SIEMENS

Data sheet 3RT2038-3AP00



power contactor, AC-3e/AC-3, 80 A, 37 kW / 400 V, 3-pole, 230 V AC, 50 Hz, auxiliary contacts: 1 NO + 1 NC, main circuit: screw terminal, control and auxiliary circuit: spring-loaded terminal, size: S2 $\,$

product brand name	SIRIUS	
product designation	Power contactor	
product type designation	3RT2	
General technical data		
size of contactor	S2	
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 	17.1 W	
 at AC in hot operating state per pole 	5.7 W	
without load current share typical	6 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	11.8g / 5 ms, 7.4g / 10 ms	
shock resistance with sine pulse		
• at AC	18.5g / 5 ms, 11.6g / 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)	10/01/2014	
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	

3
690 V
690 V
90 A
90 A
80 A
80 A
80 A
58 A
80 A
80 A
58 A
55 A
79.2 A
66.4 A
70 A
70 A
70 A
58 A
46.7 A
46.7 A
46.7 A
46.7 A
35 mm²
30 A
24 A
55 A
23 A
4.5 A
4.5 A 1 A
1 A
1 A 0.4 A
1 A 0.4 A
1 A 0.4 A 0.25 A
1 A 0.4 A 0.25 A 55 A 45 A
1 A 0.4 A 0.25 A 55 A 45 A
1 A 0.4 A 0.25 A 55 A 45 A 45 A 5 A
1 A 0.4 A 0.25 A 55 A 45 A 45 A 5 A 1 A
1 A 0.4 A 0.25 A 55 A 45 A 45 A 5 A
1 A 0.4 A 0.25 A 55 A 45 A 45 A 5 A 1 A 0.8 A
1 A 0.4 A 0.25 A 55 A 45 A 45 A 5 A 1 A 0.8 A
1 A 0.4 A 0.25 A 55 A 45 A 45 A 5 A 1 A 0.8 A
1 A 0.4 A 0.25 A 55 A 45 A 45 A 1 A 0.8 A
1 A 0.4 A 0.25 A 55 A 45 A 5 A 1 A 0.8 A 55 A 55 A 55 A 55 A
1 A 0.4 A 0.25 A 55 A 45 A 45 A 5 A 1 A 0.8 A

1041/	05.4
— at 24 V rated value	35 A
— at 60 V rated value	6 A
— at 220 V rated value	1 A
— at 440 V rated value	0.1 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	55 A
— at 60 V rated value	45 A
— at 110 V rated value	25 A
— at 220 V rated value	5 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	55 A
— at 60 V rated value	55 A
— at 110 V rated value	55 A
— at 220 V rated value	25 A
— at 440 V rated value	0.6 A
— at 600 V rated value	0.35 A
operating power	
at AC-2 at 400 V rated value	37 kW
• at AC-3	
— at 230 V rated value	22 kW
— at 400 V rated value	37 kW
— at 500 V rated value	37 kW
— at 690 V rated value	45 kW
	40 KVV
• at AC-3e	22 144
— at 230 V rated value	22 kW
— at 400 V rated value	37 kW
— at 500 V rated value	37 kW
— at 690 V rated value	45 kW
operating power for approx. 200000 operating cycles at AC-	
at 400 V rated value	15.8 kW
at 490 V rated value at 690 V rated value	21.8 kW
operating apparent power at AC-6a	21.0 KW
• up to 230 V for current peak value n=20 rated value	27.8 kVA
	48.4 kVA
up to 400 V for current peak value n=20 rated value	
up to 500 V for current peak value n=20 rated value	60.6 kVA
up to 690 V for current peak value n=20 rated value	69.3 kVA
operating apparent power at AC-6a	40.0 13/4
• up to 230 V for current peak value n=30 rated value	18.6 kVA
• up to 400 V for current peak value n=30 rated value	32.3 kVA
 up to 500 V for current peak value n=30 rated value 	40.4 kVA
up to 690 V for current peak value n=30 rated value	55.8 kVA
short-time withstand current in cold operating state up to 40 °C	
	1.200 At Hoo minimum group coation ago to AC 4 rated value
Iimited to 1 s switching at zero current maximum	1 298 A; Use minimum cross-section acc. to AC-1 rated value
Ilimited to 5 s switching at zero current maximum	898 A; Use minimum cross-section acc. to AC-1 rated value
Iimited to 10 s switching at zero current maximum	640 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 30 s switching at zero current maximum 	414 A; Use minimum cross-section acc. to AC-1 rated value
limited to 60 s switching at zero current maximum	333 A; Use minimum cross-section acc. to AC-1 rated value
no-load switching frequency	
• at AC	5 000 1/h
operating frequency	
	700.48
• at AC-1 maximum	700 1/h
at AC-1 maximumat AC-2 maximum	700 1/h 350 1/h
• at AC-2 maximum	350 1/h
at AC-2 maximumat AC-3 maximum	350 1/h 500 1/h
at AC-2 maximumat AC-3 maximumat AC-3e maximum	350 1/h 500 1/h 500 1/h

type of voltage of the control supply voltage	AC
control supply voltage at AC	
at 50 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
apparent pick-up power of magnet coil at AC	
● at 50 Hz	190 VA
inductive power factor with closing power of the coil	
● at 50 Hz	0.72
apparent holding power of magnet coil at AC	
● at 50 Hz	16 VA
inductive power factor with the holding power of the coil	
● at 50 Hz	0.37
closing delay	
• at AC	10 80 ms
opening delay	
• at AC	10 18 ms
arcing time	10 20 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	
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	05.4
• at 480 V rated value	65 A
at 600 V rated value Violated mackanism performance [hp]	62 A
yielded mechanical performance [hp]	
• for single-phase AC motor	5 hn
— at 110/120 V rated value	5 hp
— at 230 V rated value	15 hp
• for 3-phase AC motor	20 hn
— at 200/208 V rated value	20 hp
— at 220/230 V rated value	25 hp
— at 460/480 V rated value	50 hp
 at 575/600 V rated value 	60 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: 250 A (690 V, 100 kA), aM: 160 A (690 V, 100 kA), BS88: 200 A (415 V, 80 kA)
 — with type of assignment 2 required 	gG: 160A (690V,100kA), aM: 80A (690V,100kA), BS88: 125A (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	114 mm
width	55 mm
depth	130 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	6 mm
Connections/ Terminals	
type of electrical connection	
for main current circuit	screw-type 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 or stranded	2x (1 35 mm²), 1x (1 50 mm²)
 finely stranded with core end processing 	2x (1 25 mm²), 1x (1 35 mm²)
connectable conductor cross-section for main contacts	
 finely stranded with core end processing 	1 35 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)
•	2x (0.5 2.5 mm²) 2x (0.5 1.5 mm²)
— solid or stranded	
— solid or stranded— finely stranded with core end processing	2x (0.5 1.5 mm²)
 — solid or stranded — finely stranded with core end processing — finely stranded without core end processing 	2x (0.5 1.5 mm²) 2x (0.5 2.5 mm²)
solid or stranded finely stranded with core end processing finely stranded without core end processing • for AWG cables for auxiliary contacts AWG number as coded connectable conductor cross	2x (0.5 1.5 mm²) 2x (0.5 2.5 mm²)
solid or stranded finely stranded with core end processing finely stranded without core end processing • for AWG cables for auxiliary contacts AWG number as coded connectable conductor cross section	2x (0.5 1.5 mm²) 2x (0.5 2.5 mm²) 2x (20 14)
solid or stranded finely stranded with core end processing finely stranded without core end processing • for AWG cables for auxiliary contacts AWG number as coded connectable conductor cross section • for main contacts • for auxiliary contacts	2x (0.5 1.5 mm²) 2x (0.5 2.5 mm²) 2x (20 14)
solid or stranded finely stranded with core end processing finely stranded without core end processing • for AWG cables for auxiliary contacts AWG number as coded connectable conductor cross section • for main contacts • for auxiliary contacts	2x (0.5 1.5 mm²) 2x (0.5 2.5 mm²) 2x (20 14)
solid or stranded finely stranded with core end processing finely stranded without core end processing • for AWG cables for auxiliary contacts AWG number as coded connectable conductor cross section • for main contacts • for auxiliary contacts Safety related data	2x (0.5 1.5 mm²) 2x (0.5 2.5 mm²) 2x (20 14)

suitability for use safety-related switching OFF	Yes
B10 value with high demand rate according to SN 31920	1 000 000
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

Certificates/ approvals

General Product Approval





Confirmation



KC



Functional EMC Safety/Safety of Ma-**Declaration of Conformity Test Certificates** chinery



Type Examination Cer**tificate**





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

Type Test Certificates/Test Report

Marine / Shipping













Marine / Shipping other Railway **Dangerous Good Environment**



Confirmation

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,...)

https://www.siemens.com/ic10

Industry Mall (Online ordering system)

https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RT2038-3AP00

Cax online generator

 $\underline{\text{http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en\&mlfb=3RT2038-3AP00}$

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

https://support.industry.siemens.com/cs/ww/en/ps/3RT2038-3AP00

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

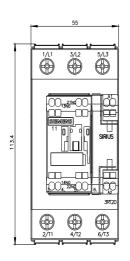
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2038-3AP00&lang=en

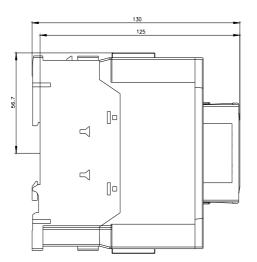
Characteristic: Tripping characteristics, I2t, Let-through current

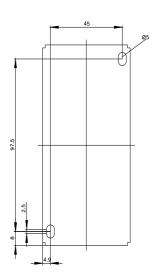
https://support.industry.siemens.com/cs/ww/en/ps/3RT2038-3AP00/char

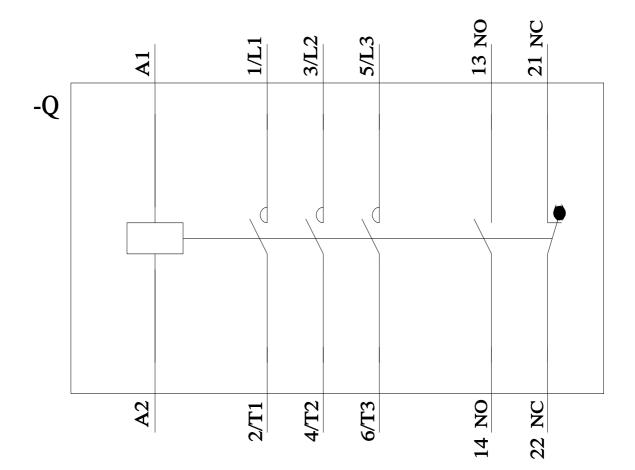
Further characteristics (e.g. electrical endurance, switching frequency)

3RT2038-3AP00&objecttype=14&gridview=view1 http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb



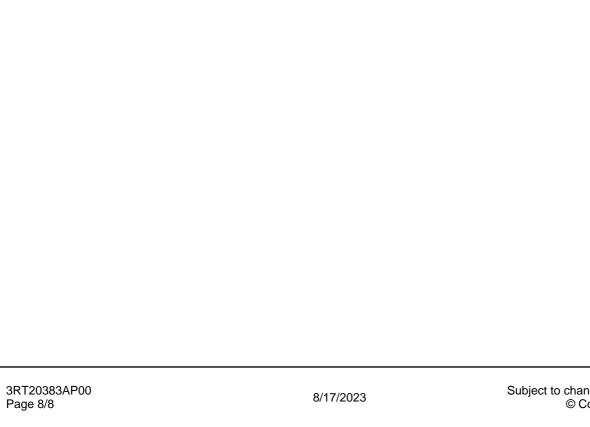






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