## SIEMENS

## Data sheet

## 3RT2028-1AV00



Power contactor, AC-3 38 A, 18.5 kW / 400 V 1 NO + 1 NC, 400 V AC 50 Hz, 3-pole, size S0 screw terminals

product brand name	SIRIUS
product designation	Power contactor
product type designation	3RT2
General technical data	
size of contactor	SO
product extension	
<ul> <li>function module for communication</li> </ul>	No
auxiliary switch	Yes
power loss [W] for rated value of the current	
<ul> <li>at AC in hot operating state</li> </ul>	9.6 W
<ul> <li>at AC in hot operating state per pole</li> </ul>	3.2 W
<ul> <li>without load current share typical</li> </ul>	9.8 W
insulation voltage	
<ul> <li>of main circuit with degree of pollution 3 rated value</li> </ul>	690 V
<ul> <li>of auxiliary circuit with degree of pollution 3 rated value</li> </ul>	690 V
surge voltage resistance	
<ul> <li>of main circuit rated value</li> </ul>	6 kV
<ul> <li>of auxiliary circuit rated value</li> </ul>	6 kV
maximum permissible voltage for safe isolation between coil and main contacts according 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)	
<ul> <li>of contactor typical</li> </ul>	10 000 000
<ul> <li>of the contactor with added electronically optimized auxiliary switch block typical</li> </ul>	5 000 000
<ul> <li>of the contactor with added auxiliary switch block typical</li> </ul>	10 000 000
reference code according to IEC 81346-2	Q
Substance Prohibitance (Date)	10/01/2009
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 maximum	95 %

Main circuit	
number of poles for main current circuit	3
number of NO contacts for main contacts	3
operating voltage	
<ul> <li>at AC-3 rated value maximum</li> </ul>	690 V
<ul> <li>at AC-3e rated value maximum</li> </ul>	690 V
operational current	
<ul> <li>at AC-1 at 400 V at ambient temperature 40 °C rated value</li> </ul>	50 A
● at AC-1	
<ul> <li>— up to 690 V at ambient temperature 40 °C rated value</li> </ul>	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-3e	
— at 400 V rated value	38 A
— at 500 V rated value	32 A
— at 690 V rated value	21 A
<ul> <li>at AC-4 at 400 V rated value</li> </ul>	22 A
<ul> <li>at AC-5a up to 690 V rated value</li> </ul>	44 A
<ul> <li>at AC-5b up to 400 V rated value</li> </ul>	31.5 A
• at AC-6a	
<ul> <li>— up to 230 V for current peak value n=20 rated value</li> </ul>	30.8 A
<ul> <li>— up to 400 V for current peak value n=20 rated value</li> </ul>	30.8 A
— up to 500 V for current peak value n=20 rated value	30.8 A
<ul> <li>— up to 690 V for current peak value n=20 rated value</li> <li>at AC-6a</li> </ul>	21 A
<ul> <li>up to 230 V for current peak value n=30 rated value</li> </ul>	20.5 A
<ul> <li>up to 400 V for current peak value n=30 rated value</li> </ul>	20.5 A
<ul> <li>— up to 500 V for current peak value n=30 rated value</li> </ul>	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 operational current for approx. 200000 operating	10 mm <sup>2</sup>
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	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 110 V rated value	35 A
— at 220 V rated value	5 A
— at 440 V rated value	1A
— at 600 V rated value	0.8 A
<ul> <li>with 3 current paths in series at DC-1</li> </ul>	

— 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				
• at 1 current path at DC-3 at DC-5					
— 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				
• 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-4					
• at 400 V rated value	6 kW				
<ul> <li>at 690 V rated value</li> </ul>	10.3 kW				
operating apparent power at AC-6a					
• up to 230 V for current peak value n=20 rated value	12.2 kVA				
<ul> <li>up to 400 V for current peak value n=20 rated value</li> </ul>	21.3 kVA				
<ul> <li>up to 500 V for current peak value n=20 rated value</li> </ul>	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				
<ul> <li>up to 400 V for current peak value n=30 rated value</li> </ul>	14.2 kVA				
<ul> <li>up to 500 V for current peak value n=30 rated value</li> </ul>	18.5 kVA				
<ul> <li>up to 690 V for current peak value n=30 rated value</li> </ul>	25 kVA				
short-time withstand current in cold operating state up to 40 °C					
<ul> <li>limited to 1 s switching at zero current maximum</li> </ul>	593 A; Use minimum cross-section acc. to AC-1 rated value				
<ul> <li>limited to 5 s switching at zero current maximum</li> </ul>	395 A; Use minimum cross-section acc. to AC-1 rated value				
<ul> <li>limited to 10 s switching at zero current maximum</li> </ul>	260 A; Use minimum cross-section acc. to AC-1 rated value				
<ul> <li>limited to 30 s switching at zero current maximum</li> </ul>	186 A; Use minimum cross-section acc. to AC-1 rated value				
<ul> <li>limited to 60 s switching at zero current maximum</li> </ul>	152 A; Use minimum cross-section acc. to AC-1 rated value				
no-load switching frequency					
• at AC	5 000 1/h				
operating frequency					
• at AC-1 maximum	1 000 1/h				
• at AC-2 maximum	750 1/h				
<ul> <li>at AC-3 maximum</li> </ul>	750 1/h				

e at AC 20 maximum	750 1/b
• at AC-3e 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	400 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	77.1/4
• at 50 Hz	77 VA
inductive power factor with closing power of the coil	0.00
• at 50 Hz	0.82
apparent holding power of magnet coil at AC	0.0.1/4
• at 50 Hz	9.8 VA
inductive power factor with the holding power of the 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	1
instantaneous contacts	
number of NO contacts for auxiliary contacts	1
instantaneous contact	
operational current at AC-12 maximum	10 A
operational current at AC-15	
<ul> <li>at 230 V rated value</li> </ul>	10 A
<ul> <li>at 400 V rated value</li> </ul>	3 A
<ul> <li>at 500 V rated value</li> </ul>	2 A
• at 690 V rated value	1 A
operational current at DC-12	
<ul> <li>at 24 V rated value</li> </ul>	10 A
<ul> <li>at 48 V rated value</li> </ul>	6 A
• at 60 V rated value	6 A
<ul> <li>at 110 V rated value</li> </ul>	3 A
<ul> <li>at 125 V rated value</li> </ul>	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	10 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	
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 hp
— at 230 V rated value	5 hp
for 3-phase AC motor	

		40 hz				
<ul> <li></li></ul>	— at 200/208 V rated value	10 hp				
contact rating of auxillary contacts according to UL         A800 / P600           Short-circuit protection of the main circuit						
Shert-circuit protection           design of the fuse link                - with type of coordination 1 required             - with side-type demonstring             - forwards             - forwards             - forwards             10 mm             - downwards             - downwards             10 mm             - downwards             - solid             -						
design of the fuse link         • for short-circuit protection of the main circuit         - with type of coordination 1 required         • for short-circuit protection of the auxiliary switch         • sole-by-side mounting         meuting position         • side-by-side mounting         • of mounded parts         • of mounded parts         • of wards         • of mounded parts         • of wards         • of maxeds         • of maxeds       0 mm         • of maxeds		A600 / P600				
for short-circuit protection of the main circuit         —with type of acordination 1 required         —with type of assignment 2 required         —solid circuit protection of the auxiliary switch         required         —with type of assignment 2 required         —with type of the assignment 2 required         —with type of the assignment 2 required         —with type of the assignment 2 required         —with type of assignment 2 required         —with type of the assignment 2 required         —with type of the assignment 2 required         — forwards         — formatic circuit         —a the sid						
with type of coordination 1 required(c) 125A (980V, 100KA), ak: 55A (980V, 100KA), BS8: 125A with type of assignment 2 requiredgc: 55A (980V, 100KA), ak: 25A (980V, 100KA), BS8: 50A (415V, 86A)• for short-circuit protection of the auxiliary switch requiredgc: 10 A (500 V, 11 KA)mounting position+/-180° rolation possible on vertical mounting surface; can be tiltedfastening methodaccording to DN EN 60715• side-by-side mountingYes• side-by-side mountingYes• side-by-side mounting97 mmrequired spacing97 mm• with side-by-side mounting10 mm- onwards10 mm <td>•</td> <td></td>	•					
with type of assignment 2 required       (415V, 80KA)        with type of assignment 2 required       (95, 50A (600V, 100KA), AM: 25A (680V, 100KA), BS88: 50A (415V, 80KA)         installation/mounting/ dimensions       (95, 10 A (500 V, 1 KA))         mounting position       +/-180* rotation possible on vertical mounting surface; can be tilted forward and backward by +4: 225* on vertical mounting surface; was als map-on mounting out 55 mm standard mounting rail eccording to DN EN 00715         * eside-by-side mounting       Yes         height       85 mm         width       45 mm         dopth       97 mm         required spacing       0 mm         • with side by-side mounting       10 mm         - downwards       10 mm         - downwards </td <td></td> <td>aC: 1254 (600)/ 100k4) aM: 504 (600)/ 100k4) BS89: 1254</td>		aC: 1254 (600)/ 100k4) aM: 504 (600)/ 100k4) BS89: 1254				
• for short-circuit protection of the auxiliary switch required     80kA) gG: 10 A (500 V, 1 kA)       Installation/ mounting/ dimensions     #/180" rotation possible on vertical mounting surface; can be titled forward and backward by '#/2.25" on vertical mounting surface; side-by-side mounting       fastening method     screw and snap-on mounting on 0.55 mm standard mounting rall according to DN EN 60715       • side-by-side mounting     Yes       height     85 mm       width     45 mm       dopth     97 mm       required spacing     0 mm       • units side-by-side mounting     0 mm       - downwards     10 mm       - downwards     10 mm       - at the side     0 mm       - downwards     10 mm       - at the side     6 mm       - downwards     10 mm       - of log parts coll     5 crew-type terminals       Screw-						
Installation/mounting/dimensions         mounting position       +/-180° rotation possible on vertical mounting surface: can be tilted forward and backward by /+.22.5° on vertical mounting surface         fastening method       scorew and sane-on mounting onto 35 mm standard mounting rail according to DIN EN 60715         e-ight       85 mm         width       45 mm         depth       97 mm         required spacing       0 mm         - forwards       10 mm         - downwards       10 mm         - downwards       10 mm         - downwards       10 mm         - at the side       0 mm         - forwards       10 mm         - downwards       10 mm         - solid or stranded       5 rew-type terminals <td>— with type of assignment 2 required</td> <td></td>	— with type of assignment 2 required					
mounting position         +4:80° rotation possitie on vertical mounting surface: can be titled forward and backward by +J-22.5° on vertical mounting surface: screw and sap-on mounting onto 35 mm standard mounting rail according to DNLEN 60715           • side-by-side mounting         Yes           height         85 mm           width         45 mm           doptin         97 mm           required spacing         97 mm           • with side-by-side mounting         10 mm           - upwards         10 mm           - upwards         10 mm           - downwards         10 mm           - at the side         0 mm           • for grounded parts         10 mm           - downwards         10 mm           - for wards         10 mm           - forwards         10 mm           - forwards         10 mm           - forwards         10 mm           - at the sid		gG: 10 A (500 V, 1 kA)				
forward and backward by +/ 22.5° on vertical mounting surface           fastening method         scorew and snap-on mounting onto 35 mm standard mounting rail according to DIN EN 60715           height         85 mm           witht         45 mm           depth         97 mm           required spacing         97 mm           exit the side         0 mm           - upwards         10 mm           - upwards         10 mm           - downwards         10 mm           - upwards         10 mm           - downwards         10 mm           - forwards         10 mm           - downwards         10 mm           - downwards         10 mm           - downwards         10 mm           - forwards         10 mm           - downwards         10 mm           - forwards         10 mm           - downwards         10 mm           - forwards         10 mm           - for auxiliary contacts         Scree-type terminals           for ain current circuit         scree-type term	Installation/ mounting/ dimensions					
• side-by-side mounting       Yes         height       85 mm         width       45 mm         depth       97 mm         required spacing       97 mm         • with side-by-side mounting       10 mm         - upwards       10 mm         - upwards       10 mm         - upwards       0 mm         - downwards       0 mm         - downwards       0 mm         - for wards       10 mm         - upwards       10 mm         - for wards       10 mm         - upwards       10 mm         - for wards       10 mm         - downwards       10 mm         - for vards       10 mm         - downwards       10 mm         - downwards       10 mm         - for auxiliary and contol circuit       screw-type terminals         type of echrolection       screw-type terminals         i for au	mounting position					
height       85 mm         width       45 mm         depth       97 mm         required spacing       97 mm         • with side-by-side mounting       0 mm         - forwards       10 mm         - upwards       10 mm         - downwards       10 mm         - downwards       10 mm         - downwards       10 mm         - for argounded parts       0 mm         - for argounded parts       0 mm         - for wards       10 mm         - downwards       10 mm      <	fastening method					
width         45 mm           depth         97 mm           required spacing         97 mm           • with side-by-side mounting         97 mm           - forwards         10 mm           - downwards         10 mm           - downwards         10 mm           - at the side         0 mm           - forwards         10 mm           - at the side         0 mm           - forwards         10 mm           - at the side         6 mm           - downwards         10 mm           - downwards	<ul> <li>side-by-side mounting</li> </ul>	Yes				
depth         97 mm           required spacing         97 mm           required spacing         10 mm           - forwards         10 mm           - upwards         10 mm           - downwards         10 mm           - downwards         0 mm           - downwards         0 mm           - downwards         10 mm           - downwards         10 mm           - forwards         10 mm           - upwards         10 mm           - forwards         10 mm           - at the side         6 mm           - forwards         10 mm           - downwards         10 mm           - forwards         10 mm           - downwards         10 mm           - forwards         10 mm           - downwards         10 mm           - downwards         10 mm           - at the side         6 mm           Connections/ Terminals         screw-type terminals           vipre of electrical connection         screw-type terminals           • for main current circuit         screw-type terminals           • of anglet coil         2x (1 2.5 mm <sup>3</sup> ), 2x (2.5 10 mm <sup>3</sup> )           - solid         2x (1 2.5 mm <sup>3</sup> ), 2x	height	85 mm				
required spacing         • with side-by-side mounting         - forwards       10 mm         - upwards       10 mm         - downwards       0 mm         - downwards       0 mm         - at the side       0 mm         - forwards       10 mm         - downwards       10 mm         - at the side       0 mm         - at the side       6 mm         - downwards       10 mm         - staide       6 mm         Connections? Terminals       screw-type terminals         screw-type torminals       Screw-type terminals         of magnet coil       2x (1 2.5 mm <sup>3</sup>	width	45 mm				
• with side-by-side mounting10 mm- forwards10 mm- upwards10 mm- downwards00 mm- at the side0 mm• for grounded parts10 mm- forwards10 mm- upwards10 mm- at the side6 mm- downwards10 mm- at the side6 mm- downwards10 mm- forwards10 mm- downwards10 mm- solidscrew-type terminals• for auxiliary and control circuitscrew-type terminals• of magnet coilScrew-type terminals• of magnet coilScrew-type terminals• of auxiliary and control circuitscrew-type terminals• of auxiliary and control circuitscrew-type terminals• of auxiliary and control circuitscrew-type terminals• of stranded2x (1 2.5 mm²), 2x (2.5 10 mm²)- solid2x (1 2.5 mm²), 2x (2.5 10 mm²)- solid or stranded1 10 mm²• alw (2 cables for main contacts2x (1 2.5 mm²), 2x (2.5 10 mm²)• solid or stranded1 10 mm²• solid or stranded1 10 mm²• fin	depth	97 mm				
	<ul> <li>with side-by-side mounting</li> </ul>					
- downwards       10 mm         - at the side       0 mm         • for grounded parts       0 mm         - forwards       10 mm         - upwards       10 mm         - at the side       6 mm         - downwards       10 mm         - at the side       6 mm         - downwards       10 mm         - at the side       6 mm         Connections/ Terminals       10 mm         e of ang control circuit       screw-type terminals         sorew-type terminals       Screw-type terminals         • of main contacts       2x (1 2.5 mm <sup>2</sup> ), 2x (2.5 10 mm <sup>2</sup> )         - solid       2x (1 2.5 mm <sup>2</sup> ), 2x (2.5 10 mm <sup>2</sup> )         - solid extranded       2x (1 2.5 mm <sup>2</sup> ), 2x (2.5 10 mm <sup>2</sup> )         - solid extranded       1 10 mm <sup>2</sup>	— forwards	10 mm				
at the side     0 mm       • for grounded parts     -       forwards     10 mm       upwards     10 mm       at the side     6 mm       downwards     10 mm       downwards     10 mm       forwards     10 mm       forwards     10 mm       forwards     10 mm       forwards     10 mm       upwards     10 mm       downwards     10 mm       at the side     6 mm       Connections/ Terminals     6 mm       Connections/ Terminals     5 crew-type terminals       of rauxiliary and control circuit     screw-type terminals       • for auxiliary and control circuit     screw-type terminals       • for main contracts     Screw-type terminals       • of magnet coil     Screw-type terminals       • of on auxiliary contacts     Screw-type terminals       • of auxiliary and control circuit     Screw-type terminals       • of auxi		10 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         - forwards       10 mm         - downwards       10 mm         - forwards       10 mm         - upwards       10 mm         - downwards       6 mm         Connections/ Terminals       screw-type terminals         type of electrical connection       screw-type terminals         • for main contacts       2x (1 2.5 mm <sup>2</sup> ), 2x (2.5 10 mm <sup>2</sup> )         - solid       2x (1 2.5 mm <sup>2</sup> ), 2x (2.5 10 mm <sup>2</sup> )         - solid or stranded       2x (1 2.5 mm <sup>2</sup> ), 2x (2.5 6 mm <sup>2</sup> ), 1x 10 mm <sup>2</sup> •	— downwards	10 mm				
-       forwards       10 mm         -       upwards       10 mm         -       at the side       6 mm         -       at the side       6 mm         -       ownwards       10 mm         -       for live parts       10 mm         -       ownwards       10 mm         -       upwards       10 mm         -       upwards       10 mm         -       upwards       10 mm         -       upwards       10 mm         -       downwards       10 mm         -       downwards       10 mm         -       downwards       10 mm         -       at the side       6 mm         Connections/ Terminals       screw-type terminals         if for auxiliary and control circuit       screw-type terminals         if or auxiliary contacts       Screw-type terminals         if or main contacts       -       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)         -       solid or stranded       1 10 mm²         istranded       1 10 mm²       1		0 mm				
- at the side       6 mm         - downwards       10 mm         • for live parts       10 mm         - upwards       10 mm         - upwards       10 mm         - downwards       10 mm         - at the side       6 mm         Connections/Terminals       6 mm         type of electrical connection       screw-type terminals         • for auxiliary and control circuit       screw-type terminals         • for main current circuit       screw-type terminals         • at contactor for auxiliary contacts       Screw-type terminals         • of magnet coil       Screw-type terminals         type of connectable conductor cross-sections       6 mm <sup>2</sup> )         • for main contacts       2x (1 2.5 mm <sup>2</sup> ), 2x (2.5 10 mm <sup>2</sup> )         - solid or stranded       2x (1 2.5 mm <sup>2</sup> ), 2x (2.5 10 mm <sup>2</sup> )         - solid or stranded       2x (1 2.5 mm <sup>2</sup> ), 2x (2.5 10 mm <sup>2</sup> )         • at AWG cables for main contacts       2x (1 2.5 mm <sup>2</sup> ), 2x (2.5 10 mm <sup>2</sup> )         • solid or stranded       1 10 mm <sup>2</sup> • stranded       1 10 mm <sup>2</sup>	— forwards					
downwards       10 mm         • for live parts       10 mm         forwards       10 mm         upwards       10 mm         downwards       10 mm         at the side       6 mm         Connections/ Terminals         type of electrical connection         • for main current circuit       screw-type terminals         • for auxiliary and control circuit       screw-type terminals         • at contactor for auxiliary contacts       Screw-type terminals         • of magnet coil       Screw-type terminals         type of connectable conductor cross-sections       • for main contacts         • for main contacts       Screw-type terminals         • at AWG cables for main contacts       2x (1 2.5 mm²), 2x (2.5 10 mm²)         - solid       2x (1 2.5 mm²), 2x (2.5 10 mm²)         • at AWG cables for main contacts       2x (16 12), 2x (14 8)         connectable conductor cross-section for main contacts       2x (16 12), 2x (14 8)         connectable conductor cross-section for main contacts       2x (16 12), 2x (14 8)         connectable conductor cross-section for main contacts       1 10 mm²         • stranded       1 10 mm²         • finely stranded with core end processing       0.5 2.5	— upwards	10 mm				
<ul> <li>for live parts         <ul> <li>forwards</li> <li>forwards</li> <li>mm</li> <li>upwards</li> <li>mm</li> <li>downwards</li> <li>mm</li> </ul> <ul> <li>downwards</li> <li>mm</li> <li>downwards</li> <li>mm</li> </ul> <ul> <li>downwards</li> <li>mm</li> <li>downwards</li> <li>mm</li> <li>downwards</li> <li>mm</li> <li>downwards</li> <li>mm</li> <li>downwards</li> <li>down</li> <lidown< li=""></lidown<></ul></li></ul>						
forwards       10 mm         upwards       10 mm         downwards       10 mm         at the side       6 mm         Connections/Terminals       6 mm         type of electrical connection       6 reminals         • for main current circuit       screw-type terminals         • for auxiliary and control circuit       screw-type terminals         • at contactor for auxiliary contacts       Screw-type terminals         • of magnet coil       Screw-type terminals         type of connectable conductor cross-sections       • for main contracts         - solid       2x (1 2.5 mm²), 2x (2.5 10 mm²)         - 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 10 mm²)         • at AWG cables for main contacts       2x (16 12), 2x (14 8)         connectable conductor cross-section for main contacts       1 10 mm²         • solid       1 10 mm²         • stranded       1 10 mm²         • finely stranded with core end processing       0.5 2.5 mm²         • solid or stranded       0.5 2.5 mm²		10 mm				
upwards       10 mm        downwards       10 mm        at the side       6 mm         Connections/ Terminals         type of electrical connection         • for main current circuit       screw-type terminals         • for auxiliary and control circuit       screw-type terminals         • at contactor for auxiliary contacts       Screw-type terminals         • of magnet coil       Screw-type terminals         type of connectable conductor cross-sections       • for main contacts         • for main contacts       Screw-type terminals         • a solid       2x (1 2.5 mm²), 2x (2.5 10 mm²)         - 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         • at AWG cables for main contacts       2x (16 12), 2x (14 8)         connectable conductor cross-section for main contacts       2x (16 12), 2x (14 8)         connectable conductor cross-section for auxiliary contacts       1 10 mm²         • stranded       1 10 mm²         • finely stranded with core end processing       0.5 2.5 mm²         • solid or stranded       0.5 2.5 mm² </td <td></td> <td></td>						
- downwards       10 mm         - at the side       6 mm         Connections/ Terminals       5 mm         type of electrical connection       screw-type terminals         • for main current circuit       screw-type terminals         • at contactor for auxiliary contacts       Screw-type terminals         • of magnet coil       Screw-type terminals         type of connectable conductor cross-sections       Screw-type terminals         • for main contacts       Screw-type terminals         - solid       2x (1 2.5 mm²), 2x (2.5 10 mm²)         - 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 10 mm²)         • at AWG cables for main contacts       2x (1 2.5 mm²), 2x (2.5 10 mm²)         • at AWG cables for main contacts       2x (1 2.5 mm²), 2x (2.5 10 mm²)         • solid       1 10 mm²         • solid       1 10 mm²         • solid       1 10 mm²         • solid or stranded       0.5 2.5 mm²         • solid or stranded       0.5 2.5 mm²         • solid or stranded with core end processing       0.5 2.5 mm² <td></td> <td></td>						
at the side       6 mm         Connections/ Terminals         type of electrical connection       • for main current circuit         • for auxiliary and control circuit       screw-type terminals         • at contactor for auxiliary contacts       Screw-type terminals         • of magnet coil       Screw-type terminals         type of connectable conductor cross-sections       • for main contacts         - solid       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 10 mm²)         • at AWG cables for main contacts       2x (1 2.5 mm²), 2x (2.5 10 mm²)         • at AWG cables for main contacts       2x (1 2.5 mm²), 2x (2.5 10 mm²)         • solid       1 10 mm²         • solid       1 10 mm²         • solid       1 10 mm²         • solid or stranded       1 10 mm²         • solid or stranded       0.5 2.5 mm²         • solid or stranded       0.5 2.5 mm²						
Connections/ Terminals         type of electrical connection       screw-type terminals         e for main current circuit       screw-type terminals         e at contactor for auxiliary contacts       Screw-type terminals         e at contactor for auxiliary contacts       Screw-type terminals         e of magnet coil       Screw-type terminals         type of connectable conductor cross-sections       Screw-type terminals         e for main contacts       - 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         e at AWG cables for main contacts       2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm²         e solid       1 10 mm²         e solid       1 10 mm²         e solid       1 10 mm²         e finely stranded with core end processing       1 10 mm²         e solid or stranded       0.5 2.5 mm²         e solid or stranded       0.5 2.5 mm²						
type of electrical connection       screw-type terminals         • for main current circuit       screw-type terminals         • for auxiliary and control circuit       screw-type terminals         • at contactor for auxiliary contacts       Screw-type terminals         • of magnet coil       Screw-type terminals         type of connectable conductor cross-sections       Screw-type terminals         • for main contacts       Screw-type terminals         - solid       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         • at AWG cables for main contacts       2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm²         • at AWG cables for main contacts       2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm²         • at AWG cables for main contacts       2x (1 10 mm²         • solid       1 10 mm²         • solid       1 10 mm²         • solid       1 10 mm²         • solid or stranded       0.5 2.5 mm²         • solid or stranded       0.5 2.5 mm²         • solid or stranded       0.5 2.5 mm²		6 mm				
• for main current circuit       screw-type terminals         • for auxiliary and control circuit       screw-type terminals         • at contactor for auxiliary contacts       Screw-type terminals         • of magnet coil       Screw-type terminals         type of connectable conductor cross-sections       Screw-type terminals         • for main contacts       - 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 10 mm²)         • at AWG cables for main contacts       2x (1 2.5 mm²), 2x (2.5 10 mm²)         • at AWG cables for main contacts       2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm²         • at AWG cables for main contacts       2x (1 12), 2x (14 8)         connectable conductor cross-section for main contacts       1 10 mm²         • solid       1 10 mm²         • solid       1 10 mm²         • stranded       1 10 mm²         • solid or stranded       0.5 2.5 mm²         • solid or stranded       0.5 2.5 mm²         • solid or stranded       0.5 2.5 mm²		-				
• for auxiliary and control circuit       screw-type terminals         • at contactor for auxiliary contacts       Screw-type terminals         • of magnet coil       Screw-type terminals         type of connectable conductor cross-sections       Screw-type terminals         • for main contacts       - 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         • at AWG cables for main contacts       2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm²         • solid       1 10 mm²         • solid or stranded       1 10 mm²         • solid or stranded       0.5 2.5 mm²         • solid or stranded       0.5 2.5 mm²						
<ul> <li>at contacts for auxiliary contacts</li> <li>of magnet coil</li> <li>Screw-type terminals</li> <li>Screw-type terminal</li></ul>						
• of magnet coilScrew-type terminalstype of connectable conductor cross-sectionsScrew-type terminals• for main contacts- solid- solid2x (1 2.5 mm²), 2x (2.5 10 mm²)- solid or stranded2x (1 2.5 mm²), 2x (2.5 10 mm²)- finely stranded with core end processing2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm²• at AWG cables for main contacts2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm²• at AWG cables for main contacts2x (1 2.5 mm²), 2x (14 8)connectable conductor cross-section for main contacts1 10 mm²• solid1 10 mm²• solid1 10 mm²• stranded1 10 mm²• finely stranded with core end processing1 10 mm²• solid or stranded0.5 2.5 mm²• solid or stranded0.5 2.5 mm²• solid or stranded with core end processing0.5 2.5 mm²						
type of connectable conductor cross-sections• for main contacts- solid- solid or stranded2x (1 2.5 mm²), 2x (2.5 10 mm²)- finely stranded with core end processing2x (1 2.5 mm²), 2x (2.5 10 mm²)- finely stranded with core end processing2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm²• at AWG cables for main contacts2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm²• at AWG cables for main contacts2x (1 2.5 mm²), 2x (14 8)connectable conductor cross-section for main contacts• solid1 10 mm²• stranded1 10 mm²• finely stranded with core end processing1 10 mm²• solid or stranded• solid or stranded• solid or stranded0.5 2.5 mm²• solid or stranded0.5 2.5 mm²	-					
<ul> <li>for main contacts         <ul> <li>solid</li> <li>solid or stranded</li> <li>2x (1 2.5 mm<sup>2</sup>), 2x (2.5 10 mm<sup>2</sup>)</li> <li>solid or stranded</li> <li>2x (1 2.5 mm<sup>2</sup>), 2x (2.5 10 mm<sup>2</sup>)</li> <li>finely stranded with core end processing</li> <li>2x (1 2.5 mm<sup>2</sup>), 2x (2.5 6 mm<sup>2</sup>), 1x 10 mm<sup>2</sup></li> </ul> </li> <li>at AWG cables for main contacts</li> <li>connectable conductor cross-section for main contacts</li> <li>solid</li> <li>stranded</li> <li>finely stranded with core end processing</li> <li>finely stranded with core end processing</li> <li>solid or stranded</li> <li>solid or stranded</li> <li>0.5 2.5 mm<sup>2</sup></li> <li>0.5 2.5 mm<sup>2</sup></li> </ul>						
solid2x (1 2.5 mm²), 2x (2.5 10 mm²) solid or stranded2x (1 2.5 mm²), 2x (2.5 10 mm²) finely stranded with core end processing2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm²• at AWG cables for main contacts2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm²• at AWG cables for main contacts2x (1 2.5 mm²), 2x (14 8)connectable conductor cross-section for main contacts1 10 mm²• solid1 10 mm²• stranded1 10 mm²• finely stranded with core end processing1 10 mm²connectable conductor cross-section for auxiliary contacts0.5 2.5 mm²• solid or stranded0.5 2.5 mm²						
solid or stranded2x (1 2.5 mm²), 2x (2.5 10 mm²) finely stranded with core end processing2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm²• at AWG cables for main contacts2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm²• at AWG cables for main contacts2x (1 2.5 mm²), 2x (14 8)connectable conductor cross-section for main contacts1 10 mm²• solid1 10 mm²• stranded1 10 mm²• finely stranded with core end processing1 10 mm²connectable conductor cross-section for auxiliary contacts0.5 2.5 mm²• solid or stranded0.5 2.5 mm²• finely stranded with core end processing0.5 2.5 mm²		$2x(1 - 2.5 \text{ mm}^2) 2x(2.5 - 10 \text{ mm}^2)$				
finely stranded with core end processing       2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm²         • at AWG cables for main contacts       2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm²         connectable conductor cross-section for main contacts       1 10, 2x (14 8)         • solid       1 10 mm²         • stranded       1 10 mm²         • finely stranded with core end processing       1 10 mm²         • finely stranded with core end processing       1 10 mm²         • solid or stranded       0.5 2.5 mm²         • finely stranded with core end processing       0.5 2.5 mm²						
• at AWG cables for main contacts       2x (16 12), 2x (14 8)         connectable conductor cross-section for main contacts       1 10 mm²         • solid       1 10 mm²         • stranded       1 10 mm²         • finely stranded with core end processing       1 10 mm²         connectable conductor cross-section for auxiliary contacts       0.5 2.5 mm²         • solid or stranded       0.5 2.5 mm²						
connectable conductor cross-section for main contacts       1         • solid       1         • solid       1         • stranded       1         • finely stranded with core end processing       1         connectable conductor cross-section for auxiliary contacts       1         • solid or stranded       0.5         • finely stranded with core end processing       0.5						
<ul> <li>solid</li> <li>stranded</li> <li>finely stranded with core end processing</li> <li>1 10 mm<sup>2</sup></li> <li>finely stranded with core end processing</li> <li>1 10 mm<sup>2</sup></li> <li>connectable conductor cross-section for auxiliary contacts</li> <li>solid or stranded</li> <li>of 5 2.5 mm<sup>2</sup></li> <li>0.5 2.5 mm<sup>2</sup></li> </ul>	connectable conductor cross-section for main					
• stranded         1 10 mm²           • finely stranded with core end processing         1 10 mm²           connectable conductor cross-section for auxiliary contacts         0.5 2.5 mm²           • solid or stranded         0.5 2.5 mm²           • finely stranded with core end processing         0.5 2.5 mm²		1 10 mm <sup>2</sup>				
connectable conductor cross-section for auxiliary contacts       0.5 2.5 mm²         • solid or stranded       0.5 2.5 mm²         • finely stranded with core end processing       0.5 2.5 mm²						
• finely stranded with core end processing 0.5 2.5 mm <sup>2</sup>	connectable conductor cross-section for auxiliary					
	<ul> <li>solid or stranded</li> </ul>	0.5 2.5 mm <sup>2</sup>				
	type of connectable conductor cross-sections					

<ul> <li>for auxiliary cor</li> </ul>	ntacts					
— solid or str	anded		2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²)			
<ul> <li>finely stranded with core end processing</li> </ul>		2x (0.5 1.5 mm <sup>2</sup> ), 2x (0.75 2.5 mm <sup>2</sup> )				
<ul> <li>at AWG cables for auxiliary contacts</li> </ul>		2x (20 16), 2x (18 14)				
AWG number as coo section	ded connectable cond	uctor cross				
<ul> <li>for main contact</li> </ul>	ts		16 8			
<ul> <li>for auxiliary cor</li> </ul>	ntacts		20 14			
Safety related data						
product function						
	according to IEC 60947-	.1_1	Vee			
			Yes			
-	emand rate according t	0 5N 3 1920	450 000			
proportion of dange		24000				
	d rate according to SN		40 %			
	nd rate according to SN		73 %			
31920	low demand rate accord		100 FIT			
IEC 61508	t interval or service life		20 у			
protection class IP o 60529	on the front according	to IEC	IP20			
touch protection on	the front according to	IEC 60529	finger-safe, fo	or vertical conta	act from the front	
suitability for use						
<ul> <li>safety-related s</li> </ul>	witching OFF		Yes			
Certificates/ approval	S					
General Product Ap	proval					
CSA	CCC			UL		
EMC	Functional Safety/Safety of Machinery	Declaration o	of Conformity		Test Certificates	
RCM	<u>Type Examination</u> <u>Certificate</u>	UK CA		CE EG-Konf.	Type Test Certific- ates/Test Report	Special Test Certific- ate
Marine / Shipping						
ABS	BUREAU VERITAS		ļ	Llovd's Kegister us	RINA	RMRS
other						
<u>Confirmation</u>		<u>Confirmatic</u>	<u>on</u>			
Further information	wnloadcenter (Catalo					

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=3RT2028-1AV00

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2028-1AV00

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

https://support.industry.siemens.com/cs/ww/en/ps/3RT2028-1AV00

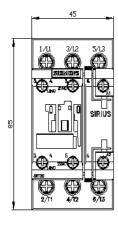
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) <u>http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=3RT2028-1AV00&lang=en</u>

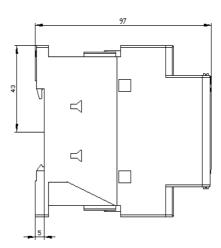
Characteristic: Tripping characteristics, I<sup>2</sup>t, Let-through current

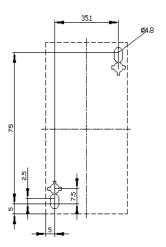
https://support.industry.siemens.com/cs/ww/en/ps/3RT2028-1AV00/char

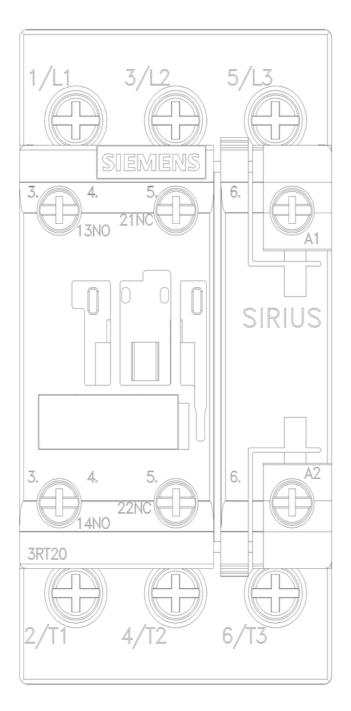
Further characteristics (e.g. electrical endurance, switching frequency)

http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2028-1AV00&objecttype=14&gridview=view1









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