SIEMENS

Data sheet 3RT2028-1BM40



power contactor, AC-3e/AC-3, 38 A, 18.5 kW / 400 V, 3-pole, 220 V DC, auxiliary contacts: 1 NO + 1 NC, screw terminal, size: S0 $\,$

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 • without load current share typical 5.9 W	
Size of contactor product extension function module for communication auxiliary switch power loss [W] for rated value of the current at AC in hot operating state at AC in hot operating state per pole without load current share typical 5.9 W	
size of contactor product extension • function module for communication • auxiliary switch power loss [W] for rated value of the current • at AC in hot operating state • at AC in hot operating state per pole • without load current share typical 5.9 W	
product extension • function module for communication • auxiliary switch Power loss [W] for rated value of the current • at AC in hot operating state • at AC in hot operating state per pole • at AC in hot operating state per pole • without load current share typical 5.9 W	
 function module for communication auxiliary switch yes power loss [W] for rated value of the current at AC in hot operating state at AC in hot operating state per pole without load current share typical 5.9 W 	
 ◆ auxiliary switch Power loss [W] for rated value of the current ◆ at AC in hot operating state ◆ at AC in hot operating state per pole ◆ without load current share typical 5.9 W	
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 5.9 W	
 at AC in hot operating state at AC in hot operating state per pole without load current share typical 5.9 W	
 at AC in hot operating state per pole without load current share typical 5.9 W 	
without load current share typical 5.9 W	
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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 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 	
• 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	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 	

-4.04.1/41	00.4
— 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
operating power	
• at AC-3	
— 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
• at AC-3e	
— 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-	
at 400 V rated value	6 kW
at 690 V rated value	10.3 kW
	10.3 kW
• at 690 V rated value	10.3 kW 12.2 kVA
at 690 V rated value operating apparent power at AC-6a up to 230 V for current peak value n=20 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 	12.2 kVA
at 690 V rated value operating apparent power at AC-6a up to 230 V for current peak value n=20 rated value	12.2 kVA 21.3 kVA
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	12.2 kVA 21.3 kVA 26.6 kVA
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	12.2 kVA 21.3 kVA 26.6 kVA
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type of voltage of the control supply voltage	DC
control supply voltage at DC	000.17
rated value operating range factor control supply voltage rated value of magnet coil at DC	220 V
• 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	
• at DC	15 18 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 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	40.4
• at 24 V rated value	10 A
at 48 V rated valueat 60 V rated value	6 A 6 A
at 100 V rated value at 110 V rated value	3 A
at 175 V rated value 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	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 coordination i required	90. 120A (000 V, 100 NA), aivi. 50A (000 V, 100 NA), D300. 123A (413 V, 00 KA)

 — 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	85 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	
Connections/ Terminals	6 mm
type of electrical connection	
for main current circuit	screw-type terminals
for auxiliary and control circuit	screw-type terminals
at contactor for auxiliary contacts	Screw-type terminals
of magnet coil	Screw-type terminals
type of connectable conductor cross-sections for main contacts	
• solid	2x (1 2.5 mm²), 2x (2.5 10 mm²)
 solid or stranded 	2x (1 2.5 mm²), 2x (2.5 10 mm²)
finely stranded with core end processing	2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm²
connectable conductor cross-section for main contacts	
• solid	1 10 mm²
• stranded	1 10 mm²
finely stranded with core end processing	1 10 mm²
connectable conductor cross-section for auxiliary contacts	
solid or stranded	0.5 2.5 mm²
finely stranded with core end processing	0.5 2.5 mm²
type of connectable conductor cross-sections	
 for auxiliary contacts 	
— solid or stranded	2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²)
 finely stranded with core end processing 	2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²)
 for AWG cables for auxiliary contacts 	2x (20 16), 2x (18 14)
AWG number as coded connectable conductor cross section	
• for main contacts	16 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 dangerous failures	
with low demand rate according to SN 31920	40 %
with high demand rate according to SN 31920 with high demand rate according to SN 31920	73 %
failure rate [FIT] with low demand rate according to SN 31920	100 FIT
randre rate [F11] with low demand rate according to 5N 31920	100 111

T1 value for proof test interval or service life according to IEC 61508

20 a

IP20

protection class IP on the front according to IEC 60529 touch protection on the front according to IEC 60529

finger-safe, for vertical contact from the front

Certificates/ approvals

General Product Approval





Confirmation



<u>KC</u>



EMC

Functional Safety/Safety of Machinery

Declaration of Conformity

Test Certificates



Type Examination Cer**tificate**





Special Test Certific-<u>ate</u>

Type Test Certificates/Test Report

Marine / Shipping













other

Railway

Dangerous Good

Environment

Confirmation



Vibration and Shock

Transport Information

Environmental Confirmations

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,...)

Industry Mall (Online ordering system)

https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RT2028-1BM40

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2028-1BM40

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

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

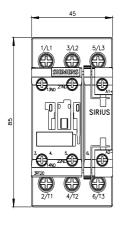
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2028-1BM40&lang=en

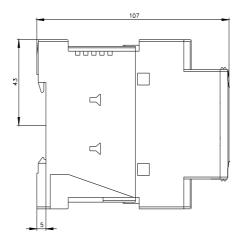
Characteristic: Tripping characteristics, I2t, Let-through current

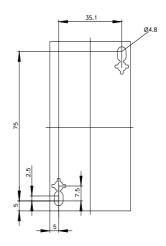
https://support.industry.siemens.com/cs/ww/en/ps/3RT2028-1BM40/char

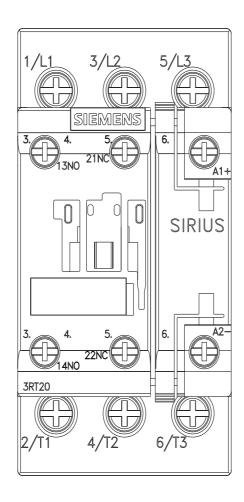
Further characteristics (e.g. electrical endurance, switching frequency)

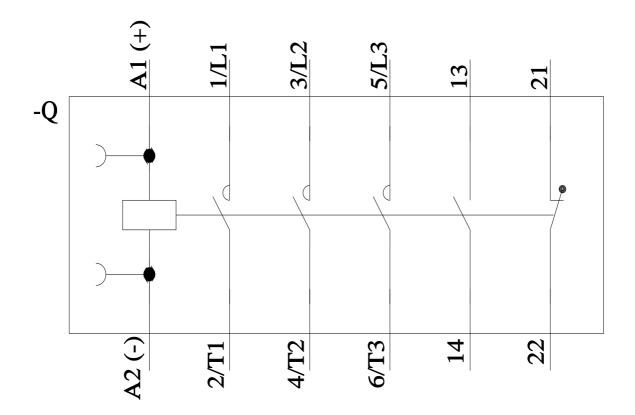
arch&mlfb=3RT2028-1BM40&objecttype=14&gridview=view1











last modified: 8/15/2023 🖸

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