side - downwards 10 mm • for live parts - forwards 10 mm - upwards 10 mm - downwards 10 mm - downwards 10 mm - downwards 10 mm - at the side 6 mm Connections/ Terminals type of electrical connection • for main current circuit • for auxiliary and control circuit • at contactor for auxiliary contacts • of magnet coil type of connectable conductor cross-sections • for main contacts - solid - solid or stranded - finely stranded with core end processing • finely stranded with core end processing		
- downwards • for live parts - forwards - upwards - upwards - downwards - downwards - at the side Connections/ Terminals type of electrical connection • for auxiliary and control circuit • for auxiliary and control circuit • at contactor for auxiliary contacts • of magnet coil type of connectable conductor cross-sections • for main contacts - solid - solid or stranded - finely stranded with core end processing • finely stranded with core end processing • finely stranded with core end processing • for mentable conductor cross-section for main contacts • solid • stranded • finely stranded with core end processing • solid or stranded • finely stranded with core end processing • finely stranded • finely stranded with core end processing • finely stranded • finely stranded with core end processing	·	
• for live parts forwards upwards downwards at the side Connections/ Terminals type of electrical connection • for main current circuit • for auxiliary and control circuit • for auxiliary and control circuit • of magnet coil type of connectable conductor cross-sections • for main contacts solid solid or stranded finely stranded with core end processing • finely stranded with core end processing 0.5 2.5 mm² type of connectable conductor cross-sections		
- forwards		10 mm
- upwards - downwards - at the side Connections/ Terminals type of electrical connection • for main current circuit • for auxiliary and control circuit • at contactor for auxiliary contacts • of magnet coil type of connectable conductor cross-sections • for main contacts - solid - solid or stranded - finely stranded with core end processing • solid or stranded • finely stranded with core end processing • solid or stranded • finely stranded with core end processing • solid or stranded • finely stranded with core end processing • solid or stranded • finely stranded with core end processing • solid or stranded • finely stranded with core end processing type of connectable conductor cross-sections	•	
- downwards - at the side Connections/ Terminals type of electrical connection • for main current circuit • for auxiliary and control circuit • at contactor for auxiliary contacts • of magnet coil type of connectable conductor cross-sections • for main contacts - solid - solid or stranded - finely stranded with core end processing • finely stranded with core end processing		
- at the side 6 mm Connections/ Terminals type of electrical connection • for main current circuit screw-type terminals • at contactor for auxiliary and control circuit screw-type terminals • at contactor for auxiliary contacts Screw-type terminals • of magnet coil Screw-type terminals • for main contacts - solid - solid or stranded - finely stranded with core end processing • for AWG cables for main contacts • solid • stranded • finely stranded with core end processing • solid or stranded • finely stranded with core end processing • solid or stranded • finely stranded with core end processing • solid or stranded • finely stranded with core end processing type of connectable conductor cross-section for auxiliary contacts • solid or stranded • finely stranded with core end processing type of connectable conductor cross-sections	·	
type of electrical connection	— downwards	10 mm
type of electrical connection • for main current circuit • for auxiliary and control circuit • at contactor for auxiliary contacts • of magnet coil type of connectable conductor cross-sections • for main contacts — solid — solid or stranded — finely stranded with core end processing • solid • stranded • finely stranded with core end processing • solid • stranded • finely stranded with core end processing • finely stranded with core end processing • finely stranded with core end processing • solid or stranded • finely stranded with core end processing • solid or stranded • finely stranded with core end processing type of connectable conductor cross-sections	— at the side	6 mm
 for main current circuit for auxiliary and control circuit at contactor for auxiliary contacts of magnet coil Screw-type terminals 4x (1 2.5 mm²), 2x (2.5 10 mm²) 1x (10 2	Connections/ Terminals	
 for auxiliary and control circuit at contactor for auxiliary contacts of magnet coil Screw-type terminals type of connectable conductor cross-sections for main contacts — solid — solid or stranded — finely stranded with core end processing of or AWG cables for main contacts e solid 1 10 mm² otranded otranded	type of electrical connection	
at contactor for auxiliary contacts of magnet coil type of connectable conductor cross-sections of or main contacts - solid - solid or stranded - finely stranded with core end processing of the stranded	for main current circuit	screw-type terminals
• of magnet coil type of connectable conductor cross-sections • for main contacts solid solid or stranded finely stranded with core end processing • for AWG cables for main contacts solid solid or stranded with core end processing • for AWG cables for main contacts solid solid or stranded with core end processing finely stranded with core end processing solid solid solid solid solid 1 10 mm² solid solid 1 10 mm² solid 1 10 mm² solid 1 10 mm² solid 1 10 mm²	 for auxiliary and control circuit 	screw-type terminals
type of connectable conductor cross-sections • for main contacts — solid — solid or stranded — solid or stranded — finely stranded with core end processing — for AWG cables for main contacts • solid • stranded • stranded • finely stranded with core end processing • solid • stranded • finely stranded with core end processing • solid • stranded • finely stranded with core end processing • finely stranded with core end processing • solid or stranded • finely stranded • finely stranded • finely stranded with core end processing • solid or stranded • finely stranded with core end processing • finely stranded with core end processing • solid or stranded • finely stranded with core end processing • finely stranded conductor cross-sections	 at contactor for auxiliary contacts 	Screw-type terminals
 for main contacts — solid — solid or stranded — solid or stranded — finely stranded with core end processing • for AWG cables for main contacts • solid • stranded • finely stranded with core end processing • stranded • stranded • finely stranded with core end processing • finely stranded with core end processing • finely stranded with core end processing • solid or stranded • finely stranded • finely stranded with core end processing • solid or stranded • finely stranded with core end processing • finely stranded wit	• of magnet coil	Screw-type terminals
 for main contacts — solid — solid or stranded — solid or stranded — finely stranded with core end processing • for AWG cables for main contacts • solid • stranded • finely stranded with core end processing • stranded • stranded • finely stranded with core end processing • finely stranded with core end processing • finely stranded with core end processing • solid or stranded • finely stranded • finely stranded with core end processing • solid or stranded • finely stranded with core end processing • finely stranded wit	type of connectable conductor cross-sections	
- solid - solid or stranded 2x (1 2.5 mm²), 2x (2.5 10 mm²) - solid or stranded 2x (1 2.5 mm²), 2x (2.5 10 mm²) - finely stranded with core end processing 2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm² • for AWG cables for main contacts 2x (16 12), 2x (14 8) connectable conductor cross-section for main contacts • solid 1 10 mm² • stranded 1 10 mm² • finely stranded with core end processing 1 10 mm² connectable conductor cross-section for auxiliary contacts • solid or stranded 0.5 2.5 mm² • finely stranded with core end processing 0.5 2.5 mm² type of connectable conductor cross-sections		
- solid or stranded - finely stranded with core end processing - for AWG cables for main contacts • for AWG cables for main contacts • solid • stranded • finely stranded with core end processing • stranded • finely stranded with core end processing connectable conductor cross-section for auxiliary contacts • solid or stranded • finely stranded with core end processing connectable conductor cross-section for auxiliary contacts • solid or stranded • finely stranded with core end processing type of connectable conductor cross-sections		2x (1 2.5 mm²), 2x (2.5 10 mm²)
 finely stranded with core end processing for AWG cables for main contacts solid stranded finely stranded with core end processing finely stranded with core end processing solid or stranded finely stranded with core end processing finely stranded with core end processing solid or stranded finely stranded with core end processing solid or stranded finely stranded with core end processing finely stranded with core end processing finely connectable conductor cross-sections 		
 for AWG cables for main contacts connectable conductor cross-section for main contacts solid stranded finely stranded with core end processing connectable conductor cross-section for auxiliary contacts solid or stranded finely stranded with core end processing 0.5 2.5 mm² finely stranded with core end processing 2x (16 12), 2x (14 8) 		
connectable conductor cross-section for main contacts • solid • stranded • finely stranded with core end processing connectable conductor cross-section for auxiliary contacts • solid or stranded • finely stranded with core end processing 0.5 2.5 mm² type of connectable conductor cross-sections		
solid stranded stranded inely stranded with core end processing connectable conductor cross-section for auxiliary contacts solid or stranded inely stranded with core end processing 0.5 2.5 mm² finely stranded with core end processing very stranded with core end processing		=x(.o.m.12), =x(m.o)
stranded inely stranded with core end processing connectable conductor cross-section for auxiliary contacts solid or stranded inely stranded with core end processing type of connectable conductor cross-sections 1 10 mm² 1 10 mm² 0.5 2.5 mm² 0.5 2.5 mm² type of connectable conductor cross-sections		1 10 mm ²
 finely stranded with core end processing connectable conductor cross-section for auxiliary contacts solid or stranded finely stranded with core end processing type of connectable conductor cross-sections 1 10 mm² 0.5 2.5 mm² 0.5 2.5 mm² type of connectable conductor cross-sections		
connectable conductor cross-section for auxiliary contacts • solid or stranded • finely stranded with core end processing type of connectable conductor cross-sections 0.5 2.5 mm² 0.5 2.5 mm²		
 solid or stranded finely stranded with core end processing type of connectable conductor cross-sections 		1 1 v (IIII)
• finely stranded with core end processing 0.5 2.5 mm² type of connectable conductor cross-sections	· · · · · · · · · · · · · · · · · · ·	0.5 2.5 mm²
type of connectable conductor cross-sections		
		U.D ∠.D MM*
• for auxiliary contacts	• •	
	for auxiliary contacts	

 — solid or stranded 	2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²)
 finely stranded with core end processing 	2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²)
for AWG cables for auxiliary contacts	2x (20 16), 2x (18 14)
AWG number as coded connectable conductor cross section for main contacts	16 8
AWG number as coded connectable conductor cross section for auxiliary contacts	20 14
Safety related data	
product function	
 mirror contact according to IEC 60947-4-1 	Yes
 positively driven operation according to IEC 60947-5-1 	No
suitable for safety function	Yes
suitability for use safety-related switching OFF	Yes
service life maximum	20 a
test wear-related service life necessary	Yes
proportion of dangerous failures	
 with low demand rate according to SN 31920 	40 %
with high demand rate according to SN 31920	73 %
B10 value with high demand rate according to SN 31920	1 000 000
failure rate [FIT] with low demand rate according to SN 31920	100 FIT
ISO 13849	
device type according to ISO 13849-1	3
overdimensioning according to ISO 13849-2 necessary	Yes
IEC 61508	
safety device type according to IEC 61508-2	Type A
Electrical Safety	
protection class IP on the front according to IEC 60529	IP20
touch protection on the front according to IEC 60529	finger-safe, for vertical contact from the front
Approvals Certificates	
General Product Approval	













<u>KC</u>

General Product Approval

EMV

Test Certificates

Maritime application





Special Test Certificate

Type Test Certificates/Test Report





Maritime application





LRS





Miscellaneous

other



other

Railway

Dangerous goods

Environment

Confirmation

Special Test Certificate

Transport Information



Environmental Confirmations

Further information

Information on the packaging

https://support.industry.siemens.com/cs/ww/en/view/109813875

Information for data generation and storage

https://support.industry.siemens.com/cs/ww/en/view/109995012

Information- and Downloadcenter (Catalogs, Brochures,...)

https://www.siemens.com/ic10

Industry Mall (Online ordering system)

https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RT2028-1BB44-3MA0

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2028-1BB44-3MA0

Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

https://support.industry.siemens.com/cs/ww/en/ps/3RT2028-1BB44-3MA0

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)

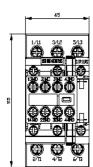
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2028-1BB44-3MA0&lang=en

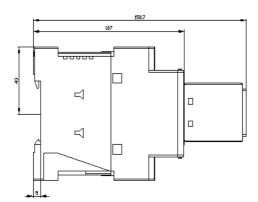
Characteristic: Tripping characteristics, I2t, Let-through current

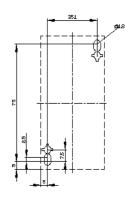
https://support.industry.siemens.com/cs/ww/en/ps/3RT2028-1BB44-3MA0/char

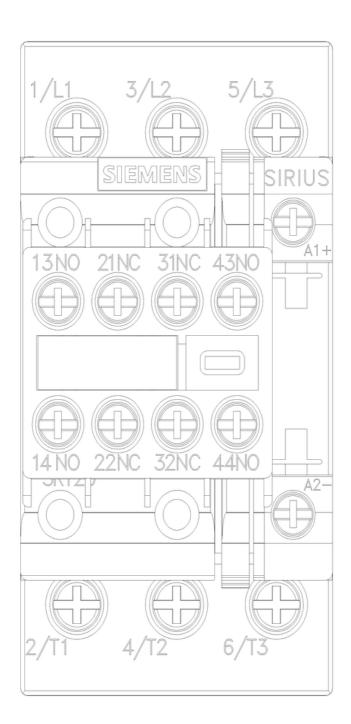
Further characteristics (e.g. electrical endurance, switching frequency)

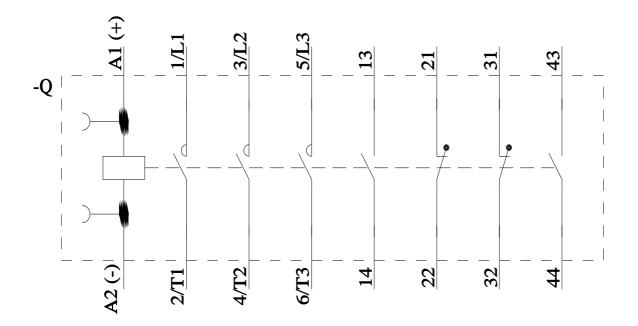
http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2028-1BB44-3MA0&objecttype=14&gridview=view1











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