SIEMENS

Data sheet 3RT2016-1QB42



power contactor, AC-3e/AC-3, 9 A, 4 kW / 400 V, 3-pole, 24 V DC, 0.7-1.25* Us, with varistor plugged on, auxiliary contacts: 1 NC, screw terminal, size: S00, not expandable with auxiliary switch

product brand name	SIRIUS
product designation	Coupling contactor
product type designation	3RT2
General technical data	
size of contactor	S00
product extension	
 function module for communication 	No
auxiliary switch	No
power loss [W] for rated value of the current	
 at AC in hot operating state 	0.9 W
 at AC in hot operating state per pole 	0.3 W
without load current share typical	2.8 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 protective separation between coil and main contacts according to EN 60947-1	400 V
shock resistance at rectangular impulse	
• at DC	6,7g / 5 ms, 4,2g / 10 ms
shock resistance with sine pulse	
• at DC	10,5g / 5 ms, 6,6g / 10 ms
mechanical service life (operating cycles)	
of contactor typical	30 000 000
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	
 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 %
Main circuit	
number of poles for main current circuit	3
number of NO contacts for main contacts	3
operating voltage	
at AC-3 rated value maximum	690 V

 at AC-3e rated value maximum 	690 V
operational current	
 at AC-1 at 400 V at ambient temperature 40 °C rated value 	22 A
• at AC-1	
— up to 690 V at ambient temperature 40 $^{\circ}\text{C}$ rated value	22 A
— up to 690 V at ambient temperature 60 $^{\circ}\text{C}$ rated value	20 A
• at AC-3	
— at 400 V rated value	9 A
— at 500 V rated value	7.7 A
— at 690 V rated value	6.7 A
• at AC-3e	
— at 400 V rated value	9 A
— at 500 V rated value	7.7 A
— at 690 V rated value	6.7 A
 at AC-4 at 400 V rated value 	8.5 A
• at AC-5a up to 690 V rated value	19.4 A
 at AC-5b up to 400 V rated value 	7.4 A
• at AC-6a	
— up to 230 V for current peak value n=20 rated value	5.3 A
— up to 400 V for current peak value n=20 rated value	5.3 A
— up to 500 V for current peak value n=20 rated value	5.3 A
— up to 690 V for current peak value n=20 rated value	5 A
• at AC-6a	
 up to 230 V for current peak value n=30 rated value 	3.5 A
— up to 400 V for current peak value n=30 rated value	3.5 A
— up to 500 V for current peak value n=30 rated value	3.6 A
— up to 690 V for current peak value n=30 rated value	3.3 A
minimum cross-section in main circuit at maximum AC-1 rated value	4 mm²
operational current for approx. 200000 operating cycles at AC-4	
• at 400 V rated value	4.1 A
at 690 V rated value	3.3 A
operational current	0.071
• at 1 current path at DC-1	
— at 24 V rated value	20 A
— at 24 V rated value — at 60 V rated value	20 A 20 A
— at 60 V rated value	20 A
— at 60 V rated value— at 110 V rated value	20 A 2.1 A
— at 60 V rated value— at 110 V rated value— at 220 V rated value	20 A 2.1 A 0.8 A
 at 60 V rated value at 110 V rated value at 220 V rated value at 440 V rated value 	20 A 2.1 A 0.8 A 0.6 A
 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 	20 A 2.1 A 0.8 A
 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 	20 A 2.1 A 0.8 A 0.6 A 0.6 A
 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 	20 A 2.1 A 0.8 A 0.6 A
 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 	20 A 2.1 A 0.8 A 0.6 A 0.6 A
 at 60 V rated value at 110 V rated value at 220 V rated value at 440 V rated value at 600 V rated value with 2 current paths in series at DC-1 at 24 V rated value at 60 V rated value 	20 A 2.1 A 0.8 A 0.6 A 0.6 A 20 A
 at 60 V rated value at 110 V rated value at 220 V rated value at 440 V rated value at 600 V rated value with 2 current paths in series at DC-1 at 24 V rated value at 60 V rated value at 110 V rated value at 220 V rated value 	20 A 2.1 A 0.8 A 0.6 A 0.6 A 20 A 20 A 12 A 1.6 A
 at 60 V rated value at 110 V rated value at 220 V rated value at 440 V rated value at 600 V rated value with 2 current paths in series at DC-1 at 24 V rated value at 60 V rated value at 110 V rated value 	20 A 2.1 A 0.8 A 0.6 A 0.6 A 20 A 20 A 12 A 1.6 A 0.8 A
 at 60 V rated value at 110 V rated value at 220 V rated value at 440 V rated value at 600 V rated value with 2 current paths in series at DC-1 at 24 V rated value at 60 V rated value at 110 V rated value at 220 V rated value at 440 V rated value 	20 A 2.1 A 0.8 A 0.6 A 0.6 A 20 A 20 A 12 A 1.6 A
 at 60 V rated value at 110 V rated value at 220 V rated value at 440 V rated value at 600 V rated value with 2 current paths in series at DC-1 at 24 V rated value at 60 V rated value at 110 V rated value at 220 V rated value at 440 V rated value at 600 V rated value 	20 A 2.1 A 0.8 A 0.6 A 0.6 A 20 A 20 A 12 A 1.6 A 0.8 A
 at 60 V rated value at 110 V rated value at 220 V rated value at 440 V rated value at 600 V rated value with 2 current paths in series at DC-1 at 24 V rated value at 60 V rated value at 110 V rated value at 220 V rated value at 440 V rated value at 600 V rated value 	20 A 2.1 A 0.8 A 0.6 A 0.6 A 20 A 20 A 12 A 1.6 A 0.8 A 0.7 A
 at 60 V rated value at 110 V rated value at 220 V rated value at 440 V rated value at 600 V rated value with 2 current paths in series at DC-1 at 24 V rated value at 60 V rated value at 110 V rated value at 220 V rated value at 440 V rated value at 600 V rated value with 3 current paths in series at DC-1 at 24 V rated value 	20 A 2.1 A 0.8 A 0.6 A 0.6 A 20 A 20 A 12 A 1.6 A 0.8 A 0.7 A
 at 60 V rated value at 110 V rated value at 220 V rated value at 440 V rated value at 600 V rated value with 2 current paths in series at DC-1 at 24 V rated value at 60 V rated value at 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 24 V rated value at 3 current paths in series at DC-1 at 24 V rated value at 60 V rated value at 60 V rated value 	20 A 2.1 A 0.8 A 0.6 A 0.6 A 20 A 20 A 12 A 1.6 A 0.8 A 0.7 A
- at 110 V rated value - at 220 V rated value - at 440 V rated value - at 600 V rated value • with 2 current paths in series at DC-1 - at 24 V rated value - at 60 V rated value - at 110 V rated value - at 220 V rated value - at 440 V rated value - at 440 V rated value - at 600 V rated value - at 600 V rated value - at 600 V rated value - at 24 V rated value - at 24 V rated value - at 24 V rated value - at 300 V rated value	20 A 2.1 A 0.8 A 0.6 A 0.6 A 20 A 20 A 12 A 1.6 A 0.8 A 0.7 A
 at 60 V rated value at 110 V rated value at 220 V rated value at 440 V rated value at 600 V rated value with 2 current paths in series at DC-1 at 24 V rated value at 60 V rated value at 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 24 V rated value at 24 V rated value at 60 V rated value at 110 V rated value at 220 V rated value at 220 V rated value at 220 V rated value 	20 A 2.1 A 0.8 A 0.6 A 0.6 A 20 A 20 A 12 A 1.6 A 0.8 A 0.7 A 20 A 20 A 20 A
 at 60 V rated value at 110 V rated value at 220 V rated value at 440 V rated value at 600 V rated value with 2 current paths in series at DC-1 at 24 V rated value at 60 V rated value at 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 24 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 at 210 V rated value at 220 V rated value at 240 V rated value at 240 V rated value 	20 A 2.1 A 0.8 A 0.6 A 0.6 A 20 A 20 A 12 A 1.6 A 0.8 A 0.7 A 20 A 20 A 20 A 20 A 20 A 20 A 20 A
 at 60 V rated value at 110 V rated value at 220 V rated value at 440 V rated value at 600 V rated value with 2 current paths in series at DC-1 at 24 V rated value at 60 V rated value at 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 110 V rated value at 24 V rated value at 24 V rated value at 24 V rated value at 110 V rated value at 110 V rated value at 220 V rated value at 240 V rated value at 340 V rated value at 340 V rated value at 340 V rated value 	20 A 2.1 A 0.8 A 0.6 A 0.6 A 20 A 20 A 12 A 1.6 A 0.8 A 0.7 A 20 A 20 A 20 A 20 A 20 A 20 A 20 A
- at 60 V rated value - at 110 V rated value - at 220 V rated value - at 440 V rated value - at 600 V rated value • with 2 current paths in series at DC-1 - at 24 V rated value - at 60 V rated value - at 110 V rated value - at 220 V rated value - at 440 V rated value - at 600 V rated value - at 600 V rated value - at 24 V rated value - at 440 V rated value - at 400 V rated value - at 440 V rated value - at 600 V rated value	20 A 2.1 A 0.8 A 0.6 A 0.6 A 20 A 20 A 12 A 1.6 A 0.8 A 0.7 A 20 A 20 A 21 A 20 A 21 A 21 A 22 A 23 A 24 A 25 A 26 A 27 A 28 A 29 A 20 A 20 A 20 A 21 A 21 A 21 A
- at 60 V rated value - at 110 V rated value - at 220 V rated value - at 440 V rated value - at 600 V rated value • with 2 current paths in series at DC-1 - at 24 V rated value - at 60 V rated value - at 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 22 V rated value - at 24 V rated value - at 24 V rated value - at 60 V rated value - at 110 V rated value - at 110 V rated value - at 600 V rated value - at 600 V rated value - at 440 V rated value - at 600 V rated value - at 1 current path at DC-3 at DC-5 - at 24 V rated value	20 A 2.1 A 0.8 A 0.6 A 0.6 A 20 A 20 A 20 A 12 A 1.6 A 0.8 A 0.7 A 20 A 20 A 20 A 20 A 20 A 20 A 20 A 2

with 2 current paths in series at DC-3 at DC-5	
— at 24 V rated value	20 A
— at 60 V rated value	5 A
— at 110 V rated value	0.35 A
 with 3 current paths in series at DC-3 at DC-5 	
— at 24 V rated value	20 A
— at 60 V rated value	20 A
— at 110 V rated value	20 A
— at 220 V rated value	1.5 A
— at 440 V rated value	0.2 A
— at 600 V rated value	0.2 A
operating power	
• at AC-3	
— at 230 V rated value	2.2 kW
— at 400 V rated value	4 kW
— at 500 V rated value	4 kW
— at 690 V rated value	5.5 kW
• at AC-3e	
— at 230 V rated value	2.2 kW
— at 400 V rated value	4 kW
— at 500 V rated value	4 kW
— at 690 V rated value	5 kW
operating power for approx. 200000 operating cycles at AC-	
4	
• at 400 V rated value	2 kW
at 690 V rated value	2.5 kW
operating apparent power at AC-6a	
• up to 230 V for current peak value n=20 rated value	2 kVA
 up to 400 V for current peak value n=20 rated value 	3.6 kVA
 up to 500 V for current peak value n=20 rated value 	4.6 kVA
• up to 690 V for current peak value n=20 rated value	5.9 kVA
operating apparent power at AC-6a	
up to 230 V for current peak value n=30 rated value	1.3 kVA
up to 400 V for current peak value n=30 rated value	2.4 kVA
up to 500 V for current peak value n=30 rated value	3.1 kVA
• up to 690 V for current peak value n=30 rated value	4 kVA
short-time withstand current in cold operating state up to	
40 °C	
 limited to 1 s switching at zero current maximum 	155 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 5 s switching at zero current maximum 	111 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 10 s switching at zero current maximum 	86 A; Use minimum cross-section acc. to AC-1 rated value
• limited to 30 s switching at zero current maximum	66 A; Use minimum cross-section acc. to AC-1 rated value
• limited to 60 s switching at zero current maximum	55 A; Use minimum cross-section acc. to AC-1 rated value
no-load switching frequency	
• at DC	10 000 1/h
operating frequency	
• at AC-1 maximum	1 000 1/h
• at AC-2 maximum	750 1/h
• at AC-3 maximum	750 1/h
• at AC-3e maximum	750 1/h
• at AC-4 maximum	250 1/h
Control circuit/ Control	
type of voltage of the control supply voltage	DC
control supply voltage at DC	
• rated value	24 V
operating range factor control supply voltage rated value of magnet coil at DC	
• initial value	0.7
• full-scale value	1.25
design of the surge suppressor	with varistor
closing power of magnet coil at DC	2.8 W
holding power of magnet coil at DC	2.8 W
	

number of NC contacts for auxiliary contacts instantaneous contact 10 A		
Separation	closing delay	
+ at DC	• at DC	25 130 ms
	opening delay	
control version of the switch operating mechanism Standard A1 - A2 number of NC contracts for auxiliary contacts instantaneous control current at AC-12 maximum 10 A operational current at AC-12 maximum 10 A operational current at AC-12 maximum 10 A a # 230 V rated value 3 A a # 600 V rated value 1 A a # 600 V rated value 1 A a # 24 V rated value 6 A a # 24 V rated value 6 A a # 22 V rated value 6 A a # 22 V rated value 3 A a # 22 V rated value 1 A a # 22 V rated value 3 A a # 22 V rated value 1 A a # 22 V rated value 1 A a # 22 V rated value 1 A a # 22 V rated value 10 A a # 28 V rated value 10 A a # 28 V rated value 2 A a # 20 V rated value 1 A a # 20 V rated value 1 A a # 20 V rated value 0 A a # 20 V rated value 0 A a # 20 V rated value 0 A <	• at DC	7 20 ms
Auditory price	arcing time	10 15 ms
	control version of the switch operating mechanism	Standard A1 - A2
Contact Cont	Auxiliary circuit	
Operational current at AC-15 at 120 V rated value 10 A a 41 400 V rated value 3 A a 1 600 V rated value 1 A a 1 600 V rated value 1 A a 1 600 V rated value 10 A a 1 600 V rated value 6 A a 1 60 V rated value 6 A a 1 1 60 V rated value 3 A a 1 1 60 V rated value 3 A a 1 1 60 V rated value 3 A a 1 1 60 V rated value 3 A a 1 1 60 V rated value 1 A a 1 60 V rated value 2 A a 1 60 V rated value 1 A a 1 60 V rated value 2 A a 1 60 V rated value 1 A a 1 60 V rated value 0 3 A a 1 60 V rated value 0 3 A a 1 60 V rated value 0 5 A a 1 60 V rated value 0 5 A a 1 60 V rated value 0 5 A a 1 60 V rated value 0 5 A <		1
operational current at AC-15		40.4
* al 200 V rated value		10 A
* at 400 V rated value	•	40.4
• at 500 V rated value		
• at 890 V rated value		
a 24 V rated value		
• al 24 V rated value		1 A
• at 48 V rated value	•	40 A
• at 160 V rated value		
• al 110 V rated value		
• at 220 V rated value		
• at 600 V rated value		
0		
• at 24 V rated value 2 A • at 48 V rated value 2 A • at 80 V rated value 2 A • at 110 V rated value 2 A • at 110 V rated value 0.9 A • at 125 V rated value 0.9 A • at 125 V rated value 0.3 A • at 125 V rated value 0.1 A • at 125 V rated value 0.1 A • at 220 V rated value 0.1 A • at 600 V rated value 0.1 A • at 800 V rated value 7.6 A • at 800 V rated value 9 A • at 800 V rated value 9 A • at 800 V rated value 9 A • at 800 V rated value 9 A • at 800 V rated value 9 A • at 800 V rated value 9 A • at 230 V rated value 1 hp Passe AC motor 1 • at 100 1 V rated value 9 A • at 230 V rated value 1 hp Passe AC motor 1 • at 230 V rated value 1 hp Passe AC motor 1 • at 230 V rated value 1 hp Passe AC motor 1 • at 200 V rated value 1 hp Passe AC motor 1 • at 200 V rated value 1 hp Passe AC motor 1 • at 200 V rated value 2 hp Passe AC motor 1 • at 200 V rated value 2 hp Passe AC motor 1 • at 200 V rated value 5 hp Passe AC motor 1 • at 200 V rated value 5 hp Passe AC motor 1 • at 250 V rated value 5 hp Passe AC motor 2 • at 460/480 V rated value 5 hp Passe AC motor 2 • at 460/480 V rated value 5 hp Passe AC motor 2 • at 460/480 V rated value 5 hp Passe AC motor 3 • at 460/480 V rated value 6 hp Passe AC motor 3 • at 460/480 V rated value 7 • brown the Vertice of the main circuit 9 • with type of assignment 2 required 9 • for short-circuit protection of the main circuit 9 • with type of assignment 2 required 9 • for short-circuit protection of the auxiliary switch required 9 • for short-circuit protection of the auxiliary switch required 9 • for short-circuit protection of the auxiliary switch required 9 • for short-circuit protection of the auxiliary switch required 9 • for short-circuit protection of the auxiliary switch required 9 • for short-circuit protection of the auxiliary switch required 9 • for short-circuit protection of the auxiliary switch required 9 • for short-circuit protection of the auxiliary swit		0.10 A
• at 48 V rated value	•	10 Λ
• at 60 V rated value 1 A • at 110 V rated value 1 A • at 125 V rated value 0.9 A • at 220 V rated value 0.3 A • at 600 V rated value 0.1 A I faulty switching per 100 million (17 V, 1 mA) UCISA ratings Full-load current (FLA) for 3-phase AC motor • at 460 V rated value 9 A • at 600 V rated value 9 A • for single-phase AC motor - at 10/120 V rated value • at 300 V rated value 0.33 hp • for 3-phase AC motor - at 220/208 V rated value • for 3-phase AC motor 2 hp • at 480 V rated value 3 hp • for 3-phase AC motor 3 hp • at 220/230 V rated value 5 hp • at 220/230 V rated value 3 hp • at 75/500 V rated value 5 hp • at 575/500 V rated value 7.5 hp • for short-circuit protection of the main circuit 6 ror short-circuit protection of the main circuit • with type of coordination 1 required 9 (5: 35A (690V, 100kA), aM: 20A (690V, 100kA), BS88: 35A (415V, 80kA)<		
• at 110 V rated value 0.9 A • at 125 V rated value 0.9 A • at 200 V rated value 0.1 A contact reliability of auxiliary contacts 1 faulty switching per 100 million (17 V, 1 mA) UUCSA ratings Tull-load current (FLA) for 3-phase AC motor • at 480 V rated value 7.6 A • at 600 V rated value 9 A • for single-phase AC motor - at 110/120 V rated value • for single-phase AC motor - at 230 V rated value • at 4804 V rated value 2 hp • at 220/230 V rated value 3 hp • at 220/230 V rated value 5 hp • at 575/600 V rated value 7.5 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: 35A (690V, 100kA), aM: 20A (690V, 100kA), BS88: 35A (415V, 80kA) • for short-circuit protection of the auxiliary switch required gG: 20A (690V, 100kA), aM: 16A (690V, 100kA), BS88: 20A (415V, 80kA) • for short-circuit protection of the auxiliary switch required		
at 220 V rated value at 600 V rated value 1 faulty switching per 100 million (17 V, 1 mA) LVCSA ratings full-load current (FLA) for 3-phase AC motor at 480 V rated value 7.6 A at 600 V rated value 9 A yielded mechanical performance [hp] for single-phase AC motor at 110/120 V rated value 1 hp for 3-phase AC motor at 200/208 V rated value 2 hp at 200/208 V rated value 3 hp at 200/208 V rated value 5 hp at 575/600 V rated value 5 hp at 575/600 V rated value 6 for 3-phase AC motor - at 200/208 V rated value 7.5 hp contact rating of auxiliary contacts according to UL Short-circuit protection design of the fuse link 6 for short-circuit protection of the main circuit - with type of coordination 1 required 9 G: 35A (690V,100kA), aM: 20A (690V,100kA), BS88: 35A (415V,80kA) 9 G: 20A (690V,100kA), aM: 16A (690V, 100kA), BS88: 20A (415V,80kA) installation/ mounting/ dimensions mounting position fastening method side-by-side mounting 45 mm width 45 mm depth 117 mm		
e at 600 V rated value contact reliability of auxiliary contacts full-Ioad current (FLA) for 3-phase AC motor e at 480 V rated value e at 600 V rated value 9 A yielded mechanical performance [hp] e for single-phase AC motor — at 1101/120 V rated value 9 (at 30 V rated value 9 (at 40 V rated val		
Contact reliability of auxiliary contacts ### UL/CSA ratings full-load current (FLA) for 3-phase AC motor		
full-load current (FLA) for 3-phase AC motor • at 480 V rated value • at 600 V rated value yielded mechanical performance [hp] • for single-phase AC motor — at 110/120 V rated value • for 3-phase AC motor — at 220/208 V rated value • for 3-phase AC motor — at 220/230 V rated value — at 220/230 V rated value — at 460/480 V rated value — at 460/480 V rated value — at 575/600 V rated value — at 575/600 V rated value T,5 hp contact rating of auxiliary 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 coordination 1 required — with type of coordination 1 required — with type of assignment 2 required — with type of mounting/ dimensions mounting position +/-180* rotation possible on vertical mounting surface; can be tilted forward and backward by +/- 22.5* on vertical mounting surface fastening method • side-by-side mounting • side-by-side mounting Medith 45 mm depth		
full-load current (FLA) for 3-phase AC motor • at 480 V rated value • at 600 V rated value 9 A yielded mechanical performance [hp] • for single-phase AC motor — at 110/120 V rated value 9 to 33 hp 1 hp • for 3-phase AC motor — at 220/230 V rated value 9 to 3 hp 1 hp • for 3-phase AC motor — at 220/230 V rated value 9 to 3 hp 1		riddity officially per 100 fillinois (17 V, 1 mz)
at 480 V rated value at 600 V rated value 9 A yielded mechanical performance [hp] of or single-phase AC motor — at 110/120 V rated value 1 hp of 3-phase AC motor — at 220/2208 V rated value 2 hp — at 220/220 V rated value 3 hp — at 460/480 V rated value 5 hp — at 4575/600 V rated value 7.5 hp contact rating of auxiliary contacts according to UL Short-circuit protection design of the fuse link of or short-circuit protection of the main circuit — with type of assignment 2 required of or short-circuit protection of the auxiliary switch required Installation/ mounting/ dimensions mounting position 45 mm depth 117 mm		
at 600 V rated value yielded mechanical performance [hp] of or single-phase AC motor — at 110/120 V rated value — at 230 V rated value of or 3-phase AC motor — at 200/208 V rated value — at 220/230 V rated value — at 220/230 V rated value — at 460/480 V rated value — at 460/480 V rated value — at 460/480 V rated value — at 575/600 V rated value — at 575/600 V rated value — at 575/600 V rated value — with 750 of coordination 1 required — with type of coordination 1 required — with type of coordination 1 required of or short-circuit protection of the main circuit — with type of assignment 2 required of or short-circuit protection of the auxiliary switch required of or short-circuit protection of the auxiliary switch required of or short-circuit protection of the auxiliary switch required of or short-circuit protection of the auxiliary switch required of solon (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; can be tilted forward and backward by ship and the side-by-side mounting side-by-side mounting fastening method of side-by-side mounting faste		7.6 A
yielded mechanical performance [hp] • for single-phase AC motor — at 11/01/20 V rated value — at 230 V rated value — at 230 V rated value • for 3-phase AC motor — at 200/208 V rated value 2 hp — at 220/230 V rated value 3 hp — at 460/480 V rated value — at 4575/600 V rated value — at 575/600 V rated value — at 575/600 V rated value — at 575/600 V rated value For short-circuit protection design of the fuse link • for short-circuit protection of the main circuit — with type of coordination 1 required 9G: 35A (690V,100kA), aM: 20A (690V,100kA), BS88: 35A (415V,80kA) — with type of assignment 2 required 9G: 20A (690V,100kA), aM: 16A (690V, 100kA), BS88: 20A (415V, 80kA) 9 for short-circuit protection of the auxiliary switch required 9G: 20A (690V,100kA), aM: 16A (690V, 100kA), BS88: 20A (415V, 80kA) 9 gs: 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; can be tilted forward and backward by +/- 22.5* on vertical mounting surface; can be tilted forward and backward by +/- 22.5* on vertical mounting surface **side-by-side mounting** **width** ### Midth** #### Midth** ### Midth** ### Midth** ### Midth** #### Midth** #### Midth** ####		
• for single-phase AC motor — at 110/120 V rated value — at 230 V rated value 1 hp • for 3-phase AC motor — at 220/208 V rated value 2 hp — at 220/230 V rated value 3 hp — at 460/480 V rated value 5 hp — at 575/600 V rated value 7.5 hp contact rating of auxiliary 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 9G: 35A (690V,100kA), aM: 20A (690V,100kA), BS88: 35A (415V,80kA) • for short-circuit protection of the auxiliary switch required 9G: 20A (690V,100kA), aM: 16A (690V, 100kA), BS88: 20A (415V, 80kA) • for short-circuit protection of the auxiliary switch required 9G: 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 screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715 **eside-by-side mounting** width 45 mm depth 117 mm		
- at 110/120 V rated value - at 230 V rated value 1 hp • for 3-phase AC motor - at 200/208 V rated value 2 hp - at 220/230 V rated value 3 hp - at 460/480 V rated value 5 hp - at 575/600 V rated value 7.5 hp contact rating of auxiliary 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 9G: 35A (690V,100kA), aM: 20A (690V,100kA), BS88: 35A (415V,80kA) • for short-circuit protection of the auxiliary switch required 9G: 20A (690V,100kA), aM: 16A (690V, 100kA), BS88: 20A (415V, 80kA) • for short-circuit protection of the auxiliary switch required 9G: 10 A (500 V, 1 kA) Installation/ mounting/ dimensions mounting position #/-180° rotation possible on vertical mounting surface; can be tilted forward and backward by +/- 22.5° on vertical mounting surface fastening method • side-by-side mounting • side-by-side mounting ## 58 mm width depth 117 mm		
- at 230 V rated value • for 3-phase AC motor - at 200/208 V rated value - at 220/230 V rated value - at 220/230 V rated value - at 460/480 V rated value - at 575/600 V rated value - A600 / Q600 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 - with type of assignment 2 required - of short-circuit protection of the auxiliary switch required - for short-circuit protection of the auxiliary switch requi	- 1	0.33 hp
• for 3-phase AC motor — at 200/208 V rated value 2 hp — at 220/230 V rated value 3 hp — at 460/480 V rated value 5 hp — at 575/600 V rated value 7.5 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 9G: 35A (690V,100kA), aM: 20A (690V,100kA), BS88: 35A (415V,80kA) — with type of assignment 2 required 9G: 20A (690V,100kA), aM: 16A (690V, 100kA), BS88: 20A (415V, 80kA) • for short-circuit protection of the auxiliary switch required 9G: 10 A (500 V, 1 kA) Installation/ mounting/ dimensions mounting position 4/-180° rotation possible on vertical mounting surface; can be tilted forward and backward by +/- 22.5° on vertical mounting surface fastening method • side-by-side mounting • side-by-side mounting width depth 117 mm		
- at 220/230 V rated value 5 hp - at 460/480 V rated value 7.5 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: 35A (690V,100kA), aM: 20A (690V,100kA), BS88: 35A (415V,80kA) • with type of assignment 2 required gG: 20A (690V,100kA), aM: 16A (690V, 100kA), BS88: 20A (415V,80kA) • for short-circuit protection of the auxiliary switch required gG: 10 A (500 V, 1 kA) Installation/ mounting/ dimensions mounting position	• for 3-phase AC motor	
- at 460/480 V rated value 5 hp - at 575/600 V rated value 7.5 hp contact rating of auxiliary contacts according to UL A600 / Q600 Short-circuit protection design of the fuse link	— at 200/208 V rated value	2 hp
- at 460/480 V rated value 5 hp - at 575/600 V rated value 7.5 hp contact rating of auxiliary contacts according to UL A600 / Q600 Short-circuit protection design of the fuse link	— at 220/230 V rated value	
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 — with type of assignment 2 required • for short-circuit protection of the auxiliary switch required • for short-circuit protection of the auxiliary switch required gG: 20A (690V,100kA), aM: 20A (690V,100kA), BS88: 35A (415V,80kA) — with type of assignment 2 required gG: 20A (690V,100kA), aM: 16A (690V, 100kA), BS88: 20A (415V, 80kA) 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 screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715 • side-by-side mounting Yes height 58 mm width 45 mm depth		
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 • for short-circuit protection of the auxiliary switch required • for short-circuit protection of the auxiliary switch required gG: 20A (690V,100kA), aM: 20A (690V, 100kA), BS88: 35A (415V,80kA) • for short-circuit protection of the auxiliary switch required gG: 20A (690V,100kA), aM: 16A (690V, 100kA), BS88: 20A (415V, 80kA) gG: 10 A (500 V, 1 kA) Installation/ mounting/ dimensions mounting position +/-180° rotation possible on vertical mounting surface; can be tilted forward and backward by +/- 22.5° on vertical mounting surface fastening method • side-by-side mounting • side-by-side mounting Yes height 58 mm width 45 mm depth	— at 575/600 V rated value	7.5 hp
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 — with type of assignment 2 required — for short-circuit protection of the auxiliary switch required Installation/ mounting/ dimensions mounting position #/-180° rotation possible on vertical mounting surface; can be tilted forward and backward by +/- 22.5° on vertical mounting surface fastening method • side-by-side mounting height width 45 mm depth 117 mm	contact rating of auxiliary contacts according to UL	A600 / Q600
• 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 — of or short-circuit protection of the auxiliary switch required — of or short-circuit protection of the auxiliary switch required Installation/ mounting/ dimensions ##-180° rotation possible on vertical mounting surface; can be tilted forward and backward by +/- 22.5° on vertical mounting surface ##-180° rotation possible on vertical mounting surface; can be tilted forward and backward by +/- 22.5° on vertical mounting surface ##-180° rotation possible on vertical mounting surface; can be tilted forward and backward by +/- 22.5° on vertical mounting surface ##-180° rotation possible on vertical mounting surface; can be tilted forward and backward by +/- 22.5° on vertical mounting surface ##-180° rotation possible on vertical mounting surface; can be tilted forward and backward by +/- 22.5° on vertical mounting surface; ##-180° rotation possible on vertical mounting surface; ##-180° rotatio	Short-circuit protection	
• 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 — of or short-circuit protection of the auxiliary switch required — of or short-circuit protection of the auxiliary switch required Installation/ mounting/ dimensions ##-180° rotation possible on vertical mounting surface; can be tilted forward and backward by +/- 22.5° on vertical mounting surface ##-180° rotation possible on vertical mounting surface; can be tilted forward and backward by +/- 22.5° on vertical mounting surface ##-180° rotation possible on vertical mounting surface; can be tilted forward and backward by +/- 22.5° on vertical mounting surface ##-180° rotation possible on vertical mounting surface; can be tilted forward and backward by +/- 22.5° on vertical mounting surface ##-180° rotation possible on vertical mounting surface; can be tilted forward and backward by +/- 22.5° on vertical mounting surface; ##-180° rotation possible on vertical mounting surface; ##-180° rotatio	design of the fuse link	
— with type of assignment 2 required for short-circuit protection of the auxiliary switch required ∫G: 20A (690V, 100kA), aM: 16A (690V, 100kA), BS88: 20A (415V, 80kA) ∫G: 10 A (500 V, 1 kA) ∫For short-circuit protection of the auxiliary switch required ∫For short-circuit protection of the auxiliary switch requi	• for short-circuit protection of the main circuit	
 ◆ 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 side-by-side mounting Yes height width 45 mm depth 117 mm 	 — with type of coordination 1 required 	gG: 35A (690V,100kA), aM: 20A (690V,100kA), BS88: 35A (415V,80kA)
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	— with type of assignment 2 required	gG: 20A (690V,100kA), aM: 16A (690V, 100kA), BS88: 20A (415V, 80kA)
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 58 mm width 45 mm depth 117 mm	• for short-circuit protection of the auxiliary switch required	gG: 10 A (500 V, 1 kA)
backward by +/- 22.5° on vertical mounting surface fastening method side-by-side mounting Yes height 58 mm width 45 mm depth 117 mm	Installation/ mounting/ dimensions	
● side-by-side mounting Peight 58 mm width 45 mm depth 117 mm	mounting position	+/-180° rotation possible on vertical mounting surface; can be tilted forward and backward by +/- 22.5° on vertical mounting surface
height 58 mm width 45 mm depth 117 mm	fastening method	screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715
width 45 mm depth 117 mm	• side-by-side mounting	Yes
depth 117 mm	height	58 mm
	width	45 mm
required spacing	depth	117 mm
	required spacing	

 with side-by-side mounting 	
— forwards	10 mm
— upwards	10 mm
— downwards	10 mm
— at the side	0 mm
 for grounded parts 	
— forwards	10 mm
— upwards	10 mm
— at the side	6 mm
— downwards	10 mm
 for live parts 	
— forwards	10 mm
— upwards	10 mm
— downwards	10 mm
— at the side	6 mm
Connections/ Terminals	
type of electrical connection	
for main current circuit	screw-type terminals
for auxiliary and control circuit	screw-type terminals
at contactor for auxiliary contacts	Screw-type terminals
of magnet coil	Screw-type terminals
type of connectable conductor cross-sections for main contacts	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
• solid	2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²), 2x 4 mm²
solid or stranded	2x (0,5 1,5 mm²), 2x (0,75 2,5 mm²), 2x 4 mm²
finely stranded with core end processing	2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²)
connectable conductor cross-section for main contacts	2x (0.0 1.0 mm), 2x (0.10 2.0 mm)
• solid	0.5 4 mm²
• stranded	0.5 4 mm²
finely stranded with core end processing	0.5 2.5 mm ²
connectable conductor cross-section for auxiliary contacts	0.5 2.5 mm
solid or stranded	0.5 4 mm²
finely stranded with core end processing	0.5 2.5 mm ²
type of connectable conductor cross-sections	0.0 2.0 mm
• for auxiliary contacts	
— solid or stranded	2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²), 2x 4 mm²
— finely stranded with core end processing	2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²)
for AWG cables for auxiliary contacts	2x (20 16), 2x (18 14), 2x 12
AWG number as coded connectable conductor cross	28 (20 10), 28 (10 14), 28 12
section	
for main contacts	20 12
for auxiliary contacts	20 12
Safety related data	
product function	
 mirror contact according to IEC 60947-4-1 	Yes
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	20 a
61508 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	gs. sais, or reliable solidate from the front
safety-related switching OFF	Yes
Certificates/ approvals	
General Product Approval	





Confirmation







Functional
Safety/Safety of Machinery

Declaration of Conformity

Test Certificates



Type Examination Certificate





Special Test Certificate

Type Test Certificates/Test Report

Marine / Shipping













Marine / Shipping

other

Railway

Dangerous Good

Environment



Confirmation



Vibration and Shock

Transport Information

Environmental Confirmations

Further information

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

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

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

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

Information on the packaging

https://support.industry.siemens.com/cs/ww/en/view/109813875

Information- and Downloadcenter (Catalogs, Brochures,...)

https://www.siemens.com/ic10

Industry Mall (Online ordering system)

https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RT2016-1QB42

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2016-1QB42

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

https://support.industry.siemens.com/cs/ww/en/ps/3RT2016-1QB42

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

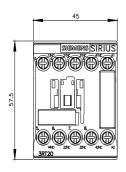
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2016-1QB42&lang=en

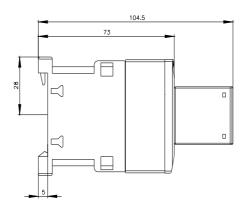
Characteristic: Tripping characteristics, I²t, Let-through current

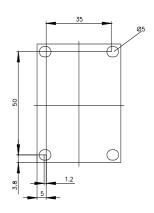
https://support.industry.siemens.com/cs/ww/en/ps/3RT2016-1QB42/char

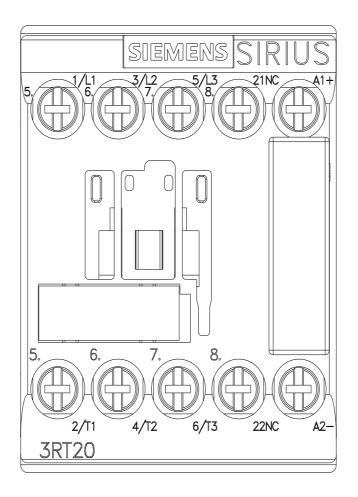
Further characteristics (e.g. electrical endurance, switching frequency)

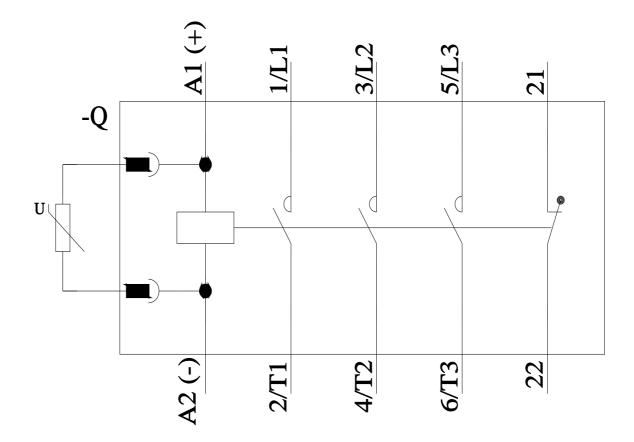
http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2016-1QB42&objecttype=14&gridview=view1











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