## SIEMENS

## Data sheet

## 3RT2017-1AP01-1AA0



power contactor, AC-3e/AC-3, 12 A, 5.5 kW / 400 V, 3-pole, 230 V AC, 50/60 Hz, auxiliary contacts: 1 NO, screw terminal, size: S00, upright mounting position

product brand name	SIRIUS
product designation	Power contactor
product type designation	3RT2
General technical data	
size of contactor	S00
product extension	
<ul> <li>function module for communication</li> </ul>	No
auxiliary switch	Yes
power loss [W] for rated value of the current	
<ul> <li>at AC in hot operating state</li> </ul>	1.5 W
<ul> <li>at AC in hot operating state per pole</li> </ul>	0.5 W
<ul> <li>without load current share typical</li> </ul>	1.5 W
insulation voltage	
<ul> <li>of main circuit with degree of pollution 3 rated value</li> </ul>	690 V
<ul> <li>of auxiliary circuit with degree of pollution 3 rated value</li> </ul>	690 V
surge voltage resistance	
<ul> <li>of main circuit rated value</li> </ul>	6 kV
<ul> <li>of auxiliary circuit rated value</li> </ul>	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)	
<ul> <li>of contactor typical</li> </ul>	30 000 000
<ul> <li>of the contactor with added electronically optimized auxiliary switch block typical</li> </ul>	5 000 000
<ul> <li>of the contactor with added auxiliary switch block typical</li> </ul>	10 000 000
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

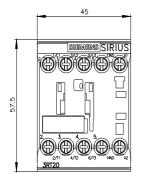
number of NO contacts for main contacts	3
operating voltage	
at AC-3 rated value maximum	690 V
<ul> <li>at AC-3e rated value maximum</li> </ul>	690 V
operational current	
• at AC-1 at 400 V at ambient temperature 40 °C rated	22 A
value	
• at AC-1	
— up to 690 V at ambient temperature 40 °C rated value	22 A
— up to 690 V at ambient temperature 60 °C rated	20 A
value	
• 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
• at AC-5a up to 690 V rated value	19.4 A
• at AC-5b up to 400 V rated value	9.9 A
● at AC-6a	
<ul> <li>— up to 230 V for current peak value n=20 rated value</li> </ul>	7.2 A
<ul> <li>— up to 400 V for current peak value n=20 rated value</li> </ul>	7.2 A
<ul> <li>— up to 500 V for current peak value n=20 rated value</li> </ul>	7.2 A
— up to 690 V for current peak value n=20 rated value	6.7 A
● at AC-6a	
<ul> <li>— up to 230 V for current peak value n=30 rated value</li> </ul>	4.8 A
<ul> <li>— up to 400 V for current peak value n=30 rated value</li> </ul>	4.8 A
<ul> <li>— up to 500 V for current peak value n=30 rated value</li> </ul>	4.8 A
<ul> <li>— up to 690 V for current peak value n=30 rated value</li> </ul>	4.8 A
minimum cross-section in main circuit at maximum AC-1 rated value	4 mm <sup>2</sup>
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	
<ul> <li>at 1 current path at DC-1</li> </ul>	
— at 24 V rated value	20 A
— at 60 V rated value	20 A
— at 110 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
<ul> <li>with 3 current paths in series at DC-1</li> </ul>	
— 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	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	

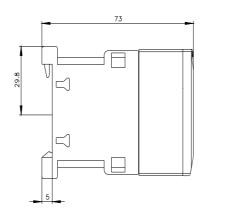
— at 24 V rated value	20 A			
— at 60 V rated value	0.5 A			
— at 110 V rated value	0.15 A			
<ul> <li>with 2 current paths in series at DC-3 at DC-5</li> </ul>				
— at 24 V rated value	20 A			
— at 60 V rated value	5 A			
— at 110 V rated value	0.35 A			
<ul> <li>with 3 current paths in series at DC-3 at DC-5</li> </ul>				
— 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-2 at 400 V rated value	5.5 kW			
• 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				
• at Ac-se — 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			
operating power for approx. 200000 operating cycles at AC-	5.5 KW			
4				
• at 400 V rated value	2 kW			
• at 690 V rated value	2.5 kW			
operating apparent power at AC-6a				
<ul> <li>up to 230 V for current peak value n=20 rated value</li> </ul>	2.8 kVA			
<ul> <li>up to 400 V for current peak value n=20 rated value</li> </ul>	4.9 kVA			
<ul> <li>up to 500 V for current peak value n=20 rated value</li> </ul>	6.2 kVA			
<ul> <li>up to 690 V for current peak value n=20 rated value</li> </ul>	8 kVA			
operating apparent power at AC-6a				
<ul> <li>up to 230 V for current peak value n=30 rated value</li> </ul>	1.9 kVA			
<ul> <li>up to 400 V for current peak value n=30 rated value</li> </ul>	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				
<ul> <li>limited to 1 s switching at zero current maximum</li> </ul>	200 A; Use minimum cross-section acc. to AC-1 rated value			
<ul> <li>limited to 5 s switching at zero current maximum</li> </ul>	123 A; Use minimum cross-section acc. to AC-1 rated value			
<ul> <li>limited to 10 s switching at zero current maximum</li> </ul>	96 A; Use minimum cross-section acc. to AC-1 rated value			
<ul> <li>limited to 30 s switching at zero current maximum</li> </ul>	74 A; Use minimum cross-section acc. to AC-1 rated value			
<ul> <li>limited to 60 s switching at zero current maximum</li> </ul>	61 A; Use minimum cross-section acc. to AC-1 rated value			
no-load switching frequency				
• at AC	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	AC			
control supply voltage at AC				
• at 50 Hz rated value	230 V			
at 50 Hz rated value     at 60 Hz rated value	200 0			
• at 60 Hz rated value operating range factor control supply voltage rated value of	230 V			

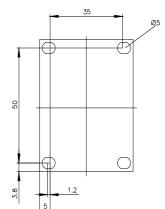
• at 50 Hz	0.8 1.1			
• at 60 Hz	0.85 1.1			
apparent pick-up power of magnet coil at AC				
• at 50 Hz	37 VA			
• at 60 Hz	33 VA			
inductive power factor with closing power of the coil				
• at 50 Hz	0.8			
• at 60 Hz	0.75			
apparent holding power of magnet coil at AC				
• at 50 Hz	5.7 VA			
• at 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				
• at AC	4 15 ms			
arcing time	10 15 ms			
control version of the switch operating mechanism	Standard A1 - A2			
Auxiliary circuit				
number of NO 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				
<ul> <li>at 24 V rated value</li> </ul>	10 A			
<ul> <li>at 48 V rated value</li> </ul>	6 A			
<ul> <li>at 60 V rated value</li> </ul>	6 A			
<ul> <li>at 110 V rated value</li> </ul>	3 A			
<ul> <li>at 125 V rated value</li> </ul>	2 A			
<ul> <li>at 220 V rated value</li> </ul>	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			
contact reliability of auxiliary contacts	1 faulty switching per 100 million (17 V, 1 mA)			
UL/CSA ratings				
full-load current (FLA) for 3-phase AC motor				
• at 480 V rated value	11 A			
• at 600 V rated value	11 A			
yielded mechanical performance [hp]				
<ul> <li>for single-phase AC motor</li> </ul>				
— at 110/120 V rated value	0.5 hp			
— 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			
— at 460/480 V rated value	7.5 hp			
— at 575/600 V rated value	10 hp			
contact rating of auxiliary contacts according to UL	A600 / Q600			
Short-circuit protection				

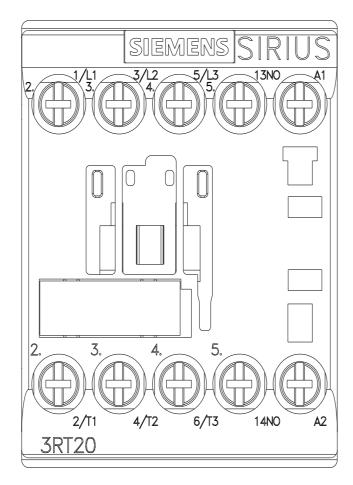
design of the fuse link				
for short-circuit protection of the main circuit				
	gG: 50A (690V,100kA), aM: 20A (690V,100kA), BS88: 35A (415V,80kA)			
— with type of assignment 2 required	gG: 20A (690V,100kA), aM: 16A (690V, 100kA), BS88: 20A (415V, 80kA)			
<ul> <li>for short-circuit protection of the auxiliary switch required</li> </ul>	gG: 20A (690V, 100KA), aM: 16A (690V, 100KA), BS88: 20A (415V, 80KA) gG: 10 A (500 V, 1 kA)			
Installation/ mounting/ dimensions	gg. 10 A (300 V, 1 M)			
	standing on horizontal mounting surface			
mounting position	standing, on horizontal mounting surface			
fastening method • side-by-side mounting	screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715 Yes			
	58 mm			
heightwidth	45 mm			
depth	73 mm			
required spacing	73 mm			
with side-by-side mounting				
— forwards	10 mm			
— upwards	10 mm			
— downwards	10 mm			
— at the side	0 mm			
	0 mm			
<ul> <li>for grounded parts</li> <li>forwards</li> </ul>	10 mm			
— upwards	10 mm			
— upwards — at the side	6 mm			
— at the side — downwards	o mm			
• for live parts				
— forwards	10 mm			
— upwards	10 mm			
— downwards	10 mm			
— at the side	6 mm			
Connections/ Terminals	0 mm			
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     solid or stranded	2x (0.5 1,5 mm²), 2x (0.75 2,5 mm²), 2x 4 mm²			
<ul> <li>finely stranded with core end processing</li> </ul>	2x (0,5 1,5 mm <sup>2</sup> ), 2x (0,75 2,5 mm <sup>2</sup> )			
connectable conductor cross-section for main contacts				
solid	0.5 4 mm²			
stranded	0.5 4 mm <sup>2</sup>			
<ul> <li>finely stranded with core end processing</li> </ul>	0.5 2.5 mm <sup>2</sup>			
connectable conductor cross-section for auxiliary contacts				
solid or stranded	0.5 4 mm²			
<ul> <li>finely stranded with core end processing</li> </ul>	0.5 2.5 mm <sup>2</sup>			
type of connectable conductor cross-sections				
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 mm <sup>2</sup> ), 2x (0.75 2.5 mm <sup>2</sup> )			
<ul> <li>for AWG cables for auxiliary contacts</li> </ul>	2x (20 16), 2x (18 14), 2x 12			
AWG number as coded connectable conductor cross				
section				
<ul> <li>for main contacts</li> </ul>	20 12			
<ul> <li>for auxiliary contacts</li> </ul>	20 12			
Safety related data				
product function				
<ul> <li>mirror contact according to IEC 60947-4-1</li> </ul>	Yes; with 3RH29			
suitability for use safety-related switching OFF	Yes			
B10 value with high demand rate according to SN 31920	1 000 000			
proportion of dangerous failures				
<ul> <li>with low demand rate according to SN 31920</li> </ul>	40 %			

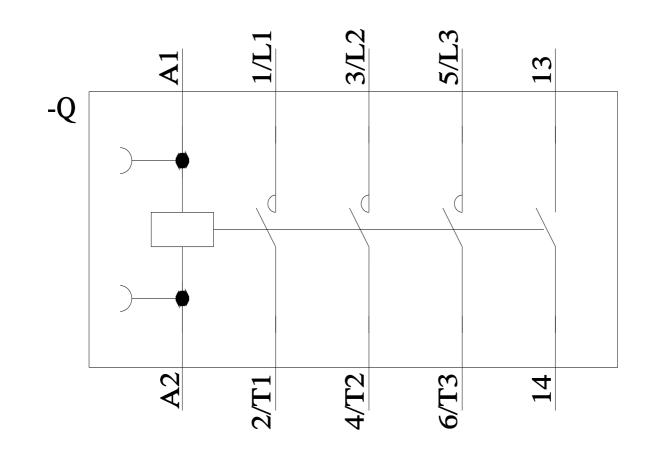
	nd rate according to SN 319 ow demand rate according		т		
	interval or service life acco				
	n the front according to I	EC 60529 IP20			
	the front according to IEC		safe, for vertical contac	ct from the front	
ertificates/ approvals	Ŭ	ger	,		
General Product Ap	proval				
SP.	<u>Confirmation</u>		UL)	KC	EHC
EMC	Functional Safety/Safety of Ma- chinery	Declaration of Conform	nity	Test Certificates	
RCM	<u>Type Examination Cer-</u> <u>tificate</u>	CE EG-Konf.	UK CA	<u>Special Test Certific-</u> <u>ate</u>	<u>Type Test Certific</u> ates/Test Report
Marine / Shipping					
ABS	B D REAU VERITAS		Lloyds Register uis	PRS	RINA
Marine / Shipping	other			Railway	Environment
	<u>Confirmation</u>		<u>Confirmation</u>	Vibration and Shock	Environmental Co firmations
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