SIEMENS

Data sheet

3RT2028-2AG24



power contactor, AC-3e/AC-3, 38 A, 18.5 kW / 400 V, 3-pole, 110 V AC, 50/60 Hz, auxiliary contacts: 2 NO + 2 NC, spring-loaded terminal, size: S0, removable auxiliary switch

product brand name SIRIUS product designation Power contactor product type designation 3RT2 General technical data S0	_
product type designation 3RT2 General technical data size of contactor S0	
General technical data size of contactor S0	
size of contactor S0	
product extension	
function module for communication No	
auxiliary switch No	
power loss [W] for rated value of the current	
• at AC in hot operating state 9.6 W	
• at AC in hot operating state per pole 3.2 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 5 000 000 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 % 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 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	38 A
— at 500 V rated value	32 A
— at 690 V rated value	21 A
• at AC-3e	
— at 400 V rated value	38 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	31.5 A
• at AC-6a	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	30.8 A 30.8 A
 up to 500 V for current peak value n=20 rated value up to 690 V for current peak value n=20 rated value 	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	21.4 A
— up to 690 V for current peak value n=30 rated value	21 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 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
operating power	
• at AC-3	
- at 230 V rated value	11 kW
— at 200 V rated value	18.5 kW
— at 500 V rated value	18.5 kW
— at 690 V rated value	18.5 kW
• at AC-3e	10.5 KW
- at 230 V rated value	11 kW
— at 400 V rated value	18.5 kW
— at 500 V rated value	18.5 kW
— at 690 V rated value	18.5 kW
operating power for approx. 200000 operating cycles at AC- 4	
4	
 at 400 V rated value 	6 kW
	6 kW 10.3 kW
• at 400 V rated value	
at 400 V rated valueat 690 V rated value	
at 400 V rated value at 690 V rated value operating apparent power at AC-6a	10.3 kW
 at 400 V rated value at 690 V rated value operating apparent power at AC-6a up to 230 V for current peak value n=20 rated value up to 400 V for current peak value n=20 rated value 	10.3 kW 12.2 kVA
 at 400 V rated value at 690 V rated value operating apparent power at AC-6a 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 	10.3 kW 12.2 kVA 21.3 kVA 26.6 kVA
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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	2
number of NO contacts for auxiliary contacts instantaneous contact	2
operational current at AC-12 maximum	10 A
operational current at AC-15	
at 230 V rated value	6 A
 at 400 V rated value 	3 A
• at 500 V rated value	2 A
at 690 V rated value	1A
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 10 V rated value	3 A
at 125 V rated value	2 A
at 125 V rated value at 220 V rated value	1A
at 220 V rated value at 600 V rated value	0.15 A
operational current at DC-13	
• at 24 V rated value	6 4
	6 A
• at 48 V rated value	2 A 2 A
at 60 V rated value	2 A
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	0.1 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	34 A
at 600 V rated value	27 A
yielded mechanical performance [hp]	
 for single-phase AC motor 	
— at 110/120 V rated value	3 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	25 hp
— at 575/600 V rated value	25 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 	
— 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	
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	144 mm
required spacing	
with side-by-side mounting	10
— forwards	10 mm
— upwards — downwards	10 mm 10 mm
— downwards — at the side	0 mm
 at the side for grounded parts 	0 mm
— 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 mm ²
finely stranded with core end processing	0.5 1.5 mm ²
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 mm ²)
— finely stranded with core end processing	2x (0.5 1.5 mm ²)
 finely stranded without core end processing 	2x (0.5 2.5 mm²)

for AWG cables	for auxiliary contacts		2x (20	14)		
	ed connectable conducto	r cross	2x (20 14)			
section		. 01033				
 for main contact 	ts		18 8			
 for auxiliary con 						
Safety related data						
product function			_			
•	ccording to IEC 60947-4-1		Yes			
	0	60047 5 1				
positively driven operation according to IEC 60947-5-1			No			
B10 value with high demand rate according to SN 31920			450 000	U		
 proportion of dangerous failures with low demand rate according to SN 31920 			40.97			
	•		40 %			
	nd rate according to SN 319		73 %	-		
	ow demand rate according		100 FIT			
11 value for proof test 61508	interval or service life acco	rding to IEC	20 a			
protection class IP o	n the front according to I	EC 60529	IP20			
-	the front according to IEC		finger-s	afe, for vertical contact	from the front	
suitability for use	.		0			
 safety-related sy 	witching OFF		Yes			
Certificates/ approvals	-		100			
General Product App						
General Product App	provar					
	Confirmation	\frown		\sim	КС	
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	Confirmation			Vibration and Shock	Environmental Con- firmations	
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RMRS		VDE				
Further information						
	d to exit the Russian mark	tet (see here).				
https://press.siemens.	com/global/en/pressrelease	siemens-wind-do		an-business		
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Information on the pa	ackaging					
https://support.industry	v siemens com/cs/ww/en/vi	04/100012075				

https://support.industry.siemens.com/cs/ww/en/view/109813875 Information- and Downloadcenter (Catalogs, Brochures,...)

https://www.siemens.com/ic10

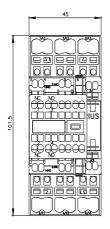
Industry Mall (Online ordering system) https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RT2028-2AG24

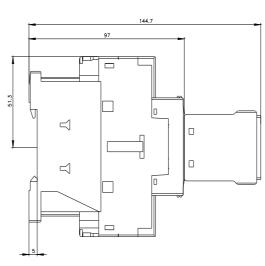
Cax online generator

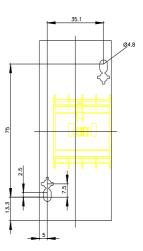
http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2028-2AG24 Service&Support (Manuals, Certificates, Characteristics, FAQs,...) https://support.industry.siemens.com/cs/ww/en/ps/3RT2028-2AG24 Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2028-2AG24&lang=en Characteristic: Tripping characteristics, I²t, Let-through current https://support.industry.siemens.com/cs/ww/en/ps/3RT2028-2AG24/char

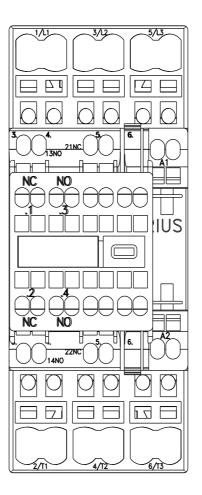
Further characteristics (e.g. electrical endurance, switching frequency)

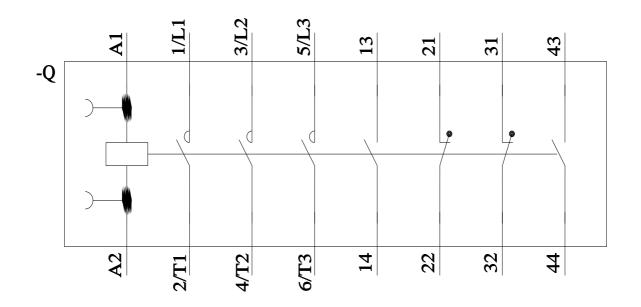
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2/10/2023 🖸

7/10/2023