SIEMENS

Data sheet

3RT2017-1AQ02



power contactor, AC-3e/AC-3, 12 A, 5.5 kW / 400 V, 3-pole, 380 V AC, 50/60 Hz, auxiliary contacts: 1 NC, screw terminal, size: S00

product brand name	SIRIUS
product designation	Power contactor
product type designation	3RT2
General technical data	
size of contactor	S00
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 	1.5 W
 at AC in hot operating state per pole 	0.5 W
 without load current share typical 	1.5 W
type of calculation of power loss depending on pole	quadratic
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 AC	7,3g / 5 ms, 4,7g / 10 ms
shock resistance with sine pulse	
• at AC	11,4g / 5 ms, 7,3g / 10 ms
mechanical service life (operating cycles)	
 of contactor typical 	30 000 000
 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)	10/01/2009
Weight	0.23 kg
Ambient conditions	
installation altitude at height above sea level maximum	2 000 m
ambient temperature	
during operation	-25 +60 °C
during storage	-55 +80 °C
relative humidity minimum	10 %
relative humidity at 55 °C according to IEC 60068-2-30 maximum	95 %

Environmental footprint	
Environmental Product Declaration(EPD)	Yes
global warming potential [CO2 eq] total	39.6 kg
global warming potential [CO2 eq] during manufacturing	1.18 kg
global warming potential [CO2 eq] during operation	38.5 kg
global warming potential [CO2 eq] after end of life	-0.155 kg
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 at AC-1 	22 A
— up to 690 V at ambient temperature 40 °C rated value	22 A
— up to 690 V at ambient temperature 60 °C rated value	20 A
• at AC-3	
— at 400 V rated value	12 A
— at 500 V rated value	9.2 A
— at 690 V rated value	6.7 A
• at AC-3e	
— at 400 V rated value	12 A
— at 500 V rated value	9.2 A
- at 690 V rated value	6.7 A
at AC-4 at 400 V rated value	8.5 A 19.4 A
 at AC-5a up to 690 V rated value at AC-5b up to 400 V rated value 	9.9 A
• at AC-6a	5.5 A
 up to 230 V for current peak value n=20 rated value 	7.2 A
— up to 400 V for current peak value n=20 rated value	7.2 A
— up to 500 V for current peak value n=20 rated value	7.2 A
— up to 690 V for current peak value n=20 rated value	6.7 A
● at AC-6a	
 — up to 230 V for current peak value n=30 rated value 	4.8 A
— up to 400 V for current peak value n=30 rated value	4.8 A
 — up to 500 V for current peak value n=30 rated value 	4.8 A
— up to 690 V for current peak value n=30 rated value	4.8 A
minimum cross-section in main circuit at maximum AC-1 rated value	4 mm ²
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	
at 1 current path at DC-1 — at 24 V rated value	20 A
— at 60 V rated value	20 A 20 A
— at 100 V rated value	2.1 A
— at 220 V rated value	0.8 A
— at 440 V rated value	0.6 A
— at 600 V rated value	0.6 A
 with 2 current paths in series at DC-1 	
— at 24 V rated value	20 A
— at 60 V rated value	20 A
— at 110 V rated value	12 A
— at 220 V rated value	1.6 A
— at 440 V rated value	0.8 A
— at 600 V rated value	0.7 A

- with 2 surrant action in carias at DC 4	
with 3 current paths in series at DC-1 — at 24 V rated value	20 A
— at 60 V rated value	20 A 20 A
— at 100 V rated value	
	20 A
— at 220 V rated value	20 A
— at 440 V rated value	1.3 A
— at 600 V rated value	1 A
at 1 current path at DC-3 at DC-5	20 A
— at 24 V rated value	20 A
— at 60 V rated value — at 110 V rated value	0.5 A
	0.15 A
with 2 current paths in series at DC-3 at DC-5 at 24 // reted value	20 A
— at 24 V rated value	5 A
— at 60 V rated value	
— at 110 V rated value	0.35 A
with 3 current paths in series at DC-3 at DC-5	20 A
— at 24 V rated value	20 A
- at 60 V rated value	20 A 20 A
— at 110 V rated value	
— at 220 V rated value	1.5 A
— at 440 V rated value	0.2 A
— at 600 V rated value	0.2 A
• at AC-2 at 400 V rated value	5.5 kW
• at AC-3	0.0 KVV
 at AC-3 — at 230 V rated value 	3 kW
— at 400 V rated value	5.5 kW
— at 500 V rated value	5.5 kW
— at 690 V rated value	5.5 kW
• at AC-3e	5.5 KVV
- at 230 V rated value	3 kW
— at 400 V rated value	5.5 kW
— at 500 V rated value	5.5 kW
— at 600 V rated value	5.5 kW
operating power for approx. 200000 operating cycles at AC-	0.0 KW
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 	2.8 kVA
 up to 400 V for current peak value n=20 rated value 	4.9 kVA
 up to 500 V for current peak value n=20 rated value 	6.2 kVA
 up to 690 V for current peak value n=20 rated value 	8 kVA
operating apparent power at AC-6a	
 up to 230 V for current peak value n=30 rated value 	1.9 kVA
 up to 400 V for current peak value n=30 rated value 	3.3 kVA
 up to 500 V for current peak value n=30 rated value 	4.1 kVA
 up to 690 V for current peak value n=30 rated value 	5.7 kVA
short-time withstand current in cold operating state up to 40 °C	
Imited to 1 s switching at zero current maximum	200 A; Use minimum cross-section acc. to AC-1 rated value
Imited to 5 s switching at zero current maximum	123 A; Use minimum cross-section acc. to AC-1 rated value
Imited to 10 s switching at zero current maximum	96 A; Use minimum cross-section acc. to AC-1 rated value
Imited to 30 s switching at zero current maximum	74 A; Use minimum cross-section acc. to AC-1 rated value
Imited to 60 s switching at zero current maximum	61 A; Use minimum cross-section acc. to AC-1 rated value
no-load switching frequency	40,000,4%
• at AC	10 000 1/h
operating frequency	1,000,1/b
at AC-1 maximum at AC-2 maximum	1 000 1/h
• at AC-2 maximum	750 1/h 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	AC
control supply voltage at AC	
• at 50 Hz rated value	380 V
• at 60 Hz rated value	380 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	37 VA
• at 60 Hz	33 VA
inductive power factor with closing power of the coil	
• at 50 Hz	0.8
• at 60 Hz	0.75
apparent holding power of magnet coil at AC	
• at 50 Hz	5.7 VA
• at 60 Hz	4.4 VA
inductive power factor with the holding power of the coil	
• at 50 Hz	0.25
• at 60 Hz	0.25
closing delay	
• at AC	9 35 ms
opening delay	000110
• at AC	4 15 ms
arcing time	10 15 ms
control version of the switch operating mechanism	Standard A1 - A2
Auxiliary circuit	Stanuaru AT - Az
	1
number of NC contacts for auxiliary contacts instantaneous contact	1
operational current at AC-12 maximum	10 A
operational current at AC-15	
 at 230 V rated value 	10 A
 at 400 V rated value 	3 A
• at 500 V rated value	2 A
• at 690 V rated value	1 A
operational current at DC-12	
• at 24 V rated value	10 A
• at 48 V rated value	6 A
• at 60 V rated value	6 A
• at 110 V rated value	3 A
• at 125 V rated value	2 A
• at 220 V rated value	1 A
• at 600 V rated value	0.15 A
operational current at DC-13	
• at 24 V rated value	10 A
• at 48 V rated value	2 A
• at 60 V rated value	2 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
design of the miniature circuit breaker for short-circuit protection of the auxiliary circuit up to 230 V	C characteristic: 10 A; 0.4 kA
contact reliability of auxiliary contacts	1 faulty switching per 100 million (17 V, 1 mA)
UL/CSA ratings	
full-load current (FLA) for 3-phase AC motor	11.0
 at 480 V rated value 	11 A
 at 600 V rated value 	11 A

yleider mechanical performance (hg)- of single-phase AC motor0.5 hg		
• for 3-phase AC motor 3 hp - at 220230 V rates value 3 hp - at 220230 V rates value 3 hp - at 400480 V rates value 7.5 hp - at 50200 V rates value 400 / 0800 - at 50200 V rates value 400 / 0800 - at 50200 V rates value 400 / 0800 - at 50200 V rates value 400 / 0800 - at 50200 V rates value 652 s0A (690V, 100AA), ab: 20A (690V, 100AA), BSS: 35A (615V, 80AA) - with type of coordination 1 required 962 s0A (690V, 100AA), ab: 20A (690V, 100AA), BSS: 20A (415V, 80AA) - with type of coordination 1 required 962 s0A (690V, 100AA), ab: 20A (690V, 100AA), BSS: 20A (415V, 80AA) - with type of coordination 1 required 962 s0A (690V, 100AA), ab: 20A (690V, 100AA), BSS: 20A (415V, 80AA) - with type of coordination 1 required 962 s0A (690V, 10AA), ab: 20A (690V, 100AA), BSS: 20A (415V, 80AA) - with type of coordination 1 required 962 s0A (690V, 10AA), ab: 20A (690V, 100A), BSS: 20A (415V, 80AA) - with type of coordination 1 required 962 s0A (690V, 10AA), ab: 20A (690V, 100A), BSS: 20A (415V, 80AA) - with type of coordination 962 s0A (690V, 10AA), ab: 20A (690V, 10AA), ab: 20A (690V, 10AA), 20A (690V, 10AA), 20A (690V, 10AA), 20A (690V, 10AA) - with type of coordination <td>— at 110/120 V rated value</td> <td>0.5 hp</td>	— at 110/120 V rated value	0.5 hp
- at 200208 V rated value 3 hp - at 200208 V rated value 3 hp - at 575600 V rates value 10 hp - at 575600 V rates value 10 hp - at 575600 V rates value 0 hp - at 50 start-strong protection of the rauxilary value regulard 9 hp - with type of docting those how rates 9 hp - at the start-strong protection of the auxilary value regulard 9 hp - at the start-strong protection of the auxilary value regulard 9 hp - at the start protection of the auxilary value regulard 9 hp - at the start protection of the auxilary value regulard 9 hp - at the start protection of the auxilary value regulard start protection for auxilary contacts 9 hp - at the start protection of the auxilary value regulard start protection for auxilary contacts 9 hp - at the sta	— at 230 V rated value	2 hp
	 for 3-phase AC motor 	
	— at 200/208 V rated value	3 hp
 	— at 220/230 V rated value	3 hp
contact rating of auxiliary contacts according to UL A600 / C800 hort-circuit protection of the main circuit	— at 460/480 V rated value	7.5 hp
contact rating of auxiliary contacts according to UL A600 / 2600 hort-circuit protection of the main circuit General of the fuse link - with type of assignment 2 required gi: 50A (690V, 100A), aM. 20A (680V, 100KA), BSB: 35A (415V, 80KA) - with type of assignment 2 required gi: 20A (690V, 100A), aM. 20A (680V, 100KA), BSB: 35A (415V, 80KA) - with type of assignment 2 required gi: 10A (500 V, 11KA) statilization mounting dimensions Ves fastering method aide-by-side mounting Yes fastering method aide-by-side mounting Smm displet Smm with aide-by-side mounting Yes fastering method aide-by-side mounting Yes - upwards 10 mm - downwards 10 mm - downwards 10 mm - downwards 10 mm - downwards 10 mm - dowards 10 mm	— at 575/600 V rated value	10 hp
design of the fuse link for short-Group protection of the main circuit - with type of coordination 1 required - with type of coordination mounting controls - with type of coordination - with type of coordination - with select-coordination - downwards - forwards - downwards - forwards - forwards	contact rating of auxiliary contacts according to UL	
is biot-forcial protection of the main circuit	Short-circuit protection	
is proti-circul protection of the main circuit	design of the fuse link	
- with type of contrainion 1 required - with type of assignment 2 required is ro short-calci protection of the auxiliary switch required gis 10A (690V, 100AA), abt. 16A (690V, 100AA), BS88: 20A (415V, 80HA) gis 20A (690V, 100AA), abt. 16A (690V, 100AA), BS88: 20A (415V, 80HA) stallation mounting formations within the auxiliary switch required stallation mounting formations within the auxiliary switch required fastening method fastening method fastening method fastening method fastening method depth - forwards - f	-	
		αG ⁺ 50A (690V 100kA) aM ⁺ 20A (690V 100kA) BS88 ⁺ 35A (415V 80kA)
• for short-circuit protection of the auxiliary switch required statistical mounting dimensions */100" rotation possible on vertical mounting surface; can be tilted forward an backward by */ 22 5" on vertical mounting surface; can be tilted forward an backward by */ 22 5" on vertical mounting surface; can be tilted forward an backward by */ 22 5" on vertical mounting surface; can be tilted forward an backward by */ 22 5" on vertical mounting surface; can be tilted forward an backward by */ 22 5" on vertical mounting surface; can be tilted forward an backward by */ 22 5" on vertical mounting surface; can be tilted forward an backward by */ 22 5" on vertical mounting surface; can be tilted forward an backward by */ 22 5" on vertical mounting surface; can be tilted forward an backward by */ 22 5" on vertical mounting surface; can be tilted forward an backward by */ 22 5" on vertical mounting surface; can be tilted forward an backward by */ 22 5" on vertical mounting surface; can be tilted forward an backward by */ 22 5" on vertical mounting surface; can be tilted forward an backward by */ 22 5" on vertical mounting surface; can be tilted forward an backward by */ 22 5" on vertical mounting surface; can be tilted forward an backward by */ 22 5" on vertical mounting surface; can be tilted forward an backward by */ 22 5" on vertical mounting surface; can be tilted forward an backward by */ 22 5" on vertical mounting surface; can be tilted forward an intervention of the sub and the		
stallation/ mounting/ dimensions +/-180° rotation possible on vertical mounting surface; can be tilted forward an backward by +/-2.25° on vertical mounting surface; fastening method side-by-side mounting Yes fastening method side-by-side mounting Yes fastening method side-by-side mounting Yes fastening method Sorew and snap-on mounting onto 35 mm DIN rail according to DIN EN 607 15 height 58 mm width 45 mm dopth 73 mm required spacing 0 mm - drowards 10 mm - solid		
mounting position +140° rotation possible on vertical mounting surface: can be tilted forward an backward by +/-225° on vertical mounting surface: fastening method screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715 height mounting surface Yes strew and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715 height 58 mm width 45 mm doptin 73 mm required spacing - • with side-by-side mounting forwards 10 mm downwards 00 mm downwards 10 mm fo		go. 10 A (000 V, 1 KA)
backward by 4/. 22.5° on vertical mounting surface fastening method ske-by-side mounting Yes fastening method screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715 height 58 mm depth 73 mm required spacing 73 mm • with side-by-side mounting 73 mm - forwards 10 mm - upwards 10 mm - downwards 10 mm - downwards 10 mm - at the side 0 mm • for grounded parts 10 mm - at the side 0 mm - downwards 10 mm - at the side 0 mm - downwards 10 mm <		
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• finely stranded with core end processing 0.5 2.5 mm² connectable conductor cross-section for auxiliary contacts 0.5 4 mm² • solid or stranded 0.5 4 mm² • finely stranded with core end processing 0.5 2.5 mm² type of connectable conductor cross-sections 0.5 2.5 mm²		
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solid or stranded inely stranded with core end processing of connectable conductor cross-sections		0.0 2.0 [[[[]]
• finely stranded with core end processing 0.5 2.5 mm ² type of connectable conductor cross-sections	-	0.5 4 mm²
type of connectable conductor cross-sections		
		0.5 2.5 mm²
	type of connectable conductor cross-sections	

— solid or stra	nded		2x (0.5	5 1.5 mm²), 2x (0.7	′5 2.5 mm²), 2x 4 mm²	
	ed with core end process	ing		5 1.5 mm²), 2x (0.7		
 for AWG cables for 		-		16), 2x (18 14),		
	d connectable conducto	or cross	,			
 for main contacts 			20 1	12		
 for auxiliary contain 	icts		20 1	12		
Safety related data						
product function						
-	cording to IEC 60947-4-1		Yes			
	operation according to IEC	C 60947-5-1	No			
 suitable for safety 			Yes			
			Yes			
	suitability for use safety-related switching OFF		20 a			
test wear-related servi	ce life necessary		Yes			
proportion of dangero			103			
		20	40.94			
	rate according to SN 319		40 %			
	I rate according to SN 319		73 %			
	emand rate according to		1 000			
31920	ow demand rate accordi	ng to SN	100 FI	Т		
ISO 13849			_			
device type according			3			
	ording to ISO 13849-2 n	ecessary	Yes			
IEC 61508						
safety device type acc Electrical Safety	ording to IEC 61508-2		Туре А	Ą		
protection class IP on	the front according to I	EC 60529	IP20			
touch protection on th	e front according to IEC	60529	finger-	safe, for vertical cont	tact from the front	
Approvals Certificates						
General Product Appr						
General Product Appr	UK	C C EG-Konf.		<u>Confirmation</u>	UL.	KC
General Product Appr ccc General Product Ap- proval		EG-Konf.	95	Confirmation	UL UL	KC
CCC	UK CA			Confirmation <u>Type Test Certific</u> <u>ates/Test Report</u>		
CCC General Product Approval	UK EMV	Test Certificate		Type Test Certific		KC VICENTAS
CCC General Product Approval	UK EMV	Test Certificate		Type Test Certific		
CCC General Product Approval	UK EMV ÈÈÈÈÈÈÈÈÈÈÈÈÈÈÈÈÈÈÈÈÈÈÈÈÈÈÈÈÈÈÈÈÈÈÈ	Test Certificate		Type Test Certific		BUREAU VERITAS
General Product Approval	UK EMV ÈÈÈÈÈÈÈÈÈÈÈÈÈÈÈÈÈÈÈÈÈÈÈÈÈÈÈÈÈÈÈÈÈÈÈ	Test Certificate Special Test Ce ate	ertific-	Type Test Certific ates/Test Report		BUREAU VERITAS
CCC General Product Approval CEREC Marine / Shipping Marine / Shipping	UK EMV EMV EMV EMV EMV	Test Certificate Special Test Cer ate	ertific-	Type Test Certific ates/Test Report	ABS	BUREAU VERITAS
Ccc General Product Approval CERC Marine / Shipping Cother Confirmation	UCA EMV Confirmation	Test Certificate Special Test Cer ate	ertific-	Type Test Certific ates/Test Report	ABS	BUREAU VERITAS

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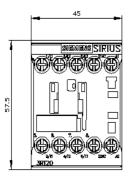
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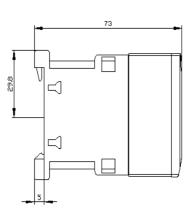
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2017-1AQ02&lang=en

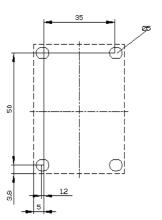
Characteristic: Tripping characteristics, I2t, Let-through current

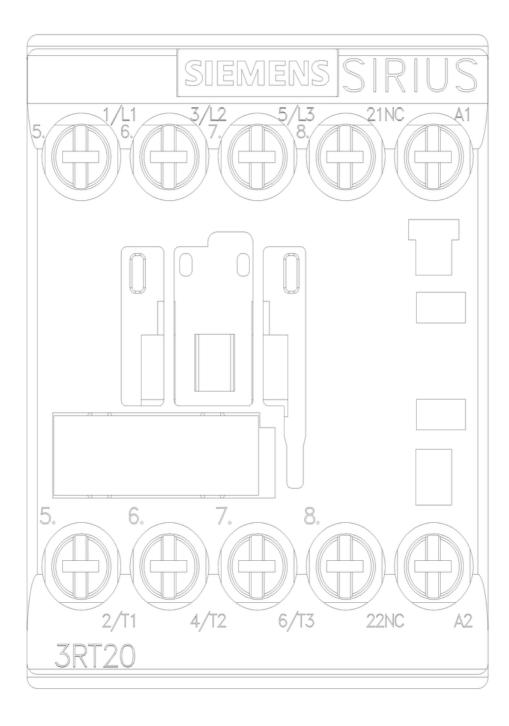
https://support.industry.siemens.com/cs/ww/en/ps/3RT2017-1AQ02/char Further characteristics (e.g. electrical endurance, switching frequency)

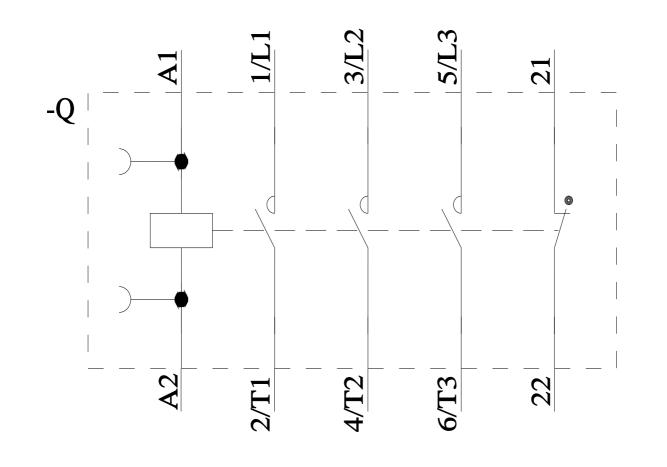
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