## **SIEMENS**

Data sheet 3RT2028-1AF04



power contactor, AC-3e/AC-3, 38 A, 18.5 kW / 400 V, 3-pole, 110 V AC, 50 Hz, auxiliary contacts: 2 NO + 2 NC, screw terminal, size: S0, removable auxiliary switch

product brand name	SIRIUS
product designation	Power contactor
product type designation	3RT2
General technical data	
size of contactor	S0
product extension	
<ul> <li>function module for communication</li> </ul>	No
auxiliary switch	No
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
without load current share typical	2.5 W
type of calculation of power loss depending on pole	quadratic
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	
of main circuit rated value	6 kV
of auxiliary circuit rated value	6 kV
maximum permissible voltage for protective separation between coil and main contacts according to EN 60947-1	400 V
shock resistance at rectangular impulse	
• at 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 (operating 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	
<ul> <li>during operation</li> </ul>	-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 %
Environmental footprint	

Environmental Product Declaration(EPD)	Yes
Global Warming Potential [CO2 eq] total	74.2 kg
Global Warming Potential [CO2 eq] total  Global Warming Potential [CO2 eq] during manufacturing	1.9 kg
Global Warming Potential [CO2 eq] during mandiacturing  Global Warming Potential [CO2 eq] during operation	72.4 kg
Global Warming Potential [CO2 eq] after end of life	-0.117 kg
Main circuit	-0.117 kg
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
at AC-3e rated value maximum	690 V
operational current	090 V
at AC-1 at 400 V at ambient temperature 40 °C rated value	50 A
• at AC-1	
— up to 690 V at ambient temperature 40 $^{\circ}\text{C}$ rated value	50 A
— up to 690 V at ambient temperature 60 °C rated value	42 A
• at AC-3	
— at 400 V rated value	38 A
— at 500 V rated value	32 A
— at 690 V rated value	21 A
• at AC-3e	
— at 400 V rated value	38 A
— at 500 V rated value	32 A
— at 690 V rated value	21 A
• at AC-4 at 400 V rated value	22 A
• at AC-5a up to 690 V rated value	44 A
• at AC-5b up to 400 V rated value	31.5 A
• at AC-6a	00.0 A
— up to 230 V for current peak value n=20 rated value	30.8 A 30.8 A
<ul> <li>up to 400 V for current peak value n=20 rated value</li> <li>up to 500 V for current peak value n=20 rated value</li> </ul>	30.8 A
— up to 690 V for current peak value n=20 rated value  — up to 690 V for current peak value n=20 rated value	21 A
• at AC-6a	LIN
— up to 230 V for current peak value n=30 rated value	20.5 A
— up to 400 V for current peak value n=30 rated value	20.5 A
— up to 500 V for current peak value n=30 rated value	21.4 A
— up to 690 V for current peak value n=30 rated value	21 A
minimum cross-section in main circuit at maximum AC-1 rated value	10 mm²
operational current for approx. 200000 operating cycles at AC-4	
• at 400 V rated value	12 A
at 690 V rated value	12 A
operational current	
at 1 current path at DC-1	
— at 24 V rated value	35 A
— at 60 V rated value	20 A
— at 110 V rated value	4.5 A
— at 220 V rated value	1 A
— at 440 V rated value	0.4 A
— at 600 V rated value	0.25 A
<ul><li>with 2 current paths in series at DC-1</li></ul>	
— at 24 V rated value	35 A
— at 60 V rated value	35 A
— at 110 V rated value	35 A
— at 220 V rated value	5 A
— at 440 V rated value	1 A
— 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 60 V rated value	35 A
— at 110 V rated value	35 A
— at 220 V rated value	35 A
— at 440 V rated value	2.9 A
— at 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 60 V rated value	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
<ul> <li>with 2 current paths in series at DC-3 at DC-5</li> </ul>	
— at 24 V rated value	35 A
— at 60 V rated value	35 A
— at 110 V rated value	15 A
— at 220 V rated value	3 A
— at 440 V rated value	0.27 A
— at 600 V rated value	0.16 A
<ul> <li>with 3 current paths in series at DC-3 at DC-5</li> </ul>	
— at 24 V rated value	35 A
— at 60 V rated value	35 A
— at 110 V rated value	35 A
— at 220 V rated value	10 A
— at 440 V rated value	0.6 A
— at 600 V rated value	0.6 A
operating power	
• at AC-3	
— at 230 V rated value	11 kW
— at 400 V rated value	18.5 kW
— at 500 V rated value	18.5 kW
— at 690 V rated value	18.5 kW
• at AC-3e	
— at 230 V rated value	11 kW
— at 400 V rated value	18.5 kW
— at 500 V rated value	18.5 kW
— at 690 V rated value	18.5 kW
operating power for approx. 200000 operating cycles at AC-	
at 400 V rated value	6 kW
at 690 V rated value	
	10.3 kW
operating apparent power at AC-6a	12.2 kVA
up to 230 V for current peak value n=20 rated value      up to 400 V for current peak value n=20 rated value	21.3 kVA
up to 400 V for current peak value n=20 rated value      up to 500 V for current peak value n=20 rated value	21.3 KVA 26.6 kVA
up to 500 V for current peak value n=20 rated value     up to 600 V for current peak value n=20 rated value	25 kVA
up to 690 V for current peak value n=20 rated value	ZUNVA
operating apparent power at AC-6a	8 1 kV/A
up to 230 V for current peak value n=30 rated value	8.1 kVA
up to 400 V for current peak value n=30 rated value	14.2 kVA
up to 500 V for current peak value n=30 rated value      up to 600 V for current peak value n=30 rated value	18.5 kVA
up to 690 V for current peak value n=30 rated value  Chart time withstand current in cold experting state up to	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>	341 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>	199 A; Use minimum cross-section acc. to AC-1 rated value
<ul> <li>limited to 60 s switching at zero current maximum</li> </ul>	162 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-3 maximum   at AC-3 maximum   at AC-3 maximum   at AC-3 maximum   at AC-4	-t A O Ai	4 000 4/1-
* at AC-3e maximum 750 th   * at AC-3e maximum 250 th   * at AC-3e maximum 250 th   * at AC-4 maximum 250 th   * at SO the control supply voltage AC   * at SO the cartod value 110 V   * operating range factor control supply voltage rated value of magnet col at AC   * at SO the cartod value 150 the   * at SO the   * at AC	• at AC-1 maximum	1 000 1/h
# at AC-3e maximum		
### APC-4 maximum  Type of Voltage of the control supply voltage at Ce control supply voltage at Ce control supply voltage at Ce at 50 Ftz and Ce description of the Centrol Supply voltage rated value of magnet cell at AC centrol Supply voltage rated value of magnet cell at AC centrol Supply voltage rated value of magnet cell at AC centrol Supply voltage rated value of magnet cell at AC centrol Supply voltage rated value of magnet cell at AC centrol Supply voltage rated value of magnet cell at AC centrol Supply voltage rated value of magnet cell at AC centrol Supply voltage rated value of magnet cell at AC centrol Supply voltage rated value of magnet cell at AC centrol Voltage power of the cell cell substitution of the voltage power of the cell cell substitution of the voltage power of the cell cell substitution of the voltage power of the cell cell substitution of the voltage power factor with the holding power of the cell cell substitution of the voltage power of the cell cell substitution of the voltage power of the cell cell substitution of the voltage power of the cell cell substitution of the voltage power of the cell cell substitution of the voltage power of the cell cell substitution of the voltage power of the cell cell substitution of the voltage power of the cell cell substitution of the voltage power of the cell substitutio		
Control supply voltage of the control supply voltage at AC		
type of voltage of the control supply voltage at AC control supply voltage at AC at 50 Ptz racted value of supply voltage rated value of supply voltage value of supply value of sup		250 1/h
Control supply voltage at AC		
### 150 Hz mide value  ### 150 Hz  ### 150		AC
Operating range factor control supply voltage rated value of magnet coil at AC   a 150 Hz   Day		
magnet coil at AC		110 V
apparent pick-up power of magnet coil at AC   150 Hz   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0.82   0	magnet coil at AC	
inductive power factor with closing power of the coil		0.8 1.1
inductive power factor with closing power of the coil at 00 Hz apparent holding power of magnet coil at AC at 50 Hz 0.25  closing delay at AC at 60 Hz closing delay at AC at AC arcing time 10 10 ms control version of the switch operating mechanism 5 standard A1 - A2  Auxiliary creut number of NC contacts for auxiliary contacts instantaneous contact operational current at AC-12 maximum 10 A operational current at AC-13 maximum 10 A operational current at AC-14 maximum 10 A operational current at AC-15 maximum 10 A operational current at AC-16 maximum 10 A operational current at AC-17 maximum 10 A operational current at AC-18 maximum 10 A operational current at AC-19 maximum 10 A operational		
apparent holding power of magnet coil at AC		77 VA
### ### ### ### ### ### ### ### ### ##		
Inductive power factor with the holding power of the coil   alt 50 Hz		0.82
Inductive power factor with the holding power of the coil   • at 50 Hz		0.01/4
• at 50 Hz closing delay • at AC star AC star AC star AC star AC • at AC • arcing time control version of the switch operating mechanism Auxiliary circuit  number of NC contacts for auxiliary contacts instantaneous contact number of NO contacts for auxiliary contacts instantaneous contact  number of NO contacts for auxiliary contacts instantaneous contact  operational current at AC-12 maximum 10 A  operational current at AC-15 • at 230 V rated value • at 600 V rated value 2 A • at 600 V rated value 1 A • at 860 V rated value • at 100 V rated		9.8 VA
e at AC 840 ms opening delay		0.05
• at AC opening delay • at AC arcing time control version of the switch operating mechanism Astiliary circuit number of NC contacts for auxiliary contacts instantaneous contact number of NO contacts for auxiliary contacts instantaneous contact number of NO contacts for auxiliary contacts instantaneous contact number of NO contacts for auxiliary contacts instantaneous contact operational current at AC-12 maximum 10 A operational current at AC-15 • at 230 V rated value • at 4500 V rated value • at 500 V rated value • at 500 V rated value • at 600 V rated value • at 48 V rated value • at 48 V rated value • at 48 V rated value • at 125 V		0.25
opening delay         416 ms           a cricing time         1010 ms           control version of the switch operating mechanism         Standard A1 - A2           Auxiliary circuit		0. 40 mg
■ arcing time		8 40 MS
arcing time		4. 46 mg
Control version of the switch operating mechanism  Auxiliary circuit  number of NC contacts for auxiliary contacts instantaneous contact  number of NC contacts for auxiliary contacts instantaneous contact  number of NC contacts for auxiliary contacts instantaneous contact  operational current at AC-12 maximum  operational current at AC-12 maximum  operational current at AC-15  • at 230 V rated value  • at 400 V rated value  • at 500 V rated value  • at 500 V rated value  • at 24 V rated value  • at 48 V rated value  • at 110 V rated value  • at 120 V rated value  • at 120 V rated value  • at 60 V rated value  • at 120 V rated value  • at 120 V rated value  • at 131 V rated value  • at 140 V rated value  • at 120 V rated value  • at 120 V rated value  • at 110 V rated value  • at 110 V rated value  • at 100 V rated value  • at 120 V ra		
Auxiliary circuit number of NC contacts for auxiliary contacts instantaneous contact number of NO contacts for auxiliary contacts instantaneous contact operational current at AC-12 maximum 10 A  operational current at AC-15  • at 230 V rated value • at 430 V rated value • at 4500 V rated value • at 690 V rated value • at 490 V rated value • at 490 V rated value • at 49 V rated value • at 49 V rated value • at 40 V rated value • at 60 V rated value • at 110 V rated value • at 220 V rated value • at 220 V rated value • at 220 V rated value • at 48 V rated value • at 60 V rated value • at 110 V rated value • at 110 V rated value • at 125 V rated value • at 125 V rated value • at 110 V rated value • at 125 V rated value • at 125 V rated value • at 24 V rated value • at 25 V rated value • at 26 V rated value • at 27 V rated value • at 28 V rated value • at 29 V rated value • at 20 V rated va		
number of NC contacts for auxillary contacts instantaneous contact         2           number of NO contacts for auxillary contacts instantaneous contact         2           operational current at AC-12 maximum         10 A           operational current at AC-15         ***           *** at 230 V rated value         6 A           *** at 400 V rated value         3 A           *** at 500 V rated value         1 A           *** operational current at DC-12         ***           *** at 24 V rated value         6 A           *** at 49 V rated value         6 A           *** at 40 V rated value         6 A           *** at 110 V rated value         6 A           *** at 122 V rated value         1 A           *** at 220 V rated value         1 A           *** at 220 V rated value         1 A           *** at 24 V rated value         6 A           *** at 24 V rated value         2 A           *** at 34 V rated value         2 A           *** at 34 V rated value         2 A           *** at 35 V rated value         2 A           *** at 10 V rated value         2 A           *** at 30 V rated value         3 A           *** at 20 V rated value         3 A           *** at 20 V rated value         3		Standard A1 - A2
contact         2           number of NO contacts for auxiliary contacts instantaneous contact         2           operational current at AC-12 maximum         10 A           operational current at AC-15         4 230 V rated value           • at 230 V rated value         3 A           • at 500 V rated value         1 A           • at 690 V rated value         1 A           • at 24 V rated value         6 A           • at 24 V rated value         6 A           • at 48 V rated value         6 A           • at 110 V rated value         3 A           • at 125 V rated value         2 A           • at 125 V rated value         2 A           • at 220 V rated value         1 A           • at 220 V rated value         0.15 A           • operational current at DC-13         6 A           • at 24 V rated value         2 A           • at 48 V rated value         2 A           • at 48 V rated value         2 A           • at 10 V rated value         1 A           • at 22 V rated value         2 A           • at 10 V rated value         2 A           • at 22 V rated value         0.3 A           • at 220 V rated value         0.3 A           • at 220 V rated value		2
Operational current at AC-12 maximum		2
operational current at AC-15		2
	operational current at AC-12 maximum	10 A
	operational current at AC-15	
	• at 230 V rated value	6 A
• at 690 V rated value 10 A  operational current at DC-12  • at 24 V rated value 6A • at 48 V rated value 6A • at 60 V rated value 3A • at 110 V rated value 2A • at 220 V rated value 1A • at 25 V rated value 1A • at 600 V rated value 2A • at 220 V rated value 1A • at 600 V rated value 2A • at 20 V rated value 2A • at 600 V rated value 2A • at 600 V rated value 2A • at 600 V rated value 2A • at 24 V rated value 2A • at 48 V rated value 2A • at 60 V rated value 2A • at 110 V rated value 2A • at 110 V rated value 2A • at 110 V rated value 3A • at 125 V rated value 3A • at 110 V rated va	• at 400 V rated value	3 A
operational current at DC-12  • at 24 V rated value		
<ul> <li>at 24 V rated value</li> <li>at 48 V rated value</li> <li>6 A</li> <li>at 60 V rated value</li> <li>at 110 V rated value</li> <li>at 125 V rated value</li> <li>at 220 V rated value</li> <li>at 600 V rated value</li> <li>at 24 V rated value</li> <li>at 24 V rated value</li> <li>at 48 V rated value</li> <li>at 60 V rated value</li> <li>at 60 V rated value</li> <li>at 10 V rated value</li> <li>at 22 V rated value</li> <li>at 22 V rated value</li> <li>at 20 V rated value</li> <li>at 20 V rated value</li> <li>at 600 V rated value</li> <li>at 7 A</li> <li>at 480 V rated value</li> <li>at 480 V rated value</li> <li>at 600 V rated value</li> <li>at 600</li></ul>	at 690 V rated value	1 A
<ul> <li>at 48 V rated value</li> <li>at 60 V rated value</li> <li>at 110 V rated value</li> <li>at 110 V rated value</li> <li>at 125 V rated value</li> <li>at 220 V rated value</li> <li>at 200 V rated value</li> <li>ontated value</li> <li>ontated value</li> <li>operational current at DC-13</li> <li>at 24 V rated value</li> <li>at 24 V rated value</li> <li>at 48 V rated value</li> <li>at 600 V rated value</li> <li>at 100 V rated value</li> <li>at 110 V rated value</li> <li>at 110 V rated value</li> <li>at 125 V rated value</li> <li>at 220 V rated value</li> <li>at 200 V rated value</li> <li>at 600 V rated value</li> <li>at 6</li></ul>	operational current at DC-12	
• at 60 V rated value	at 24 V rated value	10 A
<ul> <li>at 110 V rated value</li> <li>at 125 V rated value</li> <li>at 220 V rated value</li> <li>1 A</li> <li>at 600 V rated value</li> <li>0.15 A</li> <li>operational current at DC-13</li> <li>at 24 V rated value</li> <li>at 48 V rated value</li> <li>at 60 V rated value</li> <li>at 60 V rated value</li> <li>at 110 V rated value</li> <li>at 110 V rated value</li> <li>at 125 V rated value</li> <li>at 125 V rated value</li> <li>at 220 V rated value</li> <li>at 25 V rated value</li> <li>at 260 V rated value</li> <li>at 600 V rated value</li> <li>at 600 V rated value</li> <li>at 480 V rated value</li> <li>at 600 V rated value</li> <li>at 7 A</li> </ul>	• at 48 V rated value	6 A
<ul> <li>at 125 V rated value</li> <li>at 220 V rated value</li> <li>1 A</li> <li>at 600 V rated value</li> <li>0.15 A</li> <li>operational current at DC-13</li> <li>at 24 V rated value</li> <li>at 80 V rated value</li> <li>at 60 V rated value</li> <li>at 60 V rated value</li> <li>at 110 V rated value</li> <li>at 110 V rated value</li> <li>at 125 V rated value</li> <li>at 220 V rated value</li> <li>at 220 V rated value</li> <li>at 600 V rated value</li> <li>at 70 V rated value</li> <li>at 600 V rated value&lt;</li></ul>	• at 60 V rated value	6 A
<ul> <li>at 220 V rated value</li> <li>at 600 V rated value</li> <li>0.15 A</li> </ul> 0perational current at DC-13 <ul> <li>at 24 V rated value</li> <li>at 28 V rated value</li> <li>at 60 V rated value</li> <li>at 60 V rated value</li> <li>at 110 V rated value</li> <li>at 125 V rated value</li> <li>at 220 V rated value</li> <li>at 220 V rated value</li> <li>at 600 V rated value</li> <li>at 480 V rated value</li> <li>at 480 V rated value</li> <li>at 600 V rated value</li> <li>at 7 A</li> <li>yielded mechanical performance [hp]</li> <li>for single-phase AC motor</li> </ul>	at 110 V rated value	3 A
at 600 V rated value     operational current at DC-13	at 125 V rated value	
operational current at DC-13  • at 24 V rated value 6 A  • at 48 V rated value 2 A  • at 60 V rated value 1 A  • at 110 V rated value 1 A  • at 125 V rated value 0.9 A  • at 220 V rated value 0.1 A  • at 220 V rated value 1.1 A  • at 220 V rated value 1.2 A  • at 600 V rated value 1.3 A  • at 600 V rated value 1.4 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		
<ul> <li>at 24 V rated value</li> <li>at 48 V rated value</li> <li>at 60 V rated value</li> <li>at 110 V rated value</li> <li>at 110 V rated value</li> <li>at 125 V rated value</li> <li>at 220 V rated value</li> <li>at 220 V rated value</li> <li>at 600 V rated value</li> <li>0.1 A</li> <li>contact reliability of auxiliary contacts</li> <li>1 faulty switching per 100 million (17 V, 1 mA)</li> <li>UL/CSA ratings</li> <li>full-load current (FLA) for 3-phase AC motor</li> <li>at 480 V rated value</li> <li>at 600 V</li></ul>		0.15 A
<ul> <li>at 48 V rated value</li> <li>at 60 V rated value</li> <li>at 110 V rated value</li> <li>at 125 V rated value</li> <li>at 220 V rated value</li> <li>at 600 V rated value</li> <li>at 480 V rated value</li> <li>at 480 V rated value</li> <li>at 600 V rated value</li> <li< td=""><td>•</td><td></td></li<></ul>	•	
<ul> <li>at 10 V rated value</li> <li>at 110 V rated value</li> <li>at 125 V rated value</li> <li>at 220 V rated value</li> <li>at 600 V rated value</li> <li>at 1 faulty switching per 100 million (17 V, 1 mA)</li> </ul> UL/CSA ratings full-load current (FLA) for 3-phase AC motor <ul> <li>at 480 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> </ul> yielded mechanical performance [hp] <ul> <li>for single-phase AC motor</li> </ul>		
<ul> <li>at 110 V rated value</li> <li>at 125 V rated value</li> <li>at 220 V rated value</li> <li>at 600 V rated value</li> <li>contact reliability of auxiliary contacts</li> <li>1 faulty switching per 100 million (17 V, 1 mA)</li> <li>UL/CSA ratings</li> <li>full-load current (FLA) for 3-phase AC motor</li> <li>at 480 V rated value</li> <li>at 600 V rated value</li> <li>at 600 V rated value</li> <li>for single-phase AC motor</li> </ul>		
at 125 V rated value at 220 V rated value at 600 V rated value  o.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 at 600 V rated value at 600 V rated value for single-phase AC motor		
<ul> <li>at 220 V rated value</li> <li>at 600 V rated value</li> <li>contact reliability of auxiliary contacts</li> <li>1 faulty switching per 100 million (17 V, 1 mA)</li> </ul> UL/CSA ratings full-load current (FLA) for 3-phase AC motor <ul> <li>at 480 V rated value</li> <li>at 600 V rated value</li> <li>at 600 V rated value</li> <li>for single-phase AC motor</li> </ul> yielded mechanical performance [hp] <ul> <li>for single-phase AC motor</li> </ul>		
at 600 V rated value  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  at 600 V rated value  yielded mechanical performance [hp]  for single-phase AC motor		
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  • at 600 V rated value  27 A  yielded mechanical performance [hp]  • for single-phase AC motor		
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		
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		1 faulty switching per 100 million (17 V, 1 mA)
<ul> <li>at 480 V rated value</li> <li>at 600 V rated value</li> <li>yielded mechanical performance [hp]</li> <li>for single-phase AC motor</li> </ul>		
• at 600 V rated value  yielded mechanical performance [hp]  • for single-phase AC motor		
yielded mechanical performance [hp]  • for single-phase AC motor		
• for single-phase AC motor		27 A
— at 110/120 v rated value 3 np		2 ha
	— at 110/120 V rated value	3 HP

— at 230 V rated value	5 hp
• for 3-phase AC motor	
— at 200/208 V rated value	10 hp
— at 220/230 V rated value	10 hp
— at 460/480 V rated value	25 hp
— at 575/600 V rated value	25 hp
contact rating of auxiliary contacts according to UL	A600 / Q600
Short-circuit protection	
design of the fuse link	
<ul> <li>for short-circuit protection of the main circuit</li> <li>— with type of coordination 1 required</li> </ul>	aC: 1254 (600)/ 100k4), aM: 504 (600)/ 100k4), PS99: 1254 (415)/ 90k4)
with type of coordination in required  - with type of assignment 2 required	gG: 125A (690V,100kA), aM: 50A (690V,100kA), BS88: 125A (415V,80kA) gG: 50A (690V,100kA), aM: 25A (690V, 100kA), BS88: 50A (415V, 80kA)
for short-circuit protection of the auxiliary switch required	gG: 10 A (500 V, 1 kA)
Installation/ mounting/ dimensions	go. 1077 (000 v, 110 v)
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 DIN rail according to DIN EN 60715
height	85 mm
width	45 mm
depth	141 mm
required spacing	
<ul><li>with side-by-side mounting</li></ul>	
— forwards	10 mm
— upwards	10 mm
— downwards	10 mm
— at the side	0 mm
for grounded parts	
— forwards	10 mm
— upwards	10 mm
— at the side	6 mm
— downwards	10 mm
• for live parts	
— forwards	10 mm
— upwards	10 mm
— 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     at contractor for auxiliary contractor	screw-type terminals
at contactor for auxiliary contacts	Screw-type terminals
of magnet coil  type of connectable conductor cross sections	Screw-type terminals
type of connectable conductor cross-sections	
• for main contacts	2v /4 2 F mm²) 2v /2 F 40 mm²)
— 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
for AWG cables for main contacts     connectable conductor cross-section for main contacts	2x (16 12), 2x (14 8)
solid	1 10 mm²
stranded	1 10 mm²
<ul> <li>stranded</li> <li>finely stranded with core end processing</li> </ul>	1 10 mm²
connectable conductor cross-section for auxiliary contacts	1 1V IIIII
solid or stranded	0.5 2.5 mm²
finely stranded with core end processing	0.5 2.5 mm²
type of connectable conductor cross-sections	0.0 2.0 Hilli
• for auxiliary contacts	
solid or stranded	2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²)
— finely stranded with core end processing	2x (0.5 1.5 milr-), 2x (0.75 2.5 milr-) 2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²)
for AWG cables for auxiliary contacts	2x (0.5 1.5 Hilli-), 2x (0.75 2.5 Hilli-) 2x (20 16), 2x (18 14)
AWG number as coded connectable conductor cross	ΔΛ (ΔΟ 10), ΔΛ (10 17)
ATTO HUMBER as could confidentable conductor cross	

section	
• for main contacts	16 8
for auxiliary contacts	20 14
Safety related data	
product function	
<ul> <li>mirror contact according to IEC 60947-4-1</li> </ul>	Yes
<ul> <li>positively driven operation according to IEC 60947-5-1</li> </ul>	No
<ul> <li>suitable for safety function</li> </ul>	Yes
suitability for use safety-related switching OFF	Yes
service life maximum	20 a
test wear-related service life necessary	Yes
proportion of dangerous failures	
<ul> <li>with low demand rate according to SN 31920</li> </ul>	40 %
<ul> <li>with high demand rate according to SN 31920</li> </ul>	73 %
B10 value with high demand rate according to SN 31920	1 000 000
failure rate [FIT] with low demand rate according to SN 31920	100 FIT
ISO 13849	
device type according to ISO 13849-1	3
overdimensioning according to ISO 13849-2 necessary	Yes
IEC 61508	
safety device type according to IEC 61508-2	Type A
T1 value	
<ul> <li>for proof test interval or service life according to IEC 61508</li> </ul>	20 a
Electrical Safety	
protection class IP on the front according to IEC 60529	IP20
touch protection on the front according to IEC 60529	finger-safe, for vertical contact from the front
Approvals Certificates	



**General Product Approval** 





Confirmation



<u>KC</u>

General Product Approval

EMV

**Functional Saftey** 

**Test Certificates** 

Marine / Shipping





Type Examination Certificate

Type Test Certificates/Test Report

Special Test Certificate



Marine / Shipping







Miscellaneous

other

Confirmation

other

Railway

**Environment** 

Confirmation

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



Environmental Con-firmations

Further information

Information on the packaging https://support.industry.siemens.com/cs/ww/en/view/109813875

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

https://www.siemens.com/ic10

Industry Mall (Online ordering system)

https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RT2028-1AF04

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2028-1AF04

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

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

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

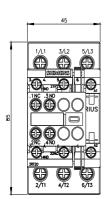
http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=3RT2028-1AF04&lang=e

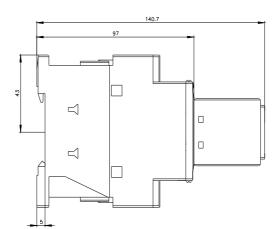
Characteristic: Tripping characteristics, I²t, Let-through current

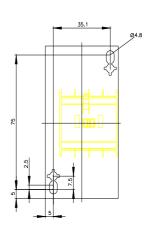
https://support.industry.siemens.com/cs/ww/en/ps/3RT2028-1AF04/char

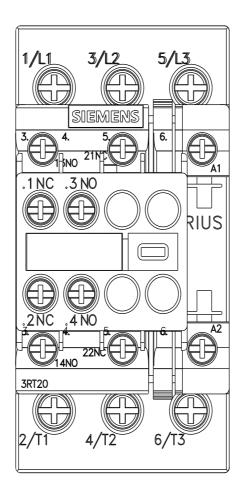
Further characteristics (e.g. electrical endurance, switching frequency)

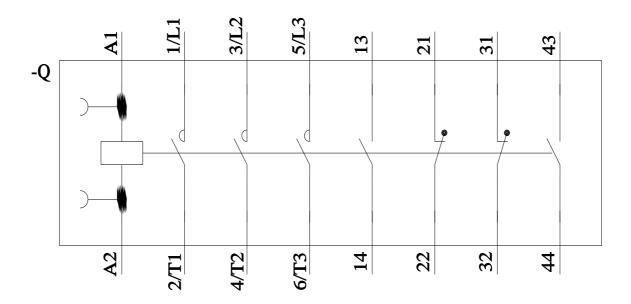
http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2028-1AF04&objecttype=14&gridview=view1











last modified:

7/19/2024