## **SIEMENS**

Data sheet 3RT2023-2AN20



power contactor, AC-3e/AC-3, 9 A, 4 kW / 400 V, 3-pole, 220 V AC, 50/60 Hz, auxiliary contacts: 1 NO + 1 NC, spring-loaded terminal, size: S0

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	Yes
power loss [W] for rated value of the current	
<ul> <li>at AC in hot operating state</li> </ul>	0.6 W
<ul> <li>at AC in hot operating state per pole</li> </ul>	0.2 W
without load current share typical	2 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	
<ul> <li>of main circuit rated value</li> </ul>	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	7,5g / 5 ms, 4,7g / 10 ms
shock resistance with sine pulse	
• at AC	11,8g / 5 ms, 7,4g / 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)	
Weight	0.44 kg
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] during manufacturing	1.9 kg
Global Warming Potential [CO2 eq] during operation	72.4 kg
Global Warming Potential [CO2 eq] after end of life	-0.117 kg
Main circuit	O.TTI Ng
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	
• at AC-1 at 400 V at ambient temperature 40 °C rated value	40 A
• at AC-1	40.4
— up to 690 V at ambient temperature 40 °C rated value	40 A
— up to 690 V at ambient temperature 60 °C rated value	35 A
at AC-3  — at 400 V rated value	9 A
— at 500 V rated value	9 A
— at 690 V rated value	9 A
• at AC-3e	
— at 400 V rated value	9 A
— at 500 V rated value	9 A
— at 690 V rated value	9 A
• at AC-4 at 400 V rated value	8.5 A
• at AC-5a up to 690 V rated value	35.2 A
• at AC-5b up to 400 V rated value	7.4 A
• at AC-6a	
— up to 230 V for current peak value n=20 rated value	11.4 A
— up to 400 V for current peak value n=20 rated value	11.4 A
— up to 500 V for current peak value n=20 rated value	9.1 A
— up to 690 V for current peak value n=20 rated value	9 A
• at AC-6a	704
— up to 230 V for current peak value n=30 rated value	7.6 A
— up to 400 V for current peak value n=30 rated value	7.6 A
— up to 500 V for current peak value n=30 rated value	6.1 A
— up to 690 V for current peak value n=30 rated value	6.1 A
minimum cross-section in main circuit at maximum AC-1 rated value	10 mm <sup>2</sup>
operational current for approx. 200000 operating cycles at AC-4	
• at 400 V rated value	4.1 A
at 690 V rated value	3.3 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
<ul><li>— at 600 V rated value</li><li>with 2 current paths in series at DC-1</li></ul>	0.25 A
with 2 current paths in series at DC-1  — 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	1A
— at 600 V rated value	0.8 A

<ul> <li>with 3 current paths in series at DC-1</li> </ul>	
— at 24 V rated value	35 A
— at 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
with 2 current paths in series at DC-3 at DC-5	
— 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
with 3 current paths in series at DC-3 at DC-5	
— 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	2.2 kW
— at 400 V rated value	4 kW
— at 500 V rated value	4 kW
— at 690 V rated value	7.5 kW
• at AC-3e	
— at 230 V rated value	2.2 kW
— at 400 V rated value	4 kW
— at 500 V rated value	4 kW
— at 690 V rated value	7.5 kW
operating power for approx. 200000 operating cycles at AC-	
at 400 V rated value	2 kW
at 690 V rated value	2.5 kW
operating apparent power at AC-6a	
• up to 230 V for current peak value n=20 rated value	4.5 kVA
• up to 400 V for current peak value n=20 rated value	7.8 kVA
• up to 500 V for current peak value n=20 rated value	7.8 kVA
• up to 690 V for current peak value n=20 rated value	10.7 kVA
operating apparent power at AC-6a	
• up to 230 V for current peak value n=30 rated value	3 kVA
• up to 400 V for current peak value n=30 rated value	5.2 kVA
• up to 500 V for current peak value n=30 rated value	5.2 kVA
• up to 690 V for current peak value n=30 rated value	7.2 kVA
short-time with stand current in cold operating state up to 40 $^{\circ}\text{C}$	
<ul> <li>limited to 1 s switching at zero current maximum</li> </ul>	170 A; Use minimum cross-section acc. to AC-1 rated value
<ul> <li>limited to 5 s switching at zero current maximum</li> </ul>	170 A; Use minimum cross-section acc. to AC-1 rated value
<ul> <li>limited to 10 s switching at zero current maximum</li> </ul>	140 A; Use minimum cross-section acc. to AC-1 rated value
<ul> <li>limited to 30 s switching at zero current maximum</li> </ul>	104 A; Use minimum cross-section acc. to AC-1 rated value
limited to 60 s switching at zero current maximum	88 A; Use minimum cross-section acc. to AC-1 rated value
no-load switching frequency	
• at AC	5 000 1/h

operating frequency         1 AC-1 maximum         1 000 1th           • at AC-2 maximum         1 000 1th           • at AC-3 maximum         1 000 1th           • at AC-3 maximum         300 1th           Control Supply voltage of the centrol supply voltage         Control Supply voltage at AC           • at 50 1tc rated volue         220 V           • operating range factor control supply voltage rated value of an 30 tile.         220 V           • at 50 1tc rated volue         200 V           • at 50 1tc rated volue         200 V           • at 50 1tc rated volue         200 V           • at 50 1tc rated volue         0.8 1.1           • at 50 1tc rated volue         0.8 1.1           • at 50 1tc rated volue         0.70 VA           • at 50 1tc rated volue         0.70 VA           • at 50 1tc rated volue         0.70 VA           • at 50 1tc rated volue         0.72 VA           • at 50 1tc rated volue         0.72 VA           • at 50 1tc rated volue         0.8 VA           • at 50 1tc rated volue         0.		
** at AC-2 maximum   1000 1/h     ** at AC-3 maximum   1000 1/h     ** at AC-5 maximum   1000 1/h     ** at AC-4 maximum   2000 1/h     ** at SO 1/k rated value   200		
** at AC-3 remainma**   1000 l/h   ** at AC-3 remainma**   1000 l/h   ** at AC-3 remainma**   1000 l/h   ** at AC-4 remainma**   300 l/h	at AC-1 maximum	1 000 1/h
a. at AC-3e maximum         1000 l l/h           Control Surpul Voltage of the control supply voltage         AC           control supply voltage at AC         -           a. at 50 Hz rated value         200 V           a. at 50 Hz rated value         200 V           operating range factor control supply voltage rated value of magnet coll at AC value         0.8.1.1           a. at 50 Hz         0.8.1.1           apparent plack-up power of magnet coll at AC value         6.7 VA           a. at 50 Hz         6.5 VA           inductive power factor with the holding power of the coll         7.9 VA           a. at 50 Hz         6.5 VA           inductive power factor with the holding power of the coll         7.9 VA           a. at 60 Hz         6.5 VA           inductive power factor with the holding power of the coll         7.0 VA           a. at 60 Hz         6.0	• at AC-2 maximum	1 000 1/h
	• at AC-3 maximum	1 000 1/h
Speed voltage of the control supply voltage   AC	• at AC-3e maximum	1 000 1/h
type of voltage of the control supply voltage at AC         C           at 50 Hz rated value         220 V           at 60 Hz rated value         220 V           cat 50 Hz         0.8 1.1           at 50 Hz         0.72           at 50 Hz         0.72           at 50 Hz         0.74           apparent boiding power of magnet coil at AC         0.74           at 50 Hz         0.79 AX           at 50 Hz         0.79 AX           at 50 Hz         0.5 VA           inductive power factor with the holding power of the coil         0.5 VA           inductive power factor with the holding power of the coil         0.25           at 40 Hz         0.8 40 ms           at 50 Hz         0.8 40 ms           at 60 Hz         0.8 40 ms           coting disay         0.8 40 ms           at 10 C         0.8	at AC-4 maximum	300 1/h
control supply voltage at AC         at 50 Hz rated value         220 V           at 50 Hz rated value         220 V           at 50 Hz rated value         220 V           operating range factor control supply voltage rated value of magnet coll at AC         at 50 Hz           at 50 Hz         0.8 1.1           apparent plck-up power of magnet coll at AC         68 VA           at 50 Hz         67 VA           inductive power factor with closing power of the coll         0.72           at 50 Hz         0.79           at 50 Hz         0.79 VA           at 50 Hz         0.50 VA           inductive power factor with the holding power of the coll         4.50 VA           at 50 Hz         0.25           at 50 Hz         0.25           at 50 Hz         0.26           closing delay         4.10 Ms           at 1 AC         840 ms           opending delay         1.00 ms           at 1 AC         1.00 ms           at 1 AC         1.00 ms           pu	Control circuit/ Control	
* at 50 Hz rated value * at 60 Hz rated value operating range factor control supply voltage rated value of magnet coil at AC * at 50 Hz * at 60	type of voltage of the control supply voltage	AC
* al 60 Hz rated value   220 V	control supply voltage at AC	
Spending range factor control supply voltage rated value of magnet coil at AC     • alt 50 Hz	at 50 Hz rated value	220 V
magnet coli at AC	at 60 Hz rated value	220 V
* at 50 Hz		
+ at 80 Hz		0.9 1.1
### STAND CONTRICT OF THE WORLD FOR THE WORL		
• at 50 Hz		0.85 1.1
• at 60 Hz		60.1/4
1		
• at 50 Hz aparent holding power of magnet coil at AC est 50 Hz 5150 Hz 5150 Hz 6150		OF VIC
* at 60 Hz		0.72
a 15 0 Hz	*****	
• at 50 Hz • at 60 Hz • at AC  opening delay • at AC  opening time • at AC  arcing time  control version of the switch operating mechanism  Standard A1 - A2  Auxiliary circuit  number of NC contacts for auxiliary contacts instantaneous contact contact number of NO contacts for auxiliary contacts instantaneous contact  operational current at AC-12 maximum  10 A  operational current at AC-14 maximum  operational current at AC-14 walue • at 400 V rated value • at 600 V rated value • at 48 V rated value • at 48 V rated value • at 110 V rated value • at 125 V rated value • at 600 V rated		0.17
• at 60 Hz   10 Hz		7 0 \/\
a ti 50 Hz   0.25   0.26		
• at 50 Hz • at 60 Hz • at 60 Hz • at AC • arching time • at Auxiliary circuit  Tumber of NC contacts for auxiliary contacts instantaneous contact • contact • arching time • at 200 V acted value • at 400 V rated value		0.5 VA
closing delay         8 40 ms           opening delay         4 16 ms           a rcing time         10 10 ms           control version of the switch operating mechanism         Standard A1 - A2           Auxiliary circuit         10 ms           number of NC contacts for auxiliary contacts instantaneous contact         1           number of NC contacts for auxiliary contacts instantaneous contact         1           outlead         10 A           operational current at AC-12 maximum         10 A           operational current at AC-14 maximum         10 A           operational current at AC-15         3A           o at 230 V rated value         3A           o at 400 V rated value         1A           operational current at DC-12         1A           o at 24 V rated value         6A           o at 48 V rated value         6A           o at 48 V rated value         3A           o at 125 V rated value         1A           o at 220 V rated value         2A           o at 220 V rated value         1A           o at 220 V rated value         1A           o at 24 V rated value         2A           o at 24 V rated value         1A           o at 600 V rated value         2A     <		0.25
al AC		
e at AC opening delay e at AC arcing time control version of the switch operating mechanism control version of the switch operating mechanism tumber 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 contact  operational current at AC-12 maximum  i to A  operational current at AC-12 maximum  ot 10 A  at 400 V rated value  at 400 V rated value  at 600 V rated value  at 600 V rated value  at 60 V rated value  at 60 V rated value  at 125 V rated value  at 125 V rated value  at 125 V rated value  at 220 V rated value  at 24 V rated value  at 25 V rated value  at 24 V rated value  at 24 V rated value  at 25 V rated value  at 24 V rated value  at 24 V rated value  at 24 V rated value  at 25 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 48 V rated value  at 48 V rated value  at 48 V rated value  at 49 V rated value  at 40 V rated value  at 60 V rated value  at		0.20
e at AC 416 ms 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 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 400 V rated value • at 500 V rated value • at 500 V rated value • at 600 V rated value • at 48 V rated value • at 80 V rated value • at 80 V rated value • at 110 V rated value • at 110 V rated value • at 110 V rated value • at 125 V rated value • at 125 V rated value • at 24 V rated value • at 125 V rated value • at 24 V rated value • at 24 V rated value • at 125 V rated value • at 24 V rated value • at 25 V rated value • at 24 V rated value • at 25 V rated value • at 24 V rated value • at 25 V rated value • at 24 V rated value • at 25 V rated value • at 24 V rated value • at 40 V rated value • at 50 V rated value • at 60 V rated valu		8 40 ms
■ at AC     arcing time		io iiio
arcing time         10 10 ms           control version of the switch operating mechanism         Standard A1 - A2           Auxiliary circuit         To contacts           number of NC contacts for auxiliary contacts instantaneous contact         1           ounder of NO contacts for auxiliary contacts instantaneous contact         1           operational current at AC-12 maximum         10 A           operational current at AC-15         10 A           e at 230 V rated value         3 A           e at 400 V rated value         2 A           e at 4500 V rated value         10 A           e at 48 V rated value         6 A           e at 44 V rated value         6 A           e at 60 V rated value         6 A           e at 110 V rated value         3 A           e at 125 V rated value         1 A           e at 220 V rated value         1 A           e at 600 V rated value         2 A           e at 600 V rated value         1 A           e at 48 V rated value         2 A		4 16 ms
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 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 400 V rated value • at 600 V rated value • at 690 V rated value • at 690 V rated value • at 24 V rated value • at 48 V rated value • at 48 V rated value • at 110 V rated value • at 110 V rated value • at 125 V rated value • at 220 V rated value • at 220 V rated value • at 320 V rated value • at 48 V rated value • at 125 V rated value • at 600 V rated value • at 125 V rated value • at 120 V rated value • at 600 V rated value		
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	<del>_</del>	Standard A1 - A2
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-45  • at 230 V rated value • at 400 V rated value • at 690 V rated value • at 690 V rated value  • at 890 V rated value  • at 24 V rated value • at 125 V rated value • at 25 V rated value • at 260 V rated value • at 27 V rated value • at 28 V rated value • at 29 V rated value • at 29 V rated value • at 20 V rated value • at 600 V rated value • at 20 V rated value • at 600 V rated value	· · · · · ·	
contact           operational current at AC-12 maximum         10 A           operational current at AC-15         10 A           • at 230 V rated value         10 A           • at 400 V rated value         3 A           • at 500 V rated value         2 A           • at 690 V rated value         1 A           Operational current at DC-12         ***           • at 24 V rated value         6 A           • at 48 V rated value         6 A           • at 110 V rated value         3 A           • at 125 V rated value         2 A           • at 220 V rated value         1 A           • at 600 V rated value         0.15 A           Operational current at DC-13         ***           • at 24 V rated value         2 A           • at 48 V rated value         2 A           • at 60 V rated value         2 A           • at 110 V rated value         1 A           • at 25 V rated value         2 A           • at 27 V rated value         2 A           • at 28 V rated value         3 A           • at 29 V rated value         3 A           • at 20 V rated value         3 A           • at 220 V rated value         3 A           • at 220 V rated value	•	1
operational current at AC-15		1
<ul> <li>at 230 V rated value</li> <li>at 400 V rated value</li> <li>at 500 V rated value</li> <li>at 690 V rated value</li> <li>1 A</li> </ul> Operational current at DC-12 <ul> <li>at 24 V rated value</li> <li>6 A</li> <li>at 60 V rated value</li> <li>6 A</li> <li>at 110 V rated value</li> <li>at 25 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 25 V rated value</li> <li>at 24 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 48 V rated value</li> <li>at 600 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 600 V rated value</li> <li>at 600 V rated value</li> </ul>	operational current at AC-12 maximum	40.4
<ul> <li>at 400 V rated value</li> <li>at 500 V rated value</li> <li>at 690 V rated value</li> <li>1 A</li> </ul> Operational current at DC-12 <ul> <li>at 24 V rated value</li> <li>at 80 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 25 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 600 V rated value</li> <li>at 10 V rated value</li> <li>at 10 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 120 V rated value</li> <li>at 1</li></ul>	-F	10 A
<ul> <li>at 500 V rated value</li> <li>at 690 V rated value</li> <li>1 A</li> <li>operational current at DC-12</li> <li>at 24 V rated value</li> <li>6 A</li> <li>at 60 V rated value</li> <li>6 A</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 220 V rated value</li> <li>at 600 V rated value</li> <li>at 600 V rated value</li> <li>at 24 V rated value</li> <li>at 25 V rated value</li> <li>at 25 V rated value</li> <li>at 20 V rated value</li> <li>at 25 V rated value</li> <li>at 220 V rated value</li> <li>at 220 V rated value</li> <li>at 25 V rated value</li> <li>at 250 V rated value</li> <li></li></ul>	·	10 A
• at 690 V rated value 10 A  operational current at DC-12  • at 24 V rated value 6 A • at 48 V rated value 6 A • at 60 V rated value 3 A • at 110 V rated value 2 A • at 220 V rated value 1 A • at 600 V rated value 2 A • at 220 V rated value 1 A • at 600 V rated value 2 A • at 220 V rated value 2 A • at 24 V rated value 2 A • at 24 V rated value 2 A • at 25 V rated value 3 A • at 25 V rated value 4 A • at 60 V rated value 5 A • at 24 V rated value 5 A • at 25 V rated value 6 A • at 48 V rated value 7 A • at 48 V rated value 7 A • at 25 V rated value 9 A • at 110 V rated value 1 A • at 125 V rated value 1 A •	operational current at AC-15	
operational current at DC-12         • at 24 V rated value       10 A         • at 48 V rated value       6 A         • at 60 V rated value       3 A         • at 110 V rated value       2 A         • at 220 V rated value       1 A         • at 600 V rated value       0.15 A         Operational current at DC-13 <ul> <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 125 V rated value</li> <li>• at 125 V rated value</li> <li>• at 220 V rated value</li> </ul> 0.3 A         • at 600 V rated value       0.3 A         • at 600 V rated value       0.1 A	operational current at AC-15  • at 230 V rated value	10 A 3 A
<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 125 V rated value</li> <li>at 220 V rated value</li> <li>at 600 V rated value</li> <li>at 600 V rated value</li> <li>at 24 V rated value</li> <li>at 60 V rated value</li> <li>at 60 V rated value</li> <li>at 7 A</li> <li>at 24 V rated value</li> <li>at 60 V rated value</li> <li>at 7 A</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</li></ul>	operational current at AC-15  • at 230 V rated value  • at 400 V rated value	10 A 3 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 600 V rated value</li> <li>ot 24 V rated value</li> <li>at 48 V rated value</li> <li>at 48 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 600 V rated value</li> </ul>	operational current at AC-15  • at 230 V rated value  • at 400 V rated value  • at 500 V rated value  • at 690 V rated value	10 A 3 A 2 A
<ul> <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 600 V rated value</li> <li>onus 24 V rated value</li> <li>at 24 V rated value</li> <li>at 48 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 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 600 V rated value</li> <li>at 600 V rated value</li> <li>at 600 V rated value</li> </ul>	operational current at AC-15  • at 230 V rated value  • at 400 V rated value  • at 500 V rated value  • at 690 V rated value  operational current at DC-12	10 A 3 A 2 A 1 A
<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>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 10 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 600 V rated value</li> <li>at 600 V rated value</li> </ul>	operational current at AC-15  • at 230 V rated value  • at 400 V rated value  • at 500 V rated value  • at 690 V rated value  operational current at DC-12  • at 24 V rated value	10 A 3 A 2 A 1 A
<ul> <li>at 125 V rated value</li> <li>at 220 V rated value</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 125 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 600 V rated value</li> </ul>	operational current at AC-15  • at 230 V rated value  • at 400 V rated value  • at 500 V rated value  • at 690 V rated value  operational current at DC-12  • at 24 V rated value	10 A 3 A 2 A 1 A
<ul> <li>at 220 V rated value</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 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 125 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> </ul>	operational current at AC-15  • at 230 V rated value  • at 400 V rated value  • at 500 V rated value  • at 690 V rated value  operational current at DC-12  • at 24 V rated value  • at 48 V rated value	10 A 3 A 2 A 1 A  10 A 6 A 6 A
<ul> <li>◆ at 600 V rated value</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 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 200 V rated value</li> <li>◆ at 200 V rated value</li> <li>◆ at 600 V rated value</li> <li>◆ at 600 V rated value</li> </ul>	operational current at AC-15  • at 230 V rated value • at 400 V rated value • at 500 V rated value • at 690 V rated value  operational current at DC-12 • at 24 V rated value • at 48 V rated value • at 60 V rated value • at 110 V rated value	10 A 3 A 2 A 1 A  10 A 6 A 6 A 6 A 3 A
operational current at DC-13         • at 24 V rated value       10 A         • at 48 V rated value       2 A         • at 60 V rated value       2 A         • at 110 V rated value       1 A         • at 125 V rated value       0.9 A         • at 220 V rated value       0.3 A         • at 600 V rated value       0.1 A	operational current at AC-15  • at 230 V rated value • at 400 V rated value • at 500 V rated value • at 690 V rated value  operational current at DC-12 • at 24 V rated value • at 48 V rated value • at 60 V rated value • at 110 V rated value • at 125 V rated value	10 A 3 A 2 A 1 A  10 A 6 A 6 A 3 A 2 A
<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 125 V rated value</li> <li>at 220 V rated value</li> <li>at 600 V rated value</li> </ul>	operational current at AC-15  • at 230 V rated value • at 400 V rated value • at 500 V rated value • at 690 V rated value  operational current at DC-12  • at 24 V rated value • at 48 V rated value • at 60 V rated value • at 110 V rated value • at 125 V rated value • at 220 V rated value	10 A 3 A 2 A 1 A  10 A 6 A 6 A 3 A 2 A 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 125 V rated value</li> <li>at 220 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>	operational current at AC-15  • at 230 V rated value • at 400 V rated value • at 500 V rated value • at 690 V rated value  operational current at DC-12 • at 24 V rated value • at 48 V rated value • at 60 V rated value • at 110 V rated value • at 125 V rated value • at 220 V rated value • at 600 V rated value • at 600 V rated value	10 A 3 A 2 A 1 A  10 A 6 A 6 A 3 A 2 A 1 A
<ul> <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>1 A</li> <li>3 A</li> <li>1 A</li> <li>2 A</li> <li>4 A</li> <li>5 A</li> <li>6 A</li> <li>7 A</li> <li>8 A</li> <li>9 A</li> <li>1 A</li> <li>1 A</li> </ul>	operational current at AC-15  • at 230 V rated value • at 400 V rated value • at 500 V rated value • at 690 V rated value  operational current at DC-12  • at 24 V rated value • at 48 V rated value • at 60 V rated value • at 110 V rated value • at 125 V rated value • at 220 V rated value • at 600 V rated value • at 600 V rated value • at 600 V rated value	10 A 3 A 2 A 1 A  10 A 6 A 6 A 3 A 2 A 1 A 0.15 A
<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>1 A</li> <li>0.9 A</li> <li>0.3 A</li> <li>1 A</li> </ul>	operational current at AC-15  • at 230 V rated value • at 400 V rated value • at 500 V rated value • at 690 V rated value  operational current at DC-12 • at 24 V rated value • at 48 V rated value • at 60 V rated value • at 110 V rated value • at 125 V rated value • at 220 V rated value • at 600 V rated value • at 220 V rated value • at 24 V rated value • at 25 V rated value • at 270 V rated value • at 280 V rated value • at 280 V rated value • at 280 V rated value	10 A 3 A 2 A 1 A  10 A 6 A 6 A 3 A 2 A 1 A 0.15 A
<ul> <li>at 125 V rated value</li> <li>at 220 V rated value</li> <li>at 600 V rated value</li> <li>0.3 A</li> <li>at 600 V rated value</li> </ul>	operational current at AC-15  • at 230 V rated value • at 400 V rated value • at 500 V rated value • at 690 V rated value  operational current at DC-12  • at 24 V rated value • at 48 V rated value • at 60 V rated value • at 110 V rated value • at 125 V rated value • at 220 V rated value • at 600 V rated value • at 220 V rated value • at 24 V rated value • at 48 V rated value • at 48 V rated value  operational current at DC-13 • at 24 V rated value • at 48 V rated value	10 A 3 A 2 A 1 A  10 A 6 A 6 A 3 A 2 A 1 A  10 A 2 A 1 A 0.15 A
<ul> <li>at 220 V rated value</li> <li>at 600 V rated value</li> <li>0.3 A</li> <li>0.1 A</li> </ul>	operational current at AC-15  • at 230 V rated value • at 400 V rated value • at 500 V rated value • at 690 V rated value  operational current at DC-12  • at 24 V rated value • at 48 V rated value • at 60 V rated value • at 110 V rated value • at 125 V rated value • at 220 V rated value • at 600 V rated value • at 220 V rated value • at 24 V rated value • at 48 V rated value • at 48 V rated value  operational current at DC-13 • at 24 V rated value • at 48 V rated value	10 A 3 A 2 A 1 A  10 A 6 A 6 A 3 A 2 A 1 A  10 A 2 A 1 A 0.15 A
at 600 V rated value     0.1 A	operational current at AC-15  • at 230 V rated value • at 400 V rated value • at 500 V rated value • at 690 V rated value  operational current at DC-12 • at 24 V rated value • at 48 V rated value • at 60 V rated value • at 110 V rated value • at 125 V rated value • at 220 V rated value • at 600 V rated value • at 220 V rated value • at 600 V rated value • at 600 V rated value • at 600 V rated value • at 48 V rated value • at 48 V rated value • at 48 V rated value • at 600 V rated value	10 A 3 A 2 A 1 A  10 A 6 A 6 A 3 A 2 A 1 A  10 A 2 A 1 A 0.15 A
	operational current at AC-15  • at 230 V rated value • at 400 V rated value • at 500 V rated value • at 690 V rated value  operational current at DC-12 • at 24 V rated value • at 48 V rated value • at 60 V rated value • at 110 V rated value • at 125 V rated value • at 220 V rated value • at 600 V rated value • at 48 V rated value • at 600 V rated value	10 A 3 A 2 A 1 A  10 A 6 A 6 A 3 A 2 A 1 A 0.15 A
contact reliability of auxiliary contacts  1 faulty switching per 100 million (17 V, 1 mA)	operational current at AC-15  • at 230 V rated value • at 400 V rated value • at 500 V rated value • at 690 V rated value  operational current at DC-12  • at 24 V rated value • at 48 V rated value • at 60 V rated value • at 110 V rated value • at 125 V rated value • at 220 V rated value • at 600 V rated value • at 48 V rated value • at 600 V rated value • at 600 V rated value • at 600 V rated value • at 110 V rated value • at 125 V rated value • at 110 V rated value • at 110 V rated value • at 125 V rated value • at 125 V rated value	10 A 3 A 2 A 1 A  10 A 6 A 6 A 3 A 2 A 1 A 0.15 A
	operational current at AC-15  • at 230 V rated value • at 400 V rated value • at 500 V rated value • at 690 V rated value  operational current at DC-12 • at 24 V rated value • at 48 V rated value • at 60 V rated value • at 110 V rated value • at 125 V rated value • at 220 V rated value • at 600 V rated value • at 125 V rated value	10 A 3 A 2 A 1 A  10 A 6 A 6 A 3 A 2 A 1 A  0.15 A  10 A 2 A 2 A 1 A 0.9 A 0.3 A 0.1 A

UL/CSA ratings	
full-load current (FLA) for 3-phase AC motor	
at 480 V rated value	7.6 A
at 600 V rated value	9 A
yielded mechanical performance [hp]	
• for single-phase AC motor	
— at 110/120 V rated value	1 hp
— at 230 V rated value	1 hp
• for 3-phase AC motor	Tip
— at 200/208 V rated value	2 hp
— at 220/230 V rated value	3 hp
— at 460/480 V rated value	5 hp
— at 575/600 V rated value	7.5 hp
	A600 / P600
contact rating of auxiliary contacts according to UL Short-circuit protection	A000 / P000
design of the fuse link	
•	
for short-circuit protection of the main circuit  with type of coordination 1 required.	aC: 63A (600V 100kA) aM: 33A (600V 100kA) D000: 63A (445V 90kA)
with type of coordination 1 required  with type of assignment 2 required.	gG: 63A (690V,100kA), aM: 32A (690V,100kA), BS88: 63A (415V,80kA)
— with type of assignment 2 required	gG: 25A (690V,100kA), aM: 20A (690V,100kA), BS88: 25A (415V,80kA)
for short-circuit protection of the auxiliary switch required  Installation/ mounting/ dimensions	gG: 10 A (500 V, 1 kA)
Installation/ mounting/ dimensions	1/400° relation possible on the language of th
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	102 mm
width	45 mm
depth	97 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	spring-loaded terminals
for auxiliary and control circuit	spring-loaded terminals
at contactor for auxiliary contacts	Spring-type terminals
of magnet coil	Spring-type terminals
type of connectable conductor cross-sections	
• for main contacts	
— solid	2x (1 10 mm²)
— solid or stranded	2x (1 10 mm²)
finely stranded with core end processing	2x (1 6 mm²)
— finely stranded with core end processing	2x (1 6 mm²)
for AWG cables for main contacts	2x (1 8)
connectable conductor cross-section for main contacts	£.(\to 0)
solid	1 10 mm²
	1 10 mm²
stranded     finely stranded with core and processing	1 10 mm² 1 6 mm²
finely stranded without core end processing     finely stranded without core end processing	
finely stranded without core end processing	1 6 mm²

connectable conductor cross-section for auxiliary contacts	
<ul> <li>solid or stranded</li> </ul>	0.5 2.5 mm²
<ul> <li>finely stranded with core end processing</li> </ul>	0.5 1.5 mm²
<ul> <li>finely stranded without core end processing</li> </ul>	0.5 2.5 mm²
type of connectable conductor cross-sections	
<ul> <li>for auxiliary contacts</li> </ul>	
<ul><li>— solid or stranded</li></ul>	2x (0.5 2.5 mm²)
<ul> <li>finely stranded with core end processing</li> </ul>	2x (0.5 1.5 mm²)
<ul> <li>finely stranded without core end processing</li> </ul>	2x (0.5 2.5 mm²)
<ul> <li>for AWG cables for auxiliary contacts</li> </ul>	2x (20 14)
AWG number as coded connectable conductor cross section	
• for main contacts	18 8
<ul> <li>for auxiliary contacts</li> </ul>	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
suitable for safety function	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
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	

General Product Approval







Confirmation



<u>KC</u>

General Product Approval

EMV

**Functional Saftey** 

**Test Certificates** 

Marine / Shipping





Type Examination Certificate Special Test Certificate

Type Test Certificates/Test Report



Marine / Shipping











Miscellaneous

other Railway Environment



## 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)

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2023-2AN20

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

https://support.industry.siemens.com/cs/ww/en/ps/3RT2023-2AN20

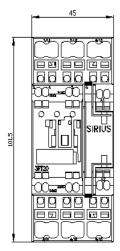
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) <a href="http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=3RT2023-2AN20&lang=en">http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=3RT2023-2AN20&lang=en</a>

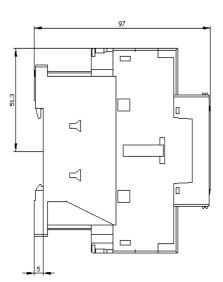
Characteristic: Tripping characteristics, I²t, Let-through current

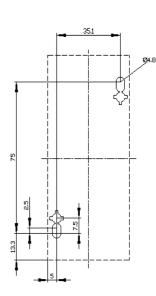
https://support.industry.siemens.com/cs/ww/en/ps/3RT2023-2AN20/char

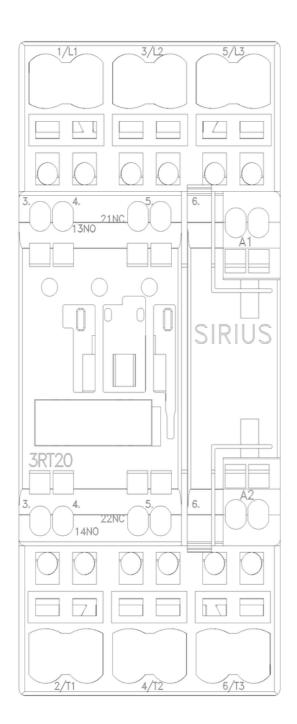
Further characteristics (e.g. electrical endurance, switching frequency)

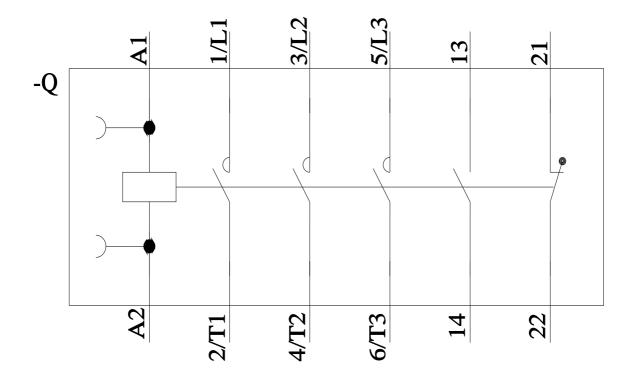
http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2023-2AN20&objecttype=14&gridview=view1











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