SIEMENS

Data sheet 3RT2025-1AL20



power contactor, AC-3e/AC-3, 17 A, 7.5 kW / 400 V, 3-pole, 230 V AC, 50/60 Hz, auxiliary contacts: 1 NO + 1 NC, screw terminal, size: S0

product designation Power contactor product type designation 3RT2	product brand name	SIRIUS
product type designation 3RT2 General technical data size of contactor S0 product extension • function module for communication No • auxiliary switch Yes power loss [W] for rated value of the current • at AC in hot operating state 1.8 W • at AC in hot operating state per pole 0.6 W • without load current share typical 2.W Insulation voitage • of main circuit with degree of pollution 3 rated value 600 V • of auxiliary circuit with degree of pollution 3 rated value 600 V • of auxiliary circuit with degree of pollution 3 rated value 600 V • of auxiliary circuit rated value 600 V • of oversistance at rectangular impulse 610 V • of auxiliary circuit rated value 610 V • of auxiliary circuit rated value 610 V • of contactor with added electronically optimized 610 V • of contactor with added electronically optimized 610 V • of the contactor with added electronically optimized 610 V • of the contactor with added auxiliary switch block typical 70 V • of the contactor with added auxiliary switch block typical 70 V • of the contactor with added auxiliary switch block typical 70 V • of the contactor with added auxiliary switch block typical 70 V • of contactor with added auxiliary switch block typical 70 V • of c	•	
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power loss [W] for rated value of the current at AC in hot operating state	function module for communication	No
at AC in hot operating state per pole at AC in hot operating state per pole without load current share typical buildation voltage of main circuit with degree of pollution 3 rated value of auxiliary circuit with degree of pollution 3 rated value of auxiliary circuit with degree of pollution 3 rated value of main circuit with degree of pollution 3 rated value of main circuit rated value of auxiliary circuit rated value of at AC of auxiliary circuit rated value of at AC of auxiliary circuit rated value of at AC of auxiliary in the contactor in the contactor with sine pulse of the contactor with sine pulse of the contactor with added electronically optimized auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary	auxiliary switch	Yes
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insulation voltage • of main circuit with degree of pollution 3 rated value • of auxiliary circuit with degree of pollution 3 rated value • of auxiliary circuit with degree of pollution 3 rated value • of main circuit rated value • of auxiliary circuit rated value • of the contact according to EN 60947-1 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) • of contactor typical • of the contactor with added electronically optimized auxiliary switch block typical • of the contactor with added auxiliary switch block typical • of the contactor with added auxiliary switch block typical reference code according to IEC 81346-2 Q Substance Prohibitance (Date) 10/01/2009 Ambient conditions installation altitude at height above sea level maximum ambient temperature • during operation • during storage - 25 +60 °C - during storage relative humidity minimum 10 % relative humidity minimum 10 % relative humidity at 55 °C according to IEC 60068-2-30 maximum Environmental footprint	at AC in hot operating state per pole	0.6 W
of main circuit with degree of pollution 3 rated value of auxiliary circuit with degree of pollution 3 rated value surge voltage resistance of main circuit rated value of auxiliary circuit rated value of kV maximum permissible voltage for protective separation between coil and main contacts according to EN 60947-1 shock resistance at rectangular impulse ot AC of the contactor with sine pulse of contactor typical of the contactor with added electronically optimized auxiliary switch block typical of the contactor with added auxiliary switch block typical of	without load current share typical	2 W
of auxiliary circuit with degree of pollution 3 rated value surge voltage resistance of main circuit rated value of of auxiliary circuit rated value of auxiliary circuit rated value of of auxiliary circuit rated value of of auxiliary circuit rated value maximum permissible voltage for protective separation between coil and main contacts according to EN 60947-1 shock resistance at rectangular impulse of at AC of sontactor with sine pulse of at AC of contactor typical of the contactor with added electronically optimized auxiliary switch block typical of the contactor with added auxiliary switch block ty	insulation voltage	
surge voltage resistance of main circuit rated value of auxiliary circuit rated value of kV maximum permissible voltage for protective separation between coil and main contacts according to EN 60947-1 shock resistance at rectangular impulse of at AC 7,5g / 5 ms, 4,7g / 10 ms shock resistance with sine pulse of at AC 11,8g / 5 ms, 7,4g / 10 ms mechanical service life (operating cycles) of contactor typical of the contactor with added electronically optimized auxiliary switch block typical of the contactor with added auxil	of main circuit with degree of pollution 3 rated value	690 V
of main circuit rated value of auxiliary circuit rated value of auxiliary circuit rated value of auxiliary circuit rated value of kV maximum permissible voltage for protective separation between coil and main contacts according to EN 60947-1 shock resistance at rectangular impulse oat AC 7,5g / 5 ms, 4,7g / 10 ms shock resistance with sine pulse oat AC 11,8g / 5 ms, 7,4g / 10 ms mechanical service life (operating cycles) of contactor typical of the contactor with added electronically optimized auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contact	of auxiliary circuit with degree of pollution 3 rated value	690 V
of auxiliary circuit rated value maximum permissible voltage for protective separation between coil and main contacts according to EN 60947-1 shock resistance at rectangular impulse	surge voltage resistance	
maximum permissible voltage for protective separation between coil and main contacts according to EN 60947-1 shock resistance at rectangular impulse • at AC • at AC • at AC • of contactor with sine pulse • of contactor typical • of the contactor with added electronically optimized auxiliary switch block typical • of the contactor with added auxiliary switch block typical • of the contactor with added auxiliary switch block typical • of the contactor with added auxiliary switch block typical • of the contactor with added auxiliary switch block typical • of the contactor with added auxiliary switch block typical • of the contactor with added auxiliary switch block typical • of the contactor with added auxiliary switch block typical • of the contactor with added auxiliary switch block typical • of the contactor with added auxiliary switch block typical • of the contactor with added auxiliary switch block typical • of the contactor with added auxiliary switch block typical • of the contactor with added auxiliary switch block typical • of the contactor with added auxiliary switch block typical • of the contactor with added auxiliary switch block typical • of the contactor with added auxiliary switch block typical • of the contactor with added auxiliary switch block typical • of the contactor with added electronically optimized auxiliary switch block typical • of the contactor with added auxiliary switch block typical • of the contactor with added electronically optimized auxiliary switch block typical • 000 000 • 000 000 • 000 000 • 000 000	of main circuit rated value	6 kV
shock resistance at rectangular impulse • at AC shock resistance with sine pulse • at AC 11,8g / 5 ms, 4,7g / 10 ms mechanical service life (operating cycles) • of contactor typical • of the contactor with added electronically optimized auxiliary switch block typical • of the contactor with added auxi	of auxiliary circuit rated value	6 kV
at AC shock resistance with sine pulse at AC 11,8g / 5 ms, 4,7g / 10 ms mechanical service life (operating cycles) of contactor typical of the contactor with added electronically optimized auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical 10 000 000 reference code according to IEC 81346-2 Q Substance Prohibitance (Date) Ambient conditions installation altitude at height above sea level maximum ambient temperature of during operation during storage -55 +60 °C relative humidity minimum 10 % relative humidity at 55 °C according to IEC 60068-2-30 maximum Environmental footprint		400 V
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mechanical service life (operating cycles) • of contactor typical • of the contactor with added electronically optimized auxiliary switch block typical • of the contactor with added auxiliary switch block typical • of the contactor with added auxiliary switch block typical • of the contactor with added auxiliary switch block typical reference code according to IEC 81346-2 Q Substance Prohibitance (Date) Ambient conditions installation altitude at height above sea level maximum 2 000 m ambient temperature • during operation • during storage -55 +80 °C relative humidity minimum 10 % relative humidity at 55 °C according to IEC 60068-2-30 maximum Environmental footprint	shock resistance with sine pulse	
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Substance Prohibitance (Date) Ambient conditions installation altitude at height above sea level maximum ambient temperature • during operation • during storage relative humidity minimum 10 % relative humidity at 55 °C according to IEC 60068-2-30 maximum Environmental footprint	 of the contactor with added auxiliary switch block typical 	10 000 000
installation altitude at height above sea level maximum ambient temperature • during operation • during storage relative humidity minimum relative humidity at 55 °C according to IEC 60068-2-30 maximum Environmental footprint 2 000 m -25 +60 °C -25 +80 °C 10 % 95 %	reference code according to IEC 81346-2	Q
installation altitude at height above sea level maximum ambient temperature • during operation • during storage relative humidity minimum relative humidity at 55 °C according to IEC 60068-2-30 maximum Environmental footprint	Substance Prohibitance (Date)	10/01/2009
ambient temperature • during operation • during storage -25 +60 °C • during storage -55 +80 °C relative humidity minimum 10 % relative humidity at 55 °C according to IEC 60068-2-30 maximum Environmental footprint	Ambient conditions	
 during operation during storage -55 +80 °C relative humidity minimum relative humidity at 55 °C according to IEC 60068-2-30 maximum Environmental footprint 	installation altitude at height above sea level maximum	2 000 m
• during storage relative humidity minimum 10 % relative humidity at 55 °C according to IEC 60068-2-30 maximum Environmental footprint	ambient temperature	
relative humidity minimum relative humidity at 55 °C according to IEC 60068-2-30 95 % maximum Environmental footprint	 during operation 	-25 +60 °C
relative humidity at 55 °C according to IEC 60068-2-30 95 % maximum Environmental footprint	during storage	-55 +80 °C
Environmental footprint	relative humidity minimum	10 %
<u> </u>		95 %
Environmental Product Declaration(EPD) Yes	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	
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	40.4
 at AC-1 at 400 V at ambient temperature 40 °C rated value 	40 A
• at AC-1	
— up to 690 V at ambient temperature 40 $^{\circ}\text{C}$ rated value	40 A
— up to 690 V at ambient temperature 60 $^{\circ}\text{C}$ rated value	35 A
• at AC-3	
— at 400 V rated value	17 A
— at 500 V rated value	17 A
— at 690 V rated value	13 A
• at AC-3e	
— at 400 V rated value	17 A
— at 500 V rated value	17 A
— at 690 V rated value	13 A
at AC-4 at 400 V rated value	15.5 A
at AC-5a up to 690 V rated value	35.2 A
at AC-5b up to 400 V rated value	14.1 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 up to 690 V for current peak value n=20 rated value 	11.4 A 11.3 A
at AC-6a	11.5 A
— 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	7.6 A
— up to 690 V for current peak value n=30 rated value	7.6 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	7.7 A
at 690 V rated value	7.7 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
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	1 A
— at 600 V rated value	0.8 A
with 3 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	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	4 kW
— at 400 V rated value	7.5 kW
— at 500 V rated value	7.5 kW
— at 690 V rated value	11 kW
• at AC-3e	
— at 230 V rated value	4 kW
— at 400 V rated value	7.5 kW
— at 500 V rated value	7.5 kW
— at 690 V rated value	11 kW
operating power for approx. 200000 operating cycles at AC-	
• at 400 V rated value	3.5 kW
at 690 V rated value	6 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	9.9 kVA
• up to 690 V for current peak value n=20 rated value	13.6 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	6.6 kVA
• up to 690 V for current peak value n=30 rated value	9.1 kVA
short-time withstand current in cold operating state up to 40 °C	
 limited to 1 s switching at zero current maximum 	225 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 5 s switching at zero current maximum 	225 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 10 s switching at zero current maximum 	189 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 30 s switching at zero current maximum 	140 A; Use minimum cross-section acc. to AC-1 rated value
• limited to 60 s switching at zero current maximum	115 A; Use minimum cross-section acc. to AC-1 rated value
no-load switching frequency	
• at AC	5 000 1/h
operating frequency	
• at AC-1 maximum	1 000 1/h

• at AC-2 maximum	1 000 1/h
• at AC-3 maximum	1 000 1/h
 at AC-3e maximum 	1 000 1/h
at AC-4 maximum	300 1/h
Control circuit/ Control	
type of voltage of the control supply voltage	AC
control supply voltage at AC	
at 50 Hz rated value	230 V
at 60 Hz rated value	230 V
operating range factor control supply voltage rated value of magnet coil at AC	
at 50 Hz	0.8 1.1
● at 60 Hz	0.85 1.1
apparent pick-up power of magnet coil at AC	
at 50 Hz	68 VA
● at 60 Hz	67 VA
inductive power factor with closing power of the coil	
at 50 Hz	0.72
● at 60 Hz	0.74
apparent holding power of magnet coil at AC	
● at 50 Hz	7.9 VA
● at 60 Hz	6.5 VA
inductive power factor with the holding power of the coil	
• at 50 Hz	0.25
● at 60 Hz	0.28
closing delay	
• at AC	8 40 ms
opening delay	
• at AC	4 16 ms
arcing time	10 10 ms
control version of the switch operating mechanism	Standard A1 - A2
Auxiliary circuit	
number of NC contacts for auxiliany contacts instantaneous	1
number of NC contacts for auxiliary contacts instantaneous contact	
number of NO contacts for auxiliary contacts instantaneous contact	1
number of NO contacts for auxiliary contacts instantaneous	
contact number of NO contacts for auxiliary contacts instantaneous contact operational current at AC-12 maximum operational current at AC-15	1
contact number of NO contacts for auxiliary contacts instantaneous contact operational current at AC-12 maximum	1
contact number of NO contacts for auxiliary contacts instantaneous contact operational current at AC-12 maximum operational current at AC-15 • at 230 V rated value • at 400 V rated value	1 10 A 10 A 3 A
contact number of NO contacts for auxiliary contacts instantaneous contact 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	1 10 A 10 A 3 A 2 A
contact number of NO contacts for auxiliary contacts instantaneous contact 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 690 V rated value	1 10 A 10 A 3 A
contact number of NO contacts for auxiliary contacts instantaneous contact 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 690 V rated value operational current at DC-12	1 10 A 10 A 3 A 2 A 1 A
contact number of NO contacts for auxiliary contacts instantaneous contact 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 690 V rated value operational current at DC-12 • at 24 V rated value	1 10 A 10 A 3 A 2 A 1 A
contact number of NO contacts for auxiliary contacts instantaneous contact 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 690 V rated value operational current at DC-12 • at 24 V rated value • at 48 V rated value	1 10 A 10 A 3 A 2 A 1 A 10 A
contact number of NO contacts for auxiliary contacts instantaneous contact 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 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 60 V rated value	1 10 A 10 A 3 A 2 A 1 A 10 A 6 A 6 A
contact number of NO contacts for auxiliary contacts instantaneous contact 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 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 60 V rated value • at 110 V rated value	1 10 A 10 A 3 A 2 A 1 A 10 A 6 A 6 A 6 A 3 A
contact number of NO contacts for auxiliary contacts instantaneous contact 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 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 60 V rated value • at 110 V rated value • at 110 V rated value • at 125 V rated value	1 10 A 10 A 3 A 2 A 1 A 10 A 6 A 6 A 6 A 3 A 2 A
contact number of NO contacts for auxiliary contacts instantaneous contact 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 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 110 V rated value • at 125 V rated value • at 220 V rated value	1 10 A 10 A 3 A 2 A 1 A 10 A 6 A 6 A 3 A 2 A 1 A
number of NO contacts for auxiliary contacts instantaneous contact 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 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	1 10 A 10 A 3 A 2 A 1 A 10 A 6 A 6 A 6 A 3 A 2 A
contact number of NO contacts for auxiliary contacts instantaneous contact operational current at AC-12 maximum operational current at AC-15	1 10 A 10 A 3 A 2 A 1 A 10 A 6 A 6 A 3 A 2 A 1 A 0.15 A
number of NO contacts for auxiliary contacts instantaneous contact 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 690 V rated value operational current at DC-12 • at 24 V rated value • at 48 V rated value • at 48 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 • at 220 V rated value • at 220 V rated value • at 600 V rated value • at 600 V rated value	1 10 A 10 A 3 A 2 A 1 A 10 A 6 A 6 A 6 A 2 A 1 A 0.15 A
number of NO contacts for auxiliary contacts instantaneous contact 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 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 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 24 V rated value • at 24 V rated value • at 24 V rated value • at 48 V rated value	1 10 A 10 A 3 A 2 A 1 A 10 A 6 A 6 A 6 A 3 A 2 A 1 A 0.15 A
contact number of NO contacts for auxiliary contacts instantaneous contact 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 690 V rated value operational current at DC-12 • at 24 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 600 V rated value • at 220 V rated value • at 600 V rated value	1 10 A 10 A 3 A 2 A 1 A 10 A 6 A 6 A 3 A 2 A 1 A 0.15 A
number of NO contacts for auxiliary contacts instantaneous contact operational current at AC-12 maximum operational current at AC-15 • at 230 V rated value • at 400 V rated value • at 690 V rated value operational current at DC-12 • at 24 V rated value • at 48 V rated value • at 110 V rated value • at 125 V rated value • at 220 V rated value • at 600 V rated value • at 24 V rated value • at 24 V rated value • at 125 V rated value • at 125 V rated value • at 240 V rated value • at 600 V rated value • at 48 V rated value • at 400 V rated value • at 410 V rated value • at 4110 V rated value	1 10 A 10 A 3 A 2 A 1 A 10 A 6 A 6 A 3 A 2 A 1 A 0.15 A
number of NO contacts for auxiliary contacts instantaneous contact 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 690 V rated value operational current at DC-12 • at 24 V rated value • at 48 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	1 10 A 10 A 3 A 2 A 1 A 10 A 6 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
number of NO contacts for auxiliary contacts instantaneous contact 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 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 600 V rated value • at 18 V rated value • at 19 V rated value • at 19 V rated value • at 10 V rated value • at 10 V rated value • at 110 V rated value • at 125 V rated value	1 10 A 10 A 3 A 2 A 1 A 10 A 6 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
number of NO contacts for auxiliary contacts instantaneous contact 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 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 • at 125 V rated value • at 120 V rated value • at 120 V rated value • at 120 V rated value	1 10 A 10 A 3 A 2 A 1 A 10 A 6 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
number of NO contacts for auxiliary contacts instantaneous contact 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 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 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 25 V rated value • at 27 V rated value • at 28 V rated value • at 29 V rated value • at 110 V rated value • at 110 V rated value • at 125 V rated value	1 10 A 10 A 3 A 2 A 1 A 10 A 6 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
number of NO contacts for auxiliary contacts instantaneous contact 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 690 V rated value operational current at DC-12 • at 24 V rated value • at 48 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 24 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 25 V rated value • at 27 V rated value • at 28 V rated value • at 29 V rated value • at 110 V rated value • at 110 V rated value • at 125 V rated value • at 125 V rated value • at 125 V rated value • at 600 V rated value	1 10 A 10 A 3 A 2 A 1 A 10 A 6 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
number of NO contacts for auxiliary contacts instantaneous contact 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 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 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 25 V rated value • at 27 V rated value • at 28 V rated value • at 29 V rated value • at 110 V rated value • at 110 V rated value • at 125 V rated value	1 10 A 10 A 3 A 2 A 1 A 10 A 6 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

• at 480 V rated value	14 A
at 600 V rated value	17 A
yielded mechanical performance [hp]	
 for single-phase AC motor 	
— at 110/120 V rated value	1 hp
— at 230 V rated value	3 hp
• for 3-phase AC motor	
— at 200/208 V rated value	3 hp
— at 220/230 V rated value	5 hp
— at 460/480 V rated value	10 hp
— at 575/600 V rated value	15 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	
	aC+ 62A (600\/ 100kA\ aM+ 22A (600\/ 100kA\ BC00+62A (415\/ 00kA\
— with type of coordination 1 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	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
factoning mothod	,
fastening method	screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715
side-by-side mounting	Yes
height	85 mm
width	45 mm
depth	97 mm
required spacing	
with side-by-side mounting	
— 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 	screw-type terminals
 at contactor for auxiliary contacts 	Screw-type terminals
of magnet coil	Screw-type terminals
type of connectable conductor cross-sections	
• for main contacts	
— solid	2x (1 2.5 mm²), 2x (2.5 10 mm²)
— solid or stranded	2x (1 2.5 mm²), 2x (2.5 10 mm²)
 finely stranded with core end processing 	2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm²
for AWG cables for main contacts	2x (16 12), 2x (14 8)
connectable conductor cross-section for main contacts	, , , , , , , , , , , , , , , , , , , ,
solid	1 10 mm²
stranded	1 10 mm²
finely stranded with core end processing	1 10 mm²
connectable conductor cross-section for auxiliary contacts	
	0.5 0.5
solid or strandedfinely stranded with core end processing	0.5 2.5 mm ² 0.5 2.5 mm ²

type of connectable conductor cross-sections	
 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 mm²), 2x (0.75 2.5 mm²)
 for AWG cables for auxiliary contacts 	2x (20 16), 2x (18 14)
AWG number as coded connectable conductor cross section	
 for main contacts 	16 8
 for auxiliary contacts 	20 14
Safety related data	
proportion of dangerous failures	
 with low demand rate according to SN 31920 	40 %
 with high demand rate according to SN 31920 	73 %
failure rate [FIT] with low demand rate according to SN 31920	100 FIT
B10 value with high demand rate according to SN 31920	450 000
product function mirror contact according to IEC 60947-4-1	Yes
suitability for use safety-related switching OFF	Yes
IEC 61508	
T1 value for proof test interval or service life according to IEC 61508	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





General Product Approval

EMV

Test Certificates

Marine / Shipping

<u>KC</u>





Type Test Certificates/Test Report

Special Test Certificate



Marine / Shipping







RINA



Miscellaneous

other

other

Confirmation

Confirmation

Further information

Siemens has decided to exit the Russian market (see here).

https://press.siemens.com/global/en/pressrelease/siemens-wind-down-russian-business

Siemens is working on the renewal of the current EAC certificates.

Please contact your local Siemens office on the status of validity of the EAC certification if you intend to import or offer to supply these products to an EAC relevant market (other than the sanctioned EAEU member states Russia or Belarus).

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=3RT2025-1AL20

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2025-1AL20

Service&Support (Manuals, Certificates, Characteristics, FAQs,...) https://support.industry.siemens.com/cs/ww/en/ps/3RT2025-1AL20

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

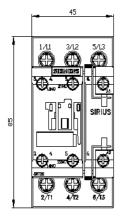
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT20

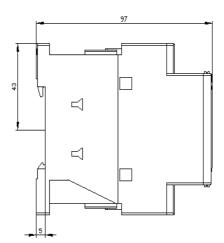
Characteristic: Tripping characteristics, I2t, Let-through current

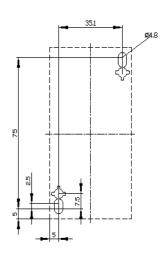
https://support.industry.siemens.com/cs/ww/en/ps/3RT2025-1AL20/char

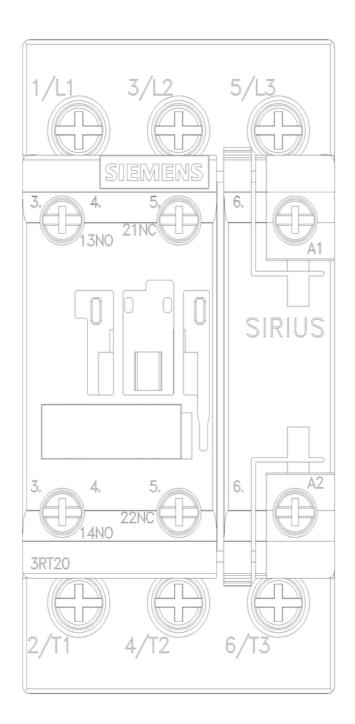
Further characteristics (e.g. electrical endurance, switching frequency)

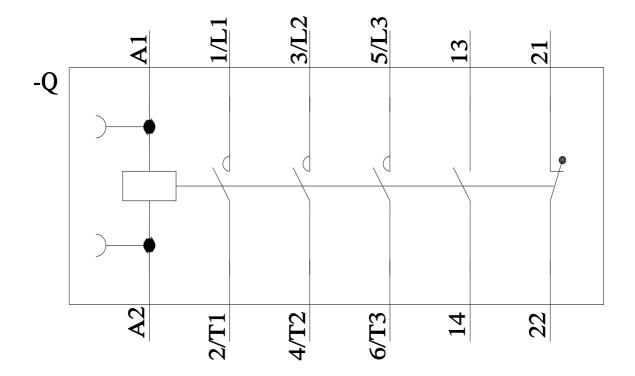
http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2025-1AL20&objecttype=14&gridview=view1











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