SIEMENS

Data sheet 3RT2038-3AF00



power contactor, AC-3e/AC-3, 80 A, 37 kW / 400 V, 3-pole, 110 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

— 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
• at AC-3e	TO NAV
— at 230 V rated value	22 kW
	37 kW
— at 400 V rated value	
— 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 690 V rated value	21.8 kW
operating apparent power at AC-6a	21.0 (1)
up to 230 V for current peak value n=20 rated value	27.8 kVA
up to 400 V for current peak value n=20 rated value up to 400 V for current peak value n=20 rated value	48.4 kVA
up to 500 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	10.6 10/0
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	
limited to 1 s switching at zero current maximum	1 298 A; Use minimum cross-section acc. to AC-1 rated value
limited to 7 s switching at zero current maximum limited to 5 s switching at zero current maximum	898 A; Use minimum cross-section acc. to AC-1 rated value
limited to 3 s switching at zero current maximum limited to 10 s switching at zero current maximum	640 A; Use minimum cross-section acc. to AC-1 rated value
-	414 A; Use minimum cross-section acc. to AC-1 rated value
limited to 30 s switching at zero current maximum limited to 60 s switching at zero current maximum	333 A; Use minimum cross-section acc. to AC-1 rated value
Ilmited to 60 s switching at zero current maximum no load switching fraguency	000 A, OSE MINIMUM GIOSS-SECTION ACC. TO AC-1 TAKEN VAINE
no-load switching frequency	5 000 1/b
• at AC	5 000 1/h
operating frequency	700.4/
• at AC-1 maximum	700 1/h
• at AC-2 maximum	350 1/h
• at AC-3 maximum	500 1/h
• at AC-3e maximum	500 1/h
1 4 0 4 .	
at AC-4 maximum Control circuit/ Control	150 1/h

type of voltage of the control supply voltage	AC
control supply voltage at AC	
at 50 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
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	
at 480 V rated value	65 A
at 600 V rated value	62 A
yielded mechanical performance [hp]	
• for single-phase AC motor	
— at 110/120 V rated value	5 hp
— at 230 V rated value	15 hp
• for 3-phase AC motor	00 ha
— 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	05.05.3		
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	0 (0.5 0.5		
— solid or stranded	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	2x (20 14)		
AWG number as coded connectable conductor cross section			
• for main contacts	18 1		
for auxiliary contacts	20 14		
Safety related data	20 17		
 product function mirror contact according to IEC 60947-4-1 	Yes		
→ ITHITOT CONTROL ACCUMING TO TEC 00947-4-1	100		
 positively driven operation according to IEC 60947-5-1 	No		

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





<u>KC</u>



EMC Function Safety/S chinery	Safety of Ma- Declaration of Conformity	Test Certificates
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Type Examination Cer**tificate**





Type Test Certificates/Test Report

Special Test Certificate

Marine / Shipping













	Marine / Shipping	other	Railway	Dangerous Good	Environment
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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=3RT2038-3AF00

Cax online generator

 $\underline{\text{http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en\&mlfb=3RT2038-3AF00}$

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

https://support.industry.siemens.com/cs/ww/en/ps/3RT2038-3AF00

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

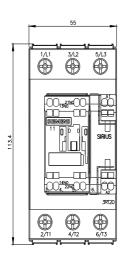
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2038-3AF00&lang=en

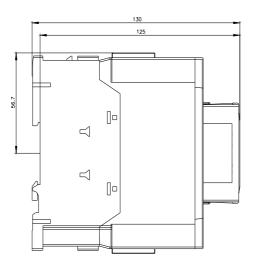
Characteristic: Tripping characteristics, I2t, Let-through current

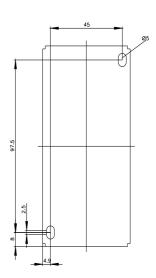
https://support.industry.siemens.com/cs/ww/en/ps/3RT2038-3AF00/char

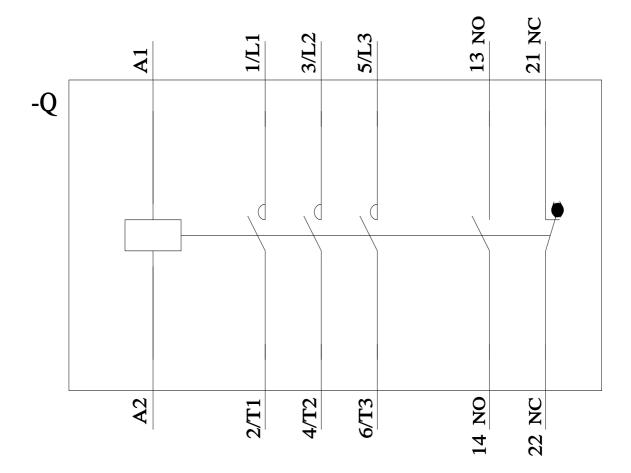
Further characteristics (e.g. electrical endurance, switching frequency)

3RT2038-3AF00&objecttype=14&gridview=view1 http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb



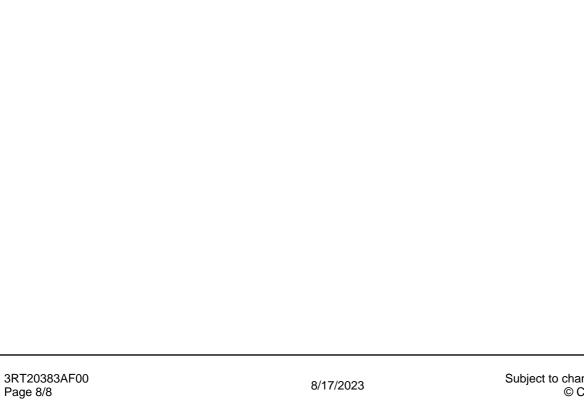






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