## **SIEMENS**

Data sheet 3RT2046-3AF04



power contactor, AC-3 95 A, 45 kW / 400 V 2 NO + 2 NC, 110 V AC, 50 Hz 3-pole, 3 NO, Size S3 Spring-type terminal

product brand name	SIRIUS
product designation	Power contactor
product type designation	3RT2
General technical data	
size of contactor	S3
product extension	
<ul> <li>function module for communication</li> </ul>	No
auxiliary switch	Yes
power loss [W] for rated value of the current at AC in hot operating state	19.8 W
• per pole	6.6 W
power loss [W] for rated value of the current without load current share typical	19 W
surge voltage resistance	
<ul> <li>of main circuit rated value</li> </ul>	8 kV
of auxiliary circuit rated value	6 kV
maximum permissible voltage for safe isolation between coil and main contacts acc. to EN 60947-1	690 V
shock resistance at rectangular impulse	
• at AC	6.7 g / 5 ms, 4.0 g / 10 ms
shock resistance with sine pulse	
• at AC	10.6 g / 5 ms, 6.3 g / 10 ms
mechanical service life (switching cycles)	
of contactor typical	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 acc. to IEC 81346-2	Q
Substance Prohibitance (Date)	01.03.2017 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
<ul> <li>during storage</li> </ul>	-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	1 000 V
operational current	

operational current for approx. 200000 operating cycles at AC-4  • at 400 V rated value  • at 690 V rated value  30 A		
— up to 680 V at ambient temperature 40 °C rated value — up to 680 V at ambient temperature 60 °C rated value — up to 1000 V at ambient temperature 60 °C rated value — up to 1000 V at ambient temperature 60 °C rated value — up to 1000 V at ambient temperature 60 °C rated value — up to 1000 V at ambient temperature 60 °C rated value — at 500 V rated value — at 500 V rated value — at 600 V rated value — at 1000 V rated value — up to 230 V for current peak value n=20 rated value — up to 200 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=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 — at 400 V rated value — at 600 V rated	rated value	130 A
— up 06 980 ∨ 1 ambient temperature 80 °C rated value — up to 1000 ∨ 1 ambient temperature 40 °C rated value — up to 1000 ∨ 1 ambient temperature 60 °C rated value — up to 1000 ∨ 1 ambient temperature 60 °C rated value  ■ at 260 ∨ 1 rated value — at 800 ∨ 1 rated value — at 690 ∨ 1 rated value — at 690 ∨ 1 rated value — at 690 ∨ 1 rated value — at 1000 ∨ 1 rated value — at 1000 ∨ 1 rated value — at 1000 ∨ 1 rated value — up to 230 ∨ 1 rated value — up to 230 ∨ 1 rated value — up to 230 ∨ 1 rated value — up to 500 ∨ 1 rated value — up to 500 ∨ 1 rated value rated value — up to 500 ∨ 1 rated value rated value — up to 500 ∨ 1 rated value rated value — up to 500 ∨ 1 rated value rated value — up to 500 ∨ 1 rated value rated value — up to 500 ∨ 1 rated value rated value — up to 500 ∨ 1 rated value rated value — up to 500 ∨ 1 rated value rated value rated value — up to 500 ∨ 1 rated value rated value — up to 500 ∨ 1 rated value rated value — up to 500 ∨ 1 rated value rated value — up to 500 ∨ 1 rated value rated value — up to 500 ∨ 1 rated value rated value — up to 500 ∨ 1 rated value rated value — up to 500 ∨ 1 rated value rated value — up to 500 ∨ 1 rated value rated value — up to 500 ∨ 1 rated value rated value — at 100 ∨ 1 rated value — at 24 ∨ 1 rated value — at 440 ∨ 1 rated value — at 100 ∨ 1 rated value — at 100 ∨ 1 rated value — at 200 ∨ 1 rated value — a	— up to 690 V at ambient temperature 40 $^{\circ}\text{C}$	130 A
— up to 1000 V at ambient temperature 40 °C rated value — up to 1000 V at ambient temperature 80 °C rated value • al AC-3  — at 400 V rated value — at 500 V rated value — at 650 V rated value — at 650 V rated value — at 660 V rated value • al AC-4 at 400 V rated value • al AC-5 up to 600 V rated value • al AC-5 up to 600 V rated value • al AC-5 up to 600 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 500 V for current peak value n=30 rated value	— up to 690 V at ambient temperature 60 °C	110 A
— up to 1000 V at ambient temperature 60 °C related value • at AC-3	— up to 1000 V at ambient temperature 40 °C	70 A
• at AC-3  — at 400 V rated value — at 690 V rated value — at 1690 V rated value — at AC-5 au pto 690 V rated value — at AC-5 au pto 690 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 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 — at 400 V rated value	— up to 1000 V at ambient temperature 60 °C	60 A
at 500 V rated value		05.4
at 690 V rated value		
	— at 500 V rated value	
at AC-4 at 400 V rated value     at AC-5u pt 6 990 V rated value     at AC-5u pt 6 900 V rated value     at AC-6u pt 6 400 V rated value     at AC-6u pt 6 900 V rated value     at AC-6u     at pt 500 V for current peak value n=20 rated value     at pt 500 V for current peak value n=20 rated value     at AC-6u pt 500 V for current peak value n=20 rated value     at AC-6u pt 500 V for current peak value n=20 rated value     at AC-6u pt 500 V for current peak value n=30 rated value     at AC-6u pt 500 V for current peak value n=30 rated value     at AC-6u pt 500 V for current peak value n=30 rated value     at AC-6u pt 500 V for current peak value n=30 rated value     at yet be 600 V for current peak value n=30 rated value     at 400 V rated value n=30 rated value     at 400 V rated value     at 440 V rated value     at 520 V rated value     at 440 V rated value     at 520 V rated	— at 690 V rated value	78 A
at AC-5a up to 690 V rated value     at AC-5a up to 400 V rated value     at AC-5a     — 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=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 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 100 V for current peak value n=30 rated value     — up to 200 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 100 V for current peak value n=30 rated value     — at 400 V rated value     — at 200 V rated value     — at 440 V rated value     — at 500 V rated value     — at 600 V	— at 1000 V rated value	30 A
at AC-5b up to 400 V rated value     at 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 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 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 400 V for current peak value n=30 rated value     — up to 400 V for current peak value n=30 rated value     — up to 400 V for current peak value n=30 rated value     — up to 400 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 24 V rated value     — at 220 V rated value     — at 400 V rated value     — at 410 V rated value     — at 440 V	<ul> <li>at AC-4 at 400 V rated value</li> </ul>	80 A
at AC-5b up to 400 V rated value     at 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 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 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 400 V for current peak value n=30 rated value     — up to 400 V for current peak value n=30 rated value     — up to 400 V for current peak value n=30 rated value     — up to 400 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 24 V rated value     — at 220 V rated value     — at 400 V rated value     — at 410 V rated value     — at 440 V	<ul> <li>at AC-5a up to 690 V rated value</li> </ul>	114 A
at AC-8a — 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=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 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 400 V rated value     — up to 400 V rated value     — at 400 V rated value     — at 400 V rated value     — at 240 V rated value     — at 240 V rated value     — at 240 V rated value     — at 440 V rated value     — at 440 V rated value     — at 240 V rated value     — at 2500 V rated value     — at 2600 V rated valu		
		00 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 690 V for current peak value n=20 rated value  ■ at AC-6a  — 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 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 400 V for current peak value n=30 rated value  — up to 690 V for current peak value n=30 rated value  — at 4600 V rated value  — at 4600 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 440 V rated value  — at 220 V rated value  — at 24 V rated value  — at 220 V rated value  — at 440 V rated value  — at 440 V rated value  — at 220 V rated value  — at 440 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 440 V rated value  — at 220 V rated value  — at 440 V rated value  — at 220 V rated value  — at 440 V rated value  — at 640 V rated value  — at 640 V rated valu	— up to 230 V for current peak value n=20 rated	84.4 A
value — up to 690 V for current peak value n=20 rated value  • at AC-6a — 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 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 400 V rated value — at 400 V rated value — at 100 V rated value — at 110 V rated value — at 110 V rated value — at 220 V rated value — at 440 V rated value — at 440 V rated value — at 440 V rated value — at 220 V rated value — at 110 V rated value — at 440 V rated value — at 24 V rated value — at 440 V rated value — at 600 V rated value	— up to 400 V for current peak value n=20 rated	84.4 A
• at AC-6a         — up to 230 V for current peak value n=30 rated value         56.3 A           — up to 500 V for current peak value n=30 rated value         56.3 A           — up to 500 V for current peak value n=30 rated value         56.3 A           — up to 690 V for current peak value n=30 rated value         56.3 A           — up to 690 V for current peak value n=30 rated value         56.3 A           minimum cross-section in main circuit at maximum AC-1 rated value         50 mm²           operational current for approx. 200000 operating cycles at AC-4         42 A           • at 400 V rated value         30 A           operational current         42 A           • at 1 current path at DC-1         42 A           — at 24 V rated value         9 A           — at 210 V rated value         9 A           — at 440 V rated value         0.6 A           — at 4600 V rated value         0.4 A           • with 2 current paths in series at DC-1         100 A           — at 220 V rated value         100 A           — at 220 V rated value         100 A           — at 440 V rated value         100 A           — at 24 V rated value         100 A           — at 4100 V rated value         100 A           — at 424 V rated value         100 A           — at 440 V rate		84.4 A
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 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 690 V rated value — at 690 V rated value — at 24 V rated value — at 220 V rated value — at 220 V rated value — at 220 V rated value — at 600 V rated value — at 600 V rated value — at 110 V rated value — at 110 V rated value — at 110 V rated value — at 220 V rated value — at 24 V rated value — at 440 V rated value — at 440 V rated value — at 440 V rated value — at 24 V rated value — at 220 V rated value — at 110 V rated value — at 400 V rated value — at 400 V rated value — at 600 V rated value	value	58 A
value         — up to 500 V for current peak value n=30 rated value         56.3 A           — up to 690 V for current peak value n=30 rated value         56.3 A           minimum cross-section in main circuit at maximum AC-1 rated value         50 mm²           operational current for approx. 200000 operating cycles at AC-4         4           • at 400 V rated value         42 A           • at 690 V rated value         30 A           operational current         42 A           • at 1 current path at DC-1         — at 24 V rated value           — at 110 V rated value         9 A           — at 220 V rated value         2 A           — at 440 V rated value         0.6 A           — at 600 V rated value         0.4 A           • with 2 current paths in series at DC-1         100 A           — at 220 V rated value         100 A           — at 220 V rated value         10 A           — at 440 V rated value         1 A           • with 3 current paths in series at DC-1         1 A           — at 24 V rated value         1 A           — at 24 V rated value         1 A           — at 24 V rated value         100 A           — at 24 V rated value         100 A           — at 24 V rated value         100 A           — at 24 V rated va		56.3 A
value         — up to 690 V for current peak value n=30 rated value         56.3 A           minimum cross-section in main circuit at maximum AC-1 rated value         50 mm²           operational current for approx. 200000 operating cycles at AC-4         42 A           • at 400 V rated value         30 A           • operational current         30 A           • at 1 current path at DC-1         42 A           — at 24 V rated value         9 A           — at 24 V rated value         9 A           — at 440 V rated value         0.6 A           — at 400 V rated value         0.4 A           — at 600 V rated value         0.4 A           • with 2 current paths in series at DC-1         100 A           — at 22 V rated value         100 A           — at 110 V rated value         100 A           — at 440 V rated value         1.8 A           — at 440 V rated value         1.8 A           — at 24 V rated value         100 A           — at 24 V rated value         2.6 A		56.3 A
value           minimum cross-section in main circuit at maximum AC-1 rated value         50 mm²           operational current for approx. 200000 operating cycles at AC-4         at 400 V rated value         42 A           • at 690 V rated value         30 A           operational current         • at 1 current path at DC-1         100 A           — at 24 V rated value         9 A           — at 110 V rated value         9 A           — at 220 V rated value         0.6 A           — at 600 V rated value         0.4 A           • with 2 current paths in series at DC-1         100 A           — at 24 V rated value         100 A           — at 110 V rated value         100 A           — at 220 V rated value         10 A           — at 440 V rated value         1.8 A           — at 600 V rated value         1.8 A           • with 3 current paths in series at DC-1         1.8 A           — at 24 V rated value         1.0 A           • with 3 current paths in series at DC-1         2.6 A           — at 4110 V rated value         1.8 A           • with 3 current paths in series at DC-1         2.6 A           — at 420 V rated value         1.0 A           • at 440 V rated value         1.0 A           • at 440 V rated value		56.3 A
rated value  operational current for approx. 200000 operating cycles at AC-4  • at 400 V rated value		56.3 A
e at 400 V rated value 42 A  ● at 400 V rated value 30 A  operational current  ● at 1 current path at DC-1  — at 24 V rated value 100 A  — at 110 V rated value 9 A  — at 440 V rated value 0.6 A  — at 440 V rated value 0.4 A  ● with 2 current paths in series at DC-1  — at 24 V rated value 100 A  — at 110 V rated value 100 A  — at 110 V rated value 100 A  ● with 2 current paths in series at DC-1  — at 24 V rated value 100 A  — at 110 V rated value 10 A  — at 440 V rated value 10 A  ● with 3 current paths in series at DC-1  — at 24 V rated value 10 A  — at 440 V rated value 10 A  ● with 3 current paths in series at DC-1  — at 24 V rated value 100 A  — at 110 V rated value 100 A  — at 440 V rated value 40 V rated value 100 A  — at 440 V rated value 100 A  — at 440 V rated value 40 V rated V rate	minimum cross-section in main circuit at maximum AC-1 rated value	50 mm <sup>2</sup>
• at 690 V rated value  operational current  • at 1 current path at DC-1  — at 24 V rated value  — at 110 V rated value  — at 220 V rated value  — at 440 V rated value  • with 2 current paths in series at DC-1  — at 24 V rated value  — at 110 V rated value  • with 2 v rated value  — at 24 V rated value  — at 24 V rated value  — at 24 V rated value  — at 20 V rated value  100 A  — at 220 V rated value  100 A  — at 220 V rated value  10 A  • with 3 current paths in series at DC-1  — at 24 V rated value  1 A  • with 3 current paths in series at DC-1  — at 24 V rated value  1 A  • with 3 current paths in series at DC-1  — at 24 V rated value  30 A  • with 3 current paths in series at DC-1  — at 24 V rated value  30 A  • with 3 current paths in series at DC-1  — at 24 V rated value  30 A  4 S A  4 S A  — at 600 V rated value  4.5 A  — at 600 V rated value  2.6 A  operational current	operational current for approx. 200000 operating cycles at AC-4	
operational current	<ul> <li>at 400 V rated value</li> </ul>	42 A
• at 1 current path at DC-1  — at 24 V rated value — at 110 V rated value 9 A — at 220 V rated value 9 A — at 440 V rated value 0.6 A — at 600 V rated value 0.4 A  • with 2 current paths in series at DC-1 — at 24 V rated value 100 A — at 110 V rated value 110 A — at 110 V rated value 110 A — at 440 V rated value 11 A  • with 3 current paths in series at DC-1 — at 24 V rated value 11 A  • with 3 current paths in series at DC-1 — at 24 V rated value 100 A — at 110 V rated value 11 A  • with 3 current paths in series at DC-1 — at 24 V rated value 100 A — at 110 V rated value 100 A — at 110 V rated value 4.5 A — at 600 V rated value 4.5 A — at 600 V rated value 2.6 A	<ul><li>at 690 V rated value</li></ul>	30 A
- at 24 V rated value 9 A - at 110 V rated value 9 A - at 220 V rated value 2 A - at 440 V rated value 0.6 A - at 600 V rated value 0.4 A  ■ with 2 current paths in series at DC-1 - at 24 V rated value 100 A - at 110 V rated value 100 A - at 220 V rated value 100 A - at 440 V rated value 10 A - at 440 V rated value 1.8 A - at 600 V rated value 1 A ■ with 3 current paths in series at DC-1 - at 24 V rated value 100 A - at 110 V rated value 100 A - at 24 V rated value 100 A - at 110 V rated value 100 A - at 110 V rated value 100 A - at 200 V rated value 100 A - at 200 V rated value 200 A - at 440 V rated value 200 A - at 440 V rated value 200 A - at 600 V rated value 200 A - at 60	operational current	
- at 24 V rated value 9 A - at 110 V rated value 9 A - at 220 V rated value 2 A - at 440 V rated value 0.6 A - at 600 V rated value 0.4 A  ■ with 2 current paths in series at DC-1 - at 24 V rated value 100 A - at 110 V rated value 100 A - at 220 V rated value 100 A - at 440 V rated value 10 A - at 440 V rated value 1.8 A - at 600 V rated value 1 A ■ with 3 current paths in series at DC-1 - at 24 V rated value 100 A - at 110 V rated value 100 A - at 24 V rated value 100 A - at 110 V rated value 100 A - at 110 V rated value 100 A - at 200 V rated value 100 A - at 200 V rated value 200 A - at 440 V rated value 200 A - at 440 V rated value 200 A - at 600 V rated value 200 A - at 60	• at 1 current path at DC-1	
— at 110 V rated value 9 A — at 220 V rated value 2 A — at 440 V rated value 0.6 A — at 600 V rated value 0.4 A  ● with 2 current paths in series at DC-1 — at 24 V rated value 100 A — at 110 V rated value 100 A — at 220 V rated value 10 A — at 440 V rated value 1.8 A — at 600 V rated value 1.8 A — at 600 V rated value 1 A  ● with 3 current paths in series at DC-1 — at 24 V rated value 100 A — at 110 V rated value 100 A — at 220 V rated value 100 A — at 24 V rated value 100 A — at 24 V rated value 100 A — at 110 V rated value 100 A — at 110 V rated value 100 A — at 200 V rated value 4.5 A — at 600 V rated value 4.5 A — at 600 V rated value 2.6 A  operational current		100 A
<ul> <li>— at 220 V rated value</li> <li>— at 440 V rated value</li> <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>— with 3 current paths in series at DC-1</li> <li>— at 24 V rated value</li> <li>— at 24 V rated value</li> <li>— at 24 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 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> </ul>		
<ul> <li>— at 440 V rated value</li> <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>— 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 24 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> </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>— 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 24 V rated value</li> <li>— at 250 V rated value</li> <li>— at 2600 V rated value</li> <li>— at 440 V rated value</li> <li>— at 450 V rated value</li> <li>— at 600 V rated value</li> </ul>		
with 2 current paths in series at DC-1     — at 24 V rated value     — at 110 V rated value     — at 220 V rated value     — at 440 V rated value     — at 600 V rated value     — at 24 V rated value     — at 110 V rated value     1 A      • with 3 current paths in series at DC-1     — at 24 V rated value     — at 110 V rated value     — at 220 V rated value     — at 440 V rated value     — at 440 V rated value     — at 600 V rated value     — at 600 V rated value     — at 600 V rated value     30 A     — at 600 V rated value     30 A     — at 600 V rated value     30 A     30		
<ul> <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 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> </ul>		0.4 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 220 V rated value</li> <li>— at 440 V rated value</li> <li>— at 600 V rated value</li> </ul>	<ul> <li>with 2 current paths in series at DC-1</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 440 V rated value</li> <li>— at 600 V rated value</li> </ul>	— at 24 V rated value	100 A
<ul> <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 600 V rated value</li> </ul>	— at 110 V rated value	100 A
<ul> <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 600 V rated value</li> </ul>	— at 220 V rated value	10 A
<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> </ul>		
with 3 current paths in series at DC-1  — at 24 V rated value — at 110 V rated value — at 220 V rated value — at 440 V rated value — at 600 V rated value — at 600 V rated value  operational current  100 A  80 A  4.5 A  2.6 A		
— at 24 V rated value       100 A         — at 110 V rated value       100 A         — at 220 V rated value       80 A         — at 440 V rated value       4.5 A         — at 600 V rated value       2.6 A		I A
— at 110 V rated value 100 A — at 220 V rated value 80 A — at 440 V rated value 4.5 A — at 600 V rated value 2.6 A  operational current		
— at 220 V rated value       80 A         — at 440 V rated value       4.5 A         — at 600 V rated value       2.6 A         operational current	— at 24 V rated value	100 A
— at 440 V rated value 4.5 A — at 600 V rated value 2.6 A  operational current	— at 110 V rated value	100 A
— at 600 V rated value 2.6 A  operational current	— at 220 V rated value	80 A
— at 600 V rated value 2.6 A  operational current	— at 440 V rated value	4.5 A
operational current		
• at 1 current path at DC-3 at DC-5	•	
	• at 1 current path at DC-3 at DC-5	

-1041/	40.4
— at 24 V rated value	40 A
— at 110 V rated value	2.5 A
— at 220 V rated value	1 A
— at 440 V rated value	0.15 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	100 A
— at 110 V rated value	100 A
— at 220 V rated value	7 A
— at 440 V rated value	0.42 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	100 A
— at 110 V rated value	100 A
— at 220 V rated value	35 A
— at 440 V rated value	0.8 A
— at 600 V rated value	0.35 A
operating power	
<ul> <li>at AC-2 at 400 V rated value</li> </ul>	45 kW
• at AC-3	
— at 230 V rated value	22 kW
— at 400 V rated value	45 kW
— at 500 V rated value	55 kW
— at 690 V rated value	75 kW
— at 1000 V rated value	37 kW
operating power for approx. 200000 operating cycles	
at AC-4	00 144
• at 400 V rated value	22 kW
• at 690 V rated value	27.4 kW
operating apparent power at AC-6a	20.137.4
up to 230 V for current peak value n=20 rated value	33 kV·A
up to 400 V for current peak value n=20 rated value	58 kV·A
• up to 500 V for current peak value n=20 rated value	73 kV·A
up to 690 V for current peak value n=20 rated value	69 kV·A
operating apparent power at AC-6a	00.4137.4
• up to 230 V for current peak value n=30 rated value	22.4 kV·A
up to 400 V for current peak value n=30 rated value	39 kV·A
up to 500 V for current peak value n=30 rated value	48.7 kV·A
up to 690 V for current peak value n=30 rated value	67.3 kV·A
short-time withstand current in cold operating state up to 40 °C	
Iimited to 1 s switching at zero current maximum	1 725 A; Use minimum cross-section acc. to AC-1 rated value
limited to 5 s switching at zero current maximum	1 297 A; Use minimum cross-section acc. to AC-1 rated value
limited to 10 s switching at zero current maximum	946 A; Use minimum cross-section acc. to AC-1 rated value
limited to 30 s switching at zero current maximum	610 A; Use minimum cross-section acc. to AC-1 rated value
limited to 60 s switching at zero current maximum	486 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	900 1/h
at AC-2 maximum	350 1/h
at AC-3 maximum	850 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	296 V·A
inductive power factor with closing power of the coil	
● at 50 Hz	0.61
apparent holding power of magnet coil at AC	
● at 50 Hz	19 V·A
inductive power factor with the holding power of the	
coil	0.00
● at 50 Hz	0.38
closing delay	
• at AC	13 50 ms
opening delay	
• at AC	10 21 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	2
instantaneous contact	10 A
operational current at AC-12 maximum	10 A
operational current at AC-15	6.4
at 230 V rated value     at 400 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	40.4
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
<ul> <li>at 220 V rated value</li> </ul>	1 A
at 600 V rated value	0.15 A
operational current at DC-13	
<ul> <li>at 24 V rated value</li> </ul>	6 A
<ul> <li>at 48 V rated value</li> </ul>	2 A
<ul><li>at 60 V rated value</li></ul>	2 A
• at 110 V rated value	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	96 A
at 600 V rated value	77 A
yielded mechanical performance [hp]	
for single-phase AC motor	
— at 110/120 V rated value	10 hp
— at 230 V rated value	20 hp
• for 3-phase AC motor	
— at 200/208 V rated value	30 hp
— at 220/230 V rated value	30 hp
— at 460/480 V rated value	75 hp
— at 575/600 V rated value	75 hp
contact rating of auxiliary contacts according to UL	A600 / P600
Short-circuit protection	
design of the fuse link	
for short-circuit protection of the main circuit  with type of coordination 1 required.	aC: 250 A (600 V 400 kA) -M: 460 A (600 V 400 kA) -B000, 600 A
— with type of coordination 1 required	gG: 250 A (690 V, 100 kA), aM: 160 A (690 V, 100 kA), BS88: 200 A (415 V, 80 kA)
	( , 🕶 ,

— with type of assignment 2 required	gG: 160 A (690 V, 100 kA), aM: 100 A (690 V, 100 kA), BS88: 125 A (415 V, 80 kA)
for short-circuit protection of the auxiliary switch required	gG: 10 A (500 V, 1 kA)
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	screw and snap-on mounting onto 35 mm standard mounting rail according to DIN EN 60715
side-by-side mounting	Yes
height	140 mm
width	70 mm
depth	198 mm
required spacing	
<ul> <li>with side-by-side mounting</li> </ul>	
— forwards	20 mm
— upwards	10 mm
— downwards	10 mm
— at the side	0 mm
<ul> <li>for grounded parts</li> </ul>	
— forwards	20 mm
— upwards	10 mm
— at the side	10 mm
— downwards	10 mm
• for live parts	
— forwards	20 mm
— upwards	10 mm
— downwards	10 mm
— at the side	10 mm
Connections/ Terminals	10 11111
type of electrical connection	
for main current circuit	screw-type terminals
for auxiliary and control circuit	spring-loaded terminals
at contactor for auxiliary contacts	Spring-type terminals
of magnet coil	Spring-type terminals  Spring-type terminals
type of connectable conductor cross-sections	Spring-type terminals
for main contacts	
	2v /2 F 2F mm²\ 4v /2 F F0 mm²\
— finely stranded with core end processing	2x (2.5 35 mm²), 1x (2.5 50 mm²)
at AWG cables for main contacts  connectable conductor cross-section for main contacts	2x (10 1/0), 1x (10 2)
contacts	2.5 46 mm²
• solid	2.5 16 mm <sup>2</sup>
• stranded	6 70 mm <sup>2</sup>
• finely stranded with core end processing	2.5 50 mm²
connectable conductor cross-section for auxiliary contacts	
solid or stranded	0.5 2.5 mm <sup>2</sup>
finely stranded with core end processing	0.5 2.5 mm <sup>2</sup>
finely stranded without core end processing	0.5 2.5 mm <sup>2</sup>
type of connectable conductor cross-sections	
for auxiliary contacts	
— solid or stranded	2x (0.5 2.5 mm²)
finely stranded with core end processing	2x (0.5 1.5 mm²)
— finely stranded without core end processing	2x (0.5 2.5 mm²)
at AWG cables for auxiliary contacts	2x (20 16)
AWG number as coded connectable conductor cross section	( (0)
• for main contacts	10 2
• for auxiliary contacts	20 14
Safety related data	20 11
	Von
product function mirror contact acc. to IEC 60947-4-1	Yes

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 Certific-**<u>ate</u>





Marine / Shipping

other









Confirmation

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=3RT2046-3AF04

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2046-3AF04

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

https://support.industry.siemens.com/cs/ww/en/ps/3RT2046-3AF04

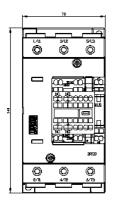
 $Image\ database\ (product\ images,\ 2D\ dimension\ drawings,\ 3D\ models,\ device\ circuit\ diagrams,\ EPLAN\ macros,\ ...)$ 

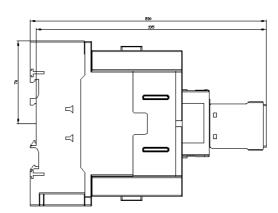
http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=3RT2046-3AF04&lang=en

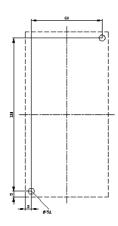
Characteristic: Tripping characteristics, I2t, Let-through current

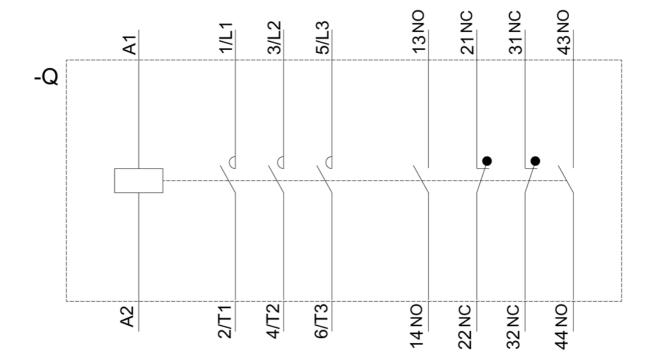
https://support.industry.siemens.com/cs/ww/en/ps/3RT2046-3AF04/char

Further characteristics (e.g. electrical endurance, switching frequency) <a href="http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2046-3AF04&objecttype=14&gridview=view1">http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2046-3AF04&objecttype=14&gridview=view1</a>









last modified: 3/26/2021 **©**