SIEMENS

Data sheet

3RT2027-2NP30



Power contactor, AC-3 32 A, 15 kW / 400 V 1 NO + 1 NC, AC (50-60 Hz) / DC 200- 280 V AC / DC 3-pole, Size S0, Spring-type terminals

product brand name SIRUS product designation Power contactor product type designation SRT2 Central technical data S0 size of contactor S0 product extension No • auxiliary switch Yes opwer loss [W] for rated value of the current 6.3 W • at AC in hot operating state prole 2.3 W • without load current share typical 4.3 W insultation voltage 690 V • of main 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 6 kV • of main circuit rated value 6 kV • of main circuit rated value 6 kV • of auxiliary circuit with degree of pollution 3 rated value 6 kV • of auxiliary circuit rated value 6 kV • of auxiliary circuit rated value 6 kV • of auxiliary circuit rated value 6 kV • al DC 10 00 V • al AC 13.5g / 5 ms, 5.3g / 10 ms • al DC 10 000 000 <th></th> <th></th>		
product type designation 3RT2 General technical data S0 size of contactor S0 product extension No • unction 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 4.3 W insulation voltage 6.90 V • of main circuit with degree of pollution 3 rated value 690 V • of main 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 main circuit rated value 6 kV • of auxiliary circuit with degree of pollution 3 rated value 600 V • of main circuit rated value 6 kV • of auxiliary circuit with degree of pollution 3 rated value 6 kV • of auxiliary circuit rated value 6 kV • of auxiliary circuit rated value 6 kV • of auxiliary circuit rated value 6 kV • at AC 8.3g / 5 ms, 5.3g / 10 ms • at AC 13.5g / 5 ms, 8.3g / 10 ms • at DC 10 000 000 • at AC 13.5g / 5 ms, 8.3g / 10 ms •	product brand name	SIRIUS
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• at AC13,5g / 5 ms, 8,3g / 10 ms• at DC15g / 5 ms, 10g / 10 msmechanical service life (switching cycles)10 000 000• 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• deference code according to IEC 81346-2QSubstance Prohibitance (Date)10/01/2009Ambient conditions2 000 minstallation altitude at height above sea level maximum • during operation2 000 m	at DC	10g / 5 ms, 7,5g / 10 ms
• at DC 15g / 5 ms, 10g / 10 ms mechanical service life (switching cycles) 10 000 000 • 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 • of the contactor 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 installation altitude at height above sea level maximum 2 000 m ambient temperature -25 +60 °C	shock resistance with sine pulse	
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Substance Prohibitance (Date) 10/01/2009 Ambient conditions installation altitude at height above sea level maximum ambient temperature 2 000 m • during operation -25 +60 °C		10 000 000
Ambient conditions installation altitude at height above sea level maximum 2 000 m ambient temperature -25 +60 °C	reference code according to IEC 81346-2	Q
installation altitude at height above sea level maximum 2 000 m ambient temperature -25 +60 °C	Substance Prohibitance (Date)	10/01/2009
ambient temperature • during operation -25 +60 °C	Ambient conditions	
• during operation -25 +60 °C	installation altitude at height above sea level maximum	2 000 m
	ambient temperature	
• during storage -55 +80 °C	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 %
maximum	
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 	50 A
rated value ● at AC-1	
up to 690 V at ambient temperature 40 °C	50 A
rated value	
— up to 690 V at ambient temperature 60 °C	42 A
rated value	
 at AC-3 — at 400 V rated value 	32 A
— at 500 V rated value	32 A 32 A
— at 690 V rated value	21 A
• at AC-3e	217
• at AC-Se — 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 	26.5 A
• at AC-6a	
 up to 230 V for current peak value n=20 rated value 	30.8 A
 up to 400 V for current peak value n=20 rated value 	30.8 A
 — up to 500 V for current peak value n=20 rated value 	27 A
 — up to 690 V for current peak value n=20 rated value 	21 A
• at AC-6a	
 — up to 230 V for current peak value n=30 rated value 	20.5 A
— up to 400 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 value	10 mm²
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 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	25.4
— at 24 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 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 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 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 110 V rated value	35 A 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				
	C IAN			
at 400 V rated value	6 kW			
• at 690 V rated value	10.3 kW			
operating apparent power at AC-6a	40.013/4			
• 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				
 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				
 limited to 1 s switching at zero current maximum 	499 A; Use minimum cross-section acc. to AC-1 rated value			
 limited to 5 s switching at zero current maximum 	395 A; Use minimum cross-section acc. to AC-1 rated value			
 limited to 10 s switching at zero current maximum 	260 A; Use minimum cross-section acc. to AC-1 rated value			
e de la construcción de la constru	186 A; Use minimum cross-section acc. to AC-1 rated value			
 limited to 30 s switching at zero current maximum 				
 limited to 30 s switching at zero current maximum limited to 60 s switching at zero current maximum 	152 A; Use minimum cross-section acc. to AC-1 rated value			
Imited to 60 s switching at zero current maximum				
-				

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/DC
control supply voltage at AC	
• at 50 Hz rated value	200 280 V
• at 60 Hz rated value	200 280 V
control supply voltage at DC	
rated value	200 280 V
operating range factor control supply voltage rated value of magnet coil at DC	
• initial value	0.7
• full-scale value	1.1
operating range factor control supply voltage rated value of magnet coil at AC	
• at 50 Hz	0.7 1.1
• at 60 Hz	0.7 1.1
design of the surge suppressor	with varistor
inrush current peak	25 A
duration of inrush current peak	30 µs
locked-rotor current mean value	0.1 A
locked-rotor current peak	0.13 A
duration of locked-rotor current holding current mean value	180 ms 17 mA
apparent pick-up power of magnet coil at AC	
• at 50 Hz	12.7 VA
• at 60 Hz	14.7 VA
inductive power factor with closing power of the coil	
• at 50 Hz	0.98
• at 60 Hz	0.98
apparent holding power of magnet coil at AC	
• at 50 Hz	3.9 VA
• at 60 Hz	4.3 VA
inductive power factor with the holding power of the coil	
• at 50 Hz	0.51
• at 60 Hz	0.56
closing power of magnet coil at DC	14.3 W
holding power of magnet coil at DC	1.9 W
closing delay	
• at AC	50 80 ms
• at DC	50 75 ms
opening delay	22 52
• at AC	30 50 ms
• at DC	30 50 ms 10 10 ms
arcing time control version of the switch operating mechanism	Standard A1 - A2
Auxiliary circuit	
number of NC contacts for auxiliary contacts	1
instantaneous contact	
number of NO contacts for auxiliary contacts instantaneous contact	1
operational current at AC-12 maximum	10 A
operational current at AC-15	40.4
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				
at 120 V rated value	2 A 1 A			
at 600 V rated value	0.15 A			
operational current at DC-13	0.10 A			
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	1A			
at 125 V rated value	0.9 A			
at 120 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	27 A			
at 600 V rated value	27 A 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	5 np			
- 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	100071000			
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			
- with type of coordination in required	(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				
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 standard mounting 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	10 mm			
— forwards	10 mm			
— upwards	10 mm			
— downwards	10 mm			
— at the side	0 mm			
for grounded parts				
	10 mm			
— forwards	10 mm			
— upwards	10 mm			

 for live parts 				
— forwards	10 mm			
— upwards	10 mm			
— downwards				
— at the side	10 mm 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 mm ²)			
— finely stranded with core end processing	2x (1 6 mm ²)			
 finely stranded with core end processing finely stranded without core end processing 	2x (1 6 mm ²)			
at AWG cables for main contacts	2x (18 8)			
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 mm²)			
 finely stranded without core end processing 	2x (0.5 2.5 mm²)			
 at 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			
B10 value with high demand rate according to SN 31920	450 000			
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 61508	20 у			
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				
 safety-related switching OFF 	Yes			
Certificates/ approvals				
General Product Approval				

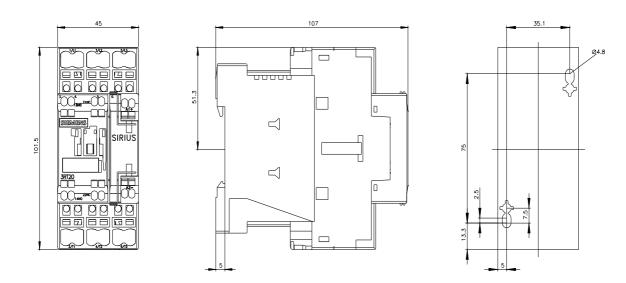
SA CAN	<u>Confirmation</u>	CCC		<u>KC</u>	EHC
EMC	Functional Safety/Safety of Machinery	Declaration of Conf	ormity	Test Certificates	
RCM	<u>Type Examination</u> <u>Certificate</u>	CE EG-Konf.	UK CA	<u>Type Test Certific-</u> ates/Test Report	Special Test Certific- ate
Test Certificates	Marine / Shipping				
<u>Miscellaneous</u>	ABS	BUREAU VERITAS		Hoyds Register urs	PRS
Marine / Shipping		other			Dangerous Good
RINA	RMRS RMRS	<u>Confirmation</u>	UDE VDE	<u>Confirmation</u>	<u>Transport Informa-</u> <u>tion</u>
https://www.siemens. Industry Mall (Onlin https://mall.industry.s Cax online generato http://support.automa	Further information 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=3RT2027-2NP30 Cax online generator http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2027-2NP30 Service&Support (Manuals, Certificates, Characteristics, FAQs,)				

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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=3RT2027-2NP30&lang=en

Characteristic: Tripping characteristics, I²t, Let-through current https://support.industry.siemens.com/cs/ww/en/ps/3RT2027-2NP30/char

Further characteristics (e.g. electrical endurance, switching frequency) http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2027-2NP30&objecttype=14&gridview=view1



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