3RT2038-3AL20-1AA0

Data sheet



Power contactor, AC-3 80 A, 37 kW / 400 V 1 NO + 1 NC, 230 V AC 50/60 Hz, 3-pole Size S2, Spring-type terminals Upright mounting position

product brand name	SIRIUS
product designation	Power contactor
product type designation	3RT2
General technical data	
size of contactor	S2
product extension	
 function module for communication 	No
auxiliary switch	Yes
power loss [W] for rated value of the current	
 at AC in hot operating state 	17.1 W
 at AC in hot operating state per pole 	5.7 W
 without load current share typical 	17.2 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
maximum permissible voltage for safe isolation between coil and main contacts according to EN 60947-1	400 V
shock resistance at rectangular impulse	
• at AC	11.8g / 5 ms, 7.4g / 10 ms
shock resistance with sine pulse	
• at AC	18.5g / 5 ms, 11.6g / 10 ms
mechanical service life (switching cycles)	
 of contactor typical 	10 000 000
 of the contactor with added electronically optimized auxiliary switch block typical 	5 000 000
 of the contactor with added auxiliary switch block typical 	10 000 000
reference code according to IEC 81346-2	Q
Substance Prohibitance (Date)	10/01/2014
Ambient conditions	
installation altitude at height above sea level maximum	2 000 m
ambient temperature	
 during operation 	-25 +60 °C
during storage	-55 +80 °C
relative humidity minimum	10 %
relative humidity at 55 °C according to IEC 60068-2-30 maximum	95 %

Nain circuit	3
number of poles for main current circuit	_ 3
number of NO contacts for main contacts	_ 3
operating voltage	600 V
at AC-3 rated value maximum	690 V
at AC-3e rated value maximum	690 V
operational current	00.4
 at AC-1 at 400 V at ambient temperature 40 °C rated value 	90 A
at AC-1	
	90 A
 up to 690 V at ambient temperature 40 °C rated value 	90 A
— up to 690 V at ambient temperature 60 °C	80 A
rated value	0077
• at AC-3	
— at 400 V rated value	80 A
— at 500 V rated value	80 A
— at 690 V rated value	58 A
• at AC-3e	
— at 400 V rated value	80 A
— at 500 V rated value	80 A
— at 690 V rated value	58 A
at AC-4 at 400 V rated value	55 A
• at AC-5a up to 690 V rated value	79.2 A
at AC-5b up to 400 V rated value	66.4 A
• at AC-6a	70 A
 up to 230 V for current peak value n=20 rated value 	70 A
	70 A
 up to 400 V for current peak value n=20 rated value 	70 A
— up to 500 V for current peak value n=20 rated	70 A
value	
— up to 690 V for current peak value n=20 rated	58 A
value	
• at AC-6a	
— up to 230 V for current peak value n=30 rated	46.7 A
value	
 up to 400 V for current peak value n=30 rated 	46.7 A
value	
— up to 500 V for current peak value n=30 rated	46.7 A
value	46.7.0
 up to 690 V for current peak value n=30 rated value 	46.7 A
minimum cross-section in main circuit at maximum AC-1	35 mm²
rated value	
operational current for approx. 200000 operating	
cycles at AC-4	
• at 400 V rated value	30 A
at 690 V rated value	24 A
operational current	
• at 1 current path at DC-1	
— at 24 V rated value	55 A
— at 110 V rated value	4.5 A
— at 220 V rated value	1 A
— at 440 V rated value	0.4 A
— at 600 V rated value	0.25 A
with 2 current paths in series at DC-1	
— at 24 V rated value	55 A
— at 110 V rated value	45 A
— at 220 V rated value	5 A
— at 440 V rated value	1 A
— at 440 V rated value — at 600 V rated value	0.8 A
	V.V A
 with 3 current paths in series at DC-1 	

— at 24 V rated value	55 A
— at 110 V rated value	55 A
— at 220 V rated value	45 A
— at 440 V rated value	2.9 A
— at 600 V rated value	1.4 A
• at 1 current path at DC-3 at DC-5	
— at 24 V rated value	35 A
— at 110 V rated value	2.5 A
— at 220 V rated value	1 A
— at 440 V rated value	0.1 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	55 A
— at 110 V rated value	25 A
— at 220 V rated value	5 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	55 A
— at 110 V rated value	55 A
— at 220 V rated value	25 A
— at 440 V rated value	0.6 A
— at 600 V rated value	0.35 A
operating power	0.00 A
	07 1344
at AC-2 at 400 V rated value	37 kW
• at AC-3	00.111
— at 230 V rated value	22 kW
— at 400 V rated value	37 kW
— at 500 V rated value	37 kW
— at 690 V rated value	45 kW
• at AC-3e	
— at 230 V rated value	22 kW
— at 400 V rated value	37 kW
— at 500 V rated value	37 kW
— at 690 V rated value	45 kW
operating power for approx. 200000 operating cycles at AC-4	
• at 400 V rated value	15.8 kW
• at 690 V rated value	21.8 kW
operating apparent power at AC-6a	
• up to 230 V for current peak value n=20 rated value	27.8 kVA
• up to 400 V for current peak value n=20 rated value	48.4 kVA
• up to 500 V for current peak value n=20 rated value	60.6 kVA
• up to 690 V for current peak value n=20 rated value	69.3 kVA
operating apparent power at AC-6a	,
• up to 230 V for current peak value n=30 rated value	18.6 kVA
 up to 250 V for current peak value n=30 rated value up to 400 V for current peak value n=30 rated value 	32.3 kVA
·	
• up to 500 V for current peak value n=30 rated value	40.4 kVA
up to 690 V for current peak value n=30 rated value about time withstand surrent in cold energting state.	55.8 kVA
short-time withstand current in cold operating state up to 40 °C	
 limited to 1 s switching at zero current maximum 	1 298 A; Use minimum cross-section acc. to AC-1 rated value
limited to 1's switching at zero current maximum limited to 5's switching at zero current maximum	898 A; Use minimum cross-section acc. to AC-1 rated value
Ilimited to 10 s switching at zero current maximum Ilimited to 20 s switching at zero current maximum	640 A; Use minimum cross-section acc. to AC-1 rated value
Iimited to 30 s switching at zero current maximum	414 A; Use minimum cross-section acc. to AC-1 rated value
Iimited to 60 s switching at zero current maximum	333 A; Use minimum cross-section acc. to AC-1 rated value
no-load switching frequency	
• at AC	5 000 1/h
operating frequency	
at AC-1 maximum	700 1/h
at AC-2 maximum	350 1/h

and A.C. 2 magnifications	E00.4/b
• at AC-3 maximum	500 1/h
• at AC-3e maximum	500 1/h
• at AC-4 maximum	150 1/h
Control circuit/ Control	A.O.
type of voltage of the control supply voltage	AC
control supply voltage at AC	220.1/
at 50 Hz rated value	230 V
at 60 Hz rated value	230 V
operating range factor control supply voltage rated value of magnet coil at AC	
• at 50 Hz	0.8 1.1
• at 60 Hz	0.85 1.1
apparent pick-up power of magnet coil at AC	
• at 50 Hz	210 VA
• at 60 Hz	188 VA
inductive power factor with closing power of the coil	0.00
• at 50 Hz	0.69
• at 60 Hz	0.65
apparent holding power of magnet coil at AC	47.0\/A
• at 50 Hz	17.2 VA
• at 60 Hz	16.5 VA
inductive power factor with the holding power of the coil	
● at 50 Hz	0.36
• at 60 Hz	0.39
closing delay	
• at AC	10 80 ms
opening delay	40 40
• at AC	10 18 ms
arcing time	10 20 ms Standard A1 - A2
control version of the switch operating mechanism	Standard AT - AZ
Auxiliany aircuit	
Auxiliary circuit	1
number of NC contacts for auxiliary contacts instantaneous contact	1
number of NC contacts for auxiliary contacts instantaneous contact number of NO contacts for auxiliary contacts instantaneous contact	1
number of NC contacts for auxiliary contacts instantaneous contact number of NO contacts for auxiliary contacts instantaneous contact operational current at AC-12 maximum	
number of NC contacts for auxiliary contacts instantaneous contact number of NO contacts for auxiliary contacts instantaneous contact operational current at AC-12 maximum operational current at AC-15	1 10 A
number of NC contacts for auxiliary contacts instantaneous contact number of NO contacts for auxiliary contacts instantaneous contact operational current at AC-12 maximum operational current at AC-15 • at 230 V rated value	1 10 A 10 A
number of NC contacts for auxiliary contacts instantaneous contact number of NO contacts for auxiliary contacts instantaneous contact operational current at AC-12 maximum operational current at AC-15 • at 230 V rated value • at 400 V rated value	1 10 A 10 A 3 A
number of NC contacts for auxiliary contacts instantaneous contact number of NO contacts for auxiliary contacts instantaneous contact operational current at AC-12 maximum operational current at AC-15 • at 230 V rated value • at 400 V rated value • at 500 V rated value	1 10 A 10 A 3 A 2 A
number of NC contacts for auxiliary contacts instantaneous contact number of NO contacts for auxiliary contacts instantaneous contact operational current at AC-12 maximum operational current at AC-15 • at 230 V rated value • at 400 V rated value • at 500 V rated value • at 690 V rated value	1 10 A 10 A 3 A
number of NC contacts for auxiliary contacts instantaneous contact number of NO contacts for auxiliary contacts instantaneous contact operational current at AC-12 maximum operational current at AC-15 • at 230 V rated value • at 400 V rated value • at 500 V rated value • at 690 V rated value operational current at DC-12	1 10 A 10 A 3 A 2 A 1 A
number of NC contacts for auxiliary contacts instantaneous contact number of NO contacts for auxiliary contacts instantaneous contact operational current at AC-12 maximum operational current at AC-15 • at 230 V rated value • at 400 V rated value • at 500 V rated value • at 690 V rated value operational current at DC-12 • at 24 V rated value	1 10 A 10 A 3 A 2 A 1 A
number of NC contacts for auxiliary contacts instantaneous contact number of NO contacts for auxiliary contacts instantaneous contact operational current at AC-12 maximum operational current at AC-15 • at 230 V rated value • at 400 V rated value • at 500 V rated value • at 690 V rated value operational current at DC-12 • at 24 V rated value • at 48 V rated value	1 10 A 10 A 3 A 2 A 1 A
number of NC contacts for auxiliary contacts instantaneous contact number of NO contacts for auxiliary contacts instantaneous contact operational current at AC-12 maximum operational current at AC-15 • at 230 V rated value • at 400 V rated value • at 500 V rated value • at 690 V rated value operational current at DC-12 • at 24 V rated value • at 48 V rated value • at 60 V rated value • at 60 V rated value	1 10 A 10 A 3 A 2 A 1 A 10 A 6 A 6 A
number of NC contacts for auxiliary contacts instantaneous contact number of NO contacts for auxiliary contacts instantaneous contact operational current at AC-12 maximum operational current at AC-15 • 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	1 10 A 10 A 3 A 2 A 1 A 10 A 6 A 6 A 3 A
number of NC contacts for auxiliary contacts instantaneous contact number of NO contacts for auxiliary contacts instantaneous contact operational current at AC-12 maximum operational current at AC-15 • 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	1 10 A 10 A 3 A 2 A 1 A 10 A 6 A 6 A 6 A 3 A 2 A
number of NC contacts for auxiliary contacts instantaneous contact number of NO contacts for auxiliary contacts instantaneous contact operational current at AC-12 maximum operational current at AC-15 • 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	1 10 A 10 A 3 A 2 A 1 A 10 A 6 A 6 A 3 A 2 A 1 A
number of NC contacts for auxiliary contacts instantaneous contact number of NO contacts for auxiliary contacts instantaneous contact operational current at AC-12 maximum operational current at AC-15 • 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	1 10 A 10 A 3 A 2 A 1 A 10 A 6 A 6 A 6 A 3 A 2 A
number of NC contacts for auxiliary contacts instantaneous contact number of NO contacts for auxiliary contacts instantaneous contact operational current at AC-12 maximum operational current at AC-15 • at 230 V rated value • at 400 V rated value • at 500 V rated value • at 690 V rated value operational current at DC-12 • at 24 V rated value • at 48 V rated value • at 60 V rated value • at 110 V rated value • at 125 V rated value • at 220 V rated value • at 600 V rated value • at 600 V rated value • at 600 V rated value	1 10 A 10 A 3 A 2 A 1 A 10 A 6 A 6 A 3 A 2 A 1 A 0.15 A
number of NC contacts for auxiliary contacts instantaneous contact number of NO contacts for auxiliary contacts instantaneous contact operational current at AC-12 maximum operational current at AC-15 • 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 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 220 V rated value • at 600 V rated value	1 10 A 10 A 3 A 2 A 1 A 10 A 6 A 6 A 6 A 2 A 1 A 0.15 A
number of NC contacts for auxiliary contacts instantaneous contact number of NO contacts for auxiliary contacts instantaneous contact operational current at AC-12 maximum operational current at AC-15 • 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 25 V rated value • at 27 V rated value • at 28 V rated value • at 29 V rated value • at 20 V rated value • at 48 V rated value • at 48 V rated value • at 48 V rated value	1 10 A 10 A 3 A 2 A 1 A 10 A 6 A 6 A 6 A 3 A 2 A 1 A 0.15 A
number of NC contacts for auxiliary contacts instantaneous contact number of NO contacts for auxiliary contacts instantaneous contact operational current at AC-12 maximum operational current at AC-15 • 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 24 V rated value • at 24 V rated value • at 600 V rated value	1 10 A 10 A 3 A 2 A 1 A 10 A 6 A 6 A 3 A 2 A 1 A 0.15 A
number of NC contacts for auxiliary contacts instantaneous contact number of NO contacts for auxiliary contacts instantaneous contact operational current at AC-12 maximum operational current at AC-15 • 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 24 V rated value • at 320 V rated value • at 320 V rated value • at 48 V rated value • at 600 V rated value • at 600 V rated value • at 48 V rated value • at 410 V rated value	1 10 A 10 A 3 A 2 A 1 A 10 A 6 A 6 A 3 A 2 A 1 A 0.15 A
number of NC contacts for auxiliary contacts instantaneous contact number of NO contacts for auxiliary contacts instantaneous contact operational current at AC-12 maximum operational current at AC-15 • 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 25 V rated value • at 600 V rated value • at 125 V rated value • at 125 V rated value • at 125 V rated value • at 110 V rated value	1 10 A 10 A 3 A 2 A 1 A 10 A 6 A 6 A 3 A 2 A 1 A 0.15 A
number of NC contacts for auxiliary contacts instantaneous contact number of NO contacts for auxiliary contacts instantaneous contact operational current at AC-12 maximum operational current at AC-15 • 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 24 V rated value • at 25 V rated value • at 20 V rated value • at 20 V rated value	1 10 A 10 A 3 A 2 A 1 A 10 A 6 A 6 A 6 A 3 A 2 A 1 A 0.15 A 10 A 2 A 2 A 1 A 0.9 A 0.3 A
number of NC contacts for auxiliary contacts instantaneous contact number of NO contacts for auxiliary contacts instantaneous contact operational current at AC-12 maximum operational current at AC-15 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 110 V rated value at 110 V rated value at 125 V rated value at 600 V rated value at 600 V rated value at 600 V rated value at 48 V rated value at 600 V rated value at 110 V rated value at 220 V rated value at 48 V rated value at 48 V rated value at 48 V rated value at 24 V rated value at 25 V rated value at 27 V rated value at 28 V rated value at 29 V rated value at 110 V rated value at 110 V rated value at 125 V rated value at 125 V rated value at 125 V rated value at 120 V rated value	1 10 A 10 A 3 A 2 A 1 A 10 A 6 A 6 A 6 A 3 A 2 A 1 A 0.15 A 10 A 2 A 2 A 1 A 0.9 A 0.3 A 0.1 A
number of NC contacts for auxiliary contacts instantaneous contact number of NO contacts for auxiliary contacts instantaneous contact operational current at AC-12 maximum operational current at AC-15 • at 230 V rated value • at 400 V rated value • at 500 V rated value • at 690 V rated value • at 690 V rated value • at 24 V rated value • at 48 V rated value • at 48 V rated value • at 110 V rated value • at 125 V rated value • at 220 V rated value • at 600 V rated value • at 600 V rated value • at 24 V rated value • at 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 20 V rated value	1 10 A 10 A 3 A 2 A 1 A 10 A 6 A 6 A 6 A 3 A 2 A 1 A 0.15 A 10 A 2 A 2 A 1 A 0.9 A 0.3 A
number of NC contacts for auxiliary contacts instantaneous contact number of NO contacts for auxiliary contacts instantaneous contact operational current at AC-12 maximum operational current at AC-15 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 110 V rated value at 110 V rated value at 125 V rated value at 600 V rated value at 600 V rated value at 600 V rated value at 48 V rated value at 600 V rated value at 110 V rated value at 220 V rated value at 48 V rated value at 48 V rated value at 48 V rated value at 24 V rated value at 25 V rated value at 27 V rated value at 28 V rated value at 29 V rated value at 110 V rated value at 110 V rated value at 125 V rated value at 125 V rated value at 125 V rated value at 120 V rated value	1 10 A 10 A 3 A 2 A 1 A 10 A 6 A 6 A 6 A 3 A 2 A 1 A 0.15 A 10 A 2 A 2 A 1 A 0.9 A 0.3 A 0.1 A

* at 460 V rated value	at 400 V roted	CF A
yielded mechanical performance (hp) • for angle-phase AC motor — at 110/120 V rated value — at 200/208 V rated value — at 200/208 V rated value — at 200/208 V rated value — at 400/400 V rated value — at 500/500 V rated value — with type of coordination 1 required — with type of assignment 2 required — sate and 500/500 V rated value — with type of assignment 2 required — sate and 500/500 V rated value — sate and 500/500	at 480 V rated value	65 A
• for single-phase AC motor — at 101/120 V rated value — at 220/230 V rated value — at 420/208 V rated value — at 420/208 V rated value — at 45/5600 V rated value — at 57/5600 V rated value — at 57/5600 V rated value — ot 57/5600 V rated value — at 57/5600 V rated value — ot 57/5600 V rated value — with type of coordination 1 required — with type of coordination 1 required — with type of assignment 2 required — standard, mounting dimensions — mounting position — standard, mounting dimensions — standard, mounting dimensions — with side by-side mounting — with side by-side mounting — with side by-side mounting — of or wards		02 A
at 10/120 V rated value at 230 V rated value at 200 208 V rated value at 200 208 V rated value at 200208 V rated value 20 hp at 200208 V rated value 20 hp at 400/480 V rated value 20 hp		
at 230 V rated value for 3 -phase AC motor at 200/208 V rated value at 200/208 V rated value at 4200/208 V rated value at 4200/208 V rated value at 4200/208 V rated value at 575/600 V rated value with type of coordination 1 required with type of coordination 1 required with type of assignment 2 required for short-circuit protection of the auxiliary switch required	5 1	E ha
• for 3-phase AC motor — at 200/208 V rated value — at 220/230 V rated value — at 270/230 V rated value — at 578/000 V rated value — 60 hp Stort-circuit protection design of the fuse link • for short-circuit protection of the main circuit — with type of assignment 2 required — with type of assignment 2 required — with type of assignment 2 required — or short-circuit protection of the auxiliary switch requied — to short-circuit protection of the auxiliary switch requied — to short-circuit protection of the auxiliary switch requied — with type of assignment 2 required — state in switch — with type of assignment 2 required — state in switch — state by-side mounting — standing, on horizontal mounting surface — serve and snap-on mounting onto 36 mm standard mounting rail according to DIN EN 60715 — year with side-by-side mounting — forwards — to main current circuit — at the side — downwards — of for prounded parts — for forwards — to main current circuit — to main current circuit — of main contacts — solid or stranded — solid o		
at 200/208 V rated value		15 np
- al 220/230 V rated value	·	
— at 575/600 V raied value 60 hp A600 / P600 Short-circuit protection design of the fuse link • for short-circuit protection of the main circuit — with type of coordination 1 required (415 V, 80 kA) • with type of assignment 2 required (415 V, 80 kA) • for short-circuit protection of the auxiliary switch required (415 V, 80 kA) • for short-circuit protection of the auxiliary switch required (415 V, 80 kA) • for short-circuit protection of the auxiliary switch required (415 V, 80 kA) • for short-circuit protection of the auxiliary switch required mounting position fastening method screw and snap-on mounting surface screw and snap-on mo		·
contact rating of auxillary contacts according to UL Short-circuit protection design of the fuse link • for short-circuit protection of the main circuit — with type of coordination 1 required — with type of assignment 2 required • for short-circuit protection of the auxiliary switch required required spacing • if or short-circuit protection of the auxiliary switch required spacing • for short-circuit protection of the auxiliary switch required spacing • if or short-circuit protection of the auxiliary switch required spacing • if or short-circuit protection of the auxiliary switch required spacing • if or short-circuit protection of the auxiliary switch required spacing • if or short-circuit protection of the auxiliary switch required spacing • if or short-circuit protection of the auxiliary switch required spacing • if or short-circuit protection of the auxiliary switch required spacing • if or short-circuit protection of the auxiliary switch required spacing • with side-by-side mounting — forwards — at the side • for grounded parts — forwards — at the side — downwards — at the side — downwards — at the side — downwards — ownwards — ownwards — ownwards — ownwards — ownwards — of main current circuit • for auxiliary and control circuit • of or auxiliary and control circuit • of or auxiliary and control circuit • of or magnet coil type of connectable conductor cross-section for main contacts • finely stranded with core end processing • at AWG cables for main contacts • finely stranded with core end processing • at AWG cables for main contacts • finely stranded with core end processing • at AWG cables for main contacts • finely stranded with core end processing • at AWG cables for main contacts • finely stranded with core end processing • at AWG cables for main contacts • finely stranded with core end processing • at AWG cables for main contacts • finely stranded with core end processing • at AWG cables for main contacts • finely stranded with core end processing • at AWG cables for main contac		
Short-circuit protection design of the fuse link of refericircuit protection of the main circuit with type of coordination 1 required 415 V. 80 kA) gS: 160A (690 V. 100 kA), aM: 160 A (690 V. 100 kA), BS88: 200 A (415 V. 80 kA) gS: 160A (690 V. 100 kA), aM: 80A (690 V. 100 kA), BS88: 125A (415 V. 80 kA) gS: 160A (690 V. 100 kA), aM: 80A (690 V. 100 kA), BS88: 125A (415 V. 80 kA) gS: 160A (690 V. 100 kA), aM: 80A (690 V. 100 kA), BS88: 125A (415 V. 80 kA) gS: 160A (690 V. 100 kA), aM: 80A (690 V. 100 kA), BS88: 125A (415 V. 80 kA) gS: 160A (690 V. 100 kA), aM: 80A (690 V. 100 kA), BS88: 200 A (415 V. 80 kA) gS: 160A (690 V. 100 kA), aM: 80A (690 V. 100 kA), BS88: 200 A (415 V. 80 kA) gS: 160A (690 V. 100 kA), aM: 80A (690 V. 100 kA),		_ ·
design of the fuse link • for short-circuit protection of the main circuit — with type of coordination 1 required — with type of assignment 2 required • for short-circuit protection of the auxiliary switch • for main current circuit • for auxiliary and control circuit • for main contacts • for main co		A600 / P600
• for short-circuit protection of the main circuit — with type of coordination 1 required — with type of assignment 2 required — with type of assignment 2 required — with type of assignment 2 required • for short-circuit protection of the auxiliary switch required • for short-circuit protection of the auxiliary switch required • for short-circuit protection of the auxiliary switch required • for short-circuit protection of the auxiliary switch required • for short-circuit protection of the auxiliary switch required • for short-circuit protection of the auxiliary switch required • for short-circuit protection of the auxiliary switch required • for short-circuit protection of the auxiliary switch required • for short-circuit protection of the auxiliary switch required • for short-circuit protection of the auxiliary switch required • for short-circuit protection of the auxiliary switch required • for short-circuit protection of the auxiliary switch required • for short-circuit protection of the auxiliary switch required • for short-circuit protection of the auxiliary switch required • for short-circuit protection of the auxiliary switch required • side-by-side mounting • standing, on horizontal mounting surface • screw and snap-on mounting onto 35 mm standard mounting rall according to DIN EN 60715 • screw and snap-on mounting onto 35 mm standard mounting rall according to DIN EN 60715 • screw and snap-on mounting onto 35 mm standard mounting rall according to DIN EN 60715 • screw and snap-on mounting onto 35 mm standard mounting rall according to DIN EN 60715 • screw and snap-on mounting onto 35 mm standard mounting rall according to DIN EN 60715 • side-by-side mounting • standing, on horizontal mounting surface • screw and snap-on mounting onto 35 mm standard mounting rall according to DIN EN 60715 • for manufaction according to DIN EN 60715 • for manufaction according to DIN EN 60715	Short-circuit protection	
- with type of coordination 1 required - with type of assignment 2 required - with type of assignment 2 required - for short-circuit protection of the auxiliary switch - for short-circuit protection of the auxiliary	design of the fuse link	
- with type of assignment 2 required • for short-circuit protection of the auxiliary switch required • for short-circuit protection of the auxiliary switch required • for short-circuit protection of the auxiliary switch required • for short-circuit protection of the auxiliary switch required • for short-circuit protection of the auxiliary switch girl 1500 V, 1 kA) for short-circuit protection of the auxiliary switch girl 1500 V, 1 kA) for short-circuit protection of the auxiliary switch girl 1500 V, 1 kA) for short-circuit protection of the auxiliary switch girl 1500 V, 1 kA) for short-circuit protection of the auxiliary switch girl 1500 V, 1 kA) for short-circuit protection of the auxiliary switch girl 1500 V, 1 kA) for short-circuit protection of the auxiliary switch girl 1500 V, 1 kA) for short-circuit protection of the auxiliary switch girl 1500 V, 1 kA) for short-circuit protection of the auxiliary switch girl 1500 V, 1 kA) for short-circuit protection of the auxiliary switch girl 1500 V, 1 kA) for short-circuit protection of the auxiliary switch girl 1500 V, 1 kA) for short-circuit protection of the auxiliary switch girl 1500 V, 1 kA) for short-circuit protection of the auxiliary switch girl 1500 V, 1 kA) for short-circuit protection of the auxiliary switch girl 1500 V, 1 kA) for short-circuit protection of the auxiliary switch girl 1500 V, 1 kA) for short-circuit protection of the auxiliary switch girl 1500 V, 1 kA) for short-circuit protection of the auxiliary switch girl 1500 V, 1 kA) for short-circuit protection of the auxiliary switch girl 1500 V, 1 kA) for short-circuit protection of the auxiliary switch girl 1500 V, 1 kA) for short-circuit protection of the auxiliary switch girl 1500 V, 1 kA) for short-circuit protection of the auxiliary switch girl 1500 V, 1 kA) for short-circuit protection of the auxiliary switch girl 1500 V, 1 kA) for short-circuit protection of the auxiliary switch girl 1500 V, 1 kA) for short-circuit pro	 for short-circuit protection of the main circuit 	
for short-circuit protection of the auxiliary switch required gG: 10 A (500 V, 1 KA)	— with type of coordination 1 required	
required mounting position state in position fastening method side-by-side mounting rail according to DIN EN 60715 side-by-side mounting side-by-s	— with type of assignment 2 required	
mounting position fastening method screw and snap-on mounting out 35 mm standard mounting rail according to DIN EN 60715 ves height width depth 114 mm vidth depth 130 mm required spacing • with side-by-side mounting — forwards — upwards — downwards — at the side • for grounded parts — at the side — downwards — at the side — downwards — 10 mm • of rive parts — forwards — at the side — downwards — 10 mm • for live parts — for live parts — for live parts — for live parts — at the side — downwards — at the side — downwards • for live parts — for live parts — for live parts — for live parts — at the side — at waide — of ownwards — 10 mm • for main current circuit • for auxiliary and control circuit • for auxiliary and control circuit • for auxiliary and control circuit • for main current circuit • for main contacts — solid or stranded — finely stranded with core end processing • fin		
mounting position fastening method side-by-side mounting surface some and snap-on mounting surface sord according to DiN EN 60715 some side-by-side mounting side mounting sording side mounting side side side side side side side side		
Fastening method side-by-side mounting side-by-side mounting height width depth forwards - upwards - downwards - the side for grounded parts - forwards - upwards - the side forwards - upwards - the side for grounded parts - forwards - upwards - the side for grounded parts - forwards - upwards - at the side for grounded parts - forwards - upwards - the side for main contacts - downwards - downwards - to main current circuit soring-loaded terminals type of connectable conductor cross-section for main contacts finely stranded with core end processing finely stranded with core en		standing, on horizontal mounting surface
e side-by-side mounting height 114 mm width 55 mm depth 130 mm required spacing • with side-by-side mounting — forwards 10 mm — at the side 0 mm — forwards 10 mm — forwards 10 mm — at the side 0 mm — forwards 10 mm — at the side 0 mm — forwards 10 mm — at the side 0 mm — forwards 10 mm — at the side 0 mm — at the side 0 mm — downwards 10 mm — at the side 0 mm — downwards 10 mm — at the side 0 mm — downwards 10 mm — for live parts — for wards 10 mm — the side 0 mm — at the side 0 mm — downwards 10 mm — at the side 0 mm — connectable conductor cross-sections — for main current circuit spring-loaded terminals — at connectable conductor cross-section for main contacts — solid or stranded 2x (1 35 mm²), 1x (1 50 mm²) = x (1 25 mm²), 1x (1 50 mm²) = x (1 25 mm²), 1x (1 35 mm²) = x (1 25 mm²),	fastening method	
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width 55 mm depth 130 mm required spacing with side-by-side mounting forwards upwards downwards at the side for grounded parts for grounded parts upwards 10 mm 10 mm upwards 10 mm upwards 10 mm at the side 6 mm downwards 10 mm for live parts 10 mm - downwards 10 mm - downwards 10 mm - downwards 10 mm - drownwards 10 mm - drownwards 10 mm of or main cortect 6 mm 20 mm consections/ Terminals type of electrical connection screw-type terminals spring-loaded terminals spring-loaded terminals spring-type terminals of or auxiliary and control circuit spring-type terminals spring-type terminals		114 mm
required spacing with side-by-side mounting — forwards — upwards — downwards — at the side for grounded parts — forwards — upwards — at the side — downwards — to five parts — forwards — to five parts — forwards — upwards — to mm for live parts — forwards — upwards — upwards — upwards — upwards — upwards — to mm Connections/ Terminals type of electrical connection of or main current circuit of or auxiliary and control circuit of magnet coil type of connectable conductor cross-sections of main contacts — solid or stranded — finely stranded with core end processing at AWG cables for main contacts of finely stranded with core end processing of neinely stranded with core end processing of finely stranded with core end processing of neinely stranded with core end processing of finely stranded with core end processing		55 mm
required spacing with side-by-side mounting — forwards — upwards — downwards — at the side for grounded parts — forwards — upwards — at the side — downwards — to five parts — forwards — to five parts — forwards — upwards — to mm for live parts — forwards — upwards — upwards — upwards — upwards — upwards — to mm Connections/ Terminals type of electrical connection of or main current circuit of or auxiliary and control circuit of magnet coil type of connectable conductor cross-sections of main contacts — solid or stranded — finely stranded with core end processing at AWG cables for main contacts of finely stranded with core end processing of neinely stranded with core end processing of finely stranded with core end processing of neinely stranded with core end processing of finely stranded with core end processing	depth	130 mm
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- upwards 10 mm 10		10 mm
- downwards - at the side • for grounded parts - forwards - upwards - at the side - downwards - at the side - downwards - for live parts - forwards - upwards - upwards - forwards - upwards - downwards - upwards - downwards - at the side - downwards - at the side - forwards - upwards - downwards - at the side Connections/ Terminals type of electrical connection • for main current circuit • for auxiliary and control circuit • at contactor for auxiliary contacts • of magnet coil type of connectable conductor cross-sections • for main contacts - solid or stranded - finely stranded with core end processing • finely stranded with core end processing		
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- at the side - downwards • for live parts - forwards - upwards - downwards - at the side - downwards - upwards - at the side - downwards - at the side - for main current circuit - for main current circuit - for auxiliary and control circuit - at contactor for auxiliary contacts - of magnet coil - for main contacts - solid or stranded - finely stranded with core end processing - at AWG cables for main contacts - finely stranded with core end processing - finely stranded with core end processi		
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 at contactor for auxiliary contacts of magnet coil Spring-type terminals 2x (1 35 mm²), 1x (1 50 mm²) 2x (1 25 mm²), 1x (1 35 mm²) 2x (1 25 mm²), 1x (1 35 mm²) 2x (18 2), 1x (18 1) Connectable conductor cross-section for main contacts finely stranded with core end processing 1 35 mm² connectable conductor cross-section for auxiliary 		
 ◆ of magnet coil Spring-type terminals type of connectable conductor cross-sections ◆ for main contacts — solid or stranded — finely stranded with core end processing ◆ at AWG cables for main contacts 2x (1 35 mm²), 1x (1 50 mm²) 2x (1 25 mm²), 1x (1 35 mm²) 2x (18 2), 1x (18 1) connectable conductor cross-section for main contacts ◆ finely stranded with core end processing 1 35 mm² connectable conductor cross-section for auxiliary 		
type of connectable conductor cross-sections • for main contacts — solid or stranded — finely stranded with core end processing • at AWG cables for main contacts connectable conductor cross-section for main contacts • finely stranded with core end processing • finely stranded with core end processing connectable conductor cross-section for auxiliary type of connectable conductor cross-sections 2x (1 35 mm²), 1x (1 50 mm²) 2x (1 25 mm²), 1x (1 35 mm²) 2x (18 2), 1x (18 1)		
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 — solid or stranded — finely stranded with core end processing • at AWG cables for main contacts • onnectable conductor cross-section for main contacts • finely stranded with core end processing • finely stranded with core end processing connectable conductor cross-section for auxiliary 		
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 at AWG cables for main contacts connectable conductor cross-section for main contacts finely stranded with core end processing connectable conductor cross-section for auxiliary 	— solid or stranded	
connectable conductor cross-section for main contacts • finely stranded with core end processing 1 35 mm² connectable conductor cross-section for auxiliary	 finely stranded with core end processing 	2x (1 25 mm²), 1x (1 35 mm²)
contacts ● finely stranded with core end processing 1 35 mm² connectable conductor cross-section for auxiliary	at AWG cables for main contacts	2x (18 2), 1x (18 1)
connectable conductor cross-section for auxiliary		
connectable conductor cross-section for auxiliary	 finely stranded with core end processing 	1 35 mm²

 solid or stranded 	0.5 2.5 mm²
 finely stranded with core end processing 	0.5 1.5 mm²
 finely stranded without core end processing 	0.5 2.5 mm²
type of connectable conductor cross-sections	
 for auxiliary contacts 	
— solid or stranded	2x (0.5 2.5 mm²)
 finely stranded with core end processing 	2x (0.5 1.5 mm²)
 finely stranded without core end processing 	2x (0.5 2.5 mm²)
at AWG cables for auxiliary contacts	2x (20 14)
AWG number as coded connectable conductor cross section	
 for main contacts 	18 1
 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	1 000 000
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 y
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 **Declaration of Conformity Test Certificates** Machinery



Type Examination Certificate





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

Type Test Certificates/Test Report

Marine / Shipping













Marine / Shipping Railway **Dangerous Good** other



<u>Confirmation</u> <u>Vibration and Shock</u> <u>Transport Information</u> <u>tion</u>

Further information

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=3RT2038-3AL20-1AA0

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2038-3AL20-1AA0

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

https://support.industry.siemens.com/cs/ww/en/ps/3RT2038-3AL20-1AA0

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2038-3AL20-1AA0&lang=en

Characteristic: Tripping characteristics, I2t, Let-through current

https://support.industry.siemens.com/cs/ww/en/ps/3RT2038-3AL20-1AA0/char

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

http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2038-3AL20-1AA0&objecttype=14&gridview=view1

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