SIEMENS

Data sheet 3RT2038-1AP60



power contactor, AC-3e/AC-3, 80 A, 37 kW / 400 V, 3-pole, 220 V AC, 50 Hz / 240 V, 60 Hz, auxiliary contacts: 1 NO + 1 NC, screw 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 	18.5 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		
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	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 and to A.C. 4 rated unlike		
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			
	700.44		
• 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		

turns of voltage of the control cumply voltage	AC
type of voltage of the control supply voltage	AC
control supply voltage at AC	
at 50 Hz rated value	220 V
at 60 Hz rated value	240 V
operating range factor control supply voltage rated value of magnet coil at AC	
● at 50 Hz	0.8 1.1
• at 60 Hz	0.8 1.1
apparent pick-up power of magnet coil at AC	
● at 50 Hz	212 VA
● at 60 Hz	188 VA
inductive power factor with closing power of the coil	
● at 50 Hz	0.69
• at 60 Hz	0.65
apparent holding power of magnet coil at AC	
● at 50 Hz	18.5 VA
● at 60 Hz	16.5 VA
inductive power factor with the holding power of the coil	
● at 50 Hz	0.36
• at 60 Hz	0.39
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	1
contact number of NO contacts for auxiliary contacts instantaneous	1
contact	
operational current at AC-12 maximum	10 A
operational current at AC-15	40.4
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 100 V lated value	
• at 600 V rated value	62 A
• at 600 V rated value	
at 600 V rated value yielded mechanical performance [hp]	

— at 230 V rated value	15 hp	
• for 3-phase AC motor		
— 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	90. 10 A (000 V, 1 kA)	
mounting position	+/-180° rotation possible on vertical mounting surface; can be tilted forward and	
mounting position	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	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 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 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	18 1	
for auxiliary contacts	20 14	
•		

Safety related data		
product function		
 mirror contact according to IEC 60947-4-1 	Yes	
 positively driven operation according to IEC 60947-5-1 	No	
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	
suitability for use		
 safety-related switching OFF 	Yes	

Certificates/ approvals

General Product Approval



Confirmation





<u>KC</u>



EMC	Functional Safety/Safety of Ma- chinery	Declaration of Conformity	Test Certificates
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Type Examination Certificate





Type Test Certificates/Test Report

Special Test Certificate

Marine / Shipping













Marine / Shipping other Railway Dangerous Good Environment



Confirmation

Confirmation

Vibration and Shock

Transport Information

Environmental Confirmations

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)

 $\underline{https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RT2038-1AP60}$

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2038-1AP60

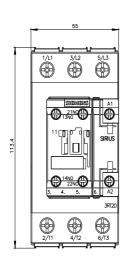
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

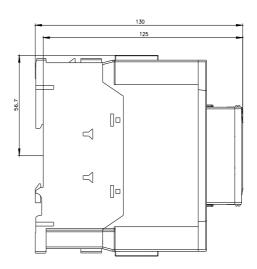
https://support.industry.siemens.com/cs/ww/en/ps/3RT2038-1AP60

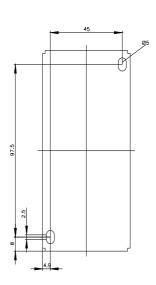
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)

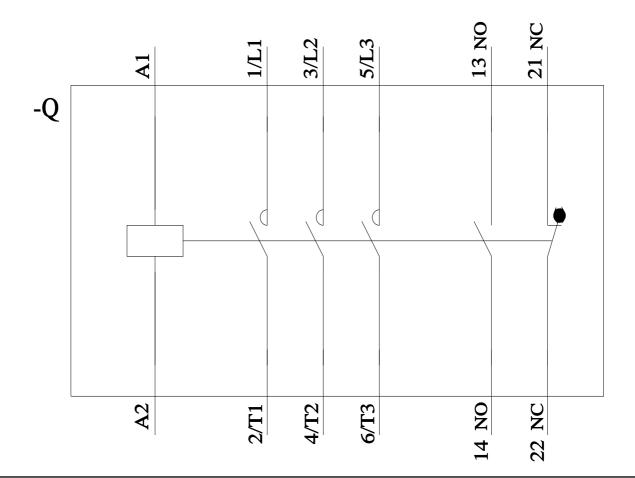
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2038-1AP60&lang=en

Characteristic: Tripping characteristics, I²t, Let-through current









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