SIEMENS

Data sheet

3RT1075-6AP36-3PA0



power contactor, AC-3e/AC-3 400 A, 200 kW / 400 V AC (50-60 Hz) / DC Uc: 220-240 V 3-pole, auxiliary contacts 2 NO + 2 NC permanently mounted drive: conventional main circuit: busbar control and auxiliary circuit: screw terminal

product brand name	SIRIUS
product designation	Power contactor
product type designation	3RT1
General technical data	
size of contactor	\$12
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 	105 W
 at AC in hot operating state per pole 	35 W
 without load current share typical 	10 W
type of calculation of power loss depending on pole	quadratic
insulation voltage	
 of main circuit with degree of pollution 3 rated value 	1 000 V
 of auxiliary circuit with degree of pollution 3 rated value 	500 V
surge voltage resistance	
 of main circuit rated value 	8 kV
 of auxiliary circuit rated value 	6 kV
maximum permissible voltage for protective separation between coil and main contacts according to EN 60947-1	690 V
shock resistance at rectangular impulse	
• at AC	8,5g / 5 ms, 4,2g / 10 ms
• at DC	8,5g / 5 ms, 4,2g / 10 ms
shock resistance with sine pulse	
• at AC	13,4g / 5 ms, 6,5g / 10 ms
• at DC	13,4g / 5 ms, 6,5g / 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)	05/01/2012
SVHC substance name	Lead - 7439-92-1
Weight	10.185 kg
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 	1 000 V
 at AC-3e rated value maximum 	1 000 V
operational current	
• at AC-1 at 400 V at ambient temperature 40 °C rated	430 A
value	
• at AC-1	
 — up to 690 V at ambient temperature 40 °C rated value 	430 A
— up to 690 V at ambient temperature 60 °C rated value	400 A
— up to 1000 V at ambient temperature 40 °C rated value	200 A
— up to 1000 V at ambient temperature 60 °C rated value	200 A
• at AC-3	
— at 400 V rated value	400 A
— at 500 V rated value	400 A
— at 690 V rated value	400 A
— at 1000 V rated value	180 A
• at AC-3e	
— at 400 V rated value	400 A
— at 500 V rated value	400 A
— at 690 V rated value	400 A
— at 1000 V rated value	180 A
• at AC-4 at 400 V rated value	350 A
 at AC-5a up to 690 V rated value 	378 A
• at AC-5b up to 400 V rated value	332 A
• at AC-6a	
— up to 230 V for current peak value n=20 rated value	395 A
— up to 400 V for current peak value n=20 rated value	395 A
— up to 500 V for current peak value n=20 rated value	395 A
— up to 690 V for current peak value n=20 rated value	395 A
 — up to 1000 V for current peak value n=20 rated value at AC-6a 	180 A
• at AC-ba — up to 230 V for current peak value n=30 rated value	264 A
— up to 230 V for current peak value n=30 rated value	264 A
— up to 500 V for current peak value n=30 rated value	264 A
— up to 690 V for current peak value n=30 rated value	264 A
— up to 1000 V for current peak value n=30 rated value value	180 A
minimum cross-section in main circuit at maximum AC-1 rated value	300 mm²
operational current for approx. 200000 operating cycles at AC-4	
• at 400 V rated value	150 A
• at 690 V rated value	135 A
operational current	
 at 1 current path at DC-1 	
— at 24 V rated value	400 A
— at 60 V rated value	330 A
— at 110 V rated value	33 A
— at 220 V rated value	3.8 A
— at 440 V rated value	0.9 A
— at 600 V rated value	0.6 A
 with 2 current paths in series at DC-1 	
— at 24 V rated value	400 A

— at 60 V rated value	400 A
— at 110 V rated value	400 A
— at 220 V rated value	400 A
— at 440 V rated value	4 A
— at 600 V rated value	2 A
 with 3 current paths in series at DC-1 	
— at 24 V rated value	400 A
— at 60 V rated value	400 A
— at 110 V rated value	400 A
— at 220 V rated value	400 A
— at 440 V rated value	11 A
— at 600 V rated value	5.2 A
 at 1 current path at DC-3 at DC-5 	
— at 24 V rated value	400 A
— at 60 V rated value	11 A
— at 220 V rated value	0.6 A
— at 440 V rated value	0.18 A
— at 600 V rated value	0.125 A
• with 2 current paths in series at DC-3 at DC-5	
— at 24 V rated value	400 A
— at 60 V rated value	400 A
— at 110 V rated value	400 A
— at 220 V rated value	2.5 A
— at 440 V rated value	0.65 A
— at 600 V rated value	0.37 A
• with 3 current paths in series at DC-3 at DC-5	400.4
- at 24 V rated value	400 A
- at 60 V rated value	400 A
— at 110 V rated value	400 A
— at 220 V rated value	400 A
— at 440 V rated value	1.4 A
— at 600 V rated value	0.75 A
 operating power at AC-2 at 400 V rated value 	200 kW
• at AC-2 at 400 v rated value	200 RVV
- at 230 V rated value	132 kW
— at 400 V rated value	200 kW
— at 500 V rated value	250 kW
— at 690 V rated value	400 kW
— at 1000 V rated value	250 kW
• at AC-3e	
— at 230 V rated value	132 kW
— at 400 V rated value	200 kW
— at 500 V rated value	250 kW
— at 690 V rated value	400 kW
— at 1000 V rated value	250 kW
operating power for approx. 200000 operating cycles at AC-	
4	
• at 400 V rated value	85 kW
at 690 V rated value	133 kW
operating apparent power at AC-6a	
• up to 230 V for current peak value n=20 rated value	150 000 kVA
• up to 400 V for current peak value n=20 rated value	270 000 VA
• up to 500 V for current peak value n=20 rated value	340 000 VA
• up to 690 V for current peak value n=20 rated value	470 000 VA
• up to 1000 V for current peak value n=20 rated value	310 000 VA
operating apparent power at AC-6a	
• up to 230 V for current peak value n=30 rated value	100 000 VA
• up to 400 V for current peak value n=30 rated value	180 000 VA
• up to 500 V for current peak value n=30 rated value	220 000 VA
• up to 690 V for current peak value n=30 rated value	310 000 VA

 up to 1000 V for current peak value n=30 rated value 	310 000 VA			
short-time withstand current in cold operating state up to 40 °C				
 limited to 1 s switching at zero current maximum 	6 600 A; Use minimum cross-section acc. to AC-1 rated value			
 limited to 5 s switching at zero current maximum 	5 761 A; Use minimum cross-section acc. to AC-1 rated value			
 limited to 10 s switching at zero current maximum 	4 143 A; Use minimum cross-section acc. to AC-1 rated value			
 limited to 30 s switching at zero current maximum 	2 635 A; Use minimum cross-section acc. to AC-1 rated value			
 limited to 60 s switching at zero current maximum 	2 088 A; Use minimum cross-section acc. to AC-1 rated value			
no-load switching frequency				
• at AC	2 000 1/h			
• at DC	2 000 1/h			
operating frequency				
• at AC-1 maximum	700 1/h			
• at AC-2 maximum	200 1/h			
• at AC-3 maximum	200 1/h 500 1/h			
• at AC-3e maximum	500 1/h			
• at AC-4 maximum	130 1/h			
Control circuit/ Control				
type of voltage of the control supply voltage	AC/DC			
control supply voltage at AC				
● at 50 Hz rated value	220 240 V			
● at 60 Hz rated value	220 240 V			
control supply voltage at DC rated value	220 240 V			
operating range factor control supply voltage rated value of magnet coil at DC				
initial value	0.8			
• full-scale value	1.1			
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			
design of the surge suppressor	with varistor			
apparent pick-up power				
at minimum rated control supply voltage at AC				
— at 50 Hz	700 VA			
— at 60 Hz	700 VA			
at maximum rated control supply voltage at AC				
— at 60 Hz	830 VA			
— at 50 Hz	830 VA			
apparent pick-up power of magnet coil at AC				
• at 50 Hz	830 VA			
• at 60 Hz	830 VA			
inductive power factor with closing power of the coil				
● at 50 Hz	0.9			
• at 60 Hz	0.9			
apparent holding power				
 at minimum rated control supply voltage at DC 	8.5 VA			
 at maximum rated control supply voltage at DC 	10 VA			
apparent holding power				
at minimum rated control supply voltage at AC				
— at 50 Hz	7.6 VA			
— at 60 Hz	7.6 VA			
 at maximum rated control supply voltage at AC 				
— at 50 Hz	9.2 VA			
— at 60 Hz	9.2 VA			
inductive power factor with the holding power of the coil				
at 50 Hz	0.9			
• at 50 Hz	0.9			
closing power of magnet coil at DC	920 W			
holding power of magnet coil at DC	10 W			
closing delay				
• at AC	45 100 ms			

a at DC	45 100 mg			
• at DC	45 100 ms			
opening delay				
• at AC	60 100 ms			
• at DC	60 100 ms			
arcing time	10 15 ms			
control version of the switch operating mechanism	Standard A1 - A2			
Auxiliary circuit				
design of the auxiliary switch	lateral, permanently connected			
number of NC contacts for auxiliary contacts instantaneous contact	2			
number of NO contacts for auxiliary contacts instantaneous contact	2			
operational current at AC-12 maximum	10 A			
operational current at AC-15				
 at 230 V rated value 	6 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	1A			
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	361 A			
at 600 V rated value	382 A			
yielded mechanical performance [hp]				
for 3-phase AC motor				
— at 200/208 V rated value	125 hp			
— at 220/230 V rated value	150 hp			
— at 460/480 V rated value	300 hp			
— at 575/600 V rated value	400 hp			
contact rating of auxiliary contacts according to UL	A600 / Q600			
Short-circuit protection				
design of the fuse link				
 for short-circuit protection of the main circuit 				
 — with type of coordination 1 required 	gG: 630 A (690 V, 100 kA)			
— with type of assignment 2 required	gG: 500 A (690 V, 100 kA), aM: 400 A (690 V, 50 kA), BS88: 450 A (415 V, 50 kA)			
 for short-circuit protection of the auxiliary switch required 	gG: 10 A (500 V, 1 kA)			
Installation/ mounting/ dimensions				
mounting position	with vertical mounting surface +/-90° rotatable, with vertical mounting surface +/- 22.5° tiltable to the front and back			
fastening method side-by-side mounting	Yes			
fastening method	screw fixing			
height	214 mm			
width	160 mm			
depth	225 mm			
required spacing				

- with side by side mounting				
with side-by-side mounting	20			
— forwards	20 mm 10 mm			
— upwards				
— downwards — at the side	10 mm 0 mm			
	0 mm			
for grounded parts	20 mm			
— forwards	20 mm			
— upwards	10 mm			
— at the side	10 mm			
— downwards	10 mm			
for live parts	20 mm			
— forwards	20 mm			
— upwards	10 mm			
— downwards	10 mm			
— at the side Connections/ Terminals	10 mm			
type of electrical connection	Connection has			
for main current circuit for auxiliany and control circuit	Connection bar			
for auxiliary and control circuit at contactor for auxiliary contacts	screw-type terminals			
at contactor for auxiliary contacts	Screw-type terminals			
of magnet coil width of connection bar	Screw-type terminals 25 mm			
thickness of connection bar diameter of holes	6 mm 11 mm			
number of holes	1			
type of connectable conductor cross-sections				
for AWG cables for main contacts	2/0 500 kcmil			
connectable conductor cross-section for main contacts	2/0 500 KGHII			
stranded	70 240 mm²			
connectable conductor cross-section for auxiliary contacts	70 2 4 0 mm			
solid or stranded	0.5 4 mm²			
finely stranded with core end processing	0.5 4 mm ²			
type of connectable conductor cross-sections	0.0 2.0 mm			
for auxiliary contacts				
— solid	2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²), max. 2x (0.75 4 mm²)			
— solid or stranded	2x (0,5 1,5 mm ²), 2x (0,75 2,5 mm ²), max. 2x (0,75 4 mm ²)			
 finely stranded with core end processing 	2x (0.5 1.5 mm ²), 2x (0.75 2.5 mm ²)			
 for AWG cables for auxiliary contacts 	2x (20 16), 2x (18 14), 1x 12			
AWG number as coded connectable conductor cross				
section				
 for auxiliary contacts 	18 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			
suitable for safety function	Yes			
suitability for use safety-related switching OFF	Yes			
service life maximum	20 a			
test wear-related service life necessary	Yes			
proportion of dangerous failures				
with low demand rate according to SN 31920	40 %			
with high demand rate according to SN 31920	73 %			
B10 value with high demand rate according to SN 31920	1 000 000			
failure rate [FIT] with low demand rate according to SN 31920	100 FIT			
ISO 13849				
device type according to ISO 13849-1	3			
overdimensioning according to ISO 13849-2 necessary	Yes			
IEC 61508				
safety device type according to IEC 61508-2	Туре А			
Electrical Safety				

protection class IP on	the front according to I	EC 60529	P00; IP20 with box terminal/	cover	
touch protection on the front according to IEC 60529		C 60529 f	inger-safe, for vertical contac	t from the front with box	terminal/cover
Approvals Certificates General Product Appr	oval				Functional Saftey
	CE EG-Konf.	UK CA		EHC	<u>Type Examination Cer</u> <u>tificate</u>
Test Certificates			Marine / Shipping		
Special Test Certific- ate	Type Test Certific- ates/Test Report	<u>Miscellaneous</u>	ABS		Lloyd's Register us
Marine / Shipping		other			Railway
PRS	KMRS	Miscellaneous	<u>Confirmation</u>	<u>Miscellaneous</u>	<u>Special Test Certific-</u> ate
Environment					
Environmental Con- firmations					
Further information					
Information- and Down https://www.siemens.co Industry Mall (Online of	siemens.com/cs/ww/en/v nloadcenter (Catalogs, l m/ic10	Brochures,)	271075 64236 2240		

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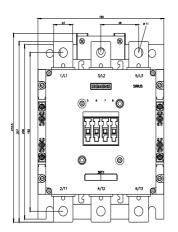
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT1075-6AP36-3PA0&lang=en

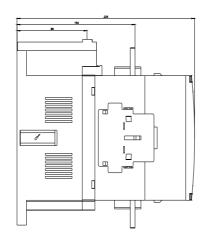
Characteristic: Tripping characteristics, I2t, Let-through current

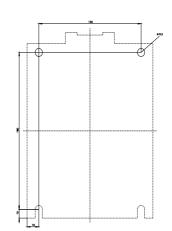
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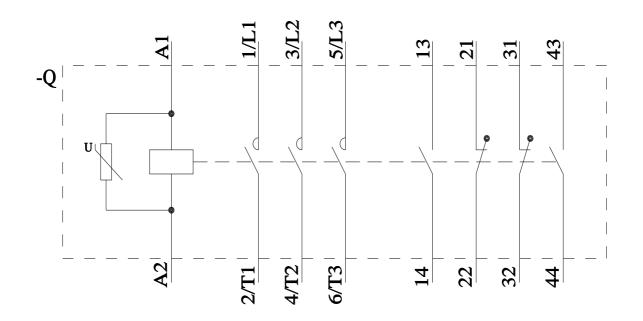
 Further characteristics (e.g. electrical endurance, switching frequency)

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