3RT2028-1BB40-1AA0

## **Data sheet**



power contactor, AC-3e/AC-3, 38 A, 18.5 kW / 400 V, 3-pole, 24 V DC, auxiliary contacts: 1 NO + 1 NC, screw terminal, size: S0, upright mounting position

product type designation product type designation  size of contactor product extension • function module for communication • function module for communication • function module for communication • auxiliary switch  power loss [W] for rated value of the current • at AC in hot operating state 9,6 W • at AC in hot operating state 9,6 W • at AC in hot operating state per pole • at AC in hot operating state per pole • 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 auxiliary circuit with degree of pollution 3 rated value • of auxiliary circuit rated value • of main circuit rated value • of main circuit rated value • of auxiliary circuit rated value • at DC  shock resistance at rectangular impulse • at DC  shock resistance at rectangular impulse • at DC  shock resistance at rectangular impulse • at DC  of contactor with sine pulse • at DC  shock resistance with sine pulse • of 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 sw	product brand name	SIRIUS
size of contactor product extension • function module for communication • auxiliary switch power loss [W] for rated value of the current • at AC in hot operating state • at AC in hot operating state per pole • without load current sharet typical • of main circuit with degree of pollution 3 rated value • of main circuit with degree of pollution 3 rated value • of auxiliary circuit with degree of pollution 3 rated value • of of main circuit rated value • of of main circuit rated value • of of main circuit rated value • of auxiliary circuit rated value • of the contactor with sine pulse • at DC  shock resistance at rectangular impulse • at DC  shock resistance with sine pulse • at DC  shock resistance with sine pulse • of contactor typical • of the contactor with added auxiliary switch block typical • of the contactor with added auxiliary switch block typical reference code according to EICs 81346-2  Substance Prohibitance (Date)  Ambient conditions  installation altitude at height above sea level maximum  ambient temperatur • during operation • during operation • during operation • during operation • during increuit	product designation	Power contactor
size of contactor  product extension  • function module for communication  • function module for communication  • auxiliary switch  power loss [W] for rated value of the current  • at AC in hot operating state per pole  • at AC in hot operating state per pole  • at AC in hot operating state per pole  • 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 auxiliary circuit rated value  • of auxiliary circuit rated value  • of main circuit rated value  • of main circuit rated value  • of main circuit rated value  • of auxiliary circuit rated value  • of auxiliary circuit rated value  • of suxiliary circuit rated value  • of auxiliary circuit rated value  • of auxiliary circuit rated value  • at DC  10g / 5 ms, 7,5g / 10 ms  shock resistance at rectangular impulse  • at DC  15g / 5 ms, 10g / 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  • 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 auxili	product type designation	3RT2
product extension  • function module for communication • auxiliary switch  power loss [W] for rated value of the current • at AC in hot operating state 9,6 W • at AC in hot operating state 9,6 W • at AC in hot operating state per pole • without load current share typical 5,9 W  insulation voltage • of main circuit with degree of pollution 3 rated value • of auxiliary circuit with degree of pollution 3 rated value • of of main circuit rated value • of main circuit rated value • of main circuit rated value • of of main circuit rated value • of auxiliary circuit value auxiliary switch block typical • of the contactor with added electronically optimized auxiliary switch block typical • of the contactor with added electronically optimized auxilia	General technical data	
• function module for communication • auxiliary switch  yes  power loss [W] for rated value of the current • at AC in hot operating state per pole • without load current share typical  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 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 auxiliary circuit rated value • of auxiliary circuit rated value • at DC  shock resistance at rectangular impulse • at DC  shock resistance with sine pulse • at DC  shock resistance with sine pulse • at DC  shock resistance with sine pulse • at DC  shock resistance 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)  Ambient conditions  installation altitude at height above sea level maximum ambient temperature • during operation • during storage  relative humidity minimum	size of contactor	S0
auxiliary switch  power loss [W] for rated value of the current  at AC in hot operating state 9.6 W  without load current share typical 5.9 W  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 rated value of auxiliary circu	product extension	
power loss [W] for rated value of the current  at AC in hot operating state at AC in hot operating state 9.6 W  without load current share typical 5.9 W  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 auxiliary circuit rated value of a to C of auxiliary circuit rated value of auxiliary circuit rated value of auxiliary circuit rated value of a to C of auxiliary circuit rated value of a to C of auxiliary circuit rated value 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 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	<ul> <li>function module for communication</li> </ul>	No
at AC in hot operating state per pole at AC in hot operating state per pole without load current share typical  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 surge voltage resistance of main circuit rated value of auxiliary circuit rated value  auxiliary circuit rated value of auxiliary auxiliary circuit rated value of auxiliary auxiliary circuit rated value of auxiliary of auxiliary of auxiliary auxiliary auxiliary of a	auxiliary switch	Yes
at AC in hot operating state per pole  without load current share typical  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 va	power loss [W] for rated value of the current	
without load current share typical   5.9 W     insulation voltage   of main circuit with degree of pollution 3 rated value   690 V     of auxiliary circuit with degree of pollution 3 rated value   690 V     surge voltage resistance   of main circuit rated value   6 kV     of auxiliary circuit rated value   6 kV     of auxiliary circuit rated value   6 kV     which is a very separation between coil and main contacts according to EN 60947-1   400 V     shock resistance at rectangular impulse   of the contactor with sine pulse   of the contactor with sine pulse   of the contactor with added electronically optimized auxiliary switch block typical   10 000 000   5 000 000     of the contactor with added electronically optimized auxiliary switch block typical   10 000 000   2 000 000     substance Prohibitance (Date)   10 001/2009   2 000 m     ambient conditions   installation altitude at height above sea level maximum   2 000 m     ambient temperature   during operation   -25 +60 °C   -55 +80 °C     relative humidity minimum   10 %   95 %     Main circuit   Main circuit   10 000 000   1	<ul> <li>at AC in hot operating state</li> </ul>	9.6 W
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 main circuit rated value  • of main circuit rated value  • 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  • at DC  shock resistance with sine pulse  • at DC  shock resistance with sine pulse  • at DC  for contactor 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  reference code according to IEC 81346-2  Quulonization auxiliary switch added auxiliary switch block typical  reference code according to IEC 81346-2  Quulonization auxiliary switch added auxiliary switch block typical  reference code according to IEC 81346-2  Quulonization altitude at height above sea level maximum  ambient temperature  • during operation  • during operation  • during storage  relative humidity minimum  relative humidity minimum  relative humidity minimum  Main circuit	<ul> <li>at AC in hot operating state per pole</li> </ul>	3.2 W
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     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 DC     ot DC     ot DC     ot DC     ot DC     shock resistance with sine pulse     ot DC     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)     of Double at height above sea level maximum     ambient temperature     oduring operation     of during operation     of during storage     relative humidity at 55 °C according to IEC 60068-2-30     maximum  Main circuit   Or maximum   690 V  690 V  690 V  690 V  68V  68V  400 V  60 V	without load current share typical	5.9 W
of auxiliary circuit with degree of pollution 3 rated value     surge voltage resistance     of main circuit rated value     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     ot DC	insulation voltage	
surge voltage resistance  of main circuit rated value of auxiliary circuit rated value of auxiliary circuit rated value experiment of the contactor with added electronically optimized auxiliary switch block typical of the contactor with added auxiliary switch block typical of	<ul> <li>of main circuit with degree of pollution 3 rated value</li> </ul>	690 V
of main circuit rated value     of auxiliary circuit rated value     amaximum permissible voltage for protective separation between coil and main contacts according to EN 60947-1  shock resistance at rectangular impulse     oat DC     at DC	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     ot DC     10g / 5 ms, 7,5g / 10 ms  shock resistance with sine pulse     ot DC     15g / 5 ms, 10g / 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	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 DC  shock resistance with sine pulse  • at DC  tog / 5 ms, 7,5g / 10 ms  shock resistance with sine pulse  • at DC  tog / 5 ms, 10g / 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)  Ambient conditions  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  Main circuit  400 V  10g / 5 ms, 7,5g / 10 ms  10g / 5 ms, 10g / 10 ms  10 000 000  10 000 000  10 000 000  10 000 00	of main circuit rated value	6 kV
coil and main contacts according to EN 60947-1  shock resistance at rectangular impulse  • at DC  shock resistance with sine pulse  • at DC  tog / 5 ms, 7,5g / 10 ms  shock resistance with sine pulse  • at DC  tog / 5 ms, 10g / 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  • 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  • during operation  • during operation  • 25 +60 °C  relative humidity minimum  relative humidity at 55 °C according to IEC 60068-2-30  maximum  Main circuit	of auxiliary circuit rated value	6 kV
* at DC     * shock resistance with sine pulse     * at DC     * 15g / 5 ms, 10g / 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     * 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     * 2 000 m  ambient temperature     * of during operation     * -25 +60 °C     * of during storage     * -55 +80 °C  relative humidity minimum     * 10 %  relative humidity at 55 °C according to IEC 60068-2-30     maximum  Main circuit		400 V
shock resistance with sine pulse  • at DC  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  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  • during operation  -25 +60 °C  • during storage  relative humidity minimum  10 %  relative humidity at 55 °C according to IEC 60068-2-30  maximum  Main circuit	shock resistance at rectangular impulse	
at DC  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  Substance Prohibitance (Date)  Ambient conditions  installation altitude at height above sea level maximum  ambient temperature  of during operation  of during storage  relative humidity minimum  relative humidity at 55 °C according to IEC 60068-2-30  maximum  Main circuit  10 000 000  2 000  0 000	• at DC	10g / 5 ms, 7,5g / 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  10 000 000  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  -25 +60 °C  • during storage  relative humidity minimum  10 %  relative humidity minimum  relative humidity at 55 °C according to IEC 60068-2-30  maximum  Main circuit	shock resistance with sine pulse	
of contactor typical     of the contactor with added electronically optimized auxiliary switch block typical     of the contactor with added auxiliary	• at DC	15g / 5 ms, 10g / 10 ms
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  Substance Prohibitance (Date)  Ambient conditions  installation altitude at height above sea level maximum  ambient temperature     oduring operation     during storage     during storage     relative humidity minimum  relative humidity at 55 °C according to IEC 60068-2-30 maximum  Main circuit  5 000 000  10 000  10 000  00  00  00  00	mechanical service life (operating cycles)	
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  ambient temperature  of during operation  during storage  relative humidity minimum  relative humidity at 55 °C according to IEC 60068-2-30 maximum  main circuit	<ul> <li>of contactor typical</li> </ul>	10 000 000
reference code according to IEC 81346-2  Substance Prohibitance (Date)  Ambient conditions  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  Main circuit		5 000 000
Substance Prohibitance (Date)  Ambient conditions  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  Main circuit	of the contactor with added auxiliary switch block typical	10 000 000
Ambient conditions  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  Main circuit  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  • during storage  relative humidity minimum  relative humidity at 55 °C according to IEC 60068-2-30 maximum  Main circuit	Substance Prohibitance (Date)	10/01/2009
ambient temperature	Ambient conditions	
◆ during operation     ◆ during storage     ←55 +80 °C  relative humidity minimum     10 %  relative humidity at 55 °C according to IEC 60068-2-30 maximum  Main circuit  -25 +60 °C  -55 +80 °C  95 %	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  Main circuit	ambient temperature	
relative humidity minimum  relative humidity at 55 °C according to IEC 60068-2-30 maximum  Main circuit	during operation	-25 +60 °C
relative humidity at 55 °C according to IEC 60068-2-30 95 % maximum  Main circuit	during storage	-55 +80 °C
Main circuit	relative humidity minimum	10 %
		95 %
number of poles for main current circuit	Main circuit	
number of poles for main current circuit	number of poles for main current circuit	3

	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	
<ul> <li>at AC-1 at 400 V at ambient temperature 40 °C rated</li> </ul>	50 A
value	
• at AC-1	
<ul> <li>up to 690 V at ambient temperature 40 °C rated value</li> </ul>	50 A
— up to 690 V at ambient temperature 60 °C rated	42 A
value	
• at AC-3	
— at 400 V rated value	38 A
— at 500 V rated value	32 A
— at 690 V rated value	21 A
• at AC-3e	
— at 400 V rated value	38 A
— at 500 V rated value	32 A
— at 690 V rated value	21 A
• at AC-4 at 400 V rated value	22 A
• at AC-5a up to 690 V rated value	44 A
at AC-5b up to 400 V rated value	31.5 A
• at AC-6a	
— up to 230 V for current peak value n=20 rated value	30.8 A
— up to 400 V for current peak value n=20 rated value	30.8 A
— up to 500 V for current peak value n=20 rated value	30.8 A
— up to 690 V for current peak value n=20 rated value	21 A
• at AC-6a	
— up to 230 V for current peak value n=30 rated value	20.5 A
— up to 400 V for current peak value n=30 rated value	20.5 A
— up to 500 V for current peak value n=30 rated value	21.4 A
— up to 690 V for current peak value n=30 rated value	21 A
minimum cross-section in main circuit at maximum AC-1 rated	10 mm²
	10 111111-
value	10 1111117
	10 min
value operational current for approx. 200000 operating cycles at	12 A
value operational current for approx. 200000 operating cycles at AC-4	
value operational current for approx. 200000 operating cycles at AC-4  • at 400 V rated value	12 A
value operational current for approx. 200000 operating cycles at AC-4  • at 400 V rated value • at 690 V rated value	12 A
value operational current for approx. 200000 operating cycles at AC-4  • at 400 V rated value • at 690 V rated value operational current	12 A
value operational current for approx. 200000 operating cycles at AC-4  • at 400 V rated value • at 690 V rated value operational current • at 1 current path at DC-1	12 A 12 A
value  operational current for approx. 200000 operating cycles at AC-4  • at 400 V rated value • at 690 V rated value  operational current • at 1 current path at DC-1  — at 24 V rated value	12 A 12 A 35 A
value  operational current for approx. 200000 operating cycles at AC-4  • at 400 V rated value • at 690 V rated value  operational current • at 1 current path at DC-1  — at 24 V rated value  — at 60 V rated value	12 A 12 A 35 A 20 A
value  operational current for approx. 200000 operating cycles at AC-4  • at 400 V rated value • at 690 V rated value  operational current  • at 1 current path at DC-1  — at 24 V rated value  — at 60 V rated value  — at 110 V rated value	12 A 12 A 35 A 20 A 4.5 A
value  operational current for approx. 200000 operating cycles at AC-4  • at 400 V rated value • at 690 V rated value  operational current  • at 1 current path at DC-1  — at 24 V rated value  — at 60 V rated value  — at 110 V rated value  — at 220 V rated value	12 A 12 A 35 A 20 A 4.5 A 1 A
value  operational current for approx. 200000 operating cycles at AC-4  • at 400 V rated value • at 690 V rated value  operational current  • at 1 current path at DC-1  — at 24 V rated value  — at 60 V rated value  — at 110 V rated value  — at 220 V rated value  — at 440 V rated value	12 A 12 A 35 A 20 A 4.5 A 1 A 0.4 A
value  operational current for approx. 200000 operating cycles at AC-4  • at 400 V rated value • at 690 V rated value  operational current  • at 1 current path at DC-1  — at 24 V rated value  — at 60 V rated value  — at 110 V rated value  — at 220 V rated value  — at 440 V rated value  — at 600 V rated value  — at 600 V rated value  — at 600 V rated value	12 A 12 A 35 A 20 A 4.5 A 1 A 0.4 A
value  operational current for approx. 200000 operating cycles at AC-4  • at 400 V rated value • at 690 V rated value  operational current  • at 1 current path at DC-1  — at 24 V rated value  — at 60 V rated value  — at 110 V rated value  — at 220 V rated value  — at 440 V rated value  — at 600 V rated value  — at 600 V rated value  • with 2 current paths in series at DC-1	12 A 12 A 35 A 20 A 4.5 A 1 A 0.4 A 0.25 A
value  operational current for approx. 200000 operating cycles at AC-4  • at 400 V rated value • at 690 V rated value  operational current  • at 1 current path at DC-1  — at 24 V rated value  — at 60 V rated value  — at 110 V rated value  — at 220 V rated value  — at 440 V rated value  — at 600 V rated value  — at 600 V rated value  — at 600 V rated value  — at 220 V rated value  — at 440 V rated value  — at 600 V rated value  • with 2 current paths in series at DC-1  — at 24 V rated value	12 A 12 A 35 A 20 A 4.5 A 1 A 0.4 A 0.25 A
operational current for approx. 200000 operating cycles at AC-4  • at 400 V rated value • at 690 V rated value  operational current  • at 1 current path at DC-1  — at 24 V rated value  — at 60 V rated value  — at 110 V rated value  — at 220 V rated value  — at 440 V rated value  — at 600 V rated value  — at 600 V rated value  — at 600 V rated value  — at 24 V rated value  • with 2 current paths in series at DC-1  — at 24 V rated value  — at 60 V rated value  • with 2 current paths in series at DC-1  — at 24 V rated value  — at 60 V rated value	12 A 12 A 35 A 20 A 4.5 A 1 A 0.4 A 0.25 A
value  operational current for approx. 200000 operating cycles at AC-4  • at 400 V rated value • at 690 V rated value  operational current  • at 1 current path at DC-1  — at 24 V rated value  — at 60 V rated value  — at 110 V rated value  — at 220 V rated value  — at 440 V rated value  — at 600 V rated value  • with 2 current paths in series at DC-1  — at 24 V rated value  — at 60 V rated value  — at 60 V rated value  — at 60 V rated value  — at 110 V rated value  — at 110 V rated value	12 A 12 A 35 A 20 A 4.5 A 1 A 0.4 A 0.25 A
operational current for approx. 200000 operating cycles at AC-4  • at 400 V rated value • at 690 V rated value  operational current  • at 1 current path at DC-1  — at 24 V rated value  — at 60 V rated value  — at 110 V rated value  — at 220 V rated value  — at 600 V rated value  • with 2 current paths in series at DC-1  — at 24 V rated value  — at 60 V rated value  — at 110 V rated value  — at 220 V rated value	12 A 12 A 35 A 20 A 4.5 A 1 A 0.4 A 0.25 A 35 A 35 A 35 A
operational current for approx. 200000 operating cycles at AC-4  • at 400 V rated value • at 690 V rated value  operational current  • at 1 current path at DC-1  — at 24 V rated value  — at 60 V rated value  — at 110 V rated value  — at 220 V rated value  — at 440 V rated value  — at 600 V rated value  • with 2 current paths in series at DC-1  — at 24 V rated value  — at 60 V rated value  • with 2 current paths in series at DC-1  — at 24 V rated value  — at 60 V rated value  — at 440 V rated value  — at 600 V rated value  — at 440 V rated value  — at 440 V rated value  — at 600 V rated value	12 A 12 A 35 A 20 A 4.5 A 1 A 0.4 A 0.25 A 35 A 35 A 35 A 35 A 36 A 37 A 38 A 38 A 39 A 30 A
operational current for approx. 200000 operating cycles at AC-4  • at 400 V rated value • at 690 V rated value  operational current  • at 1 current path at DC-1  — at 24 V rated value  — at 600 V rated value  — at 110 V rated value  — at 220 V rated value  — at 440 V rated value  — at 600 V rated value  — at 600 V rated value  — at 24 V rated value  — at 24 V rated value  — at 600 V rated value  • with 2 current paths in series at DC-1  — at 24 V rated value  — at 60 V rated value  — at 440 V rated value  — at 440 V rated value  — at 440 V rated value  — at 4600 V rated value  — at 600 V rated value	12 A 12 A 12 A 35 A 20 A 4.5 A 1 A 0.4 A 0.25 A 35 A 35 A 35 A 35 A 36 A 37 A 38 A 38 A 39 A 30 A 30 A 31 A 32 A 33 A 34 A 35 A 36 A 37 A 38
operational current for approx. 200000 operating cycles at AC-4  • at 400 V rated value • at 690 V rated value  operational current  • at 1 current path at DC-1  — at 24 V rated value  — at 600 V rated value  — at 110 V rated value  — at 220 V rated value  — at 440 V rated value  — at 600 V rated value  • with 2 current paths in series at DC-1  — at 24 V rated value  — at 600 V rated value  — at 440 V rated value  — at 600 V rated value  — at 220 V rated value  — at 240 V rated value  — at 440 V rated value  — at 440 V rated value  — at 600 V rated value	12 A 12 A 35 A 20 A 4.5 A 1 A 0.4 A 0.25 A 35 A 35 A 35 A 36 A 37 A 38
value  operational current for approx. 200000 operating cycles at AC-4  • at 400 V rated value • at 690 V rated value  operational current  • at 1 current path at DC-1  — at 24 V rated value  — at 60 V rated value  — at 110 V rated value  — at 440 V rated value  — at 600 V rated value  • with 2 current paths in series at DC-1  — at 24 V rated value  — at 110 V rated value  — at 110 V rated value  • with 2 current paths in series at DC-1  — at 24 V rated value  — at 60 V rated value  — at 10 V rated value  — at 10 V rated value  — at 220 V rated value  — at 220 V rated value  — at 220 V rated value  — at 24 V rated value  — at 440 V rated value  — at 600 V rated value  — at 600 V rated value  • with 3 current paths in series at DC-1  — at 24 V rated value  • with 3 current paths in series at DC-1  — at 24 V rated value  — at 60 V rated value	12 A 12 A 35 A 20 A 4.5 A 1 A 0.4 A 0.25 A 35 A 35 A 35 A 36 A 37 A 38
operational current for approx. 200000 operating cycles at AC-4  • at 400 V rated value • at 690 V rated value  operational current  • at 1 current path at DC-1  — at 24 V rated value  — at 110 V rated value  — at 1220 V rated value  — at 440 V rated value  — at 600 V rated value  — at 600 V rated value  — at 24 V rated value  — at 600 V rated value  • with 2 current paths in series at DC-1  — at 24 V rated value  — at 110 V rated value  — at 60 V rated value  — at 60 V rated value  — at 220 V rated value  — at 24 V rated value  — at 24 V rated value  — at 440 V rated value  — at 600 V rated value  — at 600 V rated value  — at 600 V rated value  • with 3 current paths in series at DC-1  — at 24 V rated value  — at 60 V rated value  — at 60 V rated value  — at 110 V rated value  — at 110 V rated value  — at 110 V rated value	12 A 12 A 12 A 20 A 4.5 A 1 A 0.4 A 0.25 A 35 A 3
operational current for approx. 200000 operating cycles at AC-4  • at 400 V rated value • at 690 V rated value  operational current  • at 1 current path at DC-1  — at 24 V rated value  — at 60 V rated value  — at 110 V rated value  — at 220 V rated value  — at 600 V rated value  — at 600 V rated value  • with 2 current paths in series at DC-1  — at 24 V rated value  — at 60 V rated value  — at 220 V rated value  — at 24 V rated value  — at 24 V rated value  — at 600 V rated value  — at 24 V rated value  — at 24 V rated value  — at 20 V rated value	12 A 12 A 12 A 12 A 20 A 4.5 A 1 A 0.4 A 0.25 A  35 A 35 A 35 A 35 A 35 A 5 A 1 A 0.8 A
operational current for approx. 200000 operating cycles at AC-4  • at 400 V rated value • at 690 V rated value  operational current  • at 1 current path at DC-1  — at 24 V rated value  — at 110 V rated value  — at 1220 V rated value  — at 440 V rated value  — at 600 V rated value  — at 600 V rated value  — at 24 V rated value  — at 600 V rated value  • with 2 current paths in series at DC-1  — at 24 V rated value  — at 110 V rated value  — at 60 V rated value  — at 60 V rated value  — at 220 V rated value  — at 24 V rated value  — at 24 V rated value  — at 440 V rated value  — at 600 V rated value  — at 600 V rated value  — at 600 V rated value  • with 3 current paths in series at DC-1  — at 24 V rated value  — at 60 V rated value  — at 60 V rated value  — at 110 V rated value  — at 110 V rated value  — at 110 V rated value	12 A 12 A 12 A 20 A 4.5 A 1 A 0.4 A 0.25 A  35 A 35 A 35 A 35 A 35 A 35 A 35 A

— at 24 V rated value	20 A
— at 60 V rated value	5 A
— at 110 V rated value	2.5 A
— at 220 V rated value	1 A
— at 440 V rated value	0.09 A
— at 600 V rated value	0.06 A
<ul> <li>with 2 current paths in series at DC-3 at DC-5</li> </ul>	
— at 24 V rated value	35 A
— at 60 V rated value	35 A
— at 110 V rated value	15 A
— at 220 V rated value	3 A
— at 440 V rated value	0.27 A
— at 600 V rated value	0.16 A
<ul> <li>with 3 current paths in series at DC-3 at DC-5</li> </ul>	
— at 24 V rated value	35 A
— at 60 V rated value	35 A
— at 110 V rated value	35 A
— at 220 V rated value	10 A
— at 440 V rated value	0.6 A
— at 600 V rated value	0.6 A
operating power	
at AC-2 at 400 V rated value	18.5 kW
• at AC-3	
— at 230 V rated value	11 kW
— at 400 V rated value	18.5 kW
— at 500 V rated value	18.5 kW
— at 690 V rated value	18.5 kW
• at AC-3e	10.0 KW
— at 230 V rated value	11 kW
— at 400 V rated value	18.5 kW
— at 500 V rated value	18.5 kW
— at 690 V rated value	18.5 kW
operating power for approx. 200000 operating cycles at AC-	IU.J KVV
4	
• at 400 V rated value	6 kW
• at 690 V rated value	10.3 kW
operating apparent power at AC-6a	
• up to 230 V for current peak value n=20 rated value	12.2 kVA
<ul> <li>up to 400 V for current peak value n=20 rated value</li> </ul>	21.3 kVA
• up to 500 V for current peak value n=20 rated value	26.6 kVA
• up to 690 V for current peak value n=20 rated value	25 kVA
operating apparent power at AC-6a	
up to 230 V for current peak value n=30 rated value	8.1 kVA
• up to 400 V for current peak value n=30 rated value	14.2 kVA
up to 500 V for current peak value n=30 rated value	18.5 kVA
• up to 690 V for current peak value n=30 rated value	25 kVA
short-time withstand current in cold operating state up to	
40 °C	
<ul> <li>limited to 1 s switching at zero current maximum</li> </ul>	593 A; Use minimum cross-section acc. to AC-1 rated value
<ul> <li>limited to 5 s switching at zero current maximum</li> </ul>	341 A; Use minimum cross-section acc. to AC-1 rated value
<ul> <li>limited to 10 s switching at zero current maximum</li> </ul>	260 A; Use minimum cross-section acc. to AC-1 rated value
<ul> <li>limited to 30 s switching at zero current maximum</li> </ul>	199 A; Use minimum cross-section acc. to AC-1 rated value
• limited to 60 s switching at zero current maximum	162 A; Use minimum cross-section acc. to AC-1 rated value
no-load switching frequency	
• at DC	1 500 1/h
operating frequency	
• at AC-1 maximum	1 000 1/h
• at AC-2 maximum	750 1/h
• at AC-3 maximum	750 1/h
• at AC-3e maximum	750 1/h
• at AC-4 maximum	250 1/h

type of voltage of the control supply voltage Control supply voltage at DC  * Initial value  operating range factor control supply voltage rated value of major col at 0.7  * Initial value  operating range factor ontrol supply voltage rated value of major col at 0.7  * Initial value  observed of major col at DC  * Initial value  observed of major col at DC  observed of major col at DC  operating delay  * at DC  operating delay  * at DC  arcing time  ocortrol version of the switch operating mechanism  Standard A1 - A2  Auxillary circuit  number of NC contacts for auxillary contacts instantaneous  contact  contact  contact  ocortrol version of the switch operating mechanism  standard A1 - A2  Auxillary circuit  number of NC contacts for auxillary contacts instantaneous  contact  contact  contact  ocortrol version of the switch operating mechanism  poperational current at AC-12 maxillary contacts instantaneous  contact  ocortrol version of the switch operating mechanism  poperational current at AC-12 maxillary contacts instantaneous  ocortrol version of the switch operating mechanism  poperational current at AC-12 maxillary contacts instantaneous  1 number of NC contacts for auxillary contacts instantaneous  1 number of NC contacts for auxillary contacts instantaneous  1 number of NC contacts for auxillary contacts  1 number of NC contacts for auxillary contacts  1 number of NC contacts for auxillary contacts  1 number of NC contacts are for auxillary contacts  1 number of NC contacts are for auxillary contacts  1 number of NC contact at DC-12  * at 22 V rated value  * at 16 V rated val	Control circuit/ Control	
Control supply voltage at IC   File		DC
* rated value   24 V		
operational current at AC-15  • all 400 V rated value • at 600 V rat		24 V
• full scale value   1.1		
Closing power of magnet coil at DC	• initial value	0.8
Deciding power of magnet coil at DC   S 9 W	• full-scale value	1.1
Closing delay	closing power of magnet coil at DC	5.9 W
	holding power of magnet coil at DC	5.9 W
opening delay at TC at T	closing delay	
acting time	• at DC	50 170 ms
Arching time	opening delay	
Control version of the switch operating mechanism   Standard A1 - A2	• at DC	15 18 ms
Auxiliary circuit number of NC contacts for auxiliary contacts instantaneous contact number of NO contacts for auxiliary contacts instantaneous contact operational current at AC-12 maximum 10 A operational current at AC-15  at 230 V rated value 10 A at 400 V rated value 2 A at 500 V rated value 1 A operational current at DC-12  at 24 V rated value 1 A operational current at DC-12  at 24 V rated value 6 A at 600 V rated value 6 A at 600 V rated value 1 A operational current at DC-12  at 24 V rated value 6 A at 60 V rated value 1 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0 A 0	arcing time	10 10 ms
number of NC contacts for auxiliary contacts instantaneous contact number of NO contacts for auxiliary contacts instantaneous operational current at AC-12 maximum 10 A operational current at AC-15  • at 200 Y rated value • at 400 V rated value • at 200 V rated value • at 200 V rated value • at 200 V rated value • at 400	control version of the switch operating mechanism	Standard A1 - A2
Contact	Auxiliary circuit	
Donational current at AC-12 maximum   10 A		1
Departational current at AC-15	•	1
• at 230 V rated value • at 400 V rated value • at 400 V rated value • at 690 V rated value • at 48 V rated value • at 48 V rated value • at 48 V rated value • at 60 V rated value • at 125 V rated value • at 125 V rated value • at 220 V rated value • at 220 V rated value • at 60 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 110 V rated value • at 120 V rated value • at 200 V rated value • at 100 V rated value • at 200 V	operational current at AC-12 maximum	10 A
* at 400 V rated value 2 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 60 V rated value 6 A   * at 60 V rated value 6 A   * at 60 V rated value 6 A   * at 110 V rated value 3 A   * at 125 V rated value 1 A   * at 220 V rated value 2 A   * at 220 V rated value 1 A   * at 600 V rated value 2 A   * at 600 V rated value 2 A   * at 600 V rated value 2 A   * at 24 V rated value 2 A   * at 25 V rated value 2 A   * at 24 V rated value 2 A   * at 24 V rated value 2 A   * at 26 V rated value 2 A   * at 27 V rated value 2 A   * at 28 V rated value 2 A   * at 29 V rated value 2 A   * at 100 V rated value 2 A   * at 100 V rated value 2 A   * at 100 V rated value 3 A   * at 125 V rated value 1 A   * at 200 V rated value 1 A   * at 200 V rated value 2 A   * at 300 V rated value 3 A   * at 200 V rated value 5 h   * at 600 V rated value 6 h   * at 600 V rated value 7 A    * at 600 V rate	operational current at AC-15	
* at 500 V rated value	at 230 V rated value	10 A
• 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 61 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 600 V rated value • 5 hp • for 3-phase AC motor • at 400/480 V rated value • 5 hp • for 3-phase AC motor • at 460/480 V rated value • 600 V rated value		1 A
	•	
at 60 V rated value		
• at 220 V rated value		
• at 600 V rated value 0.15 A  operational current at DC-13  • at 24 V rated value 10 A • at 48 V rated value 2A • at 60 V rated value 1A • at 125 V rated value 0.3 A • at 220 V rated value 0.3 A • at 600 V rated value 0.1 A  contact reliability of auxiliary contacts 1 faulty switching per 100 million (17 V, 1 mA)  UL/CSA ratings  full-load current (FLA) for 3-phase AC motor • at 480 V rated value 27 A  yielded mechanical performance [hp] • for single-phase AC motor — at 110/120 V rated value 3 hp — at 230 V rated value 5 hp • for 3-phase AC motor — at 230 V rated value 5 hp • for 3-phase AC motor — at 200/208 V rated value 5 hp • for 3-phase AC motor — at 200/208 V rated value 5 hp • for 3-phase AC motor — at 200/208 V rated value 10 hp — at 250/230 V rated value 25 hp — at 460/480 V rated value 25 hp — at 450/480 V rated value 25 hp — at 575/600 V rated value 25 hp  contact rating of auxiliary contacts according to UL  Short-circuit protection  design of the fuse link		
operational current at DC-13		
• at 24 V rated value • at 48 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 220 V rated value • at 600 V rated value • at 600 V rated value • at 600 V rated value • at 800 V rated value • at 800 V rated value • at 800 V rated value • at 480 V rated value • at 480 V rated value • at 480 V rated value • at 600 V rated value • for single-phase AC motor • at 110/120 V rated value • at 110/120 V rated value • for 3-phase AC motor • at 200/208 V rated value • for 3-phase AC motor • at 200/208 V rated value • for 3-phase AC motor • at 200/208 V rated value • for 3-phase AC motor • at 200/208 V rated value • 5 hp • contact rating of auxiliary contacts according to UL  Short-circuit protection design of the fuse link		0.15 A
<ul> <li>at 48 V rated value</li> <li>at 60 V rated value</li> <li>at 110 V rated value</li> <li>at 125 V rated value</li> <li>at 220 V rated value</li> <li>at 600 V rated value</li> <li>at 48 V rated value</li> <li>at 480 V rated value</li> <li>at 480 V rated value</li> <li>at 600 V rated value</li> <li>at 600 V rated value</li> <li>at 7 A</li> <li>vielded mechanical performance [hp]</li> <li>for single-phase AC motor</li> <li>at 110/120 V rated value</li> <li>at 230 V rated value</li> <li>for 3-phase AC motor</li> <li>at 200/208 V rated value</li> <li>for 3-phase AC motor</li> <li>at 200/208 V rated value</li> <li>for 3-phase AC motor</li> <li>at 200/208 V rated value</li> <li>bp</li> <li>at 200/208 V rated value</li> <li>at 2575/600 V rated value</li> <li>25 hp</li> <li>contact rating of auxiliary contacts according to UL</li> <li>Short-circuit protection</li> <li>design of the fuse link</li> </ul>	•	10 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 220 V rated value</li> <li>at 600 V rated value</li> <li>at 7 A</li> <li>yielded mechanical performance [hp]</li> <li>for single-phase AC motor</li> <li>at 110/120 V rated value</li> <li>for 3-phase AC motor</li> <li>at 230 V rated value</li> <li>for 3-phase AC motor</li> <li>at 200/208 V rated value</li> <li>for 3-phase AC motor</li> <li>at 200/208 V rated value</li> <li>for 3-phase AC motor</li> <li>at 200/208 V rated value</li> <li>for 3-phase AC motor</li> <li>at 200/208 V rated value</li> <li>for 3-phase AC motor</li> <li>at 200/208 V rated value</li> <li>for 3-phase AC motor</li> <li>at 200/208 V rated value</li> <li>for 3-phase AC motor</li> <li>At 600 V rated value</li> <li>for 3-phase AC motor</li> <li>At 575/600 V rated value</li> <li>for 5 hp</li> <li>contact rating of auxiliary contacts according to UL</li> <li>Short-circuit protection</li> <li>design of the fuse link</li> </ul>		
<ul> <li>at 110 V rated value</li> <li>at 125 V rated value</li> <li>at 220 V rated value</li> <li>at 600 V rated value</li> <li>at 600 V rated value</li> <li>at 800 V rated value</li> <li>full-load current (FLA) for 3-phase AC motor</li> <li>at 800 V rated value</li> <li>at 600 V rated value</li> <li>for single-phase AC motor</li> <li>at 110/120 V rated value</li> <li>for single-phase AC motor</li> <li>at 230 V rated value</li> <li>for 3-phase AC motor</li> <li>at 230 V rated value</li> <li>for 3-phase AC motor</li> <li>at 200/208 V rated value</li> <li>for 3-phase AC motor</li> <li>at 200/208 V rated value</li> <li>for 3-phase AC motor</li> <li>at 200/208 V rated value</li> <li>for 3-phase AC motor</li> <li>at 200/208 V rated value</li> <li>for 3-phase AC motor</li> <li>at 25 hp</li> <li>at 460/480 V rated value</li> <li>25 hp</li> <li>contact rating of auxiliary contacts according to UL</li> <li>Short-circuit protection</li> <li>design of the fuse link</li> </ul>		
at 125 V rated value at 220 V rated value at 600 V rated value 0.1 A  contact reliability of auxiliary contacts 1 faulty switching per 100 million (17 V, 1 mA)  UL/CSA ratings  full-load current (FLA) for 3-phase AC motor at 480 V rated value 34 A at 600 V rated value 27 A  yielded mechanical performance [hp]  for single-phase AC motor  - at 110/120 V rated value 5 hp  for 3-phase AC motor  - at 230 V rated value 5 hp  at 220/230 V rated value 10 hp  - at 220/230 V rated value 25 hp  - at 460/480 V rated value 25 hp  contact rating of auxiliary contacts according to UL  Short-circuit protection  design of the fuse link		
at 220 V rated value at 600 V rated value  contact reliability of auxiliary contacts  1 faulty switching per 100 million (17 V, 1 mA)  UL/CSA ratings  full-load current (FLA) for 3-phase AC motor at 480 V rated value at 600 V rated value at 600 V rated value bfor single-phase AC motor at 110/120 V rated value at 23 V rated value bfor 3-phase AC motor at 230 V rated value bfor 3-phase AC motor at 200/208 V rated value bfor 3-phase AC motor at 2		
ottact reliability of auxiliary contacts  I faulty switching per 100 million (17 V, 1 mA)  UL/CSA ratings  full-load current (FLA) for 3-phase AC motor      otta 480 V rated value     otta 600 V rated value     otta 600 V rated value     of or single-phase AC motor      ottat 110/120 V rated value     ottactory rated value		
contact reliability of auxiliary contacts  1 faulty switching per 100 million (17 V, 1 mA)  UL/CSA ratings  full-load current (FLA) for 3-phase AC motor  • at 480 V rated value  • at 600 V rated value  27 A  yielded mechanical performance [hp]  • for single-phase AC motor  — at 110/120 V rated value  3 hp  — at 230 V rated value  5 hp  • for 3-phase AC motor  — at 200/208 V rated value  10 hp  — at 220/230 V rated value  10 hp  — at 460/480 V rated value  25 hp  — at 575/600 V rated value  25 hp  contact rating of auxiliary contacts according to UL  Short-circuit protection  design of the fuse link		
full-load current (FLA) for 3-phase AC motor  • at 480 V rated value  • at 600 V rated value  27 A  yielded mechanical performance [hp]  • for single-phase AC motor  — at 110/120 V rated value  3 hp  — at 230 V rated value  • for 3-phase AC motor  — at 200/208 V rated value  10 hp  — at 220/230 V rated value  10 hp  — at 460/480 V rated value  25 hp  contact rating of auxiliary contacts according to UL  Short-circuit protection  design of the fuse link		
full-load current (FLA) for 3-phase AC motor  • at 480 V rated value  • at 600 V rated value  27 A  yielded mechanical performance [hp]  • for single-phase AC motor  — at 110/120 V rated value  — at 230 V rated value  5 hp  • for 3-phase AC motor  — at 200/208 V rated value  10 hp  — at 220/230 V rated value  10 hp  — at 460/480 V rated value  25 hp  contact rating of auxiliary contacts according to UL  Short-circuit protection  design of the fuse link		a.a.y ontoning por 100 million (11 v, 1 milly
<ul> <li>at 480 V rated value</li> <li>at 600 V rated value</li> <li>27 A</li> <li>yielded mechanical performance [hp]</li> <li>for single-phase AC motor  - at 110/120 V rated value</li> <li>at 230 V rated value</li> <li>for 3-phase AC motor  - at 200/208 V rated value</li> <li>at 220/230 V rated value</li> <li>10 hp</li> <li>at 220/230 V rated value</li> <li>at 460/480 V rated value</li> <li>at 575/600 V rated value</li> <li>at 575/600 V rated value</li> <li>25 hp</li> <li>contact rating of auxiliary contacts according to UL</li> <li>Short-circuit protection</li> <li>design of the fuse link</li> </ul>		
at 600 V rated value  yielded mechanical performance [hp]  of for single-phase AC motor  - at 110/120 V rated value - at 230 V rated value  of for 3-phase AC motor  - at 200/208 V rated value 10 hp  - at 220/230 V rated value 10 hp  - at 460/480 V rated value 25 hp  - at 575/600 V rated value 25 hp  contact rating of auxiliary contacts according to UL  Short-circuit protection  design of the fuse link	. , .	34 A
yielded mechanical performance [hp]  • for single-phase AC motor  — at 110/120 V rated value 3 hp  — at 230 V rated value 5 hp  • for 3-phase AC motor  — at 200/208 V rated value 10 hp  — at 220/230 V rated value 10 hp  — at 460/480 V rated value 25 hp  — at 575/600 V rated value 25 hp  contact rating of auxiliary contacts according to UL  Short-circuit protection  design of the fuse link		
for single-phase AC motor         — at 110/120 V rated value		
- at 110/120 V rated value 3 hp - at 230 V rated value 5 hp  ● for 3-phase AC motor - at 200/208 V rated value 10 hp - at 220/230 V rated value 10 hp - at 460/480 V rated value 25 hp - at 575/600 V rated value 25 hp  contact rating of auxiliary contacts according to UL A600 / P600  Short-circuit protection  design of the fuse link		
- at 230 V rated value 5 hp  • for 3-phase AC motor  - at 200/208 V rated value 10 hp  - at 220/230 V rated value 10 hp  - at 460/480 V rated value 25 hp  - at 575/600 V rated value 25 hp  contact rating of auxiliary contacts according to UL A600 / P600  Short-circuit protection  design of the fuse link	- 1	3 hp
- at 220/230 V rated value 10 hp - at 460/480 V rated value 25 hp - at 575/600 V rated value 25 hp  contact rating of auxiliary contacts according to UL A600 / P600  Short-circuit protection design of the fuse link	• for 3-phase AC motor	
- at 460/480 V rated value 25 hp - at 575/600 V rated value 25 hp  contact rating of auxiliary contacts according to UL A600 / P600  Short-circuit protection  design of the fuse link	— at 200/208 V rated value	10 hp
- at 460/480 V rated value 25 hp - at 575/600 V rated value 25 hp  contact rating of auxiliary contacts according to UL A600 / P600  Short-circuit protection  design of the fuse link		
contact rating of auxiliary contacts according to UL  Short-circuit protection  design of the fuse link	— at 460/480 V rated value	
Short-circuit protection design of the fuse link	— at 575/600 V rated value	25 hp
design of the fuse link	contact rating of auxiliary contacts according to UL	A600 / P600
	Short-circuit protection	
for short-circuit protection of the main circuit	design of the fuse link	
	• for short-circuit protection of the main circuit	

— with type of coordination 1 required	gG: 125A (690V,100kA), aM: 50A (690V,100kA), BS88: 125A (415V,80kA)
with type of assignment 2 required	gG: 50A (690V,100kA), aM: 25A (690V, 100kA), BS88: 50A (415V, 80kA)
for short-circuit protection of the auxiliary switch required	gG: 10 A (500 V, 1 kA)
Installation/ mounting/ dimensions	go. 1077 (000 V, 110 V)
mounting position	standing, on horizontal mounting surface
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	107 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
<ul> <li>for auxiliary and control circuit</li> </ul>	screw-type terminals
<ul> <li>at contactor for auxiliary contacts</li> </ul>	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
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	
<ul> <li>solid or stranded</li> </ul>	0.5 2.5 mm²
finely stranded with core end processing	0.5 2.5 mm²
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	
product function	
mirror contact according to IEC 60947-4-1	Yes
B10 value with high demand rate according to SN 31920	450 000
proportion of dangerous failures	
<ul> <li>with low demand rate according to SN 31920</li> </ul>	40 %
with high demand rate according to SN 31920	73 %
failure rate [FIT] with low demand rate according to SN 31920	100 FIT
T1 value for proof test interval or service life according to IEC	20 a

protection class IP on the front according to IEC 60529

touch protection on the front according to IEC 60529

suitability for use

• safety-related switching OFF

Yes

Certificates/ approvals

## **General Product Approval**





Confirmation



<u>KC</u>



**EMC** 

Functional Safety/Safety of Machinery

**Declaration of Conformity** 

**Test Certificates** 



Type Examination Certificate





Special Test Certificate

Type Test Certificates/Test Report

## Marine / Shipping













other

Railway

**Dangerous Good** 

**Environment** 

Confirmation



Vibration and Shock

**Transport Information** 

Environmental Confirmations

## **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=3RT2028-1BB40-1AA0

Cax online generator

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

https://support.industry.siemens.com/cs/ww/en/ps/3RT2028-1BB40-1AA0

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

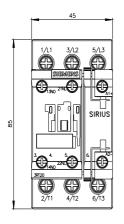
http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=3RT2028-1BB40-1AA0&lang=en

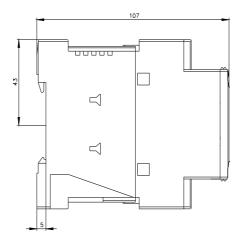
Characteristic: Tripping characteristics, I2t, Let-through current

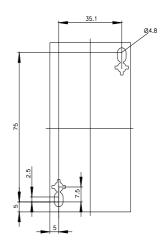
https://support.industry.siemens.com/cs/ww/en/ps/3RT2028-1BB40-1AA0/char

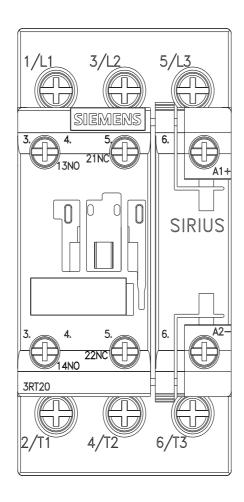
Further characteristics (e.g. electrical endurance, switching frequency)

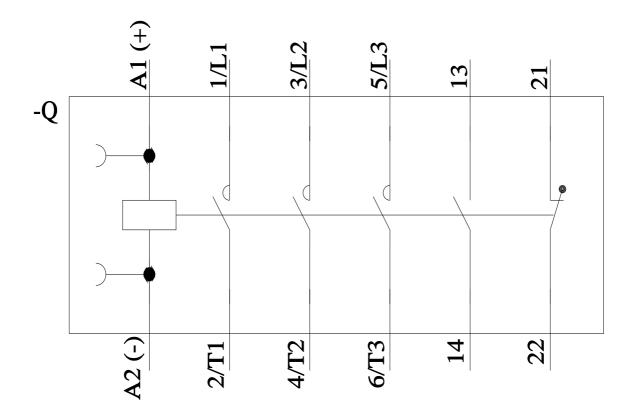
http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2028-1BB40-1AA0&objecttype=14&gridview=view1











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