SIEMENS

Data sheet 3RT2028-1AF04



Contactor, AC-3, 18.5 kW / 400 V, 2 NO + 2 NC, 110 V AC, 50 Hz, 3-pole, Size S0 Screw terminal Removable auxiliary switch

product brand name	SIRIUS
product designation	Power contactor
product type designation	3RT2
General technical data	
size of contactor	SO
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	11.4 W
• per pole	3.8 W
power loss [W] for rated value of the current without load current share typical	9.8 W
surge voltage resistance	
 of main circuit rated value 	6 kV
of auxiliary circuit rated value	6 kV
maximum permissible voltage for safe isolation between coil and main contacts acc. to EN 60947-1	400 V
shock resistance at rectangular impulse	
• at AC	8,3g / 5 ms, 5,3g / 10 ms
shock resistance with sine pulse	
• at AC	13,5g / 5 ms, 8,3g / 10 ms
mechanical service life (switching 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 acc. to IEC 81346-2	Q
Substance Prohibitance (Date)	01.10.2009 00:00:00
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
Main circuit	
number of poles for main current circuit	3
number of NO contacts for main contacts	3
operating voltage at AC-3 rated value maximum	690 V

operational current	F0.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	
— 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 value 	31.5 A
• at AC-6a	
 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 at AC-6a 	21 A
— 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 mm ²
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 110 V rated value	4.5 A
— at 220 V rated value	1A
— 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 110 V rated value	35 A
— at 220 V rated value	5 A
— at 440 V rated value	1 A
— at 600 V rated value	0.8 A
with 3 current paths in series at DC-1	05.4
— at 24 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 600 V rated value	1.4 A
operational current	
at 1 current path at DC-3 at DC-5 at 24 V retail value.	20. A
— at 24 V rated value	20 A

— at 110 V rated value	2.5 A
— at 220 V rated value	1 A
— 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 	
— at 24 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 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
operating power for approx. 200000 operating cycles	
at AC-4	
 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 kV·A
 up to 400 V for current peak value n=20 rated value 	21.3 kV·A
 up to 500 V for current peak value n=20 rated value 	26.6 kV·A
up to 690 V for current peak value n=20 rated value	25 kV·A
operating apparent power at AC-6a	
 up to 230 V for current peak value n=30 rated value 	8.1 kV·A
 up to 400 V for current peak value n=30 rated value 	14.2 kV·A
 up to 500 V for current peak value n=30 rated value 	18.5 kV·A
up to 690 V for current peak value n=30 rated value	25 kV·A
short-time withstand current in cold operating state	
up to 40 °C	E02 A: Lies minimum gross section and to AC 1 rated value
limited to 1 s switching at zero current maximum limited to 5 s switching at zero current maximum	593 A; Use minimum cross-section acc. to AC-1 rated value
limited to 5 s switching at zero current maximum limited to 10 s switching at zero current maximum	395 A; Use minimum cross-section acc. to AC-1 rated value
limited to 10 s switching at zero current maximum limited to 20 s switching at zero current maximum	260 A; Use minimum cross-section acc. to AC-1 rated value 186 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 30 s switching at zero current maximum limited to 60 s switching at zero current maximum 	150 A; Use minimum cross-section acc. to AC-1 rated value 152 A; Use minimum cross-section acc. to AC-1 rated value
no-load switching frequency	102 A, 030 Hillillium Gloss-section dut. to AC-1 Tateu value
at AC	5 000 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-4 maximum	250 1/h
Control circuit/ Control	
type of voltage of the control supply voltage	AC
control supply voltage at AC	
• at 50 Hz rated value	110 V
operating range factor control supply voltage rated	
value of magnet coil at AC	
● at 50 Hz	0.8 1.1
apparent pick-up power of magnet coil at AC	
● at 50 Hz	77 V·A

industive newer factor with alsoing newer of the sail	
inductive power factor with closing power of the coil • at 50 Hz	0.82
	0.82
apparent holding power of magnet coil at AC • at 50 Hz	9.8 V·A
inductive power factor with the holding power of the	9.0 V·A
coil	
● at 50 Hz	0.25
closing delay	
• at AC	8 40 ms
opening delay	
• at AC	4 16 ms
arcing time	10 10 ms
control version of the switch operating mechanism	Standard A1 - A2
Auxiliary circuit	
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
at 48 V rated value	6 A
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	0.15 A
operational current at DC-13	
at 24 V rated value	6 A
 at 48 V rated value 	2 A
 at 60 V rated value 	2 A
• at 110 V rated value	1 A
• at 125 V rated value	0.9 A
at 220 V rated value	0.3 A
at 600 V rated value	0.1 A
contact reliability of auxiliary contacts	1 faulty switching per 100 million (17 V, 1 mA)
UL/CSA ratings	
full-load current (FLA) for 3-phase AC motor	24.4
at 480 V rated value	34 A
• at 600 V rated value	27 A
yielded mechanical performance [hp]	
for single-phase AC motor— at 110/120 V rated value	3 ho
— at 110/120 V rated value — at 230 V rated value	3 hp
for 3-phase AC motor	5 hp
— at 200/208 V rated value	10 hp
— at 220/230 V rated value — 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
Short-circuit protection	, 1000 / 1000
design of the fuse link	
for short-circuit protection of the main circuit	
with type of coordination 1 required	gG: 125A (690V,100kA), aM: 50A (690V,100kA), BS88: 125A
— with type of coordination i required	90. 120A (000 V, 100 KA), alvi. 50A (000 V, 100 KA), D300. 120A

with type of assignment 2 required • for short circuit protection of the auxiliary switch • for short circuit protection of the auxiliary switch required * for short circuit protection of the auxiliary switch * for short circuit protection of the auxiliary switch * for short circuit protection of the auxiliary switch * for short circuit protection of the auxiliary switch * for short circuit protection of the auxiliary switch * for short circuit protection of the auxiliary switch * for short circuit protection of the auxiliary switch * for short circuit protection of the auxiliary switch * for short circuit protection of the auxiliary switch * for short circuit protection of the auxiliary switch * for short circuit protection of the auxiliary switch * for short circuit protection of the auxiliary switch * for short circuit protection of the auxiliary switch * for short circuit protection of the auxiliary switch * for short circuit protection of the auxiliary switch * for short circuit protection of the auxiliary switch * for short circuit protection of the auxiliary switch * for short circuit protection of the auxiliary switch * for switch protection of the auxiliary switch		(A45)/ 90kA)
* for short-circuit protection of the auxiliary switch required installation incurrent circuited installation incurrent circuits incurred incurrent series in the side of wards of the side of the side of wards of the side of wards of the side of the side of wards of the side	with type of assignment 2 required	(415V,80kA)
required missalfation mounting dimensions mounting position fastening method side-by-side mounting height side-by-side mounting height side-by-side mounting required spacing with side-by-side mounting - forwards - upwards - upwards - upwards - upwards - of orwards - upwards - of rowards - ownwards -	— with type of assignment 2 required	
mounting position forward and backward by 4'.2.2.5 in own vertical mounting surface. can be titled forward and backward by 4'.2.2.5 in own? side-by-side mounting e-side-by-side mounting required spacing with depth forwards - downwards - downwards - at the side of orgrounded parts - forwards - downwards - downwards - forwards - forwards - for live parts - forwards - at the side - downwards - for live parts - forwards - for live parts - forwards - for live parts - for live parts - for wards - at the side - downwards - for live parts - for wards - for main current circuit of or auxillary and control circuit of ro auxillary and control circuit - solid or stranded - finely stranded with core end processing or at AWG cables for main contacts - solid - solid or stranded of finely stranded with core end processing of normal contacts or stranded of inely stranded with core end processing onnectable conductor cross-section for main contacts onnectable conductor cross-section for auxilliary contacts onnectable conductor cross-section for auxilliary contacts of finely stranded with core end processing onnectable conductor cross-section for auxilliary contacts of or auxillary contacts of or auxil		gG: 10 A (500 V, 1 kA)
forward and backward by +f-225' on vertical mounting surface side-by-side mounting view of the side-by-side mounting view of the side-by-side mounting surface with mounting surface with mounting surface or fide the side-by-side mounting surface with mounting sufface or fide the side-by-side mounting sufface view of the side-by-side mounting view of the	Installation/ mounting/ dimensions	
Fastening method • side-by-side mounting height width depth - forwards - upwards - downwards - at the side - forgrounded parts - forwards - the side - forgrounded parts - forwards - the side - forwards - the side - forwards - the side - downwards - to mm - upwards - to mm - the side - downwards - for live parts - forwards - to live parts - forwards - to main current circuit - otor auxiliary and control circuit - for auxiliary and control circuit - at the side - solid - solid - solid or stranded - finely stranded with core end processing - solid - sinely canned the conductor cross-sections - 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 - 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 - 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 - solid or stranded - finely stranded with core end processing - solid or stranded - finely stranded with core end processing	mounting position	
e side-by-side mounting yes height width dopth 14.1 mm required spacing • with side-by-side mounting — forwards — upwards — downwards — ownwards — 10 mm — ownwards — ownwards — 10 mm — ownwards — ownwards — ownwards — 10 mm — ownwards — ownwards — ownwards — 10 mm — ownwards — ownw		
helght width 45 mm 45 mm 45 mm 46 mm 46 mm 46 mm 46 mm 47 mm 48 mm	· ·	according to DIN EN 60715
width depth dept		
required spacing • with side-by-side mounting — forwards — upwards — downwards — at the side • for grounded parts — forwards — upwards — towards — upwards — towards — upwards — towards — upwards — towards — upwards — towards — upwards — upwards — towards — towards — to mm Connections/ Terminals type of electrical connection • for main current circuit • for auxiliary and control circuit • for auxiliary and control circuit • for for main 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 • for auxiliary contacts • solid or stranded • finely stranded with core end processing • finely stranded with core end processing • for auxiliary contacts • solid or stranded • finely stranded with core end processing • for auxiliary contacts • solid or stranded • finely stranded with core end processing • for auxiliary contacts • solid or stranded • finely stranded with core end processing • for auxiliary contacts • solid or stranded • finely stranded with core end processing • for auxiliary contacts • solid or stranded — finely stranded with core end processing • for auxiliary contacts • solid or stranded — finely stranded with core end processing • for auxiliary contacts • solid or stranded — finely stranded with core end processing • for auxiliary contacts — solid or stranded — finely stranded with core end processing		
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with side-by-side mounting - forwards - upwards - downwards - at the side - for grounded parts - forwards - upwards - at the side - for grounded parts - forwards - at the side - downwards - at the side - downwards - at the side - downwards - for live parts - forwards - for live parts - forwards - upwards - forwards - upwards - forwards - upwards - downwards - upwards - downwards - at the side - downwards - at the side - for auxiliary and source circuit - for auxiliary and control circuit - for auxiliary and control circuit - at contactor for auxiliary contacts - solid or stranded - finely stranded with core end processing - solid or stranded - finely stranded with core end processing - finely stranded w	•	141 111111
forwards upwards upwards downwards downwards at the side downwards at the side for grounded parts forwards upwards upwards upwards upwards upwards upwards downwards upwards downwards upwards downwards upwards for live parts forwards upwards		
- upwards - downwards - at the side • for grounded parts - forwards - upwards - at the side - upwards - at the side - downwards - at the side - downwards - for live parts - forwards - upwards - downwards - downwards - downwards - at the side - for auxiliary and control circuit - for auxiliary and control circuit - for auxiliary and control circuit - so for auxiliary and control circuit - so for auxiliary and control circuit - for auxiliary and control circuit - so for agent coil type of electrical connection - for main contacts - solid - solid - solid or 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 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 - 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 - solid or stranded - solid		10 mm
downwards at the side for grounded parts forwards upwards upwards at the side downwards at the side downwards at the side downwards forwards upwards forwards upwards forwards upwards forwards upwards downwards downwards downwards downwards at the side solid solid art contactor for auxiliary contacts solid solid art anded finely stranded with core end processing at AWG cables for main contacts solid		
- at the side 0 mm • for grounded parts - forwards 10 mm - upwards 10 mm - at the side 6 mm - downwards 10 mm • for live parts - forwards 10 mm - upwards 10 mm - upwards 10 mm - upwards 10 mm - upwards 10 mm - at the side 6 mm Connections/ Terminals type of electrical connection • for main current circuit screw-type terminals • for auxillary and control circuit screw-type terminals • at contactor for auxillary contacts screw-type terminals • of magnet coil type of connectable conductor cross-sections • for main contacts - solid	•	
• for grounded parts - forwards - upwards - at the side - downwards • for live parts - forwards - upwards • for live parts - forwards - upwards - upwards - upwards - upwards - upwards - at the side - downwards - at the side - downwards - at the side - forwards - at the side - for auxiliary and control 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 - solid or stranded - finely stranded with core end processing - at AWG cables for main contacts - solid - solid - solid - stranded - finely stranded with core end processing - ta AWG cables for main contacts - solid - solid - stranded - finely stranded with core end processing - tinely stranded with core end processing - finely stranded with core end processing - tinely stranded with core end processing - finely stranded with core end processing - for auxiliary contacts - solid or stranded - finely stranded with core end processing - for auxiliary contacts - solid or stranded - finely stranded with core end processing - for auxiliary contacts - solid or stranded - finely stranded with core end processing - for auxiliary contacts - solid or stranded - finely stranded with core end processing - for auxiliary contacts - solid or stranded - finely stranded with core end processing - for auxiliary contacts - solid or stranded - finely stranded with core end processing - for auxiliary contacts - solid or stranded - finely stranded with core end processing		
- forwards - upwards - at the side - downwards - for live parts - forwards - upwards - for live parts - forwards - upwards - forwards - upwards - downwards - downwards - downwards - downwards - downwards - at the side - formal connections - for axiliary contacts - for axiliary and control circuit - for axiliary contacts - solid - solid or stranded - finely stranded with core end processing - solid or stranded - finely stranded with core end processing - for axiliary 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 - 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 - 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 - 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		O IIIIII
- upwards - at the side 6 mm - downwards • for live parts - forwards - upwards - downwards - upwards - downwards - downwards - downwards - downwards - 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 • stranded • finely stranded with core end processing connectable conductor cross-section for auxiliary contacts • 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 - 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 - 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 - 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 - solid or stranded - finely stranded with core end processing		10 mm
- at the side — downwards — 10 mm • for live parts — forwards — 10 mm — at the side — downwards — 10 mm — at the side — 10 mm — at the side — 6 mm Connections/ Torminals type of electrical connection • for main current circuit screw-type terminals • at contactor for auxiliary contacts Screw-type terminals • of mayiliary and control circuit screw-type terminals • of magnet coil Screw-type terminals • for main contacts — solid Screw-type terminals • for main contacts — solid — solid or stranded — finely stranded with core end processing • at AWG cables for main contacts • solid 1 10 mm² • stranded stranded 1 10 mm² • finely stranded with core end processing 1 10 mm² • finely stranded with core end processing 1 10 mm² • stranded • finely stranded with core end processing 1 10 mm² • solid or stranded • finely stranded with core end processing 1 10 mm² • solid or stranded • finely stranded with core end processing 1 10 mm² • solid or stranded • finely stranded with core end processing 1 10 mm² • solid or stranded • finely stranded with core end processing 1 10 mm² • solid or stranded • finely stranded with core end processing 1 10 mm² • solid or stranded • finely stranded with core end processing 2x (0.5 1,5 mm²), 2x (0.75 2,5 mm²) • 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)		
- downwards • for live parts - forwards - upwards - downwards - at the side Connections/ Terminals type of electrical connection • 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 • 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 • for auxiliary contacts - solid or stranded - finely stranded with core end processing • for auxiliary contacts - solid or stranded - finely stranded with core end processing • for auxiliary contacts - 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 - solid or stranded - finely stranded with core end processing - solid or stranded - finely stranded with core end processing	·	10.000
• for live parts — forwards — 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 • stranded • finely stranded with core end processing • finely stranded of stranded • finely stranded with core end processing • for auxiliary contacts — solid or stranded — finely stranded with core end processing • for auxiliary contacts — solid or stranded — finely stranded with core end processing • for auxiliary contacts — solid or stranded — finely stranded with core end processing 2x (1 2.5 mm²), 2x (2.5 1.5 mm²), 2x (0.75 2.5 mm²) 2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²)		
forwards upwards downwards at the side Connections/ Terminals type of electrical connection • for main current 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 • stranded • finely stranded with core end processing • stranded • finely stranded with core end processing • finely stranded with core end processing • finely stranded with core end processing • solid 0 1 10 mm² solid 0 2 10 mm² ton 10 mm² t		10 111111
- upwards - downwards - at the side Connections/ Terminals type of electrical connection	•	10 mm
- 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 • 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 • 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 • solid or stranded • finely stranded with core end processing • solid or stranded • finely stranded with core end processing • for auxiliary contacts - solid or stranded - finely stranded with core end processing • for auxiliary contacts - solid or stranded - finely stranded with core end processing type of connectable conductor cross-sections • for auxiliary contacts - solid or stranded - finely stranded with core end processing 2x (0,5 1,5 mm²), 2x (0,75 2,5 mm²) - finely stranded with core end processing		
- at the side Connections/ Terminals type of electrical connection • for main current circuit screw-type terminals • at contactor for auxiliary and control circuit screw-type terminals • of magnet coil Screw-type terminals • of magnet coil Screw-type terminals • of main contacts - solid - solid 2x (1 2.5 mm²), 2x (2.5 10 mm²) - snelid or stranded 2x (1 2.5 mm²), 2x (2.5 10 mm²) • at AWG cables for main contacts • solid • stranded 1 10 mm² • stranded 5 10 mm² • inely stranded with core end processing 2x (1 2.5 mm²), 2x (14 8) connectable conductor cross-section for main contacts • solid 1 10 mm² • finely stranded with core end processing 1 10 mm² • finely stranded with core end processing 2 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 • 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)	·	
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 with core end processing • at AWG cables for main contacts connectable conductor cross-section for main contacts • solid • stranded • finely stranded with core end processing • stranded • finely stranded with core end processing • solid • stranded • finely stranded with core end processing • solid • stranded • finely stranded with core end processing • solid • stranded • finely stranded with core end processing • solid • stranded • finely stranded with core end processing connectable conductor cross-section for auxiliary contacts • 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 • for auxiliary contacts • solid or stranded • finely stranded with core end processing • for auxiliary contacts • solid or stranded — stranded — stranded with core end processing • for auxiliary contacts • solid or stranded — stranded with core end processing • for auxiliary contacts - solid or stranded — stranded with core end processing 2x (0.5 1,5 mm²), 2x (0.75 2,5 mm²)		
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 • stranded • stranded • stranded • stranded • finely stranded with core end processing • solid • stranded • finely stranded with core end processing • solid • stranded • finely stranded with core end processing • solid or stranded • finely stranded with core end processing • 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 • 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 • for auxiliary contacts — solid or stranded — finely stranded with core end processing • for auxiliary contacts — solid or stranded — finely stranded with core end processing 2x (0,5 1,5 mm²), 2x (0,75 2,5 mm²) 2x (0,5 1,5 mm²), 2x (0,75 2,5 mm²)		6 111111
• for main current circuit • for auxiliary and control circuit • at contactor for auxiliary contacts • at contactor for auxiliary contacts • of magnet coil • screw-type terminals • Screw-type termina		
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 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 at AWG cables for main contacts — solid — tinely stranded with core end processing at AWG cables for main contacts at I 10 mm² <li< td=""><td></td><td></td></li<>		
• of magnet coil type of connectable conductor cross-sections • for main contacts — solid — solid or stranded — finely stranded with core end processing • at AWG cables for main contacts 2x (1 2.5 mm²), 2x (2.5 10 mm²) 2x (1 2.5 mm²), 2x (2.5 10 mm²) 2x (1 2.5 mm²), 2x (2.5 10 mm²) 2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm² 2x (16 12), 2x (14 8) connectable conductor cross-section for main contacts • solid • stranded • finely stranded with core end processing • solid or stranded • finely stranded with core end processing • for auxiliary contacts — solid or stranded — finely stranded with core end processing • for auxiliary contacts — solid or stranded — finely stranded with core end processing 2x (0,5 1,5 mm²), 2x (0,75 2,5 mm²) 2x (0,5 1,5 mm²), 2x (0,75 2,5 mm²)		•
type of connectable conductor cross-sections • for main contacts — solid — solid or stranded — finely stranded with core end processing • at AWG cables for main contacts connectable conductor cross-section for main contacts • solid • stranded • finely stranded with core end processing • finely stranded with core end processing • 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 • for auxiliary contacts — solid or stranded — finely stranded with core end processing • for auxiliary contacts — solid or stranded — finely stranded with core end processing 2x (1 2.5 mm²), 2x (2.5 10 mm²) 2x (1 2.5 mm²), 2x (0.75 2.5 mm²) 2x (1 2.5 mm²) 2x (1 2.5 mm²), 2x (0.75 2.5 mm²)	•	
 for main contacts — solid — solid or stranded — finely stranded with core end processing • at AWG cables for main contacts • solid • stranded • finely stranded with core end processing • finely stranded with core end processing • 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 • for auxiliary contacts • for auxiliary contacts • for auxiliary contacts — solid or stranded — finely stranded with core end processing • for auxiliary contacts — solid or stranded — finely stranded with core end processing 2x (1 2.5 mm²), 2x (2.5 10 mm²) 2x (16 12), 2x (14 8) 1 10 mm² 1 10 mm² 1 10 mm² 2 10 mm	<u>_</u>	Screw-type terminals
- solid		
- solid or stranded - finely stranded with core end processing • at AWG cables for main contacts • at AWG cables for main contacts • solid • stranded • 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 • 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 • finely stranded with core end processing • finely stranded with core end processing • for auxiliary contacts - solid or stranded - finely stranded with core end processing • for auxiliary contacts - solid or stranded - finely stranded with core end processing 2x (1 2,5 mm²), 2x (2.5 6 mm²), 1x 10 mm² 2x (1 2,5 mm²), 2x (1 2,5 2,5 mm²) 2x (1 2,5 mm²), 2x (2.5 6 mm²), 1x 10 mm² 2x (1 2,5 mm²), 2x (1 2,5 mm²) 2x (1 2,5 mm²), 2x (1 2,5 mm²) 2x (1 2,5 mm²), 2x (0.75 2,5 mm²)		2v (1 2 5 mm²) 2v (2 5 10 mm²)
 finely stranded with core end processing at AWG cables for main contacts connectable conductor cross-section for main contacts solid stranded finely stranded with core end processing tonnectable conductor cross-section for auxiliary contacts solid or stranded finely stranded with core end processing solid or stranded finely stranded with core end processing type of connectable conductor cross-sections for auxiliary contacts solid or stranded for auxiliary contacts for auxiliary contacts<td></td><td></td>		
 ◆ at 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 Tund 10 mm² 1 und 10 mm² 2 und 10 mm² <li< td=""><td></td><td></td></li<>		
connectable conductor cross-section for main contacts • solid • stranded • stranded vith 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 • for auxiliary contacts - solid or stranded - stranded - finely stranded with core end processing 2x (0,5 1,5 mm²), 2x (0,75 2,5 mm²) - type of connectable conductor cross-sections - solid or stranded - finely stranded with core end processing - solid or stranded - finely stranded with core end processing		
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connectable conductor cross-section for auxiliary contacts • solid or stranded • finely stranded with core end processing type of connectable conductor cross-sections • for auxiliary contacts — solid or stranded — finely stranded with core end processing 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)	stranded	1 10 mm²
connectable conductor cross-section for auxiliary contacts • solid or stranded • finely stranded with core end processing type of connectable conductor cross-sections • for auxiliary contacts — solid or stranded — finely stranded with core end processing 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)		
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type of connectable conductor cross-sections • for auxiliary contacts — solid or stranded — finely stranded with core end processing 2x (0,5 1,5 mm²), 2x (0,75 2,5 mm²) 2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²)	 solid or stranded 	0.5 2.5 mm²
 ◆ for auxiliary contacts — solid or stranded — finely stranded with core end processing 2x (0,5 1,5 mm²), 2x (0,75 2,5 mm²) 2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²) 	 finely stranded with core end processing 	0.5 2.5 mm²
— 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)	type of connectable conductor cross-sections	
— finely stranded with core end processing 2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²)	 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)
AWG number as coded connectable conductor cross		
section	section	
• for main contacts 16 8		16 8
• for auxiliary contacts 20 14	 for auxiliary contacts 	20 14

Safety related data	
product function mirror contact acc. to IEC 60947-4-1	Yes
B10 value with high demand rate acc. to SN 31920	450 000
proportion of dangerous failures	
 with low demand rate acc. to SN 31920 	40 %
 with high demand rate acc. to SN 31920 	73 %
failure rate [FIT] with low demand rate acc. to SN 31920	100 FIT
product function positively driven operation acc. to IEC 60947-5-1	No
T1 value for proof test interval or service life acc. to IEC 61508	20 y
protection class IP on the front acc. to IEC 60529	IP20
touch protection on the front acc. to IEC 60529	finger-safe, for vertical contact from the front
suitability for use	
 safety-related switching OFF 	Yes
Cartificates / approvale	

Certificates/ approvals

General Product Approval















Functional
Safety/Safety of
Machinery

Declaration of Conformity

Test Certificates

Marine / Shipping

Type Examination
Certificate



UK Declaration of Conformity Type Test Certificates/Test Report

Special Test Certificate



Marine / Shipping











Confirmation

other

other



Confirmation

Further information

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=3RT2028-1AF04

Cax online generator

 $\underline{\text{http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en\&mlfb=3RT2028-1AF04}$

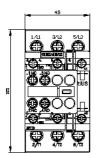
 ${\bf Service \& Support~(Manuals,~Certificates,~Characteristics,~FAQs,...)}$

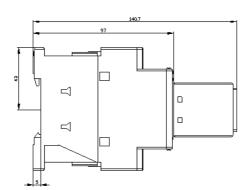
https://support.industry.siemens.com/cs/ww/en/ps/3RT2028-1AF04

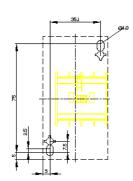
 $Image\ database\ (product\ images,\ 2D\ dimension\ drawings,\ 3D\ models,\ device\ circuit\ diagrams,\ EPLAN\ macros,\ ...)$

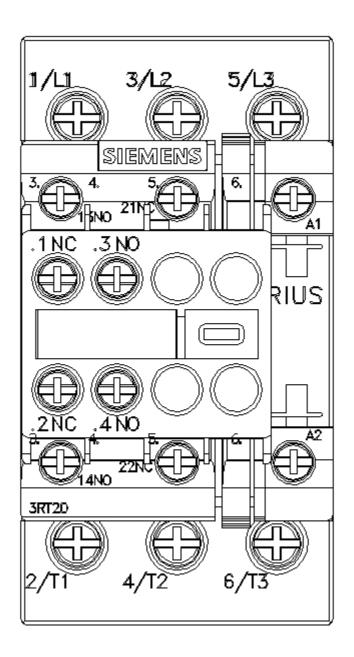
 $\underline{\text{http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2028-1AF04\&lang=en}}$

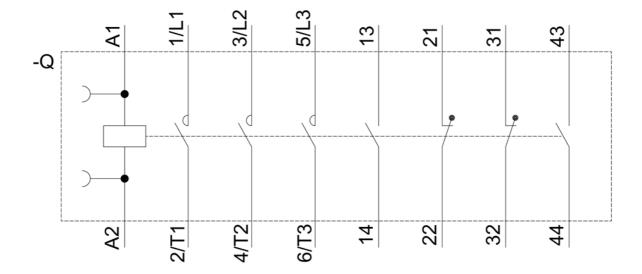
Characteristic: Tripping characteristics, I2t, Let-through current











last modified: 2/5/2021 🖸