SIEMENS

Data sheet

3RT2027-2BB40



power contactor, AC-3e/AC-3, 32 A, 15 kW / 400 V, 3-pole, 24 V DC, auxiliary contacts: 1 NO + 1 NC, spring-loaded terminal, size: S0

size of contactor S0 product extension No • function module for communication No • auxiliary switch Yes power loss [W] for rated value of the current 6.3 W • at AC in hot operating state per pole 2.3 W • without load current share typical 5.9 W insulation voltage 690 V • of main circuit with degree of pollution 3 rated value 690 V • of main circuit rated value 690 V • of main circuit rated value 64 V • of auxiliary circuit rated value 64 V • of auxiliary circuit rated value 64 V • of auxiliary switch block typical 100 V • at DC 10g / 5 ms, 7,5g / 10 ms e at DC 10g / 5 ms, 10g / 10 ms • at DC 10g / 5 ms, 10g / 10 ms • of contactor typical 10 000 000 • of the contactor with added electronically optimized auxiliary switch block typical 10 000 000 • of the contactor with added electronically optimized auxiliary switch block typical 10 000 000 • of the contactor with added electronically optimized		
product type designation 3RT2 Senseral technical data	product brand name	SIRIUS
Seneral technical data size of contactor S0 product extension	product designation	Power contactor
size of contactor S0 product extension No • duction module for communication No • auxiliary switch Yes power loss [W] for rated value of the current 6.3 W • 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 59 W insulation voltage 690 V • of main circuit with degree of pollution 3 rated value 690 V • of main circuit rated value 680 V • of auxiliary circuit with degree of pollution 3 rated value 690 V • of main circuit rated value 6 kV • of auxiliary circuit with degree of pollution 3 rated value 600 V • of auxiliary circuit rated value 6 kV • of auxiliary circuit rated value 6 kV • of auxiliary suiter boles type protective separation between col auxiliary switch block type separation between col auxiliary switch block typical 100 V • at DC 10g / 5 ms, 7.5g / 10 ms mechanical service life (operating cycles) 100 0000 • of the contactor with added electronically optimized auxiliary switch block typical 10 000 000 • of the contactor with added electronically optimized auxiliary switch block typical 10 000 000 • of the contactor with added auxiliary switch block typical 10 00	product type designation	3RT2
product extension No • function module for communication No • auxillary switch Yes power loss (W) for rated value of the current 6.3 W • 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 590 insulation voltage 690 V • of main circuit with degree of pollution 3 rated value 690 V • of auxillary circuit rated value 690 V • of auxillary circuit rated value 6 KV • of auxillary circuit rated value 5 KV • of auxillary circuit rated value 6 KV • of auxillary circuit rated value 5 KV • of auxillary circuit rated value 6 KV • of auxillary circuit rated value 6 KV • of auxillary circuit ratet value 100 V	General technical data	
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maximum permissible voltage for protective separation between coil and main contacts according to EN 60947-1400 Vshock resistance at rectangular impulse • at DC10g / 5 ms, 7,5g / 10 msshock resistance with sine pulse • at DC15g / 5 ms, 10g / 10 msmechanical service life (operating cycles) • of contactor typical • of the contactor with added electronically optimized auxiliary switch block typical • of the contactor with add	 of main circuit rated value 	6 kV
coil and main contacts according to EN 60947-1 shock resistance at rectangular impulse • at DC 10g / 5 ms, 7,5g / 10 ms shock resistance with sine pulse • at DC 15g / 5 ms, 10g / 10 ms mechanical service life (operating 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 • 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 2 000 m ambient temperature -25 +60 °C • during operation -25 +80 °C	 of auxiliary circuit rated value 	6 kV
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• at DC15g / 5 ms, 10g / 10 msmechanical service life (operating cycles)I• of contactor typical10 000 000• of the contactor with added electronically optimized auxiliary switch block typical5 000 000• of the contactor with added auxiliary switch block typical10 000 000• of the contactor with added auxiliary switch block typical10 000 000• of the contactor with added auxiliary switch block typical10 000 000• of the contactor with added auxiliary switch block typical0reference code according to IEC 81346-2QSubstance Prohibitance (Date)10/01/2009Ambient conditions2 000 mambient temperature • during operation-25 +60 °C• during storage-25 +60 °C	• at DC	10g / 5 ms, 7,5g / 10 ms
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reference code according to IEC 81346-2 Q Substance Prohibitance (Date) 10/01/2009 Ambient conditions 2 000 m installation altitude at height above sea level maximum 2 000 m ambient temperature -25 +60 °C • during storage -25 +80 °C		5 000 000
Substance Prohibitance (Date) 10/01/2009 Ambient conditions 2 000 m installation altitude at height above sea level maximum 2 000 m ambient temperature -25 +60 °C • during operation -25 +80 °C	 of the contactor with added auxiliary switch block typical 	10 000 000
Ambient conditions 2 000 m installation altitude at height above sea level maximum 2 000 m ambient temperature -25 +60 °C • during operation -25 +80 °C	reference code according to IEC 81346-2	Q
installation altitude at height above sea level maximum 2 000 m ambient temperature during operation 	Substance Prohibitance (Date)	10/01/2009
ambient temperature -25 +60 °C • during operation -25 +80 °C	Ambient conditions	
 during operation during storage -25 +60 °C -25 +80 °C 	installation altitude at height above sea level maximum	2 000 m
• during storage -55 +80 °C	ambient temperature	
5 5	during operation	-25 +60 °C
	during storage	-55 +80 °C
relative humidity minimum 10 %	relative humidity minimum	10 %
relative humidity at 55 °C according to IEC 60068-2-30 95 % 95 %		95 %
Aain circuit	Main circuit	
number of poles for main current circuit 3	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	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
 at AC-5b up to 400 V rated value at AC-6a 	26.5 A
	30.8 A
— up to 230 V for current peak value n=20 rated value	
 — up to 400 V for current peak value n=20 rated value — up to 500 V for current peak value n=20 rated value 	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
 up to 230 V for current peak value n=30 rated value 	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 ²
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
 with 3 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	35 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	20 A
— at 60 V rated value	5 A
— at 110 V rated value	2.5 A
— at 220 V rated value	1 A
— at 440 V rated value	0.09 A
— at 600 V rated value	0.06 A
 with 2 current paths in series at DC-3 at DC-5 	
— 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
with 3 current paths in series at DC-3 at DC-5	
— 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
	U.U 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 ● at 400 V rated value	
at 400 V rated value at 690 V rated value	6 kW
	10.3 kW
operating apparent power at AC-6a	
• 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	
• 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	
	400 A: Loo minimum groop postion and to AC 4 rated value
 limited to 1 s switching at zero current maximum limited to 5 s switching at zero surrent maximum 	499 A; Use minimum cross-section acc. to AC-1 rated value
Imited to 5 s switching at zero current maximum	341 A; Use minimum cross-section acc. to AC-1 rated value
Imited to 10 s switching at zero current maximum	260 A; Use minimum cross-section acc. to AC-1 rated value
Imited to 30 s switching at zero current maximum	199 A; Use minimum cross-section acc. to AC-1 rated value
Imited to 60 s switching at zero current maximum	162 A; Use minimum cross-section acc. to AC-1 rated value
no-load switching frequency	
• at DC	1 500 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 	0.8			
full-scale value	1.1			
closing power of magnet coil at DC	5.9 W			
holding power of magnet coil at DC	5.9 W			
closing delay				
• at DC	50 170 ms			
opening delay	45 40			
• at DC	15 18 ms			
arcing time	10 10 ms			
control version of the switch operating mechanism	Standard A1 - A2			
Auxiliary circuit	4			
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			
• 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	1A 0.45 A			
at 600 V rated value operational current at DC-13	0.15 A			
at 24 V rated value	10 A			
at 24 V rated value	2 A			
at 40 V rated value at 60 V rated value	2 A			
at 50 V rated value at 110 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	0.3 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	27 A			
at 400 V rated value	27 A			
yielded mechanical performance [hp]				
for single-phase AC motor				
— at 110/120 V rated value	2 hp			
— at 230 V rated value	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				
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)			
- ALT				

- with type of assignment 2 required

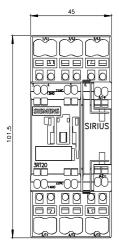
• for short-circuit protection of the auxiliary switch required

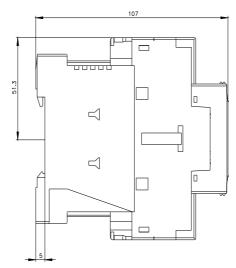
gG: 50A (690V,100kA), aM: 25A (690V, 100kA), BS88: 50A (415V, 80kA) gG: 10 A (500 V, 1 kA)

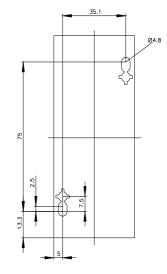
Installation/ mounting/ dimensions	
mounting position	+/-180° rotation possible on vertical mounting surface; can be tilted forward and
	backward by +/- 22.5° on vertical mounting surface
fastening method	screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715
side-by-side mounting	Yes
height	102 mm
width	45 mm
depth	107 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 	spring-loaded terminals
 for auxiliary and control circuit 	spring-loaded terminals
 at contactor for auxiliary contacts 	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 mm²)
 finely stranded with core end processing 	2x (1 6 mm²)
 finely stranded without core end processing 	2x (1 6 mm²)
connectable conductor cross-section for main contacts	
• solid	1 10 mm²
stranded	1 10 mm²
 finely stranded with core end processing 	1 6 mm²
 finely stranded without core end processing 	1 6 mm²
connectable conductor cross-section for auxiliary contacts	
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 mm ²)
— finely stranded without core end processing	2x (0.5 2.5 mm ²)
 for AWG cables for auxiliary contacts 	2x (20 14)
AWG number as coded connectable conductor cross section	
for main contacts	18 8
 for auxiliary contacts 	20 14
Safety related data	
product function	
 mirror contact according to IEC 60947-4-1 	Yes
suitability for use safety-related switching OFF	Yes
B10 value with high demand rate according to SN 31920	450 000
-	

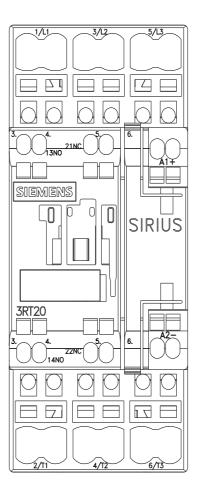
proportion of dangero	ous failures				
 with low demand 	rate according to SN 3192	20 40	6		
 with high deman 	d rate according to SN 319	20 73	%		
failure rate [FIT] with lo	w demand rate according t	to SN 31920 100	FIT		
T1 value for proof test i 61508	nterval or service life acco	rding to IEC 20 a	1		
protection class IP on	the front according to I	EC 60529 IP2)		
touch protection on th	ne front according to IEC	60529 fing	er-safe, for vertical conta	act from the front	
Certificates/ approvals	U	U			
General Product App	roval				
	Confirmation	(m)	Ē	KC	FAL
E SA					נחנ
EMC	Functional Safety/Safety of Ma- chinery	Declaration of Confe	ormity	Test Certificates	
RCM	<u>Type Examination Cer-</u> tificate	CC EG-Konf.	UK CA	Special Test Certific- ate	<u>Type Test Certific-</u> ates/Test Report
Test Certificates	Marine / Shipping				
<u>Miscellaneous</u>	ABS	B U REAU VERITAS		Llovd's Kegister uts	PRS
Marine / Shipping		other		Railway	Dangerous Good
RINA	RMRS	<u>Confirmation</u>	DE VDE	Vibration and Shock	Transport Information
Environment					
Environmental Con- firmations					
Further information					
	to exit the Russian mark				
	om/global/en/pressrelease		ssian-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					
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=3RT2027-2BB40					
Cax online generator	Cax online generator http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2027-2BB40				
http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3R12027-2BB40 Service&Support (Manuals, Certificates, Characteristics, FAQs,)					
https://support.industry. Image database (prod	https://support.industry.siemens.com/cs/ww/en/ps/3RT2027-2BB40 Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros,) http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2027-2BB40⟨=en				
Characteristic: Tripping characteristics, I ² t, Let-through current					

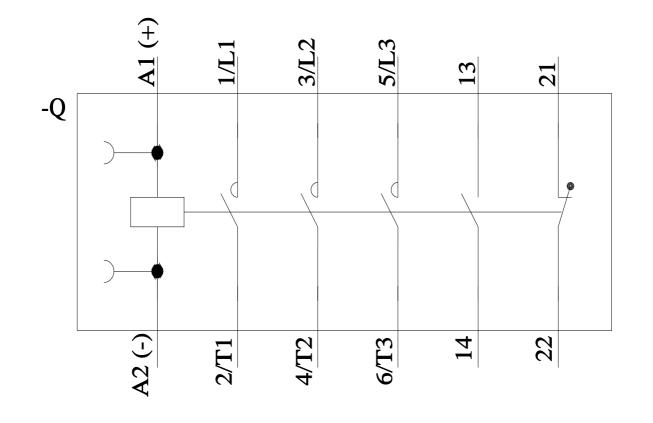
https://support.industry.siemens.com/cs/ww/en/ps/3RT2027-2BB40/char Further characteristics (e.g. electrical endurance, switching frequency) http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2027-2BB40&objecttype=14&gridview=view1











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