## SIEMENS

## Data sheet

## 3RT2027-2AG20



power contactor, AC-3e/AC-3, 32 A, 15 kW / 400 V, 3-pole, 110 V AC, 50/60 Hz, auxiliary contacts: 1 NO + 1 NC, spring-loaded terminal, size: S0  $\,$ 

product brand name     SIRIUS       product designation     Power contactor       product type designation     3RT2       General technical data     S0	
product type designation         3RT2           General technical data	_
General technical data	
size of contactor	
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 6.3 W	
• at AC in hot operating state per pole 2.3 W	
without load current share typical     10.5 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	
shock resistance at rectangular impulse	
• at AC 8,3g / 5 ms, 5,3g / 10 ms	
shock resistance with sine pulse	
• at AC 13,5g / 5 ms, 8,3g / 10 ms	
mechanical service life (operating cycles)	
of contactor typical     10 000 000	
of the contactor with added electronically optimized auxiliary switch block typical	
of the contactor with added auxiliary switch block typical     10 000 000	
reference code according to IEC 81346-2 Q	
Substance Prohibitance (Date) 10/01/2009	
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 95 % 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	50 A
value	
• at AC-1	
— up to 690 V at ambient temperature 40 °C rated value	50 A
— up to 690 V at ambient temperature 60 °C rated	42 A
value	
● at AC-3	
— at 400 V rated value	32 A
— at 500 V rated value	32 A
— at 690 V rated value	21 A
• at AC-3e	
— at 400 V rated value	32 A
— at 500 V rated value	32 A
— at 690 V rated value	21 A
at AC-4 at 400 V rated value	22 A
• at AC-5a up to 690 V rated value	44 A
<ul> <li>at AC-5b up to 400 V rated value</li> <li>at AC-6a</li> </ul>	26.5 A
	30.8 A
— up to 230 V for current peak value n=20 rated value	
<ul> <li>— up to 400 V for current peak value n=20 rated value</li> <li>— up to 500 V for current peak value n=20 rated value</li> </ul>	30.8 A 27 A
— up to 500 V for current peak value n=20 rated value	21 A 21 A
• at AC-6a	21A
<ul> <li>up to 230 V for current peak value n=30 rated value</li> </ul>	20.5 A
— up to 200 V for current peak value n=30 rated value	20.5 A
— up to 500 V for current peak value n=30 rated value	18 A
— up to 690 V for current peak value n=30 rated value	18 A
minimum cross-section in main circuit at maximum AC-1 rated	10 mm <sup>2</sup>
value	
operational current for approx. 200000 operating cycles at AC-4	
at 400 V rated value	12 A
at 690 V rated value	12 A
operational current	
• at 1 current path at DC-1	
— at 24 V rated value	35 A
— at 60 V rated value	20 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	35 A
— at 60 V rated value	35 A
— at 110 V rated value	35 A
— at 220 V rated value	5 A
— at 440 V rated value	1 A
— at 600 V rated value	0.8 A
<ul> <li>with 3 current paths in series at DC-1</li> </ul>	
— at 24 V rated value	35 A
— at 60 V rated value	35 A
— at 110 V rated value	35 A
— at 220 V rated value	35 A
— at 440 V rated value	2.9 A
— at 600 V rated value	1.4 A
<ul> <li>at 1 current path at DC-3 at DC-5</li> </ul>	

— at 24 V rated value	20 A
— at 60 V rated value	5 A
— at 220 V rated value	1 A
— at 440 V rated value	0.09 A
— at 600 V rated value	0.06 A
<ul> <li>with 2 current paths in series at DC-3 at DC-5</li> </ul>	
— at 24 V rated value	35 A
— at 60 V rated value	35 A
— at 110 V rated value	15 A
— at 220 V rated value	3 A
— at 440 V rated value	0.27 A
— at 600 V rated value	0.16 A
<ul> <li>with 3 current paths in series at DC-3 at DC-5</li> </ul>	
— at 24 V rated value	35 A
— at 60 V rated value	35 A
— at 110 V rated value	35 A
— at 220 V rated value	10 A
— at 440 V rated value	0.6 A
— at 600 V rated value	0.6 A
operating power	
• at AC-3	
— at 230 V rated value	7.5 kW
— at 400 V rated value	15 kW
— at 500 V rated value	15 kW
— at 690 V rated value	18.5 kW
• at AC-3e	
— at 230 V rated value	7.5 kW
— at 400 V rated value	15 kW
— at 500 V rated value	15 kW
— at 690 V rated value	18.5 kW
operating power for approx. 200000 operating cycles at AC-	
4	0.197
• at 400 V rated value	6 kW
at 690 V rated value	10.3 kW
operating apparent power at AC-6a	40.011/4
• up to 230 V for current peak value n=20 rated value	12.2 kVA
• up to 400 V for current peak value n=20 rated value	21.3 kVA
• up to 500 V for current peak value n=20 rated value	23.3 kVA
• up to 690 V for current peak value n=20 rated value	25 kVA
operating apparent power at AC-6a	0.411/4
• up to 230 V for current peak value n=30 rated value	8.1 kVA
• up to 400 V for current peak value n=30 rated value	14.2 kVA
• up to 500 V for current peak value n=30 rated value	15.5 kVA
up to 690 V for current peak value n=30 rated value	21.5 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>	499 A; Use minimum cross-section acc. to AC-1 rated value
<ul> <li>limited to 5 s switching at zero current maximum</li> </ul>	341 A; Use minimum cross-section acc. to AC-1 rated value
<ul> <li>limited to 10 s switching at zero current maximum</li> </ul>	260 A; Use minimum cross-section acc. to AC-1 rated value
<ul> <li>limited to 30 s switching at zero current maximum</li> </ul>	199 A; Use minimum cross-section acc. to AC-1 rated value
<ul> <li>limited to 60 s switching at zero current maximum</li> </ul>	162 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	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 supply voltage at AC	
• at 50 Hz rated value	110 V
• at 60 Hz rated value	110 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	81 VA
• at 60 Hz	79 VA
inductive power factor with closing power of the coil	
● at 50 Hz	0.72
• at 60 Hz	0.74
apparent holding power of magnet coil at AC	
• at 50 Hz	10.5 VA
• at 60 Hz	8.5 VA
inductive power factor with the holding power of the coil	
• at 50 Hz	0.25
• at 60 Hz	0.28
closing delay	
• at AC	8 40 ms
opening delay	
• at AC	4 16 ms
arcing time	10 10 ms
control version of the switch operating mechanism	Standard A1 - A2
Auxiliary circuit	
number of NC contacts for auxiliary contacts instantaneous contact	1
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	
at 24 V rated value	10 A
• at 48 V rated value	6 A
<ul> <li>at 60 V rated value</li> </ul>	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 100 V rated value	1A
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	27.4
at 480 V rated value	27 A
• at 600 V rated value	27 A
yielded mechanical performance [hp]	27 A
yielded mechanical performance [hp] • for single-phase AC motor	
yielded mechanical performance [hp]	27 A 2 hp 5 hp

for 3-phase AC motor	
- at 200/208 V rated value	10 hp
— at 220/230 V rated value	10 hp
— at 460/480 V rated value	20 hp
— at 575/600 V rated value	25 hp
contact rating of auxiliary contacts according to UL	A600 / P600
Short-circuit protection	A000 / F000
design of the fuse link	
for short-circuit protection of the main circuit	
- with type of coordination 1 required	gG: 125A (690V,100kA), aM: 50A (690V,100kA), BS88: 125A (415V,80kA)
— with type of assignment 2 required	gG: 50A (690V,100kA), aM: 25A (690V,100kA), BS88: 50A (415V,80kA)
for short-circuit protection of the auxiliary switch required	gG: 10 A (500 V, 1 kA)
Installation/ mounting/ dimensions	gg. 10 A (500 V, 1 AA)
mounting position	+/-180° rotation possible on vertical mounting surface; can be tilted forward and
mounting position	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
<ul> <li>side-by-side mounting</li> </ul>	Yes
height	102 mm
width	45 mm
depth	97 mm
required spacing	
with side-by-side mounting	
— forwards	10 mm
— upwards	10 mm
— downwards	10 mm
— at the side	0 mm
<ul> <li>for grounded parts</li> </ul>	
— 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	spring-loaded terminals
<ul> <li>for auxiliary and control circuit</li> </ul>	spring-loaded terminals
<ul> <li>at contactor for auxiliary contacts</li> </ul>	Spring-type terminals
• of magnet coil	Spring-type terminals
type of connectable conductor cross-sections for main contacts	
• solid	2x (1 10 mm²)
solid or stranded	2x (1 10 mm <sup>2</sup> )
<ul> <li>finely stranded with core end processing</li> </ul>	2x (1 6 mm <sup>2</sup> )
<ul> <li>finely stranded without core end processing</li> </ul>	2x (1 6 mm <sup>2</sup> )
connectable conductor cross-section for main contacts	
• solid	1 10 mm²
• stranded	1 10 mm²
<ul> <li>finely stranded with core end processing</li> </ul>	1 6 mm²
<ul> <li>finely stranded without core end processing</li> </ul>	1 6 mm²
connectable conductor cross-section for auxiliary contacts	
<ul> <li>solid or stranded</li> </ul>	0.5 2.5 mm²
<ul> <li>finely stranded with core end processing</li> </ul>	0.5 1.5 mm²
<ul> <li>finely stranded without core end processing</li> </ul>	0.5 2.5 mm²
type of connectable conductor cross-sections	
for auxiliary contacts	
— solid or stranded	2x (0.5 2.5 mm²)
<ul> <li>finely stranded with core end processing</li> </ul>	2x (0.5 1.5 mm <sup>2</sup> )
<ul> <li>— finely stranded without core end processing</li> </ul>	2x (0.5 2.5 mm <sup>2</sup> )
,	

<ul> <li>for AWG cables</li> </ul>	s for auxiliary contacts		2x (20 14)		
AWG number as cod section	led connectable conducto	or cross			
<ul> <li>for main contact</li> </ul>	ts		18 8		
<ul> <li>for auxiliary cor</li> </ul>	ntacts		20 14		
fety related data					
roduct function					
	according to IEC 60947-4-1		Yes		
	emand rate according to SN	N 31920	450 000		
proportion of danger					
	id rate according to SN 319	20	40 %		
	nd rate according to SN 319		73 %		
-	ow demand rate according		100 FIT		
	interval or service life acco		20 a		
1508			20 a		
protection class IP o	on the front according to I	EC 60529	IP20		
ouch protection on	the front according to IEC	60529	finger-safe, for vertical c	ontact from the front	
uitability for use					
<ul> <li>safety-related s</li> </ul>	witching OFF		Yes		
rtificates/ approvals	3				
General Product Ap					
P	<b></b>				
SP.		) )	(ŸL)		EHL
CSA		ccc	UL		
EMC	Functional Safety/Safety of Ma- chinery	ccc Declaration of C	Conformity	Test Certificates	
	Safety/Safety of Ma-	CCC Declaration of C CEC EG-Konf.	Conformity UK		
EMC EMC RCM	Safety/Safety of Ma- chinery Type Examination Cer-	CE			<u>Type Test Certific</u> ates/Test Report
RCM	Safety/Safety of Ma- chinery Type Examination Cer-	CE			
RCM	Safety/Safety of Ma- chinery Type Examination Cer-	EG-Konf.			
Marine / Shipping	Safety/Safety of Ma- chinery Type Examination Cer- tificate	EG-Konf.		Special Test Certific- ate	ates/Test Report

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,...)

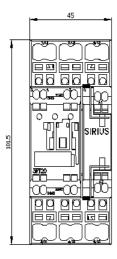
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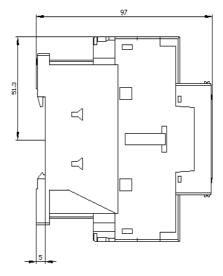
Industry Mall (Online ordering system) https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RT2027-2AG20

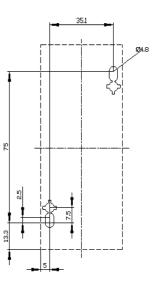
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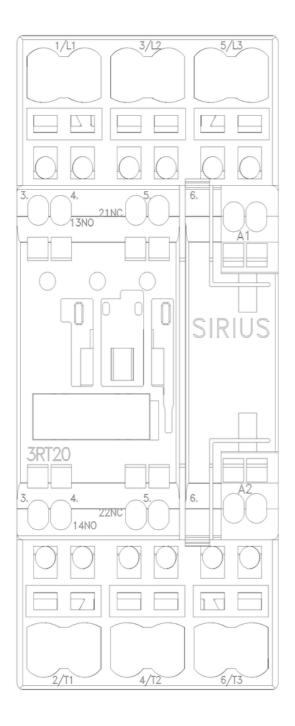
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