## **SIEMENS**

Data sheet 3RT2038-1AP04



Power contactor, AC-3 80 A, 37 kW / 400 V 2 NO + 2 NC, 230 V AC 50 Hz 3-pole, size S2 screw terminals

product brand name	SIRIUS
product designation	Power contactor
product type designation	3RT2
General technical data	
size of contactor	S2
product extension	
<ul> <li>function module for communication</li> </ul>	No
auxiliary switch	No
power loss [W] for rated value of the current at AC in hot operating state	17.1 W
• per pole	5.7 W
power loss [W] for rated value of the current without load current share typical	16 W
surge voltage resistance	
<ul> <li>of main circuit rated value</li> </ul>	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	9.8g / 5 ms, 6.5g / 10 ms
shock resistance with sine pulse	
• at AC	15.3g / 5 ms, 10.1g / 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
of the contactor with added auxiliary switch block typical	10 000 000
reference code acc. to IEC 81346-2	Q
Substance Prohibitance (Date)	01.10.2014 00:00:00
Ambient conditions	
installation altitude at height above sea level maximum	2 000 m
ambient temperature	
<ul> <li>during operation</li> </ul>	-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  • at AC-1 at 400 V at ambient temperature 40 °C rated value  — up to 690 V at ambient temperature 40 °C rated value  — up to 690 V at ambient temperature 40 °C rated value  • at AC-3  — at 400 V rated value  • at AC-3  — at 400 V rated value  • at AC-3  — at 400 V rated value  • at AC-4 at 400 V rated value  • at AC-5 up to 690 V rated value  • at AC-5 up to 690 V rated value  • at AC-5 up to 690 V rated value  • at AC-5 up to 690 V rated value  • at AC-5 up to 400 V rated value  • at AC-5 up to 400 V rated value  • at AC-5 up to 400 V for current peak value n=20 rated  value  — up to 500 V for current peak value n=20 rated  value  • up to 690 V for current peak value n=20 rated  value  • up to 500 V for current peak value n=20 rated  value  • up to 500 V for current peak value n=20 rated  value  • up to 500 V for current peak value n=20 rated  value  • up to 500 V for current peak value n=30 rated  value  • up to 500 V for current peak value n=30 rated  value  • up to 500 V for current peak value n=30 rated  value  • up to 500 V for current peak value n=30 rated  value  • up to 500 V for current peak value n=30 rated  value  • up to 500 V for current peak value n=30 rated  value  • up to 600 V for current peak value n=30 rated  value  • up to 600 V for current peak value n=30 rated  value  • up to 600 V for current peak value n=30 rated  value  • up to 600 V for current peak value n=30 rated  value  • up to 600 V for current peak value n=30 rated  value  • up to 600 V for current peak value n=30 rated  value  • at 400 V rated value  • at 400 V rated value  • at 400 V rated value  • at 400 V rated value  • at 400 V rated value  • at 400 V rated value  • at 400 V rated value  • at 400 V rated value  • at 400 V rated value  • at 400 V rated value  • at 400 V rated value  • at 400 V rated value  • at 400 V rated value  • at 400 V rated value  • at 400 V rated value  • at 400 V rated value  • at 400 V rated value  • at 400 V rated value  • at 400 V rated value  • at 55 A  • at 55 A  • at 55 A		
rated value — up to 800 V at ambient temperature 40 °C rated value — up to 800 V at ambient temperature 60 °C rated value — up to 800 V at ambient temperature 60 °C rated value  • at AC-3 — at 400 V rated value • at AC-3 — at 400 V rated value — at 500 V rated value • at AC-5a up to 600 V rated value • at AC-5a up to 600 V rated value • at AC-6a up to 600 V fact or value • at AC-6a up to 500 V for current peak value n=20 rated value — up to 500 V for current peak value n=20 rated value — up to 500 V for current peak value n=20 rated value — up to 500 V for current peak value n=20 rated value — up to 500 V for current peak value n=30 r	operational current	
** at AC-1		90 A
— up to 800 V at ambient temperature 40 °C rated value — up to 800 V at ambient temperature 60 °C rated value — at 400 V rated value — at 400 V rated value — at 500 V rated value — at 500 V rated value — at 600 V rated value — at 400 V rated value — at 40.5a up to 600 V rated value — at 40.5b up to 400 V rated value — at 40.5b up to 400 V rated value — at 40.5b up to 400 V rated value — at 40.5b up to 400 V rated value — at 40.5b up to 400 V rated value — at 40.5b up to 400 V rated value — up to 500 V for current peak value n=20 rated value — up to 500 V for current peak value n=20 rated value — up to 500 V for current peak value n=20 rated value — up to 500 V for current peak value n=30 rated value — up to 500 V for current peak value n=30 rated value — up to 500 V for current peak value n=30 rated value — up to 500 V for current peak value n=30 rated value — up to 500 V for current peak value n=30 rated value — up to 500 V for current peak value n=30 rated value — up to 500 V for current peak value n=30 rated value — up to 500 V for current peak value n=30 rated value — up to 500 V for current peak value n=30 rated value — up to 500 V for current peak value n=30 rated value — up to 500 V for current peak value n=30 rated value — up to 500 V for current peak value n=30 rated value — up to 500 V for current peak value n=30 rated value — up to 500 V for current peak value n=30 rated value — up to 500 V for current peak value n=30 rated value — up to 500 V for current peak value n=30 rated value — up to 500 V for current peak value n=30 rated value — up to 500 V for current peak value n=30 rated value — up to 500 V for current peak value n=30 rated value — up to 700 V for current peak value n=30 rated value — up to 700 V for current peak value n=30 rated value — up to 700 V for current peak value n=30 rated value — up to 700 V for current peak value n=30 rated value — up to 700 V for current peak value n=30 rated value — up to 700 V for current peak value n=30 rated value — up to 700 V for current peak value n=30		
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rated value  - at 400 V rated value  - at 690 V rated value  - at 600 V rated value  - at AC-3 at 400 V rated value  - at AC-3 but p to 590 V rated value  - at AC-3 but p to 590 V rated value  - up to 230 V for current peak value n=20 rated value  - up to 400 V for current peak value n=20 rated value  - up to 500 V for current peak value n=20 rated value  - up to 500 V for current peak value n=30 rated value  - up to 230 V for current peak value n=30 rated value  - up to 230 V for current peak value n=30 rated value  - up to 500 V for current peak value n=30 rated value  - up to 500 V for current peak value n=30 rated value  - up to 500 V for current peak value n=30 rated value  - up to 500 V for current peak value n=30 rated value  - up to 500 V for current peak value n=30 rated value  - up to 500 V for current peak value n=30 rated value  - up to 500 V for current peak value n=30 rated value  - up to 500 V for current peak value n=30 rated value  - up to 500 V for current peak value n=30 rated value  - up to 500 V for current peak value n=30 rated value  - up to 500 V for current peak value n=30 rated value  - up to 500 V for current peak value n=30 rated value  - up to 500 V for current peak value n=30 rated value  - up to 500 V for current peak value n=30 rated value  - up to 500 V for current peak value n=30 rated value  - up to 500 V for current peak value n=30 rated value  - up to 500 V for current peak value n=30 rated value  - up to 500 V for current peak value  - at 400 V rated value		90 A
— at 400 V rated value — at 500 V rated value — at 600 V rated value		80 A
— at 400 V rated value — at 500 V rated value — at 600 V rated value	• at AC-3	
- at 500 V rated value		80 A
■ at AC-4 at 400 V rated value ■ at AC-3 at y 10 690 V rated value ■ at AC-5 but p to 400 V rated value ■ at AC-5 but p to 400 V rated value — up to 230 V for current peak value n=20 rated value — up to 500 V for current peak value n=20 rated value — up to 500 V for current peak value n=20 rated value — up to 690 V for current peak value n=20 rated value — up to 690 V for current peak value n=30 rated value — up to 500 V for current peak value n=30 rated value — up to 400 V for current peak value n=30 rated value — up to 500 V for current peak value n=30 rated value — up to 500 V for current peak value n=30 rated value — up to 500 V for current peak value n=30 rated value — up to 500 V for current peak value n=30 rated value — up to 500 V for current peak value n=30 rated value — up to 690 V for current peak value n=30 rated value — up to 690 V for current peak value n=30 rated value — up to 690 V for current peak value n=30 rated value — up to 690 V for current peak value n=30 rated value — up to 690 V for current peak value n=30 rated value — up to 690 V for current peak value n=30 rated value — up to 690 V for current peak value n=30 rated value — up to 690 V for current peak value n=30 rated value — up to 690 V for current peak value n=30 rated value — up to 690 V for current peak value n=30 rated value — up to 690 V for current peak value n=30 rated value — up to 690 V for current peak value n=30 rated value — up to 690 V for current peak value — at 480 V rated value — at 24 V rated value		
at AC-4 at 400 V rated value     at AC-5a up to 690 V rated value     at AC-5a up to 690 V rated value     at AC-8a     — up to 230 V for current peak value n=20 rated     value     — up to 500 V for current peak value n=20 rated     value     — up to 500 V for current peak value n=20 rated     value     — up to 500 V for current peak value n=20 rated     value     — up to 690 V for current peak value n=20 rated     value     — up to 690 V for current peak value n=20 rated     value     — up to 230 V for current peak value n=30 rated     value     — up to 400 V for current peak value n=30 rated     value     — up to 500 V for current peak value n=30 rated     value     — up to 690 V for current peak value n=30 rated     value     — up to 690 V for current peak value n=30 rated     value     — up to 690 V for current peak value n=30 rated     value     — up to 690 V for current peak value n=30 rated     value     — up to 690 V for current peak value n=30 rated     value     — up to 690 V for current peak value n=30 rated     value     — up to 690 V for current peak value n=30 rated     value     — up to 690 V for current peak value n=30 rated     value     — up to 690 V for current peak value n=30 rated     value     — up to 690 V for current peak value n=30 rated     value     — up to 690 V for current peak value n=30 rated     value     — up to 690 V for current peak value n=30 rated     value     — up to 690 V for current peak value n=30 rated     value     — up to 690 V for current peak value n=30 rated     value     — at 600 V rated value     — at 600 V rated value     — at 600 V rated value     — at 600 V rated value     — at 600 V rated value     — at 600 V rated value     — at 600 V rated value     — at 600 V rated value     — at 600 V rated value     — at 600 V rated value     — at 600 V rated value     — at 600 V rated value     — at 600 V rated value     — at 600 V rated value     — at 600 V rated value     — at 600 V rated value     — at 600 V rated value     — at 600 V rated value     — at 600		
at AC-5a up to 690 V rated value     at AC-5a     — up to 230 V for current peak value n=20 rated value     — up to 500 V for current peak value n=20 rated value     — up to 500 V for current peak value n=20 rated value     — up to 500 V for current peak value n=20 rated value     — up to 500 V for current peak value n=20 rated value     — up to 690 V for current peak value n=30 rated value     — up to 230 V for current peak value n=30 rated value     — up to 500 V for current peak value n=30 rated value     — up to 500 V for current peak value n=30 rated value     — up to 500 V for current peak value n=30 rated value     — up to 500 V for current peak value n=30 rated value     — up to 690 V for current peak value n=30 rated value     — up to 690 V for current peak value n=30 rated value     — up to 690 V for current peak value n=30 rated value     — up to 690 V for current peak value n=30 rated value     — up to 690 V for current peak value n=30 rated value     — up to 690 V for current peak value n=30 rated value     — up to 690 V for current peak value n=30 rated value     — up to 690 V for current peak value n=30 rated value     — up to 690 V for current peak value n=30 rated value     — at 440 V rated value     — at 240 V rated value     — at 240 V rated value     — at 220 V rated valu		
al AC-5b up to 400 V rated value     al AC-6a     — up to 230 V for current peak value n=20 rated value     — up to 400 V for current peak value n=20 rated value     — up to 500 V for current peak value n=20 rated value     — up to 600 V for current peak value n=20 rated value     — up to 230 V for current peak value n=20 rated value     — up to 230 V for current peak value n=30 rated value     — up to 400 V for current peak value n=30 rated value     — up to 500 V for current peak value n=30 rated value     — up to 500 V for current peak value n=30 rated value     — up to 500 V for current peak value n=30 rated value     — up to 500 V for current peak value n=30 rated value     — up to 690 V for current peak value n=30 rated value     — up to 690 V for current peak value n=30 rated value     — up to 690 V for current peak value n=30 rated value     — up to 400 V rated value n=30 rated value     — at 400 V rated value     — at 400 V rated value     — at 110 V rated value     — at 24 V rated value     — at 600 V rated value     — at 600 V rated value     — at 600 V rated value     — at 110 V rated value     — at 200 V rated value     — at 44 V rated value     — at 44 V rated value     — at 24 V rated value     — at 44 V rated value     — at 24 V rated value     — at 25 A  with 3 current paths in series at DC-1     — at 24 V rated value     — at 25 A  with 3 current paths in series at DC-1     —		
• at AC-6a		
		00.4 A
- up to 400 V for current peak value n=20 rated value - up to 500 V for current peak value n=20 rated value - up to 590 V for current peak value n=20 rated value - up to 690 V for current peak value n=30 rated value - up to 230 V for current peak value n=30 rated value - up to 400 V for current peak value n=30 rated value - up to 500 V for current peak value n=30 rated value - up to 500 V for current peak value n=30 rated value - up to 500 V for current peak value n=30 rated value - up to 500 V for current peak value n=30 rated value - up to 500 V for current peak value n=30 rated value - up to 500 V for current peak value n=30 rated value - up to 500 V for current peak value n=30 rated value - up to 500 V for current peak value n=30 rated value - operational current for approx. 200000 operating cycles at AC-4	— up to 230 V for current peak value n=20 rated	70 A
value	— up to 400 V for current peak value n=20 rated	70 A
value		70 A
up to 230 V for current peak value n=30 rated value up to 400 V for current peak value n=30 rated value up to 500 V for current peak value n=30 rated value up to 690 V for current peak value n=30 rated value up to 690 V for current peak value n=30 rated value up to 690 V for current peak value n=30 rated value up to 690 V for current peak value n=30 rated value up to 690 V for current peak value n=30 rated value up to 690 V for current peak value n=30 rated value up to 690 V for current peak value n=30 rated value operational current for approx. 200000 operating cycles at AC-4  at 400 V rated value at 400 V rated value at 1 current path at DC-1 at 24 V rated value at 220 V rated value at 400 V rated value at 400 V rated value at 400 V rated value at 600 V rated value at 600 V rated value at 110 V rated value at 220 V rated value at 220 V rated value at 220 V rated value at 600 V rated value at 220 V rated value at 440 V rated value at 220 V rated value at 220 V rated value at 440 V rated value at 220 V rated value at 220 V rated value at 220 V rated value at 440 V rated value at 220 V rated value at 22		58 A
value         — up to 400 V for current peak value n=30 rated value         46.7 A           — up to 500 V for current peak value n=30 rated value         46.7 A           — up to 690 V for current peak value n=30 rated value         46.7 A           — up to 690 V for current peak value n=30 rated value         46.7 A           — up to 690 V for current peak value n=30 rated value         46.7 A           — observational current for approx. 200000 operating cycles at AC-4         — at 400 V rated value           — at 400 V rated value         30 A           — at 10 U rated value         24 A           — at 24 V rated value         45 A           — at 110 V rated value         4.5 A           — at 20 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           — at 220 V rated value         55 A           — at 110 V rated value         5 A           — at 440 V rated value         5 A           — at 220 V rated value         5 A           — at 440 V rated value         0	• at AC-6a	
value		46.7 A
value         — up to 690 V for current peak value n=30 rated value         46.7 A           minimum cross-section in main circuit at maximum AC-1 rated value         35 mm²           operational current for approx. 200000 operating cycles at AC-4         at 400 V rated value         30 A           • at 690 V rated value         24 A           operational current         • at 1 current path at DC-1         — at 24 V rated value         55 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         55 A           — at 110 V rated value         5 A         — at 440 V rated value         5 A           — at 440 V rated value         5 A         — at 440 V rated value         5 A           — at 440 V rated value         5 A         — at 440 V rated value         5 A           — at 440 V rated value         5 A         — at 440 V rated value         4 B           — at 220 V rated value         5 A         — at 440 V rated value         5 A           — at 220 V rated value         5 A         — at 440 V rated value         4 B           — at 440 V rated value         5 A         — at 440 V rated value		46.7 A
minimum cross-section in main circuit at maximum AC-1 rated value  operational current for approx. 200000 operating cycles at AC-4		46.7 A
parational current for approx. 200000 operating cycles at AC-4		46.7 A
e at 400 V rated value	rated value	35 mm²
◆ at 690 V rated value         24 A           operational current         • at 1 current path at DC-1           — at 24 V rated value         55 A           — at 110 V rated value         4.5 A           — at 220 V rated value         1 A           — at 440 V rated value         0.25 A           • with 2 current paths in series at DC-1         - at 24 V rated value           — at 24 V rated value         45 A           — at 110 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         - at 24 V rated value           • with 3 current paths in series at DC-1         55 A           — at 24 V rated value         55 A           — at 110 V rated value         55 A           — at 220 V rated value         55 A           — at 420 V rated value         55 A           — at 440 V rated value         2.9 A           — at 600 V rated value         2.9 A           — at 600 V rated value         1.4 A		
● at 1 current path at DC-1           — at 24 V rated value         55 A           — at 110 V rated value         4.5 A           — at 220 V rated value         1 A           — at 440 V rated value         0.25 A           — at 600 V rated value         0.25 A           • with 2 current paths in series at DC-1         - at 22 V rated value           — at 24 V rated value         55 A           — at 110 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         - at 24 V rated value           — at 24 V rated value         55 A           — at 24 V rated value         55 A           — at 24 V rated value         55 A           — at 220 V rated value         45 A           — at 110 V rated value         55 A           — at 440 V rated value         45 A           — at 440 V rated value         2.9 A           — at 600 V rated value         1.4 A           Operational current         4.4 A		
• at 1 current path at DC-1  — at 24 V rated value 55 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 55 A  — at 110 V rated value 55 A  — at 220 V rated value 55 A  — at 440 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  — at 24 V rated value 55 A  — at 110 V rated value 55 A  — at 440 V rated value 55 A  — at 440 V rated value 45 A  — at 220 V rated value 55 A  — at 110 V rated value 55 A  — at 110 V rated value 55 A  — at 220 V rated value 55 A  — at 220 V rated value 45 A  — at 440 V rated value 45 A  — at 440 V rated value 45 A  — at 600 V rated value 45 A  — at 600 V rated value 1.4 A  operational current  • at 1 current path at DC-3 at DC-5		24 A
- at 24 V rated value 55 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 45 A - at 110 V rated value 55 A - at 110 V rated value 55 A - at 440 V rated value 1 A - at 600 V rated value 5 A - at 440 V rated value 1 A - at 600 V rated value 55 A - at 110 V rated value 55 A - at 220 V rated value 55 A - at 220 V rated value 55 A - at 220 V rated value 55 A - at 24 V rated value 55 A - at 24 V rated value 55 A - at 24 V rated value 55 A - at 20 V rated value 55 A - at 20 V rated value 55 A - at 20 V rated value 2.9 A - at 600 V rated value 2.9 A - at 600 V rated value 1.4 A  operational current ● at 1 current path at DC-3	•	
- at 110 V rated value 4.5 A - at 220 V rated value 0.4 A - at 440 V rated value 0.25 A  • with 2 current paths in series at DC-1 - at 24 V rated value 55 A - at 110 V rated value 55 A - at 220 V rated value 55 A - at 440 V rated value 55 A - at 440 V rated value 1 A - at 600 V rated value 55 A - at 110 V rated value 55 A - at 440 V rated value 1 A - at 600 V rated value 55 A  • with 3 current paths in series at DC-1 - at 24 V rated value 55 A - at 110 V rated value 55 A - at 110 V rated value 55 A - at 110 V rated value 55 A - at 220 V rated value 55 A - at 220 V rated value 29 A - at 600 V rated value 45 A - at 440 V rated value 2.9 A - at 600 V rated value 1.4 A	·	
- at 220 V rated value - at 440 V rated value 0.4 A 0.25 A  ● with 2 current paths in series at DC-1 - at 24 V rated value 55 A - at 110 V rated value 45 A - at 440 V rated value 5 A - at 440 V rated value 1 A - at 600 V rated value 3 S A - at 140 V rated value 5 S A - at 140 V rated value 5 S A - at 140 V rated value 5 S A - at 220 V rated value 5 S A - at 220 V rated value 5 S A - at 220 V rated value 5 S A - at 24 V rated value 5 S A - at 24 V rated value 5 S A - at 110 V rated value 5 S A - at 110 V rated value 5 S A - at 220 V rated value 7 S S A - at 220 V rated value 7 S S A - at 240 V rated value 7 S S A - at 240 V rated value 7 S S A - at 440 V rated value 7 S S A - at 440 V rated value 7 S S A - at 440 V rated value 7 S S A - at 440 V rated value 7 S S A - at 440 V rated value 7 S S A - at 440 V rated value 7 S S A - at 440 V rated value 7 S S A - at 440 V rated value 7 S S S S S - at 440 V rated value 7 S S S S S - at 440 V rated value 7 S S S S S - at 440 V rated value 7 S S S S S - at 440 V rated value 7 S S S S S S - at 440 V rated value 7 S S S S S S S S S - at 440 V rated value 7 S S S S S S S S S S S S S S S S S S S		
<ul> <li>— at 440 V rated value</li> <li>— at 600 V rated value</li> <li>0.25 A</li> <li>• with 2 current paths in series at DC-1</li> <li>— at 24 V rated value</li> <li>— at 110 V rated value</li> <li>— at 220 V rated value</li> <li>— at 440 V rated value</li> <li>— at 600 V rated value</li> <li>— with 3 current paths in series at DC-1</li> <li>— at 24 V rated value</li> <li>— at 110 V rated value</li> <li>— at 110 V rated value</li> <li>— at 220 V rated value</li> <li>— at 240 V rated value</li> <li>— at 250 V rated value</li> <li>— at 440 V rated value</li> <li>— at 600 V rated value</li> <li>— at 600 V rated value</li> <li>— at 600 V rated value</li> <li>— at 1.4 A</li> </ul> Operational current <ul> <li>• at 1 current path at DC-3 at DC-5</li> </ul>		
<ul> <li>— at 600 V rated value</li> <li>● with 2 current paths in series at DC-1</li> <li>— at 24 V rated value</li> <li>— at 110 V rated value</li> <li>— at 220 V rated value</li> <li>— at 440 V rated value</li> <li>— at 600 V rated value</li> <li>— at 600 V rated value</li> <li>— with 3 current paths in series at DC-1</li> <li>— at 24 V rated value</li> <li>— at 110 V rated value</li> <li>— at 110 V rated value</li> <li>— at 220 V rated value</li> <li>— at 240 V rated value</li> <li>— at 250 V rated value</li> <li>— at 440 V rated value</li> <li>— at 4600 V rated value</li> <li>— at 600 V rated value</li> <li>— at 1.4 A</li> </ul> Operational current <ul> <li>• at 1 current path at DC-3 at DC-5</li> </ul>		
<ul> <li>with 2 current paths in series at DC-1</li> <li>— at 24 V rated value</li> <li>— at 110 V rated value</li> <li>— at 220 V rated value</li> <li>— at 440 V rated value</li> <li>— at 600 V rated value</li> <li>— with 3 current paths in series at DC-1</li> <li>— at 24 V rated value</li> <li>— at 110 V rated value</li> <li>— at 110 V rated value</li> <li>— at 220 V rated value</li> <li>— at 220 V rated value</li> <li>— at 440 V rated value</li> <li>— at 440 V rated value</li> <li>— at 600 V rated value</li> <li>— at 600 V rated value</li> <li>— at 1.4 A</li> </ul> Operational current <ul> <li>• at 1 current path at DC-3 at DC-5</li> </ul>		
- at 24 V rated value 55 A - at 110 V rated value 45 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 - at 24 V rated value 55 A - at 110 V rated value 55 A - at 110 V rated value 45 A - at 220 V rated value 45 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		0.25 A
<ul> <li>— at 110 V rated value</li> <li>— at 220 V rated value</li> <li>— at 440 V rated value</li> <li>— at 600 V rated value</li> <li>• with 3 current paths in series at DC-1</li> <li>— at 24 V rated value</li> <li>— at 110 V rated value</li> <li>— at 110 V rated value</li> <li>— at 220 V rated value</li> <li>— at 440 V rated value</li> <li>— at 600 V rated value</li> <li>— at 600 V rated value</li> <li>— at 1 current path at DC-3 at DC-5</li> </ul>		
<ul> <li>— at 220 V rated value</li> <li>— at 440 V rated value</li> <li>— at 600 V rated value</li> <li>• with 3 current paths in series at DC-1</li> <li>— at 24 V rated value</li> <li>— at 110 V rated value</li> <li>— at 220 V rated value</li> <li>— at 440 V rated value</li> <li>— at 4600 V rated value</li> <li>— at 600 V rated value</li> <li>— at 1 current path at DC-3 at DC-5</li> </ul>		
— at 440 V rated value       1 A         — at 600 V rated value       0.8 A         • with 3 current paths in series at DC-1         — at 24 V rated value       55 A         — at 110 V rated value       55 A         — at 220 V rated value       45 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		
<ul> <li>— at 600 V rated value</li> <li>● with 3 current paths in series at DC-1</li> <li>— at 24 V rated value</li> <li>— at 110 V rated value</li> <li>— at 220 V rated value</li> <li>— at 440 V rated value</li> <li>— at 600 V rated value</li> <li>— at 600 V rated value</li> <li>— at 100 V rated value</li> <li>— at 100 V rated value</li> <li>— at 100 V rated value</li> <li>— at 1 current path at DC-3 at DC-5</li> </ul>		
with 3 current paths in series at DC-1     — at 24 V rated value		
— at 24 V rated value       55 A         — at 110 V rated value       55 A         — at 220 V rated value       45 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		0.8 A
— at 110 V rated value       55 A         — at 220 V rated value       45 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 220 V rated value       45 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 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 600 V rated value 1.4 A  operational current	— at 220 V rated value	
• at 1 current path at DC-3 at DC-5		
• at 1 current path at DC-3 at DC-5		1.4 A
	operational current	
— at 24 V rated value 35 A		
	— at 24 V rated value	35 A

— at 110 V rated value	2.5 A
— at 220 V rated value	1 A
— at 440 V rated value	0.1 A
— at 600 V rated value	0.06 A
<ul> <li>with 2 current paths in series at DC-3 at DC-5</li> </ul>	
— at 24 V rated value	55 A
— at 110 V rated value	25 A
— at 220 V rated value	5 A
— at 440 V rated value	0.27 A
— at 600 V rated value	0.16 A
<ul> <li>with 3 current paths in series at DC-3 at DC-5</li> </ul>	
— at 24 V rated value	55 A
— at 110 V rated value	55 A
— at 220 V rated value	25 A
— at 440 V rated value	0.6 A
— at 600 V rated value	0.35 A
operating power	
<ul><li>at AC-2 at 400 V rated value</li></ul>	37 kW
• at AC-3	
— at 230 V rated value	22 kW
— at 400 V rated value	37 kW
— at 500 V rated value	37 kW
— at 690 V rated value	45 kW
operating power for approx. 200000 operating cycles	
at AC-4	
<ul> <li>at 400 V rated value</li> </ul>	15.8 kW
at 690 V rated value	21.8 kW
operating apparent power at AC-6a	
<ul> <li>up to 230 V for current peak value n=20 rated value</li> </ul>	27.8 kV·A
<ul> <li>up to 400 V for current peak value n=20 rated value</li> </ul>	48.4 kV·A
<ul> <li>up to 500 V for current peak value n=20 rated value</li> </ul>	60.6 kV·A
up to 690 V for current peak value n=20 rated value	69.3 kV·A
operating apparent power at AC-6a	
<ul> <li>up to 230 V for current peak value n=30 rated value</li> </ul>	18.6 kV·A
<ul> <li>up to 400 V for current peak value n=30 rated value</li> </ul>	32.3 kV·A
<ul> <li>up to 500 V for current peak value n=30 rated value</li> </ul>	40.4 kV·A
up to 690 V for current peak value n=30 rated value	55.8 kV·A
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>	1 298 A; Use minimum cross-section acc. to AC-1 rated value
_	898 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	640 A; Use minimum cross-section acc. to AC-1 rated value
<ul> <li>limited to 10 s switching at zero current maximum</li> <li>limited to 30 s switching at zero current maximum</li> </ul>	414 A; Use minimum cross-section acc. to AC-1 rated value
limited to 50 s switching at zero current maximum     limited to 60 s switching at zero current maximum	333 A; Use minimum cross-section acc. to AC-1 rated value
no-load switching frequency	ooo A, ooc minimum cross-section acc. to AC-1 fateu value
at AC	5 000 1/h
operating frequency	0 000 1/11
at AC-1 maximum	700 1/h
• at AC-2 maximum	350 1/h
• at AC-3 maximum	500 1/h
• at AC-4 maximum	150 1/h
Control circuit/ Control	
type of voltage of the control supply voltage	AC
control supply voltage at AC	
at 50 Hz rated value	230 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	V.O 1.1
apparent pick-up power of magnet coll at AC	

● at 50 Hz	190 V·A
inductive power factor with closing power of the coil	100 V A
	0.72
• at 50 Hz	0.72
apparent holding power of magnet coil at AC	16 V·A
• at 50 Hz	10 V·A
inductive power factor with the holding power of the coil	
• at 50 Hz	0.37
closing delay	
• at AC	10 80 ms
opening delay	
• at AC	10 18 ms
arcing time	10 20 ms
control version of the switch operating mechanism	Standard A1 - A2
Auxiliary circuit	
number of NC contacts for auxiliary contacts	2
instantaneous contact	
number of NO contacts for auxiliary contacts instantaneous contact	2
operational current at AC-12 maximum	10 A
operational current at AC-15	
<ul> <li>at 230 V rated value</li> </ul>	6 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	
at 24 V rated value	10 A
<ul> <li>at 48 V rated value</li> </ul>	6 A
<ul> <li>at 60 V rated value</li> </ul>	6 A
<ul> <li>at 110 V rated value</li> </ul>	3 A
<ul> <li>at 125 V rated value</li> </ul>	2 A
<ul> <li>at 220 V rated value</li> </ul>	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
<ul> <li>at 110 V rated value</li> </ul>	1 A
<ul> <li>at 125 V rated value</li> </ul>	0.9 A
<ul> <li>at 220 V rated value</li> </ul>	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	65 A
at 600 V rated value	62 A
yielded mechanical performance [hp]	
<ul> <li>for single-phase AC motor</li> </ul>	
— at 110/120 V rated value	5 hp
— at 230 V rated value	15 hp
<ul> <li>for 3-phase AC motor</li> </ul>	
— at 200/208 V rated value	20 hp
— at 220/230 V rated value	25 hp
— at 460/480 V rated value	50 hp
— at 575/600 V rated value	60 hp
contact rating of auxiliary contacts according to UL	A600 / Q600
Short-circuit protection	
design of the fuse link	
<ul> <li>for short-circuit protection of the main circuit</li> </ul>	

product function mirror contact acc. to IEC 60947-4-1	Yes
Safety related data	
for auxiliary contacts	20 14
• for main contacts	18 1
AWG number as coded connectable conductor cross section	
at AWG cables for auxiliary contacts	2x (20 16), 2x (18 14)
— finely stranded with core end processing	2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²)
— solid or stranded	2x (0,5 1,5 mm²), 2x (0,75 2,5 mm²)
for auxiliary contacts	
type of connectable conductor cross-sections	
<ul> <li>finely stranded with core end processing</li> </ul>	0.5 2.5 mm²
<ul> <li>solid or stranded</li> </ul>	0.5 2.5 mm²
contacts	
connectable conductor cross-section for auxiliary	00 mm
finely stranded with core end processing	1 35 mm²
connectable conductor cross-section for main contacts	
at AWG cables for main contacts	2x (18 2), 1x (18 1)
<ul> <li>finely stranded with core end processing</li> </ul>	2x (1 25 mm²), 1x (1 35 mm²)
— solid or stranded	2x (1 35 mm²), 1x (1 50 mm²)
for main contacts	
type of connectable conductor cross-sections	
of magnet coil	Screw-type terminals
at contactor for auxiliary contacts	Screw-type terminals
for auxiliary and control circuit	screw-type terminals screw-type terminals
for main current circuit	screw-type terminals
type of electrical connection	
Connections/ Terminals	V 11111
— at the side	6 mm
— upwards — downwards	10 mm
— forwards	10 mm 10 mm
• for live parts	10 mm
— downwards	10 mm
— at the side	6 mm
— upwards	10 mm
— forwards	10 mm
for grounded parts	
— at the side	0 mm
— downwards	10 mm
— upwards	10 mm
— forwards	10 mm
with side-by-side mounting	
required spacing	
depth	174 mm
width	55 mm
height	114 mm
<ul> <li>side-by-side mounting</li> </ul>	Yes
fastening method	screw and snap-on mounting onto 35 mm standard mounting rail according to DIN EN 60715
	forward and backward by +/- 22.5° on vertical mounting surface
mounting position	+/-180° rotation possible on vertical mounting surface; can be tilted
Installation/ mounting/ dimensions	
<ul> <li>for short-circuit protection of the auxiliary switch required</li> </ul>	gG: 10 A (500 V, 1 kA)
	(415V,80kA)
— with type of assignment 2 required	(415 V, 80 kA) gG: 160A (690V,100kA), aM: 80A (690V,100kA), BS88: 125A
<ul> <li>— with type of coordination 1 required</li> </ul>	gG: 250 A (690 V, 100 kA), aM: 160 A (690 V, 100 kA), BS88: 200 A

B10 value with high demand rate acc. to SN 31920	1 000 000
proportion of dangerous failures	
<ul> <li>with low demand rate acc. to SN 31920</li> </ul>	40 %
<ul> <li>with high demand rate acc. to SN 31920</li> </ul>	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	
<ul> <li>safety-related switching OFF</li> </ul>	Yes
Cartificates/ approvals	

Certificates/ approvals

**General Product Approval** 

**EMC** 













Functional
Safety/Safety of
Machinery

**Declaration of Conformity** 

**Test Certificates** 

Marine / Shipping

Type Examination Certificate UK Declaration of Conformity



Special Test Certificate

Type Test Certificates/Test Report



## Marine / Shipping













## other

Confirmation

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=3RT2038-1AP04

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2038-1AP04

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

https://support.industry.siemens.com/cs/ww/en/ps/3RT2038-1AP04

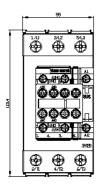
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)

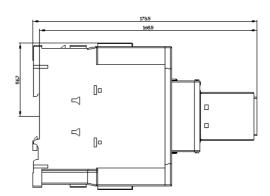
http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=3RT2038-1AP04&lang=en

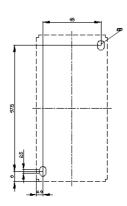
Characteristic: Tripping characteristics, I²t, Let-through current

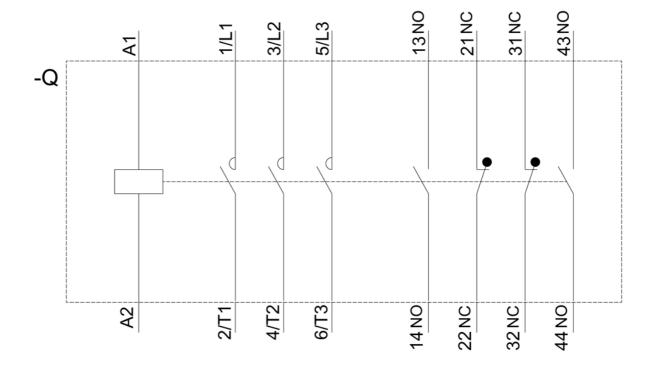
https://support.industry.siemens.com/cs/ww/en/ps/3RT2038-1AP04/char

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









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