SIEMENS

3RT1076-6NP36 Data sheet

interface 24 V DC screw terminals

Power contactor, AC-3 500 A, 250 kW / 400 V AC (50-60 Hz) / DC 200-277 V UC Auxiliary contacts 2 NO + 2 NC 3-pole, size S12 Busbar connections Operating mechanism: solid-state with PLC



Figure similar

Product brand name	SIRIUS
Product designation	Power contactor
Product type designation	3RT1

General technical data	
Size of contactor	S12
Product extension	
 function module for communication 	No
Auxiliary switch	Yes
Surge voltage resistance	
 of main circuit rated value 	8 kV
 of auxiliary circuit rated value 	6 kV
maximum permissible voltage for safe isolation	
 between coil and main contacts acc. to EN 	690 V
60947-1	
Protection class IP	
• on the front	IP00; IP20 on the front with cover / box terminal
of the terminal	IP00

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 (switching cycles)	
of contactor typical	10 000 000
 of the contactor with added electronics- 	5 000 000
compatible auxiliary switch block typical	
 of the contactor with added auxiliary switch block typical 	10 000 000
Reference code acc. to DIN 40719 extended	К
according to IEC 204-2 acc. to IEC 750	
Reference code acc. to DIN EN 81346-2	Q
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
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
Operating current	
● at AC-1 at 400 V	
 at ambient temperature 40 °C rated value 	610 A
• at AC-1	
 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 °C rated value	200 A
— up to 1000 V at ambient temperature 60 °C rated value	200 A
• at AC-2 at 400 V rated value	500 A
● at AC-3	
at AC-3 — at 400 V rated value	500 A
	500 A 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
Connectable conductor cross-section in main circuit	
at AC-1	
 at 60 °C minimum permissible 	370 mm²
at 40 °C minimum permissible	370 mm²
Operating current for approx. 200000 operating cycles at AC-4	
● at 400 V rated value	175 A
● at 690 V rated value	150 A
Operating current	
• at 1 current path at DC-1	
— at 24 V rated value	400 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 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 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
Operating current	
 at 1 current path at DC-3 at DC-5 	
— at 24 V rated value	400 A
— at 110 V rated value	3 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 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 	
— at 24 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-1	
— at 230 V at 60 °C rated value	208 kW
— at 400 V rated value	362 kW
— at 400 V at 60 °C rated value	362 kW
— at 690 V rated value	624 kW
— at 690 V at 60 °C rated value	624 kW
— at 1000 V at 60 °C rated value	329 kW
• at AC-2 at 400 V rated value	250 kW
• at AC-3	
— at 230 V rated value	164 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
Thermal short-time current limited to 10 s	4 000 A
Power loss [W] at AC-3 at 400 V for rated value of	55 W
the operating current per conductor	
No-load switching frequency	
• at AC	1 000 1/h
• at DC	1 000 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-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	200 277 V

at 60 Hz rated value	200 277 V
Control supply voltage at DC	
rated value	200 277 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 of magnet coil at AC	
● at 50 Hz	750 V·A
Inductive power factor with closing power of the coil	
● at 50 Hz	0.8
Apparent holding power of magnet coil at AC	
● at 50 Hz	7 V·A
Inductive power factor with the holding power of the coil	
● at 50 Hz	0.8
Closing power of magnet coil at DC	800 W
Holding power of magnet coil at DC	3.6 W
Closing delay	
• at AC	60 90 ms
• at DC	60 90 ms
Opening delay	
• at AC	80 100 ms
• at DC	80 100 ms
Arcing time	10 15 ms
Control version of the switch operating mechanism	PLC-IN or Standard A1 - A2 (adjustable)
Auxiliary circuit	
Number of NC contacts for auxiliary contacts	
• instantaneous contact	2
Number of NO contacts for auxiliary contacts	
• instantaneous contact	2
Operating current at AC-12 maximum	10 A
Operating 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

Operating 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
Operating 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 three-phase AC motor	
• at 480 V rated value	477 A
• at 600 V rated value	472 A
Yielded mechanical performance [hp]	
 for three-phase AC motor 	
— at 200/208 V rated value	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

— with type of assignment 2 required

• for short-circuit protection of the auxiliary switch required

gG: 630 A (690 V, 100 kA)

gG: 500 A (690 V, 100 kA), aM: 500 A (690 V, 50 kA), BS88: 500

A (415 V, 50 kA)

fuse gG: 10 A

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
Mounting type	screw fixing

Side-by-side mounting	Yes
Height	214 mm
Width	160 mm
Depth	225 mm
Required spacing	
with side-by-side mounting	
— forwards	20 mm
— upwards	19 mm
— downwards	10 mm
— at the side	0 mm
• for grounded parts	
— forwards	20 mm
— upwards	10 mm
— at the side	10 mm
— downwards	10 mm
• for live parts	
— forwards	20 mm
— upwards	10 mm
— downwards	10 mm
— at the side	10 mm
Connections/Terminals	
Type of electrical connection	
• for main current circuit	screw-type terminals
 for auxiliary and control current circuit 	screw-type terminals
Type of connectable conductor cross-sections	
 at AWG conductors 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	
single or multi-stranded	0.5 4 mm ²
 finely stranded with core end processing 	0.5 2.5 mm²
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)
— single or multi-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)
 at AWG conductors 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 acc. to IEC 60947-4-1

Yes

• positively driven operation acc. to IEC 60947-5-

No

Protection against electrical shock

finger-safe when touched vertically from front acc. to IEC 60529

Certificates/approvals

General Product Approval

Functional Safety/Safety of Machinery Declaration of Conformity









Type Examination
Certificate



Test Certificates

Marine / Shipping

other

Type Test Certificates/Test Report

Special Test Certificate







Confirmation

other

Miscellaneous

Further information

Information- and Downloadcenter (Catalogs, Brochures,...)

http://www.siemens.com/industrial-controls/catalogs

Industry Mall (Online ordering system)

https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RT1076-6NP36

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT1076-6NP36

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

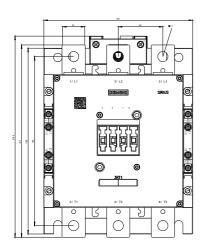
https://support.industry.siemens.com/cs/ww/en/ps/3RT1076-6NP36

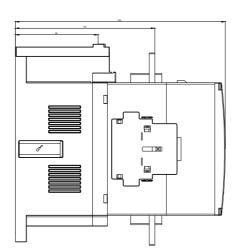
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT1076-6NP36&lang=en

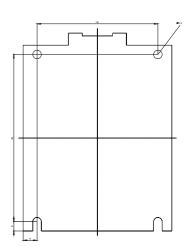
Characteristic: Tripping characteristics, I2t, Let-through current

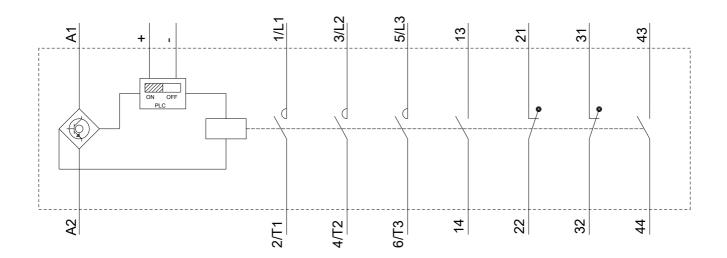
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Further characteristics (e.g. electrical endurance, switching frequency)









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