Data sheet 3RT2028-1AK64-3MA0



power contactor, AC-3e/AC-3, 38 A, 18.5 kW / 400 V, 3-pole, 110 V AC, 50 Hz / 120 V, 60 Hz, auxiliary contacts: 2 NO + 2 NC, screw terminal, size: S0, captive auxiliary switch, no surge suppressor retrofittable

size of contactor S0 product extension Current or function module for communication No • function module for communication No • auxiliary switch No power loss [VI] for rated value of the current *** • at AC in hot operating state per pole 3.2 W • without load current share typical 10.5 W insulation voltage 60 W • of main circuit with degree of pollution 3 rated value 690 V • of auxiliary circuit with degree of pollution 3 rated value 690 V • of auxiliary circuit rated value 6 kV • al AC 8,3 / 5 ms, 5,3g / 10 ms shock resistance at rectangular impulse 8,3g / 5 ms, 8,3g / 10 ms • al AC 13,5g / 5 ms, 8,3g / 10 ms shock resistance with sine pulse 10,000 000 • of the contactor with added electronically optimized 10,000 000 • of the contactor with added electronically optimized <th>product brand name</th> <th>SIRIUS</th>	product brand name	SIRIUS
Size of contactor product extension • function module for communication • auxiliary switch • auxiliary switch • auxiliary switch • at AC in hot operating state • at AC in hot operating state per pole • without load current share typical • 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 with degree of pollution 3 rated value • of auxiliary circuit rated value • of auxiliary switch blook typical • at AC * at A	product designation	Power contactor
size of contactor product extension • function module for communication • function module for communication • function module for communication • auxiliary switch at AC in hot operating state • at AC in hot operating state per pole • at AC in hot operating state per pole • without load current share typical • 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 main 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 pricuit rated value • of auxiliary pricuit rated value • of auxiliary pricuit rated value • of auxiliary circuit rated value • of auxiliary pricuit rated value • at AC 8 a,3g / 5 ms, 5,3g / 10 ms shock resistance with sine pulse • at AC 10 000 000 • of contactor 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 •	product type designation	3RT2
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 • 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 main circuit rated value • of main circuit rated value • of main circuit rated value • of auxiliary circuit rated value • at AC maximum permissible voltage for protective separation between coll and main condacts according to EN 60947-1 shock resistance at rectangular impulse • at AC shock resistance with sine pulse • at AC at AC shock resistance with sine pulse • at AC 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 sw	General technical data	
• function module for communication • auxiliary switch No auxiliary switch ot at AC in hot operating state • 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 • 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 • at AC • a	size of contactor	SO
• auxiliary switch • auxiliary switch • at AC in hot operating state per pole • at AC in hot operating state per pole • without load current share typical • of main circuit with degree of pollution 3 rated value • of main circuit state value • of auxiliary circuit rated value • of auxiliary switch block typical • at AC • at A	product extension	
at AC in hot operating state prole at AC in hot operating state per pole at AC in hot operating state per pole at AC in hot operating state per pole au without load current share typical 10.5 W Insulation voltage of main circuit with degree of pollution 3 rated value 690 V of main circuit with degree of pollution 3 rated value 690 V surge voltage resistance of main circuit rated value 6kV of auxiliary circuit rated value 6kV of auxiliary circuit rated value 6kV maximum permissible voltage for protective separation between coil and main contacts according to EN 60947-1 Shock resistance at rectangular impulse of at AC 8,3g / 5 ms, 5,3g / 10 ms shock resistance with sine pulse of at AC 13,5g / 5 ms, 8,3g / 10 ms shock resistance with sine pulse of ontactor typical 10,000 000 of the contactor with added electronically optimized 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) 10,000 000 reference code according to IEC 81346-2 Q Substance Prohibitance (Date) 20,000 monument of the contactor with added auxiliary switch block typical 10,000 000 reference code according to IEC 81346-2 Q Substance Prohibitance (Date) 20,000 monument of the contactor with added auxiliary switch block typical 10,000 000 reference code according to IEC 81346-2 Q Substance Prohibitance (Date) 5.5	 function module for communication 	No
at AC in hot operating state per pole at AC in hot operating state per pole without load current share typical 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 main circuit rated value of auxiliary circuit rated value of at AC at	auxiliary switch	No
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 main circuit rated value of auxiliary circuit rated value of at AC of auxiliary circuit rated value of the contactor with added electronically optimized auxiliary switch block typical of the contactor with adde	power loss [W] for rated value of the current	
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 in of auxiliary circuit rated value of auxiliary circuit rated value in of auxiliary since at rectangular impulse in at AC in of contactor with added electronically optimized auxiliary switch block typical of the contactor with added electronically optimized auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added electronically optimized auxiliary switch block typical of the contactor with added electronically optimized auxiliary switch block typical of the contactor with added electronically optimized auxiliary switch block typical of the contactor with added electronically optimized auxiliary switch block typical of the contactor with added electronically optim	 at AC in hot operating state 	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 690 V surge voltage resistance of main circuit rated value 680 V of auxiliary circuit rated value 6 kV of auxiliary circuit rated value 6 kV maximum permissible voltage for protective separation between coil and main contacts according to EN 60947-1 shock resistance at rectangular impulse ot AC 8,3g / 5 ms, 5,3g / 10 ms shock resistance with sine pulse ot AC 13,5g / 5 ms, 8,3g / 10 ms mechanical service life (operating cycles) of contactor typical of the contactor with added electronically optimized auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical reference code according to IEC 81346-2 Q Substance Prohibitance (Date) 10/01/2009 Ambient conditions installation altitude at height above sea level maximum 2 000 m ambient temperature of during operation of during storage 5 000 000 conditions con	 at AC in hot operating state per pole 	3.2 W
of main circuit with degree of pollution 3 rated value of auxiliary circuit with degree of pollution 3 rated value surge voltage resistance of main circuit rated value of auxiliary circuit rated value of kV maximum permissible voltage for protective separation between coil and main contacts according to EN 60947-1 shock resistance at rectangular impulse ot AC	 without load current share typical 	10.5 W
of auxiliary circuit with degree of pollution 3 rated value surge voltage resistance of main circuit rated value of auxiliary circuit rated value aximum permissible voltage for protective separation between coil and main contacts according to EN 60947-1 shock resistance at rectangular impulse ot AC	insulation voltage	
surge voltage resistance of main circuit rated value of auxillary circuit rated value of auxillary circuit rated value of auxillary circuit rated value of kV maximum permissible voltage for protective separation between coil and main contacts according to EN 60947-1 shock resistance at rectangular impulse ot AC shock resistance with sine pulse ot AC shock resistance with sine pulse ot AC shock resistance with sine pulse of contactor typical of the contactor with added electronically optimized auxiliary switch block typical of the contactor with added electronically optimized auxiliary switch block typical of the contactor with added electronically optimized auxiliary switch block typical of the contactor with added electronically optimized auxiliary switch block typical of the contactor with added electronically optimized auxiliary switch block typical of the contactor	 of main circuit with degree of pollution 3 rated value 	690 V
of main circuit rated value of auxiliary circuit rated value of auxiliary circuit rated value of auxiliary circuit rated value of kV maximum permissible voltage for protective separation between coil and main contacts according to EN 60947-1 shock resistance at rectangular impulse ot AC s,3g / 5 ms, 5,3g / 10 ms shock resistance with sine pulse ot AC 13,5g / 5 ms, 8,3g / 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	 of auxiliary circuit with degree of pollution 3 rated value 	690 V
of auxiliary circuit rated value maximum permissible voltage for protective separation between coil and main contacts according to EN 60947-1 shock resistance at rectangular impulse	surge voltage resistance	
maximum permissible voltage for protective separation between coil and main contacts according to EN 60947-1 shock resistance at rectangular impulse • at AC • at AC • at AC • at AC • of contactor with sine pulse • of contactor typical • of the contactor with added electronically optimized auxiliary switch block typical • of the contactor with added auxiliary sw	of main circuit rated value	6 kV
shock resistance at rectangular impulse	 of auxiliary circuit rated value 	6 kV
at AC shock resistance with sine pulse at AC 13,5g / 5 ms, 8,3g / 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 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 of the conditions conditions 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	shock resistance at rectangular impulse	
at AC mechanical service life (operating cycles) of contactor typical of the contactor with added electronically optimized auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor with added auxiliary switch block typical reference code according to IEC 81346-2 Q Substance Prohibitance (Date) Ambient conditions installation altitude at height above sea level maximum ambient temperature of during operation of during storage relative humidity minimum 10 % relative humidity at 55 °C according to IEC 60068-2-30 maximum Main circuit 10 000 000 10 000 000 10 000 000 10 000 00	• at AC	8,3g / 5 ms, 5,3g / 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 reference code according to IEC 81346-2 Q Substance Prohibitance (Date) Ambient conditions installation altitude at height above sea level maximum 2 000 m ambient temperature • during operation • during storage -55 +60 °C relative humidity minimum 10 % 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 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 oduring operation oduring storage during storage relative humidity minimum 10 % relative humidity at 55 °C according to IEC 60068-2-30 maximum Main circuit 10 000 000 10 000 000 10 000 000 10 000 00	• at AC	13,5g / 5 ms, 8,3g / 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 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 oduring operation during operation during storage relative humidity minimum 10 % relative humidity at 55 °C according to IEC 60068-2-30 maximum Main circuit 5 000 000 10 000 10 000 2 Q 2 000 m 2 000 m 2 000 m 3 000 m 4 000 m 5 000 000 10 000 000 10 000 000 10 000 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 10 000 000 10 000 10 000 20 00 10 0	of contactor typical	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 10 % 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 10 % 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
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 -55 +80 °C 10 % 95 %	reference code according to IEC 81346-2	Q
installation altitude at height above sea level maximum ambient temperature • during operation • during storage relative humidity minimum relative humidity at 55 °C according to IEC 60068-2-30 maximum Main circuit 2 000 m -25 +60 °C -55 +80 °C 10 % 95 %	Substance Prohibitance (Date)	10/01/2009
ambient temperature • during operation • during storage -25 +60 °C -55 +80 °C relative humidity minimum 10 % relative humidity at 55 °C according to IEC 60068-2-30 maximum Main circuit	Ambient conditions	
during operation during storage during storage -55 +80 °C relative humidity minimum 10 % relative humidity at 55 °C according to IEC 60068-2-30 maximum Main circuit	installation altitude at height above sea level maximum	2 000 m
● during storage relative humidity minimum relative humidity at 55 °C according to IEC 60068-2-30 maximum Main circuit	ambient temperature	
relative humidity minimum 10 % 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
maximum Main circuit	relative humidity minimum	10 %
		95 %
number of poles for main current circuit 3	Main circuit	
	number of poles for main current circuit	3

	3
operating voltage	
 at AC-3 rated value maximum 	690 V
at AC-3e rated value maximum	690 V
operational current	
• at AC-1 at 400 V at ambient temperature 40 °C rated	50 A
value	
• at AC-1	
 up to 690 V at ambient temperature 40 °C rated value 	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 11111
value	10 11111
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 — 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	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 • 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
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 22 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 • with 2 current paths in series at DC-1 — at 24 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 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 • 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 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 440 V rated value — at 600 V rated value — at 24 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 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 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 220 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 10 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 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 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 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 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	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 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 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 • with 2 current paths in series at DC-1 — at 24 V rated value — at 110 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 220 V rated value — at 24 V rated value — at 240 V rated value — at 440 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 36 A 37 A 38
poperational 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 — 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 — at 60 V rated value — at 60 V rated value — at 60 V rated value — at 120 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 12 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 110 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 24 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 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 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 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 — 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 24 V rated value — at 600 V rated value — at 24 V rated value — at 24 V rated value — at 24 V rated value — at 20 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 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 110 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 24 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 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 36 A 37 A 38

— at 24 V rated value	20 A
— at 60 V rated value	5 A
— at 220 V rated value	1 A
— at 440 V rated value	0.09 A
— at 600 V rated value	0.06 A
 with 2 current paths in series at DC-3 at DC-5 	
— at 24 V rated value	35 A
— at 60 V rated value	35 A
— at 110 V rated value	15 A
— at 220 V rated value	3 A
— at 440 V rated value	0.27 A
— at 600 V rated value	0.16 A
 with 3 current paths in series at DC-3 at DC-5 	
— at 24 V rated value	35 A
— at 60 V rated value	35 A
— at 110 V rated value	35 A
— at 220 V rated value	10 A
— at 440 V rated value	0.6 A
— at 600 V rated value	0.6 A
operating power	
at AC-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	IO.S KVV
	11 kW
— at 230 V rated value	
— 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-	
4	
at 400 V rated value	6 kW
	6 kW 10.3 kW
at 400 V rated valueat 690 V rated value	
at 400 V rated value at 690 V rated value operating apparent power at AC-6a	10.3 kW
at 400 V rated value at 690 V rated value operating apparent power at AC-6a up to 230 V for current peak value n=20 rated value	10.3 kW 12.2 kVA
 at 400 V rated value at 690 V rated value operating apparent power at AC-6a up to 230 V for current peak value n=20 rated value up to 400 V for current peak value n=20 rated value 	10.3 kW 12.2 kVA 21.3 kVA
at 400 V rated value at 690 V rated value operating apparent power at AC-6a up to 230 V for current peak value n=20 rated value up to 400 V for current peak value n=20 rated value up to 500 V for current peak value n=20 rated value	10.3 kW 12.2 kVA 21.3 kVA 26.6 kVA
at 400 V rated value at 690 V rated value operating apparent power at AC-6a up to 230 V for current peak value n=20 rated value up to 400 V for current peak value n=20 rated value up to 500 V for current peak value n=20 rated value up to 690 V for current peak value n=20 rated value	10.3 kW 12.2 kVA 21.3 kVA
at 400 V rated value at 690 V rated value operating apparent power at AC-6a up to 230 V for current peak value n=20 rated value up to 400 V for current peak value n=20 rated value up to 500 V for current peak value n=20 rated value up to 690 V for current peak value n=20 rated value operating apparent power at AC-6a	10.3 kW 12.2 kVA 21.3 kVA 26.6 kVA 25 kVA
at 400 V rated value at 690 V rated value operating apparent power at AC-6a up to 230 V for current peak value n=20 rated value up to 400 V for current peak value n=20 rated value up to 500 V for current peak value n=20 rated value up to 690 V for current peak value n=20 rated value operating apparent power at AC-6a up to 230 V for current peak value n=30 rated value	10.3 kW 12.2 kVA 21.3 kVA 26.6 kVA 25 kVA
at 400 V rated value at 690 V rated value operating apparent power at AC-6a up to 230 V for current peak value n=20 rated value up to 400 V for current peak value n=20 rated value up to 500 V for current peak value n=20 rated value up to 690 V for current peak value n=20 rated value operating apparent power at AC-6a up to 230 V for current peak value n=30 rated value up to 400 V for current peak value n=30 rated value	10.3 kW 12.2 kVA 21.3 kVA 26.6 kVA 25 kVA
at 400 V rated value at 690 V rated value operating apparent power at AC-6a up to 230 V for current peak value n=20 rated value up to 400 V for current peak value n=20 rated value up to 500 V for current peak value n=20 rated value up to 690 V for current peak value n=20 rated value operating apparent power at AC-6a up to 230 V for current peak value n=30 rated value up to 400 V for current peak value n=30 rated value up to 500 V for current peak value n=30 rated value	10.3 kW 12.2 kVA 21.3 kVA 26.6 kVA 25 kVA 8.1 kVA 14.2 kVA
at 400 V rated value at 690 V rated value operating apparent power at AC-6a up to 230 V for current peak value n=20 rated value up to 400 V for current peak value n=20 rated value up to 500 V for current peak value n=20 rated value up to 690 V for current peak value n=20 rated value operating apparent power at AC-6a up to 230 V for current peak value n=30 rated value up to 400 V for current peak value n=30 rated value up to 500 V for current peak value n=30 rated value up to 690 V for current peak value n=30 rated value	10.3 kW 12.2 kVA 21.3 kVA 26.6 kVA 25 kVA
at 400 V rated value at 690 V rated value operating apparent power at AC-6a up to 230 V for current peak value n=20 rated value up to 400 V for current peak value n=20 rated value up to 500 V for current peak value n=20 rated value up to 690 V for current peak value n=20 rated value operating apparent power at AC-6a up to 230 V for current peak value n=30 rated value up to 400 V for current peak value n=30 rated value up to 500 V for current peak value n=30 rated value	10.3 kW 12.2 kVA 21.3 kVA 26.6 kVA 25 kVA 8.1 kVA 14.2 kVA
at 400 V rated value at 690 V rated value operating apparent power at AC-6a up to 230 V for current peak value n=20 rated value up to 400 V for current peak value n=20 rated value up to 500 V for current peak value n=20 rated value up to 690 V for current peak value n=20 rated value operating apparent power at AC-6a up to 230 V for current peak value n=30 rated value up to 400 V for current peak value n=30 rated value up to 500 V for current peak value n=30 rated value up to 690 V for current peak value n=30 rated value short-time withstand current in cold operating state up to	10.3 kW 12.2 kVA 21.3 kVA 26.6 kVA 25 kVA 8.1 kVA 14.2 kVA
at 400 V rated value at 690 V rated value operating apparent power at AC-6a up to 230 V for current peak value n=20 rated value up to 400 V for current peak value n=20 rated value up to 500 V for current peak value n=20 rated value up to 690 V for current peak value n=20 rated value operating apparent power at AC-6a up to 230 V for current peak value n=30 rated value up to 400 V for current peak value n=30 rated value up to 500 V for current peak value n=30 rated value up to 690 V for current peak value n=30 rated value short-time withstand current in cold operating state up to 40 °C	10.3 kW 12.2 kVA 21.3 kVA 26.6 kVA 25 kVA 8.1 kVA 14.2 kVA 18.5 kVA
at 400 V rated value at 690 V rated value operating apparent power at AC-6a up to 230 V for current peak value n=20 rated value up to 400 V for current peak value n=20 rated value up to 500 V for current peak value n=20 rated value up to 690 V for current peak value n=20 rated value operating apparent power at AC-6a up to 230 V for current peak value n=30 rated value up to 400 V for current peak value n=30 rated value up to 500 V for current peak value n=30 rated value up to 690 V for current peak value n=30 rated value short-time withstand current in cold operating state up to 40 °C Ilimited to 1 s switching at zero current maximum	10.3 kW 12.2 kVA 21.3 kVA 26.6 kVA 25 kVA 8.1 kVA 14.2 kVA 18.5 kVA 25 kVA
at 400 V rated value at 690 V rated value operating apparent power at AC-6a up to 230 V for current peak value n=20 rated value up to 400 V for current peak value n=20 rated value up to 500 V for current peak value n=20 rated value up to 690 V for current peak value n=20 rated value operating apparent power at AC-6a up to 230 V for current peak value n=30 rated value up to 400 V for current peak value n=30 rated value up to 500 V for current peak value n=30 rated value up to 690 V for current peak value n=30 rated value short-time withstand current in cold operating state up to 40 °C Ilimited to 1 s switching at zero current maximum Ilimited to 10 s switching at zero current maximum	10.3 kW 12.2 kVA 21.3 kVA 26.6 kVA 25 kVA 8.1 kVA 14.2 kVA 18.5 kVA 25 kVA 593 A; Use minimum cross-section acc. to AC-1 rated value 341 A; Use minimum cross-section acc. to AC-1 rated value 260 A; Use minimum cross-section acc. to AC-1 rated value
 at 400 V rated value at 690 V rated value operating apparent power at AC-6a up to 230 V for current peak value n=20 rated value up to 400 V for current peak value n=20 rated value up to 500 V for current peak value n=20 rated value up to 690 V for current peak value n=20 rated value operating apparent power at AC-6a up to 230 V for current peak value n=30 rated value up to 400 V for current peak value n=30 rated value up to 500 V for current peak value n=30 rated value up to 690 V for current peak value n=30 rated value short-time withstand current in cold operating state up to 40 °C limited to 1 s switching at zero current maximum limited to 10 s switching at zero current maximum limited to 30 s switching at zero current maximum 	10.3 kW 12.2 kVA 21.3 kVA 26.6 kVA 25 kVA 8.1 kVA 14.2 kVA 18.5 kVA 25 kVA 593 A; Use minimum cross-section acc. to AC-1 rated value 341 A; Use minimum cross-section acc. to AC-1 rated value 260 A; Use minimum cross-section acc. to AC-1 rated value
 at 400 V rated value at 690 V rated value operating apparent power at AC-6a up to 230 V for current peak value n=20 rated value up to 400 V for current peak value n=20 rated value up to 500 V for current peak value n=20 rated value up to 690 V for current peak value n=20 rated value operating apparent power at AC-6a up to 230 V for current peak value n=30 rated value up to 400 V for current peak value n=30 rated value up to 500 V for current peak value n=30 rated value oup to 690 V for current peak value n=30 rated value hup to 690 V for current peak value n=30 rated value short-time withstand current in cold operating state up to 40 °C limited to 1 s switching at zero current maximum limited to 10 s switching at zero current maximum limited to 30 s switching at zero current maximum limited to 60 s switching at zero current maximum 	10.3 kW 12.2 kVA 21.3 kVA 26.6 kVA 25 kVA 8.1 kVA 14.2 kVA 18.5 kVA 25 kVA 593 A; Use minimum cross-section acc. to AC-1 rated value 341 A; Use minimum cross-section acc. to AC-1 rated value 260 A; Use minimum cross-section acc. to AC-1 rated value
at 400 V rated value at 690 V rated value operating apparent power at AC-6a up to 230 V for current peak value n=20 rated value up to 400 V for current peak value n=20 rated value up to 500 V for current peak value n=20 rated value up to 690 V for current peak value n=20 rated value operating apparent power at AC-6a up to 230 V for current peak value n=30 rated value up to 400 V for current peak value n=30 rated value up to 500 V for current peak value n=30 rated value up to 690 V for current peak value n=30 rated value short-time withstand current in cold operating state up to 40 °C Ilimited to 1 s switching at zero current maximum Ilimited to 50 s switching at zero current maximum Ilimited to 30 s switching at zero current maximum Ilimited to 60 s switching at zero current maximum	10.3 kW 12.2 kVA 21.3 kVA 26.6 kVA 25 kVA 8.1 kVA 14.2 kVA 18.5 kVA 25 kVA 593 A; Use minimum cross-section acc. to AC-1 rated value 341 A; Use minimum cross-section acc. to AC-1 rated value 260 A; Use minimum cross-section acc. to AC-1 rated value 199 A; Use minimum cross-section acc. to AC-1 rated value
 at 400 V rated value at 690 V rated value operating apparent power at AC-6a up to 230 V for current peak value n=20 rated value up to 400 V for current peak value n=20 rated value up to 500 V for current peak value n=20 rated value up to 690 V for current peak value n=20 rated value operating apparent power at AC-6a up to 230 V for current peak value n=30 rated value up to 400 V for current peak value n=30 rated value up to 500 V for current peak value n=30 rated value up to 690 V for current peak value n=30 rated value short-time withstand current in cold operating state up to 40 °C limited to 1 s switching at zero current maximum limited to 10 s switching at zero current maximum limited to 30 s switching at zero current maximum limited to 60 s switching at zero current maximum limited to 60 s switching at zero current maximum 	10.3 kW 12.2 kVA 21.3 kVA 26.6 kVA 25 kVA 8.1 kVA 14.2 kVA 18.5 kVA 25 kVA 593 A; Use minimum cross-section acc. to AC-1 rated value 341 A; Use minimum cross-section acc. to AC-1 rated value 260 A; Use minimum cross-section acc. to AC-1 rated value
 at 400 V rated value at 690 V rated value operating apparent power at AC-6a up to 230 V for current peak value n=20 rated value up to 400 V for current peak value n=20 rated value up to 500 V for current peak value n=20 rated value up to 690 V for current peak value n=20 rated value operating apparent power at AC-6a up to 230 V for current peak value n=30 rated value up to 400 V for current peak value n=30 rated value up to 500 V for current peak value n=30 rated value up to 690 V for current peak value n=30 rated value short-time withstand current in cold operating state up to 40 °C limited to 1 s switching at zero current maximum limited to 50 s switching at zero current maximum limited to 30 s switching at zero current maximum limited to 60 s switching at zero current maximum limited to 60 s switching at zero current maximum limited to 60 s switching at zero current maximum limited to 60 s switching at zero current maximum 	10.3 kW 12.2 kVA 21.3 kVA 26.6 kVA 25 kVA 8.1 kVA 14.2 kVA 18.5 kVA 25 kVA 593 A; Use minimum cross-section acc. to AC-1 rated value 341 A; Use minimum cross-section acc. to AC-1 rated value 260 A; Use minimum cross-section acc. to AC-1 rated value 199 A; Use minimum cross-section acc. to AC-1 rated value 199 A; Use minimum cross-section acc. to AC-1 rated value 162 A; Use minimum cross-section acc. to AC-1 rated value
 at 400 V rated value at 690 V rated value operating apparent power at AC-6a up to 230 V for current peak value n=20 rated value up to 400 V for current peak value n=20 rated value up to 500 V for current peak value n=20 rated value up to 690 V for current peak value n=20 rated value operating apparent power at AC-6a up to 230 V for current peak value n=30 rated value up to 400 V for current peak value n=30 rated value up to 500 V for current peak value n=30 rated value up to 690 V for current peak value n=30 rated value short-time withstand current in cold operating state up to 40 °C limited to 1 s switching at zero current maximum limited to 10 s switching at zero current maximum limited to 30 s switching at zero current maximum limited to 60 s switching at zero current maximum no-load switching frequency at AC operating frequency at AC-1 maximum 	10.3 kW 12.2 kVA 21.3 kVA 26.6 kVA 25 kVA 8.1 kVA 14.2 kVA 18.5 kVA 25 kVA 593 A; Use minimum cross-section acc. to AC-1 rated value 341 A; Use minimum cross-section acc. to AC-1 rated value 260 A; Use minimum cross-section acc. to AC-1 rated value 199 A; Use minimum cross-section acc. to AC-1 rated value 162 A; Use minimum cross-section acc. to AC-1 rated value 162 A; Use minimum cross-section acc. to AC-1 rated value
 at 400 V rated value at 690 V rated value operating apparent power at AC-6a up to 230 V for current peak value n=20 rated value up to 400 V for current peak value n=20 rated value up to 500 V for current peak value n=20 rated value up to 690 V for current peak value n=20 rated value operating apparent power at AC-6a up to 230 V for current peak value n=30 rated value up to 400 V for current peak value n=30 rated value up to 500 V for current peak value n=30 rated value oup to 690 V for current peak value n=30 rated value short-time withstand current in cold operating state up to 40 °C limited to 1 s switching at zero current maximum limited to 10 s switching at zero current maximum limited to 30 s switching at zero current maximum limited to 60 s switching at zero current maximum no-load switching frequency at AC operating frequency at AC-2 maximum at AC-2 maximum 	10.3 kW 12.2 kVA 21.3 kVA 26.6 kVA 25 kVA 8.1 kVA 14.2 kVA 18.5 kVA 25 kVA 593 A; Use minimum cross-section acc. to AC-1 rated value 341 A; Use minimum cross-section acc. to AC-1 rated value 260 A; Use minimum cross-section acc. to AC-1 rated value 199 A; Use minimum cross-section acc. to AC-1 rated value 162 A; Use minimum cross-section acc. to AC-1 rated value 162 A; Use minimum cross-section acc. to AC-1 rated value 5 000 1/h 1 000 1/h 750 1/h
 at 400 V rated value at 690 V rated value operating apparent power at AC-6a up to 230 V for current peak value n=20 rated value up to 400 V for current peak value n=20 rated value up to 500 V for current peak value n=20 rated value up to 690 V for current peak value n=20 rated value operating apparent power at AC-6a up to 230 V for current peak value n=30 rated value up to 400 V for current peak value n=30 rated value up to 500 V for current peak value n=30 rated value up to 690 V for current peak value n=30 rated value short-time withstand current in cold operating state up to 40 °C limited to 1 s switching at zero current maximum limited to 10 s switching at zero current maximum limited to 30 s switching at zero current maximum limited to 60 s switching at zero current maximum limited to 60 s switching at zero current maximum ro-load switching frequency at AC operating frequency at AC-1 maximum at AC-2 maximum at AC-3 maximum 	10.3 kW 12.2 kVA 21.3 kVA 26.6 kVA 25 kVA 8.1 kVA 14.2 kVA 18.5 kVA 25 kVA 593 A; Use minimum cross-section acc. to AC-1 rated value 341 A; Use minimum cross-section acc. to AC-1 rated value 260 A; Use minimum cross-section acc. to AC-1 rated value 199 A; Use minimum cross-section acc. to AC-1 rated value 162 A; Use minimum cross-section acc. to AC-1 rated value 162 A; Use minimum cross-section acc. to AC-1 rated value 5 000 1/h 1 000 1/h 750 1/h 750 1/h
 at 400 V rated value at 690 V rated value operating apparent power at AC-6a up to 230 V for current peak value n=20 rated value up to 400 V for current peak value n=20 rated value up to 500 V for current peak value n=20 rated value up to 690 V for current peak value n=20 rated value operating apparent power at AC-6a up to 230 V for current peak value n=30 rated value up to 400 V for current peak value n=30 rated value up to 500 V for current peak value n=30 rated value up to 690 V for current peak value n=30 rated value short-time withstand current in cold operating state up to 40 °C limited to 1 s switching at zero current maximum limited to 30 s switching at zero current maximum limited to 60 s switching at zero current maximum limited to 60 s switching at zero current maximum no-load switching frequency at AC-1 maximum at AC-2 maximum at AC-3 maximum at AC-3 maximum at AC-3 maximum at AC-3 maximum 	10.3 kW 12.2 kVA 21.3 kVA 26.6 kVA 25 kVA 8.1 kVA 14.2 kVA 18.5 kVA 593 A; Use minimum cross-section acc. to AC-1 rated value 341 A; Use minimum cross-section acc. to AC-1 rated value 260 A; Use minimum cross-section acc. to AC-1 rated value 199 A; Use minimum cross-section acc. to AC-1 rated value 162 A; Use minimum cross-section acc. to AC-1 rated value 162 A; Use minimum cross-section acc. to AC-1 rated value 5 000 1/h 1 000 1/h 750 1/h 750 1/h 750 1/h
 at 400 V rated value at 690 V rated value operating apparent power at AC-6a up to 230 V for current peak value n=20 rated value up to 400 V for current peak value n=20 rated value up to 500 V for current peak value n=20 rated value up to 690 V for current peak value n=20 rated value operating apparent power at AC-6a up to 230 V for current peak value n=30 rated value up to 400 V for current peak value n=30 rated value up to 500 V for current peak value n=30 rated value up to 690 V for current peak value n=30 rated value short-time withstand current in cold operating state up to 40 °C limited to 1 s switching at zero current maximum limited to 10 s switching at zero current maximum limited to 30 s switching at zero current maximum limited to 60 s switching at zero current maximum limited to 60 s switching at zero current maximum ro-load switching frequency at AC operating frequency at AC-1 maximum at AC-2 maximum at AC-3 maximum 	10.3 kW 12.2 kVA 21.3 kVA 26.6 kVA 25 kVA 8.1 kVA 14.2 kVA 18.5 kVA 25 kVA 593 A; Use minimum cross-section acc. to AC-1 rated value 341 A; Use minimum cross-section acc. to AC-1 rated value 260 A; Use minimum cross-section acc. to AC-1 rated value 199 A; Use minimum cross-section acc. to AC-1 rated value 192 A; Use minimum cross-section acc. to AC-1 rated value 193 A; Use minimum cross-section acc. to AC-1 rated value 194 A; Use minimum cross-section acc. to AC-1 rated value 195 O00 1/h 1 000 1/h 1 000 1/h 1 750 1/h

type of voltage of the control supply voltage	AC
control supply voltage at AC	
at 50 Hz rated value	110 V
at 60 Hz rated value at 60 Hz rated value	120 V
operating range factor control supply voltage rated value of	120 V
magnet coil at AC	
• at 50 Hz	0.8 1.1
• at 60 Hz	0.8 1.1
apparent pick-up power of magnet coil at AC	
• at 50 Hz	81 VA
• at 60 Hz	79 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	10.5 VA
• at 60 Hz	8.5 VA
inductive power factor with the holding power of the coil	0.0 7/1
at 50 Hz	0.25
• at 60 Hz	0.28
closing delay	V.25
• at AC	8 40 ms
opening delay	V 70 IIIO
• at AC	4 16 ms
	10 10 ms
arcing time	Standard A1 - A2
control version of the switch operating mechanism Auxiliary circuit	Standard A1 - A2
	2
number of NC contacts for auxiliary contacts instantaneous contact	2
number of NO contacts for auxiliary contacts instantaneous contact	2
operational current at AC-12 maximum	10 A
	10 A
operational current at AC-12 maximum	10 A 6 A
operational current at AC-12 maximum operational current at AC-15	
operational current at AC-12 maximum operational current at AC-15 • at 230 V rated value	6 A
operational current at AC-12 maximum operational current at AC-15 • at 230 V rated value • at 400 V rated value	6 A 3 A
operational current at AC-12 maximum operational current at AC-15 • at 230 V rated value • at 400 V rated value • at 500 V rated value	6 A 3 A 2 A
operational current at AC-12 maximum operational current at AC-15 • at 230 V rated value • at 400 V rated value • at 500 V rated value • at 690 V rated value	6 A 3 A 2 A
operational current at AC-12 maximum operational current at AC-15 • at 230 V rated value • at 400 V rated value • at 500 V rated value • at 690 V rated value operational current at DC-12	6 A 3 A 2 A 1 A
operational current at AC-12 maximum operational current at AC-15 • at 230 V rated value • at 400 V rated value • at 500 V rated value • at 690 V rated value operational current at DC-12 • at 24 V rated value	6 A 3 A 2 A 1 A
operational current at AC-12 maximum operational current at AC-15 • at 230 V rated value • at 400 V rated value • at 500 V rated value • at 690 V rated value operational current at DC-12 • at 24 V rated value • at 48 V rated value	6 A 3 A 2 A 1 A
operational current at AC-12 maximum operational current at AC-15 • at 230 V rated value • at 400 V rated value • at 500 V rated value • at 690 V rated value operational current at DC-12 • at 24 V rated value • at 48 V rated value • at 60 V rated value • at 60 V rated value	6 A 3 A 2 A 1 A 10 A 6 A 6 A
operational current at AC-12 maximum operational current at AC-15 • at 230 V rated value • at 400 V rated value • at 500 V rated value • at 690 V rated value operational current at DC-12 • at 24 V rated value • at 48 V rated value • at 60 V rated value • at 110 V rated value	6 A 3 A 2 A 1 A 10 A 6 A 6 A 6 A 3 A
operational current at AC-12 maximum operational current at AC-15 • at 230 V rated value • at 400 V rated value • at 500 V rated value • at 690 V rated value operational current at DC-12 • at 24 V rated value • at 48 V rated value • at 60 V rated value • at 110 V rated value • at 115 V rated value • at 125 V rated value	6 A 3 A 2 A 1 A 10 A 6 A 6 A 3 A 2 A
operational current at AC-12 maximum operational current at AC-15 • at 230 V rated value • at 400 V rated value • at 500 V rated value • at 690 V rated value operational current at DC-12 • at 24 V rated value • at 48 V rated value • at 60 V rated value • at 110 V rated value • at 125 V rated value • at 125 V rated value • at 220 V rated value	6 A 3 A 2 A 1 A 10 A 6 A 6 A 3 A 2 A 1 A
operational current at AC-12 maximum operational current at AC-15 • at 230 V rated value • at 400 V rated value • at 500 V rated value • at 690 V rated value operational current at DC-12 • at 24 V rated value • at 48 V rated value • at 60 V rated value • at 110 V rated value • at 125 V rated value • at 220 V rated value • at 600 V rated value • at 600 V rated value	6 A 3 A 2 A 1 A 10 A 6 A 6 A 3 A 2 A 1 A
operational current at AC-12 maximum operational current at AC-15 • at 230 V rated value • at 400 V rated value • at 500 V rated value • at 690 V rated value operational current at DC-12 • at 24 V rated value • at 48 V rated value • at 60 V rated value • at 110 V rated value • at 125 V rated value • at 220 V rated value • at 600 V rated value	6 A 3 A 2 A 1 A 10 A 6 A 6 A 3 A 2 A 1 A 0.15 A
operational current at AC-12 maximum operational current at AC-15 • at 230 V rated value • at 400 V rated value • at 500 V rated value • at 690 V rated value operational current at DC-12 • at 24 V rated value • at 48 V rated value • at 60 V rated value • at 110 V rated value • at 125 V rated value • at 220 V rated value • at 600 V rated value • at 220 V rated value • at 600 V rated value • at 600 V rated value • at 600 V rated value • at 220 V rated value • at 600 V rated value	6 A 3 A 2 A 1 A 10 A 6 A 6 A 3 A 2 A 1 A 0.15 A
operational current at AC-12 maximum operational current at AC-15 • at 230 V rated value • at 400 V rated value • at 500 V rated value • at 690 V rated value operational current at DC-12 • at 24 V rated value • at 48 V rated value • at 110 V rated value • at 125 V rated value • at 220 V rated value • at 600 V rated value • at 220 V rated value • at 24 V rated value • at 24 V rated value • at 25 V rated value • at 27 V rated value • at 28 V rated value • at 30 V rated value • at 48 V rated value operational current at DC-13 • at 24 V rated value • at 48 V rated value	6 A 3 A 2 A 1 A 10 A 6 A 6 A 3 A 2 A 1 A 0.15 A
operational current at AC-12 maximum operational current at AC-15 • at 230 V rated value • at 400 V rated value • at 500 V rated value • at 690 V rated value operational current at DC-12 • at 24 V rated value • at 48 V rated value • at 60 V rated value • at 110 V rated value • at 125 V rated value • at 220 V rated value • at 600 V rated value • at 24 V rated value • at 600 V rated value • at 48 V rated value • at 60 V rated value	6 A 3 A 2 A 1 A 10 A 6 A 6 A 3 A 2 A 1 A 0.15 A
operational current at AC-12 maximum operational current at AC-15 • at 230 V rated value • at 400 V rated value • at 500 V rated value • at 690 V rated value operational current at DC-12 • at 24 V rated value • at 48 V rated value • at 110 V rated value • at 125 V rated value • at 220 V rated value • at 220 V rated value • at 600 V rated value • at 48 V rated value • at 60 V rated value • at 60 V rated value	6 A 3 A 2 A 1 A 10 A 6 A 6 A 3 A 2 A 1 A 0.15 A
operational current at AC-12 maximum operational current at AC-15 • at 230 V rated value • at 400 V rated value • at 500 V rated value • at 690 V rated value operational current at DC-12 • at 24 V rated value • at 48 V rated value • at 110 V rated value • at 125 V rated value • at 220 V rated value • at 24 V rated value • at 125 V rated value • at 125 V rated value • at 600 V rated value • at 600 V rated value • at 600 V rated value • at 124 V rated value • at 125 V rated value • at 125 V rated value • at 125 V rated value • at 24 V rated value • at 24 V rated value • at 24 V rated value • at 25 V rated value • at 300 V rated value • at 48 V rated value • at 110 V rated value • at 125 V rated value	6 A 3 A 2 A 1 A 10 A 6 A 6 A 3 A 2 A 1 A 0.15 A
operational current at AC-12 maximum operational current at AC-15 • at 230 V rated value • at 400 V rated value • at 690 V rated value operational current at DC-12 • at 24 V rated value • at 48 V rated value • at 110 V rated value • at 125 V rated value • at 220 V rated value • at 600 V rated value • at 125 V rated value • at 125 V rated value • at 125 V rated value • at 600 V rated value • at 600 V rated value • at 124 V rated value • at 24 V rated value • at 25 V rated value • at 27 V rated value • at 28 V rated value • at 30 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 600 V rated value	6 A 3 A 2 A 1 A 10 A 6 A 6 A 3 A 2 A 1 A 0.15 A
operational current at AC-12 maximum operational current at AC-15 • at 230 V rated value • at 400 V rated value • at 690 V rated value • at 690 V rated value operational current at DC-12 • at 24 V rated value • at 48 V rated value • at 60 V rated value • at 110 V rated value • at 125 V rated value • at 220 V rated value • at 600 V rated value • at 600 V rated value • at 600 V rated value • at 24 V rated value • at 25 V rated value • at 60 V rated value • at 600 V rated value • at 600 V rated value • at 600 V rated value	6 A 3 A 2 A 1 A 10 A 6 A 6 A 3 A 2 A 1 A 0.15 A
operational current at AC-15 • at 230 V rated value • at 400 V rated value • at 500 V rated value • at 690 V rated value • at 24 V rated value • at 48 V rated value • at 110 V rated value • at 125 V rated value • at 220 V rated value • at 600 V rated value • at 125 V rated value • at 120 V rated value • at 220 V rated value • at 220 V rated value • at 24 V rated value • at 25 V rated value • at 25 V rated value • at 27 V rated value • at 28 V rated value • at 48 V rated value • at 60 V rated value • at 60 V rated value • at 60 V rated value • at 110 V rated value • at 125 V rated value • at 125 V rated value • at 126 V rated value • at 127 V rated value • at 128 V rated value • at 129 V rated value • at 100 V rated value	6 A 3 A 2 A 1 A 10 A 6 A 6 A 3 A 2 A 1 A 0.15 A
operational current at AC-12 maximum operational current at AC-15 • at 230 V rated value • at 400 V rated value • at 690 V rated value • at 690 V rated value operational current at DC-12 • at 24 V rated value • at 48 V rated value • at 60 V rated value • at 110 V rated value • at 125 V rated value • at 220 V rated value • at 600 V rated value • at 600 V rated value • at 600 V rated value • at 125 V rated value • at 220 V rated value • at 24 V rated value • at 25 V rated value • at 25 V rated value • at 26 V rated value • at 27 V rated value • at 28 V rated value • at 29 V rated value • at 100 V rated value • at 100 V rated value • at 110 V rated value	6 A 3 A 2 A 1 A 10 A 6 A 6 A 3 A 2 A 1 A 0.15 A 6 A 2 A 2 A 1 A 0.9 A 0.3 A 0.1 A 1 faulty switching per 100 million (17 V, 1 mA)
operational current at AC-15 • at 230 V rated value • at 400 V rated value • at 690 V rated value • at 690 V rated value • at 48 V rated value • at 110 V rated value • at 125 V rated value • at 220 V rated value • at 600 V rated value • at 125 V rated value • at 600 V rated value • at 600 V rated value • at 600 V rated value • at 220 V rated value • at 24 V rated value • at 600 V rated value • at 110 V rated value • at 125 V rated value • at 125 V rated value • at 126 V rated value • at 127 V rated value • at 128 V rated value • at 129 V rated value • at 120 V rated value	6 A 3 A 2 A 1 A 10 A 6 A 6 A 3 A 2 A 1 A 0.15 A 6 A 2 A 2 A 1 A 0.9 A 0.3 A 0.1 A 1 faulty switching per 100 million (17 V, 1 mA)
operational current at AC-15 • at 230 V rated value • at 400 V rated value • at 500 V rated value • at 690 V rated value • at 24 V rated value • at 48 V rated value • at 100 V rated value • at 110 V rated value • at 125 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 600 V rated value • at 110 V rated value • at 125 V rated value • at 160 V rated value • at 600 V rated value • at 110 V rated value • at 125 V rated value • at 125 V rated value • at 126 V rated value • at 127 V rated value • at 128 V rated value • at 129 V rated value • at 120 V rated value	6 A 3 A 2 A 1 A 10 A 6 A 6 A 3 A 2 A 1 A 0.15 A 6 A 2 A 2 A 1 A 0.9 A 0.3 A 0.1 A 1 faulty switching per 100 million (17 V, 1 mA)
operational current at AC-12 maximum operational current at AC-15 • at 230 V rated value • at 400 V rated value • at 500 V rated value • at 690 V rated value operational current at DC-12 • at 24 V rated value • at 48 V rated value • at 60 V rated value • at 110 V rated value • at 125 V rated value • at 220 V rated value • at 600 V rated value • at 48 V rated value • at 48 V rated value • at 600 V rated value • at 220 V rated value • at 22 V rated value • at 48 V rated value • at 48 V rated value • at 60 V rated value • at 60 V rated value • at 60 V rated value • at 10 V rated value • at 10 V rated value • at 125 V rated value • at 480 V rated value contact reliability of auxiliary contacts 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	6 A 3 A 2 A 1 A 10 A 6 A 6 A 3 A 2 A 1 A 0.15 A 6 A 2 A 2 A 1 A 0.9 A 0.3 A 0.1 A 1 faulty switching per 100 million (17 V, 1 mA)
operational current at AC-15 • at 230 V rated value • at 400 V rated value • at 500 V rated value • at 690 V rated value • at 24 V rated value • at 48 V rated value • at 100 V rated value • at 110 V rated value • at 125 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 600 V rated value • at 110 V rated value • at 125 V rated value • at 160 V rated value • at 600 V rated value • at 110 V rated value • at 125 V rated value • at 125 V rated value • at 126 V rated value • at 127 V rated value • at 128 V rated value • at 129 V rated value • at 120 V rated value	6 A 3 A 2 A 1 A 10 A 6 A 6 A 3 A 2 A 1 A 0.15 A 6 A 2 A 2 A 1 A 0.9 A 0.3 A 0.1 A 1 faulty switching per 100 million (17 V, 1 mA)

— at 230 V rated value	5 hp
• for 3-phase AC motor	40.1
— at 200/208 V rated value	10 hp
— at 220/230 V rated value	10 hp
— at 460/480 V rated value	25 hp
— at 575/600 V rated value	25 hp
contact rating of auxiliary contacts according to UL	A600 / Q600
Short-circuit protection	
design of the fuse link	
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	
mounting position	+/-180° rotation possible on vertical mounting surface; can be tilted forward and backward by +/- 22.5° on vertical mounting surface
fastening method	screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715
side-by-side mounting	Yes
height	85 mm
width	45 mm
depth	141 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	40
— forwards	10 mm
— upwards	10 mm
— downwards	10 mm
— at the side	6 mm
Connections/ Terminals	
type of electrical connection	
for main current circuit for applications and control circuit	screw-type terminals
for auxiliary and control circuit	screw-type terminals
at contactor for auxiliary contacts	Screw-type terminals
of magnet coil tune of compactable conductor group costions for main contacts.	Screw-type terminals
type of connectable conductor cross-sections for main contacts	2v /4 2 5 mm²\ 2v /2 5 40 mm²\
solid solid or stranded	2x (1 2.5 mm²), 2x (2.5 10 mm²)
solid or stranded finely stranded with core and processing	2x (1 2.5 mm²), 2x (2.5 10 mm²) 2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm²
finely stranded with core end processing connectable conductor cross section for main contacts.	2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm²
connectable conductor cross-section for main contacts	1 10 mm²
solid stranded	1 10 mm²
	1 10 mm²
finely stranded with core end processing connectable conductor cross-section for auxiliary contacts	1 IV IIIII
solid or stranded	0.5 2.5 mm²
finely stranded with core end processing	0.5 2.5 mm²
type of connectable conductor cross-sections	0.0 2.0 mm
for auxiliary contacts	
•	2v (0.5
— solid or stranded	2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²)
finally stranded with sore and accessing	2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²)
— finely stranded with core end processing	
— finely stranded with core end processing • for AWG cables for auxiliary contacts AWG number as coded connectable conductor cross	2x (20 16), 2x (18 14)

	400
for main contacts	16 8
 for auxiliary contacts 	20 14
Safety related data	
product function	
 mirror contact according to IEC 60947-4-1 	Yes
 positively driven operation according to IEC 60947-5-1 	No
B10 value with high demand rate according to SN 31920	450 000
proportion of dangerous failures	
 with low demand rate according to SN 31920 	40 %
 with high demand rate according to SN 31920 	73 %
failure rate [FIT] with low demand rate according to SN 31920	100 FIT
T1 value for proof test interval or service life according to IEC 61508	20 a
protection class IP on the front according to IEC 60529	IP20
touch protection on the front according to IEC 60529	finger-safe, for vertical contact from the front
suitability for use	
 safety-related switching OFF 	Yes
Certificates/ approvals	

®

General Product Approval



Confirmation



<u>KC</u>



Functional

EMC Safety/Safety of Machinery Declaration of Conformity Test Certificates



Type Examination Certificate





Type Test Certificates/Test Report



Marine / Shipping

Marine / Shipping other











Confirmation

other Railway Environment



Confirmation

Vibration and Shock

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. $\label{eq:continuous}$

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=3RT2028-1AK64-3MA0

Cax online generator

 $\underline{\text{http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en\&mlfb=3RT2028-1AK64-3MA0}$

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

https://support.industry.siemens.com/cs/ww/en/ps/3RT2028-1AK64-3MA0

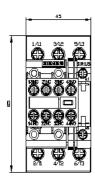
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)

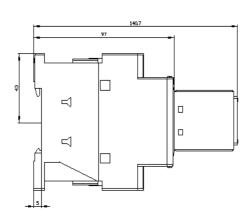
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2028-1AK64-3MA0&lang=en

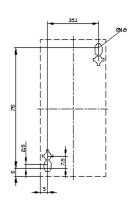
Characteristic: Tripping characteristics, I²t, Let-through current

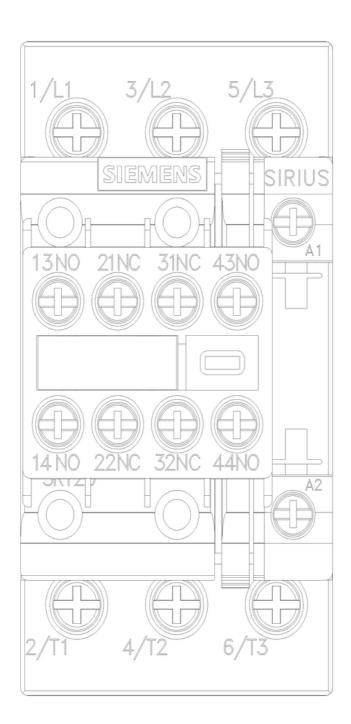
https://support.industry.siemens.com/cs/ww/en/ps/3RT20

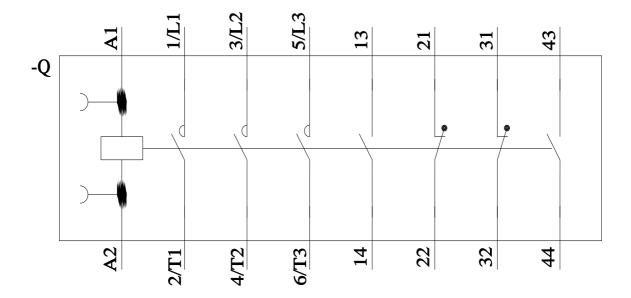
Further characteristics (e.g. electrical endurance, switching frequency)
http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2028-1AK64-3MA0&objecttype=14&gridview=view1











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