SIEMENS

Data sheet 3RT2028-2AB00



power contactor, AC-3e/AC-3, 38 A, 18.5 kW / 400 V, 3-pole, 24 V AC, 50 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	
size of contactor	S0
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 	9.6 W
 at AC in hot operating state per pole 	3.2 W
without load current share typical	9.8 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	400 V
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 	5 000 000
 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	
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 maximum	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
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	50 A
value	40. A
 up to 690 V at ambient temperature 60 °C rated value 	42 A
• 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	2170
— at 400 V rated value	38 A
— at 500 V rated value	32 A
	21 A
— at 690 V rated value• at AC-4 at 400 V rated value	22 A
	44 A
at AC-5a up to 690 V rated value	
at AC-5b up to 400 V rated value	31.5 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	30.8 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 	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 value	10 mm ²
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	1A
— 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	05 A
— 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 	

	1041/	00.4
	— at 24 V rated value	20 A
- with 2 current paths in series at DC-3 at DC-5 - at 24 V raied value - at 60 V raied value - at 110 V raied value - at 220 V raied value - at 440 V raied value - at 600 V raied val		
		0.06 A
	·	
	— at 24 V rated value	35 A
	— at 60 V rated value	35 A
	— at 110 V rated value	15 A
■ with 3 current paths in series at DC-3 at DC-5	— at 220 V rated value	3 A
With 3 current paths in series at DC-3 at DC-5	— 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 220 V rated value - at 440 V rated value - 20 A A - 24 A C A - 25 A C A - 25 A C A - 26 A C A -	— at 60 V rated value	35 A
	— at 110 V rated value	35 A
A	— at 220 V rated value	10 A
at AC-3	— at 440 V rated value	0.6 A
* at AC-3	— at 600 V rated value	0.6 A
at 230 V rated value at 400 V rated value at 690 V rated value at 690 V rated value at 690 V rated value at 230 V rated value at 250 V rated value at 590 V rated value at 590 V rated value at 690 V rated value at	operating power	
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1		
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 at AC-3 maximum at AC-3e maximum at AC-4 maximum Control circuit/ Control Control circuit/ Control		
 at AC-3e maximum at AC-4 maximum Control circuit/ Control 		
• at AC-4 maximum Control circuit/ Control		
Control circuit/ Control		
		200 1/11
type of voltage of the control supply voltage		AC
	type of voltage of the control supply voltage	AC

control supply voltage at AC	
at 50 Hz rated value	24 V
operating range factor control supply voltage rated value of magnet coil at AC	
• at 50 Hz	0.8 1.1
apparent pick-up power of magnet coil at AC	0.6 1.1
	77 VA
• at 50 Hz	// VA
inductive power factor with closing power of the coil	0.00
• at 50 Hz	0.82
apparent holding power of magnet coil at AC	0.01/4
• at 50 Hz	9.8 VA
inductive power factor with the holding power of the coil	0.05
• at 50 Hz	0.25
closing delay	0. 40
• at AC	8 40 ms
opening delay	4. 40
• 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	1
contact	
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	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 110 V rated value	1 A
• 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 / 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)
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	30
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	97 mm
required spacing	
with side-by-side mounting	40
— forwards	10 mm
— upwards	10 mm
— downwards	10 mm
— at the side	0 mm
for grounded parts	40
— 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	and a land developed
for main current circuit for qualiformand control circuit	spring-loaded terminals
for auxiliary and control circuit	spring-loaded terminals
at contactor for auxiliary contacts af magnet seil	Spring-type terminals
of magnet coil The properties of a properties of the propert	Spring-type terminals
type of connectable conductor cross-sections for main contacts	0(4 40 mags2)
• solid	2x (1 10 mm²)
solid or stranded finely stranded with case and processing.	2x (1 10 mm²)
finely stranded with core end processing finely stranded without core and processing	2x (1 6 mm²)
finely stranded without core end processing	2x (1 6 mm²)
connectable conductor cross-section for main contacts	1 10 mm ²
• solid	1 10 mm ² 1 10 mm ²
stranded finally stranded with core and processing	
finely stranded with core end processing finely stranded without core and processing	1 6 mm ²
inely stranded without core end processing connectable conductor cross-section for auxiliary contacts	1 6 mm²
solid or stranded	0.5 2.5 mm²
	0.5 1.5 mm²
finely stranded with core end processing finely stranded without core and processing	0.5 2.5 mm²
finely stranded without core end processing type of connectable conductor cross-sections	0.0 2.0 Hilli
type of connectable conductor cross-sections	
for auxiliary contacts colid or stranded.	2v (0.5 2.5 mm²)
solid or stranded finely stranded with core and processing	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)
for AWG cables for auxiliary contacts AWG number as coded connectable conductor cross section	2x (20 14)
	400
for main contacts	18 8
for main contactsfor auxiliary contacts	18 8 20 14

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 a
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	

Certificates/ approvals

General Product Approval



Confirmation





<u>KC</u>



Functional EMC Safety/Safety of Machinery

Declaration of Conformity

Test Certificates



Type Examination Certificate





Type Test Certificates/Test Report

Special Test Certificate

Marine / Shipping





Confirmation





Confirmation





Marine / Shipping

Vibration and Shock

Railway

Environmental Confirmations

Environment

Further information

Siemens has decided to exit the Russian market (see here).

https://press.siemens.com/global/en/pressrelease/siemens-wind-down-russian-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

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=3RT2028-2AB00

Cax online generator

 $\underline{\text{http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en\&mlfb=3RT2028-2AB00}$

Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

https://support.industry.siemens.com/cs/ww/en/ps/3RT2028-2AB00

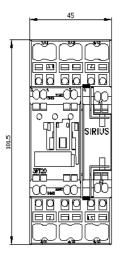
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)

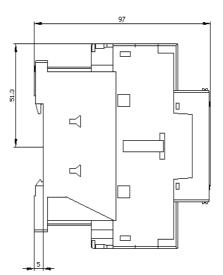
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT202

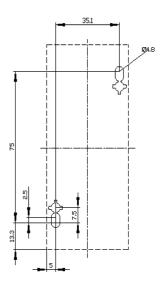
Characteristic: Tripping characteristics, I2t, Let-through current

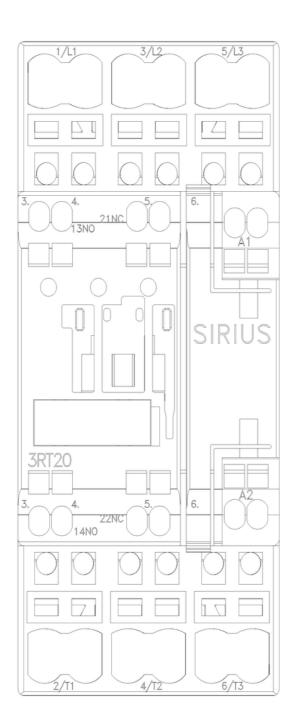
https://support.industry.siemens.com/cs/ww/en/ps/3RT2028-2AB00/char

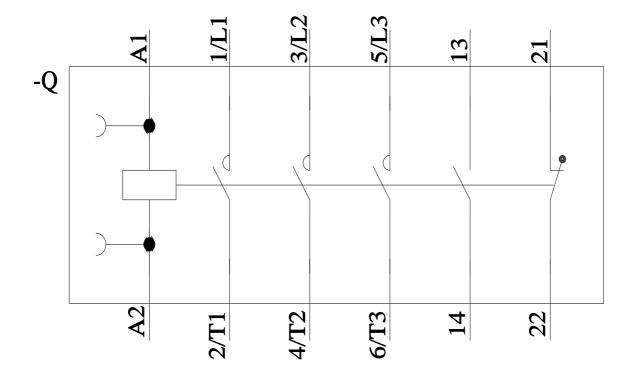
Further characteristics (e.g. electrical endurance, switching frequency)
http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2028-2AB00&objecttype=14&gridview=view1











last modified: 2/10/2023 🖸