## SIEMENS

## Data sheet

## 3RT2024-2AL20



power contactor, AC-3e/AC-3, 12 A, 5.5 kW / 400 V, 3-pole, 230 V AC, 50/60 Hz, auxiliary contacts: 1 NO + 1 NC, spring-loaded terminal, size: S0

a lala				
product brand name	SIRIUS			
product designation	Power contactor			
product type designation	3RT2			
General technical data				
size of contactor	SO			
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>	0.9 W			
<ul> <li>at AC in hot operating state per pole</li> </ul>	0.3 W			
<ul> <li>without load current share typical</li> </ul>	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			
<ul> <li>of auxiliary circuit rated value</li> </ul>	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)	10/01/2009			
Weight	0.444 kg			
Ambient conditions				
installation altitude at height above sea level maximum	2 000 m			
ambient temperature				
during operation	-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	
number of poles for main current circuit	3
number of NO contacts for main contacts	3
operating voltage	
<ul> <li>at AC-3 rated value maximum</li> </ul>	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	
— up to 690 V at ambient temperature 40 °C rated value	40 A
<ul> <li>— up to 690 V at ambient temperature 60 °C rated value</li> </ul>	35 A
at AC-3     — at 400 V rated value	12 A
	12 A 12 A
— at 500 V rated value — at 690 V rated value	9 A
• at AC-3e	
- at 400 V rated value	12 A
— at 500 V rated value	12 A
— at 690 V rated value	9 A
• at AC-4 at 400 V rated value	12.5 A
• at AC-5a up to 690 V rated value	35.2 A
• at AC-5b up to 400 V rated value	9.9 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	11.3 A
<ul> <li>— up to 690 V for current peak value n=20 rated value</li> </ul>	9 A
• at AC-6a	
<ul> <li>— up to 230 V for current peak value n=30 rated value</li> </ul>	7.6 A
<ul> <li>— up to 400 V for current peak value n=30 rated value</li> </ul>	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 mm <sup>2</sup>
operational current for approx. 200000 operating cycles at AC-4	
at 400 V rated value	5.5 A
at 690 V rated value	5.5 A
operational current	
at 1 current path at DC-1	25.4
— at 24 V rated value	35 A 20 A
— at 60 V rated value — at 110 V rated value	20 A 4.5 A
— at 220 V rated value	4.5 A 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 35 A
— at 110 V rated value	35 A 35 A
— at 220 V rated value	5 A
— at 440 V rated value	1A
— at 600 V rated value	0.8 A

- m 22V rade value35 A- m 45 V rade value35 A- m 45 V rade value35 A- m 42 V rade value35 A- m 42 V rade value35 A- m 42 V rade value28 A- m 45 V rade value28 A- m 45 V rade value29 A- m 45 V rade value20 A- m 45 V rade value20 A- m 45 V rade value0.09 A- m 45 V rade value0.07 A- m 45 V rade value0.05 A- m 45 V rade value <th><ul> <li>with 3 current paths in series at DC-1</li> </ul></th> <th></th>	<ul> <li>with 3 current paths in series at DC-1</li> </ul>	
- aft 80 v raids value35 Å- aft 80 v raids value35 Å- aft 80 v raids value35 Å- aft 80 v raids value20 Å- aft 80 v raids value14 Å- aft 80 v raids value20 Å- aft 80 v raids value005 Å- aft 80 v raids value006 Å </td <td>-</td> <td>35 A</td>	-	35 A
<ul> <li></li></ul>		
- all AU visited value29 A- all SU Visited value14- all SU Visited value20 A- all SU Visited value35 A- all SU Visited value20 A- all SU Visited value35 A- all SU Visited value36 A- all SU Visited value35 A- all SU Visited v		
• at 1 current path a1C-3 a1C-5- at 24 V raids value5.4- at 250 V raids value0.94- at 220 V raids value0.96- at 400 V raids value0.97- at 400 V raids value0.51 W-		
	-	20 A
- at 440 Y rated value0.09 A- at 600 Y rated value0.09 A- at 24 Y rated value35 A- at 24 Y rated value35 A- at 24 V rated value15 A- at 10 V rated value15 A- at 440 V rated value0.18 A- at 440 V rated value0.6 A- at 20 V rated value0.6 A- at 20 V rated value0.6 A- at 20 V rated value0.5 A- at 420 V rated value0.5 A- at 420 V rated value0.6 A- at 420 V rated value0.6 A- at 320 V rated value0.5 KW- at 320 V rated value5 KW- at 600 V rated value5 KW- at 600 V rated value6 K KA- at 600 V rated value6 K KA- at 600 V rated value7 K W- at 600 V rated value6 K KA- at 600 V rated value7 K KA- at 600 V rated value7 K KA- at 600 V rated value7 K KA- at 600 V rated value8 K/A <trr>- at 600 V for current pack value n=</trr>	— at 60 V rated value	5 A
	— at 220 V rated value	1 A
• with 2 current pairs in series at DC-3 at DC-5- at 24 V rated value35 A- at 10 V rated value35 A- at 110 V rated value36 A- at 200 V rated value027 A- at 240 V rated value027 A- at 240 V rated value016 A- at 240 V rated value35 A- at 240 V rated value06 A- at 240 V rated value05 A- at 240 V rated value55 KW- at 240 V rated value75 KW- at 240 V rated value75 KW- at 250 V fract value75 KW- at 260 V rated value75 KW	— 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 440 V rated value     0.27 Å       - at 600 V rated value     0.16 Å       - at 600 V rated value     35 Å       - at 60 V rated value     35 Å       - at 60 V rated value     35 Å       - at 60 V rated value     36 Å       - at 100 V rated value     0.6 Å       - at 400 V rated value     0.6 Å       - at 200 V rated value     0.6 Å       - at 200 V rated value     0.6 Å       - at 200 V rated value     5.5 kW       - at 600 V rated value     5.5 kW       - at 600 V rated value     5.5 kW       - at 600 V rated value     3.6 W       - at 230 V rated value     3.6 W       - at 600 V rated value     3.6 W       -	— at 110 V rated value	15 A
	— at 220 V rated value	3 A
<ul> <li>with 3 current paths in series at DC-3 at DC-5</li> <li>at 24 V rited value</li> <li>35 A</li> <li>at 100 V rited value</li> <li>35 A</li> <li>at 110 V rated value</li> <li>35 A</li> <li>at 220 V rated value</li> <li>06 A</li> <li>at 400 V rated value</li> <li>06 A</li> <li>at 400 V rated value</li> <li>06 A</li> <li>at 400 V rated value</li> <li>55 KW</li> <li>at 630 V rated value</li> <li>50 V rated value<td>— at 440 V rated value</td><td>0.27 A</td></li></ul>	— 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
operating powerat AC:3- at 230 V rated value3 kW- at 400 V rated value5.5 kW- at 500 V rated value5.5 kW- at 690 V rated value7.5 kW- at 230 V rated value7.5 kW- at 230 V rated value3 kW- at 230 V rated value3 kW- at 400 V rated value5.5 kW- at 230 V rated value3 kW- at 600 V rated value5.5 kW- at 600 V rated value7.5 kWoperating power for approx. 20000 operating cycles at AC-4• at 400 V rated value2.6 kW• at 600 V rated value4.5 kVA• up to 200 V for current peak value n=20 rated value7.8 kVA• up to 400 V for current peak value n=20 rated value9.8 kVA• up to 500 V for current peak value n=20 rated value9.8 kVA• up to 230 V for current peak value n=30 rated value3 kVA• up to 230 V for current peak value n=30 rated value3 kVA• up to 600 V for current peak value n=30 rated value5 kVA• up to 500 V for current peak value n=30 rated value6 kVA• up to 600 V for current peak value n=30 rated value6 kVA• up to 600 V for current peak value n=30 rated value6 kVA• up to 600 V for current peak value n=30 rated value6 kVA• up to 600 V for current peak value n=30 rated value6 kVA• up to 600 V for current peak value n=30 rated value6 kVA• up t	— at 440 V rated value	0.6 A
• at AC-3SKW- at 230 V rated value3 kW- at 400 V rated value5.5 kW- at 690 V rated value5.5 kW- at 690 V rated value7.5 kW- at 230 V rated value3 kW- at 200 V rated value5.5 kW- at 400 V rated value5.5 kW- at 400 V rated value5.5 kW- at 500 V rated value5.5 kW- at 690 V rated value2.6 kW- at 690 V rated value2.6 kW• at 690 V rated value4.6 kWoperating power for approx. 200000 operating cycles at AC-4• at 690 V rated value7.8 kVA• up to 230 V for current peak value n=20 rated value7.8 kVA• up to 500 V for current peak value n=20 rated value9.8 kVA• up to 500 V for current peak value n=20 rated value9.8 kVA• up to 230 V for current peak value n=20 rated value3.8 kVA• up to 230 V for current peak value n=30 rated value9.8 kVA• up to 230 V for current peak value n=30 rated value3.8 kVA• up to 230 V for current peak value n=30 rated value3.8 kVA• up to 500 V for current peak value n=30 rated value5.2 kVA• up to 500 V for current peak value n=30 rated value3.8 kVA• up to 500 V for current peak value n=30 rated value3.8 kVA• up to 500 V for current peak value n=30 rated value3.8 kVA• up to 500 V for current		0.6 A
at 400 V rated value5.5 kW at 500 V rated value5.5 kW at 600 V rated value5.5 kW at 230 V rated value3 kW at 230 V rated value3 kW at 400 V rated value5.5 kW at 630 V rated value5.6 kW at 630 V rated value6.6 kW at 630 V rated value4.6 kW at 630 V rated value -20 rated value7.8 kVA at 630 V for current peak value n=20 rated value8.8 kVA up to 530 V for current peak value n=20 rated value9.8 kVA up to 530 V for current peak value n=30 rated value5.5 kW up to 530 V for current peak value n=30 rated value5.6 kW up to 530 V for current peak value n=30 rated value5.6 kVA up to 530 V for current peak value n=30 rated value5.6 kVA up to 530 V for current peak value n=30 rated value5.6 kVA up to 530 V for current peak value n=30 rated value5.6 kVA up to 530 V for current peak value n=30 rated value5.6 kVA up to 530 V for current peak value n=30 rated value5.0 kVA up to 530 V for current peak value n=30 rated value5.6 kVA up to 530 V for current peak value n=30 rated value5.0 kVA up to 530 V for current peak value n=30 rated value5.0 kVA up to 530 V for current peak value n=30 rated value5.0 kVA up to 530 V for current peak value n=30 rated value <td< td=""><td></td><td></td></td<>		
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- at 400 V rated value55 kW- at 500 V rated value55 kW- at 690 V rated value75 kWoperating power for approx. 200000 operating cycles at AC at 400 V rated value2.6 kW- at 690 V rated value2.6 kW- at 690 V rated value4.6 kW- operating apparent power at AC-6a		3 kW
- at 500 V rated value55 kW- at 690 V rated value7.5 kWoperating power for approx. 200000 operating cycles at AC-42.6 kW• at 400 V rated value2.6 kW• at 690 V rated value2.6 kW• at 690 V rated value4.6 kWoperating apparent power at AC-6a9.8 kVA• up to 230 V for current peak value n=20 rated value7.8 kVA• up to 600 V for current peak value n=20 rated value9.8 kVA• up to 500 V for current peak value n=20 rated value9.8 kVA• up to 600 V for current peak value n=20 rated value10.7 kVA• up to 600 V for current peak value n=20 rated value10.7 kVA• up to 500 V for current peak value n=20 rated value10.7 kVA• up to 500 V for current peak value n=30 rated value3 kVA• up to 500 V for current peak value n=30 rated value5.6 kVA• up to 500 V for current peak value n=30 rated value5.6 kVA• up to 600 V for current peak value n=30 rated value6.5 kVA• up to 600 V for current peak value n=30 rated value9.4 kVA• up to 600 V for current peak value n=30 rated value5.6 kVA• up to 600 V for current peak value n=30 rated value7.0 k, Use minimum cross-section acc. to AC-1 rated value• up to 600 V for current naximum210 A; Use minimum cross-section acc. to AC-1 rated value• limited to 10 s switching at zero current maximum126 A; Use minimum cross-section acc. to AC-1 rated value• limited to 60 s switching at zero current maximum126 A; Use minimum cross-section acc. to AC-1 rated value• limited to 60 s switching		
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operating power for approx. 200000 operating cycles at AC-4         • at 400 V rated value       2.6 kW         • at 690 V rated value       4.6 kW         operating apparent power at AC-6a       • up to 230 V for current peak value n=20 rated value         • up to 500 V for current peak value n=20 rated value       9.8 kVA         • up to 690 V for current peak value n=20 rated value       9.8 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         • up to 230 V for current peak value n=30 rated value       5.2 kVA         • up to 500 V for current peak value n=30 rated value       6.5 kVA         • up to 690 V for current peak value n=30 rated value       9.8 kVA         • up to 500 V for current peak value n=30 rated value       9.2 kVA         • up to 690 V for current peak value n=30 rated value       5.2 kVA         • up to 690 V for current peak value n=30 rated value       9 kVA         short-time withstand current in cold operating state up to 40 °C       9 kVA         short-time withstand current maximum       210 A; Use minimum cross-section acc. to AC-1 rated value         • limited to 1 s switching at zero current maximum       210 A; Use minimum cross-section acc. to AC-1 rated value         • limited to 10 s switching at zero current maximum       10		
• at 400 V rated value         2.6 kW           • at 690 V rated value         4.6 kW           operating apparent power at AC-6a         4.6 kW           • 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         9.8 kVA           • up to 690 V for current peak value n=20 rated value         9.8 kVA           • up to 230 V for current peak value n=30 rated value         10.7 kVA           operating apparent power at AC-6a         -           • up to 230 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 500 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         9 kVA           short-time withstand current in cold operating state up to 40 °C         -           • limited to 1 s switching at zero current maximum         210 A; Use minimum cross-section acc. to AC-1 rated value           • limited to 10 s switching at zero current maximum         170 A; Use minimum cross-section acc. to AC-1 rated value           • limited to 10 s switching at zero current maximum         126 A; Use m		
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Imited to 60 s switching at zero current maximum     105 A; Use minimum cross-section acc. to AC-1 rated value     no-load switching frequency	<ul> <li>limited to 10 s switching at zero current maximum</li> </ul>	170 A; Use minimum cross-section acc. to AC-1 rated value
no-load switching frequency	<ul> <li>limited to 30 s switching at zero current maximum</li> </ul>	126 A; Use minimum cross-section acc. to AC-1 rated value
	<ul> <li>limited to 60 s switching at zero current maximum</li> </ul>	105 A; Use minimum cross-section acc. to AC-1 rated value
• at AC 5 000 1/h	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
<ul> <li>at AC-3 maximum</li> </ul>	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 auxiliary contacts instantaneous contact	1
number of NO contacts for auxiliary contacts instantaneous contact	1
operational current at AC-12 maximum	10 A
operational current at AC-15	
•	10 A
operational current at AC-15	10 A 3 A
• at 230 V rated value	10 A 3 A 2 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	10 A 3 A
<ul> <li>operational current at AC-15</li> <li>at 230 V rated value</li> <li>at 400 V rated value</li> <li>at 500 V rated value</li> </ul>	10 A 3 A 2 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	10 A 3 A 2 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	10 A 3 A 2 A 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	10 A 3 A 2 A 1 A 10 A
<ul> <li>operational current at AC-15</li> <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>operational current at DC-12</li> <li>at 24 V rated value</li> <li>at 48 V rated value</li> </ul>	10 A 3 A 2 A 1 A 10 A 6 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	10 A 3 A 2 A 1 A 10 A 6 A 6 A
<ul> <li>operational current at AC-15 <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> </ul> </li> <li>operational current at DC-12 <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> </ul> </li> </ul>	10 A 3 A 2 A 1 A 10 A 6 A 6 A 6 A 3 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         • at 690 V rated value         • 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
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         • at 24 V rated value         • at 48 V rated value         • at 60 V rated value         • at 24 V rated value         • at 10 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
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         • at 24 V rated value         • at 48 V rated value         • at 60 V rated value         • at 24 V rated value         • at 25 V rated value         • at 110 V rated value         • at 125 V rated value         • at 220 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
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         • at 690 V rated value         • at 24 V rated value         • at 48 V rated value         • at 60 V rated value         • at 25 V rated value         • at 110 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 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         • at 690 V rated value         • 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 24 V rated value         • at 24 V rated value         • at 24 V rated value         • at 60 V rated value         • at 220 V rated value         • at 220 V rated value         • at 220 V rated value         • at 24 V rated value         • at 24 V rated value	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
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         • 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 24 V rated value         • at 125 V rated value         • at 24 V rated value         • at 125 V rated value         • at 24 V rated value         • at 48 V rated value         • 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 0.15 A 10 A 2 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         • at 24 V rated value         • at 48 V rated value         • at 10 V rated value         • at 220 V rated value         • at 125 V rated value         • at 220 V rated value         • at 24 V rated value         • at 125 V rated value         • at 24 V rated value         • at 125 V rated value         • at 24 V rated value         • at 48 V rated value         • at 48 V rated value         • at 48 V rated value         • at 600 V rated value         • at 600 V rated value         • at 48 V rated value         • at 60 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 2 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         • at 24 V rated value         • at 48 V rated value         • at 110 V rated value         • at 220 V rated value         • at 220 V rated value         • at 24 V rated value         • at 24 V rated value         • at 125 V rated value         • at 220 V rated value         • at 600 V rated value         • at 100 V rated value         • at 100 V rated value         • at 24 V rated value         • at 10 V rated value         • at 60 V rated value         • at 10 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 2 A 1 A 0.15 A 10 A 2 A 2 A 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         • at 24 V rated value         • at 48 V rated value         • at 60 V rated value         • at 24 V rated value         • at 25 V rated value         • at 10 V rated value         • at 220 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 125 V rated value         • at 600 V rated value         • at 100 V rated value         • at 100 V rated value         • at 24 V rated value         • at 25 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 2 A 1 A 0.15 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         • at 690 V rated value         • 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 220 V rated value         • at 24 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 125 V rated value         • at 125 V rated value         • at 125 V rated value         • at 24 V rated value         • at 10 V rated value         • at 110 V rated value         • at 125 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 6 A 3 A 2 A 1 A 0.15 A 10 A 2 A 1 A 0.15 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	11 A			
at 600 V rated value	11 A			
yielded mechanical performance [hp]				
for single-phase AC motor				
— at 110/120 V rated value	1 hp			
— at 230 V rated value	2 hp			
<ul> <li>for 3-phase AC motor</li> </ul>				
— at 200/208 V rated value	3 hp			
— at 220/230 V rated value	3 hp			
— at 460/480 V rated value	7.5 hp			
— at 575/600 V rated value	10 hp			
contact rating of auxiliary contacts according to UL	A600 / P600			
Short-circuit protection				
design of the fuse link				
<ul> <li>for short-circuit protection of the main circuit</li> </ul>				
<ul> <li>— with type of coordination 1 required</li> </ul>	gG: 63A (690V,100kA), aM: 32A (690V,100kA), BS88: 63A (415V,80kA)			
<ul> <li>— with type of assignment 2 required</li> </ul>	gG: 25A (690V,100kA), aM: 20A (690V,100kA), BS88: 25A (415V,80kA)			
<ul> <li>for short-circuit protection of the auxiliary switch required</li> </ul>	gG: 10 A (500 V, 1 kA)			
Installation/ mounting/ dimensions				
mounting position	+/-180° rotation possible on vertical mounting surface; can be tilted forward and backward by +/- 22.5° on vertical mounting surface			
fastening method side-by-side mounting	Yes			
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				
with side-by-side mounting				
— forwards	10 mm			
— upwards	10 mm			
— downwards	10 mm			
— at the side	0 mm			
for grounded parts	10			
— forwards	10 mm			
— upwards	10 mm			
— at the side	6 mm			
— downwards	10 mm			
for live parts     forwards	10 mm			
— forwards	10 mm 10 mm			
— upwards — 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 mm <sup>2</sup> )			
<ul> <li>finely stranded with core end processing</li> </ul>	2x (1 6 mm <sup>2</sup> )			
— finely stranded without core end processing	2x (1 6 mm <sup>2</sup> )			
for AWG cables for main contacts	2x (18 8)			
connectable conductor cross-section for main contacts				
• solid	1 10 mm²			
• stranded	1 10 mm²			

			4 0	2		
-	ith core end processing	_	16			
	rithout core end processin	•	1 6	mm²		
	or cross-section for aux	illary contacts	0.5	0.5		
<ul> <li>solid or stranded</li> </ul>				2.5 mm <sup>2</sup>		
2	ith core end processing	_		1.5 mm <sup>2</sup>		
	rithout core end processin	-	0.5	2.5 mm²		
•••	onductor cross-section	5				
<ul> <li>for auxiliary containing</li> </ul>			0	- 0.5		
— solid or stra				5 2.5 mm²)		
-	ded with core end process	÷		5 1.5 mm²)		
	ded without core end proc	essing		5 2.5 mm²)		
	for auxiliary contacts		2x (20	14)		
section	d connectable conducte	or cross				
<ul> <li>for main contacts</li> </ul>	3		18 8	3		
<ul> <li>for auxiliary containing</li> </ul>	acts		20 2	14		
Safety related data						
product function						
<ul> <li>mirror contact ac</li> </ul>	cording to IEC 60947-4-1		Yes			
<ul> <li>positively driven</li> </ul>	operation according to IE	C 60947-5-1	No			
<ul> <li>suitable for safet</li> </ul>	y function		Yes			
suitability for use safety	-		Yes			
service life maximum			20 a			
test wear-related serv	ice life necessary		Yes			
proportion of dangero						
<ul> <li>with low demand</li> </ul>	rate according to SN 319	920	40 %			
<ul> <li>with high demand</li> </ul>	d rate according to SN 31	920	73 %			
B10 value with high d	emand rate according to	SN 31920	1 000 000			
	ow demand rate accord	ing to SN	100 FIT			
31920			_			
ISO 13849						
device type according			3			
IEC 61508	cording to ISO 13849-2 r	iecessary	Yes			
safety device type acc	cording to IEC 61508-2		Туре А	A		
Electrical Safety						
protection class IP on	the front according to I	EC 60529	IP20			
touch protection on th	ne front according to IE	C 60529	finger-safe, for vertical contact from the front			
Approvals Certificates						
General Product App	roval					
(m)	<b>Confirmation</b>	~ ~ ~		UK CA	ŝ	<u>KC</u>
$(\mathbf{m})$		CE			(ŸL)	
		EG-Konf.		CA	<u> </u>	
General Product Approval	EMV	Test Certificat	es		Marine / Shipping	
	<b>A</b>	Special Test Ce	ertific-	Type Test Certific-	ALC: N	
EHE	Ś	ate		ates/Test Report		
	RCM				ABS	BUREAU VERITAS
Marine / Shipping						other
Ĵ.Å.	Lloyds	(And				<b>Miscellaneous</b>
	Régister	Real P		(32)		
DNV	LRS	PRS		RINA	RMRS	

1/27/2025

Railway

**Confirmation** 

**Confirmation** 

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



Environmental Con**firmations** 



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=3RT2024-2AL20

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2024-2AL20

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

https://supp rt.industry.siemens.com/cs/ww/en/ps/3RT2

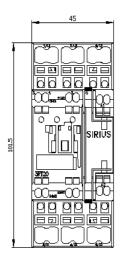
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=3RT2024-2AL20&lang=en

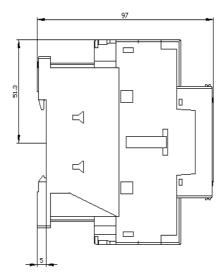
Characteristic: Tripping characteristics, I<sup>2</sup>t, Let-through current

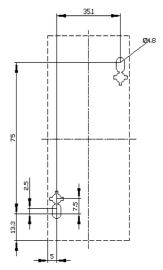
https://support.industry.siemens.com/cs/ww/en/ps/3RT2024 -2AI 20/char

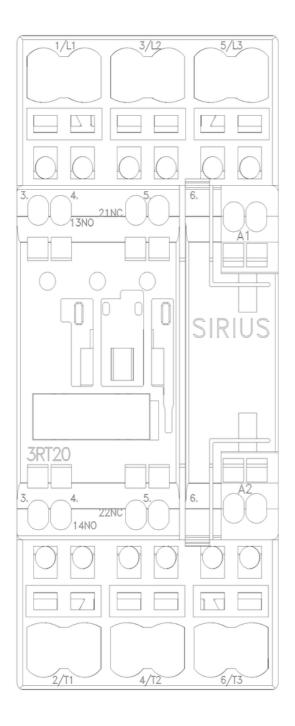
Further characteristics (e.g. electrical endurance, switching frequency)

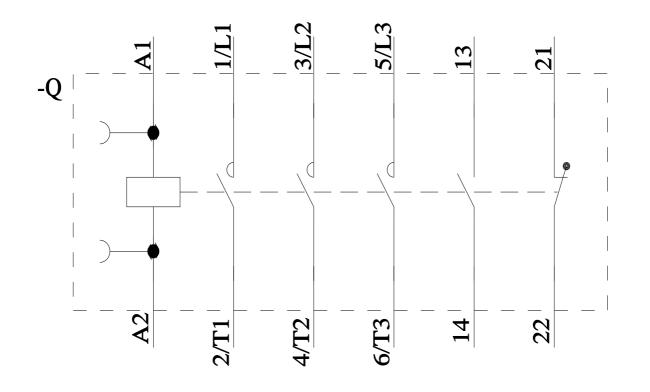
earch&mlfb=3RT2024-2AL20&objecttype=14&gridview=view1 http://www.automation.siemens.com/bilddb/index.aspx?view=S











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