SIEMENS

Data sheet

3RT1076-6AP36-3PA0



power contactor, AC-3e/AC-3 500 A, 250 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 	165 W
 at AC in hot operating state per pole 	55 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	10.328 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 	610 A
value	
• at AC-1	040 A
 — up to 690 V at ambient temperature 40 °C rated value 	610 A
— up to 690 V at ambient temperature 60 °C rated value	550 A
— up to 1000 V at ambient temperature 40 $^\circ\mathrm{C}$ rated value	200 A
— up to 1000 V at ambient temperature 60 $^\circ\mathrm{C}$ rated value	200 A
● at AC-3	
— at 400 V rated value	500 A
— at 500 V rated value	500 A
— at 690 V rated value	450 A
— at 1000 V rated value	180 A
• at AC-3e	
— at 400 V rated value	500 A
— at 500 V rated value	500 A
— at 690 V rated value	450 A
— at 1000 V rated value	180 A
 at AC-4 at 400 V rated value 	430 A
 at AC-5a up to 690 V rated value 	536 A
• at AC-5b up to 400 V rated value	415 A
• at AC-6a	
— up to 230 V for current peak value n=20 rated value	414 A
— up to 400 V for current peak value n=20 rated value	414 A
— up to 500 V for current peak value n=20 rated value	414 A
— up to 690 V for current peak value n=20 rated value	414 A
 up to 1000 V for current peak value n=20 rated value 	180 A
• at AC-6a	
— up to 230 V for current peak value n=30 rated value	276 A
— up to 400 V for current peak value n=30 rated value	276 A
— up to 500 V for current peak value n=30 rated value	276 A
— up to 690 V for current peak value n=30 rated value	276 A
— up to 1000 V for current peak value n=30 rated value	180 A
minimum cross-section in main circuit at maximum AC-1 rated value	370 mm²
operational current for approx. 200000 operating cycles at AC-4	175 0
at 400 V rated value at 600 V rated value	175 A
at 690 V rated value	150 A
operational current • at 1 current path at DC-1	
• at 1 current path at DC-1 — at 24 V rated value	400 A
— at 24 v rated value — at 60 V rated value	330 A
	330 A 33 A
— at 110 V rated value — at 220 V rated value	33 A 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 // rated value	400 A
— at 24 V rated value	

— 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	400.4
— 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
	400 A 400 A
— at 60 V rated value — at 110 V rated value	400 A 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	0.57 A
- 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	250 kW
● at AC-3	
— at 230 V rated value	160 kW
— at 400 V rated value	250 kW
— at 500 V rated value	315 kW
— at 690 V rated value	400 kW
— at 1000 V rated value	250 kW
• at AC-3e	
— at 230 V rated value	160 kW
— at 400 V rated value	250 kW
— at 500 V rated value	315 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	98 kW
at 690 V rated value	148 kW
operating apparent power at AC-6a	
up to 230 V for current peak value n=20 rated value	160 000 kVA
 up to 400 V for current peak value n=20 rated value 	280 000 VA
 up to 500 V for current peak value n=20 rated value 	350 000 VA
• up to 690 V for current peak value n=20 rated value	490 000 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	110 000 VA
 up to 400 V for current peak value n=30 rated value 	190 000 VA
 up to 500 V for current peak value n=30 rated value 	230 000 VA
 up to 690 V for current peak value n=30 rated value 	330 000 VA

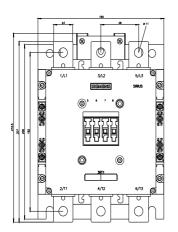
 up to 1000 V for current peak value n=30 rated value 	310 000 VA
short-time withstand current in cold operating state up to	
40 °C	
 limited to 1 s switching at zero current maximum 	7 484 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 5 s switching at zero current maximum 	7 484 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 10 s switching at zero current maximum 	5 978 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 30 s switching at zero current maximum 	3 765 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 60 s switching at zero current maximum 	2 887 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	500 1/h
• at AC-2 maximum	170 1/h
• at AC-3 maximum	420 1/h
• at AC-3e maximum	420 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	920 \/A
— 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 50 Hz — at 60 Hz	9.2 VA
	V.2 VA
inductive power factor with the holding power of the coil	
• at 50 Hz	0.9
• at 60 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

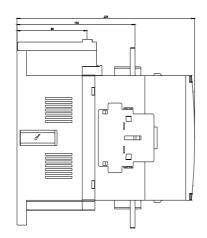
-+ 50	45 400 m
• at DC	45 100 ms
opening delay	
• at AC	60 100 ms
• at DC	60 100 ms
arcing time	10 15 ms
control version of the switch operating mechanism	Standard A1 - A2
Auxiliary circuit	
design of the auxiliary switch	lateral, permanently connected
number of NC contacts for auxiliary contacts instantaneous 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	477 A
at 600 V rated value	472 A
yielded mechanical performance [hp]	7/27
• for 3-phase AC motor	
tor 3-phase AC motor — at 200/208 V rated value	150 hp
	150 hp
- at 220/230 V rated value	200 hp
- at 460/480 V rated value	400 hp
- at 575/600 V rated value	500 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: 500 A (690 V, 50 kA), BS88: 500 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	

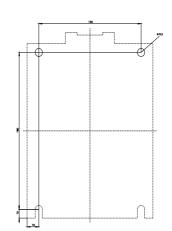
e with eide by eide mounting	
 with side-by-side mounting — forwards 	20 mm
	10 mm
— upwards — downwards	10 mm
— at the side	0 mm
	0 11111
 for grounded parts forwards 	20 mm
	10 mm
— upwards	10 mm
— at the side — downwards	10 mm
for live parts	
- forwards	20 mm
	10 mm
— upwards — downwards	10 mm
— at the side	10 mm
Connections/ Terminals	
type of electrical connection	
for main current circuit	Connection bar
 for main current circuit for auxiliary and control circuit 	
at contactor for auxiliary contacts	screw-type terminals Screw-type terminals
of magnet coil	Screw-type terminals
width of connection bar	25 mm
thickness of connection bar	6 mm
diameter of holes	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	
stranded	70 240 mm²
connectable conductor cross-section for auxiliary contacts	
solid or stranded	0.5 4 mm²
 finely stranded with core end processing 	0.5 2.5 mm ²
type of connectable conductor cross-sections	
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 mm²), 2x (0,75 2,5 mm²), max. 2x (0,75 4 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), 1x 12
AWG number as coded connectable conductor cross	
section	
for auxiliary contacts	18 14
Safety related data	
product function	No.
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 test wear-related service life necessary	20 a 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	

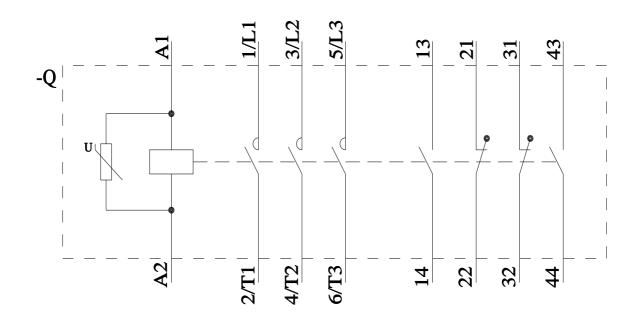
protection class IP of	on the front according to I	EC 60529	P00; IP20 with box terminal/co	over	
touch protection on the front according to IEC 60529		60529 fi	finger-safe, for vertical contact from the front with box terminal/cover		
Approvals Certificates	S				
General Product Ap	proval				
	UK CA	CE EG-Konf.	Confirmation	UL u	EHC
EMV	Functional Saftey	Test Certificates			Marine / Shipping
RCM	<u>Type Examination Cer-</u> <u>tificate</u>	<u>Type Test Certific</u> ates/Test Report		<u>Miscellaneous</u>	ABS
Marine / Shipping				other	
	Lloyds Register urs	PRS	KMRS	<u>Miscellaneous</u>	<u>Confirmation</u>
other	Railway	Environment			
Miscellaneous	<u>Special Test Certific-</u> <u>ate</u>	Environmental Con firmations	Ŀ		

	ormation on the packaging
htt	os://support.industry.siemens.com/cs/ww/en/view/109813875
Inf	ormation- and Downloadcenter (Catalogs, Brochures,)
htt	os://www.siemens.com/ic10
Inc	lustry Mall (Online ordering system)
htt	os://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RT1076-6AP36-3PA0
Ca	x online generator
htt	p://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT1076-6AP36-3PA0
Se	rvice&Support (Manuals, Certificates, Characteristics, FAQs,)
htt	os://support.industry.siemens.com/cs/ww/en/ps/3RT1076-6AP36-3PA0
	age database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros,)
htt	p://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT1076-6AP36-3PA0⟨=en
	aracteristic: Tripping characteristics, I ² t, Let-through current
htt	os://support.industry.siemens.com/cs/ww/en/ps/3RT1076-6AP36-3PA0/char
	rther characteristics (e.g. electrical endurance, switching frequency)
htt	p://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT1076-6AP36-3PA0&objecttype=14&gridview=view1









last modified:

7/19/2024 🖸