SIEMENS

Data sheet

3RT2028-2AL24



power contactor, AC-3e/AC-3, 38 A, 18.5 kW / 400 V, 3-pole, 230 V AC, 50/60 Hz, auxiliary contacts: 2 NO + 2 NC, spring-loaded terminal, size: S0, removable auxiliary switch

product brain SiNUS product brain Power contactor product disparation 3RT2 Ceneral technical data Silo size of contactor Silo product extension No • auxilary switch No • at AC in hot operating state 9.6 W • 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 insultation voltage 690 V • of main circuit with degree of pollution 3 rated value 690 V • of auxiliary circuit with degree of pollution 3 rated value 690 V • of auxiliary circuit rated value 64 V • of the contactor with added electronically optimized 8.3g /	module brand name				
product type designation 3R12 Central technical data	product brand name	SIRIUS			
General technical data S0 size of contactor S0 product extension • function module for communication No • auxiliary switch No power loss [W] for rated value of the current 9.6 W • at AC in hot operating state per pole 3.2 W • without load current share typical 10.5 W insulation voltage 690 V • of auxiliary circuit with degree of pollution 3 rated value 690 V • of auxiliary circuit with degree of pollution 3 rated value 690 V • of main circuit rated value 64V • of auxiliary circuit with degree of pollution 3 rated value 64V • of main circuit rated value 64V • of auxiliary circuit with degree of pollution 3 rated value 64V • of auxiliary circuit rated value 64V • of auxiliary circuit rated value 64V • of auxiliary circuit rated value 64V • at AC 8.3g / 5 ms, 5.3g / 10 ms mechanical service life (operating cycles) 10.000 000 • of the contactor with added auxiliary switch block typical 10.000 000 • of the contactor with added auxiliary					
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relative humidity at 55 °C according to IEC 60068-2-30 95 % Main circuit 95 %	during storage	-55 +80 °C			
maximum	relative humidity minimum	10 %			
		95 %			
number of poles for main current circuit 3	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
 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 up to 690 V for current peak value n=20 rated value 	10.3 kW 12.2 kVA 21.3 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 up to 690 V for current peak value n=20 rated value operating apparent power at AC-6a 	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	230 V
at 60 Hz rated value	230 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	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
at 600 V rated value	0.15 A
operational current at DC-13	
at 24 V rated value	6 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	
iun-ioau current (i LA) ior 3-phase AC motor	34 A
e at 490 V rated value	
at 480 V rated value	
• at 600 V rated value	27 A
at 600 V rated value yielded mechanical performance [hp]	
 at 600 V rated value yielded mechanical performance [hp] for single-phase AC motor 	27 A
at 600 V rated value yielded mechanical performance [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)

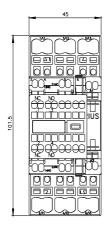
	for auxiliary contacts		2x (20 14	4)		
	ed connectable conducto	or cross	EX (20 1	•)		
section						
 for main contact 	S		18 8			
 for auxiliary cont 	tacts		20 14			
Safety related data						
product function						
 mirror contact aⁱ 	ccording to IEC 60947-4-1		Yes			
	operation according to IE0	C 60947-5-1	No			
. ,	mand rate according to SN		450 000			
proportion of danger						
		20	40 %			
	 with low demand rate according to SN 31920 with high demand rate according to SN 31920 		73 %			
	ow demand rate according		100 FIT			
	interval or service life acco		20 a			
	n the front according to I	EC 60529	IP20			
-	he front according to IEC			, for vertical contact	from the front	
suitability for use			iniger care			
 safety-related sv 	witching OFF		Yes			
Certificates/ approvals	-		105			
General Product App	JIOVAI					
	<u>Confirmation</u>			Ű	KC	EHC
EMC	Functional Safety/Safety of Ma- chinery	Declaration of			Test Certificates	
RCM	<u>Type Examination Cer-</u> <u>tificate</u>	UK CA		CE EG-Konf.	<u>Type Test Certific-</u> ates/Test Report	<u>Special Test Certific-</u> <u>ate</u>
Marine / Shipping						
ABS				Lloyd's Register urs	PRS	RINA
					Railway	Environment
Marine / Shipping	other					
Marine / Shipping	other Confirmation	DE	,	<u>Confirmation</u>	Vibration and Shock	Environmental Con- firmations

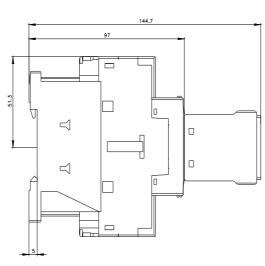
Page 6/8

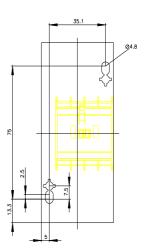
Industry Mall (Online ordering system) https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RT2028-2AL24 http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2028-2AL24 Service&Support (Manuals, Certificates, Characteristics, FAQs,...) https://support.industry.siemens.com/cs/ww/en/ps/3RT2028-2AL24 Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2028-2AL24&lang=en Characteristic: Tripping characteristics, I²t, Let-through current

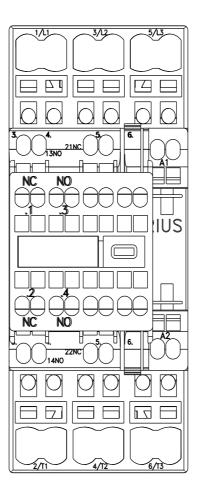
https://support.industry.siemens.com/cs/ww/en/ps/3RT2028-2AL24/char

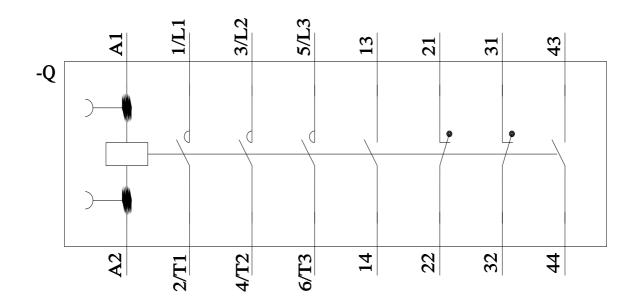
Further characteristics (e.g. electrical endurance, switching frequency) http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2028-2AL24&objecttype=14&gridview=view1











2/10/2023 🖸

7/9/2023