SIEMENS

Data sheet 3RT1066-6SP36

Contactor AC3: 160kW / 400 V 3-pole Size S10 Coil AC 50/60Hz and DC 200...277 V x (0,8...1,1) auxiliary contacts: 2 NO + 2 NC Main: busbar connections coil and auxilliary: screw



Figure similar

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

General technical data	
Size of contactor	S10
Product extension	
 function module for communication 	No
Auxiliary switch	Yes
Insulation voltage	
rated value	1 000 V
Degree of pollution	3
Surge voltage resistance rated value	8 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

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- compatible auxiliary switch block typical 	5 000 000
 of the contactor with added auxiliary switch block typical 	10 000 000
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	330 A
• at AC-1	
 — up to 690 V at ambient temperature 40 °C rated value 	330 A
 up to 690 V at ambient temperature 60 °C rated value 	300 A
— up to 1000 V at ambient temperature 40 °C rated value	150 A
— up to 1000 V at ambient temperature 60 °C rated value	150 A
• at AC-2 at 400 V rated value	300 A
• at AC-3	
— at 400 V rated value	300 A
— at 500 V rated value	300 A
— at 690 V rated value	280 A
— at 1000 V rated value	95 A

Connectable conductor cross-section in main circuit at AC-1	
at 60 °C minimum permissible	185 mm²
• at 40 °C minimum permissible	185 mm²
Operating current for approx. 200000 operating	_
cycles at AC-4	
• at 400 V rated value	125 A
• at 690 V rated value	115 A
Operating current	
• at 1 current path at DC-1	
— at 24 V rated value	300 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	300 A
— at 110 V rated value	300 A
— at 220 V rated value	300 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	300 A
— at 110 V rated value	300 A
— at 220 V rated value	300 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	300 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	300 A
— at 110 V rated value	300 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	300 A

— at 110 V rated value	300 A
— at 220 V rated value	300 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	113 kW
— at 400 V rated value	197 kW
— at 400 V at 60 °C rated value	197 kW
— at 690 V rated value	330 kW
— at 690 V at 60 °C rated value	340 kW
— at 1000 V at 60 °C rated value	246 kW
• at AC-2 at 400 V rated value	160 kW
• at AC-3	
— at 230 V rated value	97 kW
— at 400 V rated value	160 kW
— at 500 V rated value	200 kW
— at 690 V rated value	250 kW
— at 1000 V rated value	132 kW
Operating power for approx. 200000 operating cycles at AC-4	
• at 400 V rated value	71 kW
• at 690 V rated value	112 kW
Thermal short-time current limited to 10 s	2 400 A
Power loss [W] at AC-3 at 400 V for rated value of	22 W
the operating current per conductor	
No-load switching frequency	
• at DC	1 000 1/h
Operating frequency	
• at AC-1 maximum	750 1/h
• at AC-2 maximum	300 1/h
• at AC-3 maximum	700 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	530 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	5 V·A
Inductive power factor with the holding power of the	
coil	
● at 50 Hz	0.5
Closing power of magnet coil at DC	580 W
Holding power of magnet coil at DC	3.4 W
Closing delay	
• at AC	60 75 ms
• at DC	60 75 ms
Opening delay	
• at AC	115 130 ms
• at DC	115 130 ms
Recovery time after power failure typical	2 s
Arcing time	10 15 ms
Control version of the switch operating mechanism	Fail-safe PLC input (F-PLC-IN)
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	
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	302 A
• at 600 V rated value	289 A
Yielded mechanical performance [hp]	
 for three-phase AC motor 	
— at 200/208 V rated value	100 hp
— at 220/230 V rated value	125 hp
— at 460/480 V rated value	250 hp
— at 575/600 V rated value	300 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 	Fuse gG: 500 A
 — with type of assignment 2 required 	Fuse gG: 400 A
 for short-circuit protection of the auxiliary switch required 	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	210 mm
Width	145 mm

Depth	202 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
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

Safety related data	
Safety device type acc. to IEC 61508-2	Type B
B10 value	
 with high demand rate acc. to SN 31920 	1 000 000
Safety Integrity Level (SIL) acc. to IEC 61508	2
SIL Claim Limit (subsystem) acc. to EN 62061	2
Performance level (PL) acc. to EN ISO 13849-1	C
Category acc. to EN ISO 13849-1	2
Stop category acc. to DIN EN 60204-1	0
Proportion of dangerous failures	
 with low demand rate acc. to SN 31920 	40 %
 with high demand rate acc. to SN 31920 	73 %
Product function	
 Mirror contact acc. to IEC 60947-4-1 	Yes
• positively driven operation acc. to IEC 60947-5-	No
1	
PFHD with high demand rate acc. to EN 62061	0.00000045 1/h
PFDavg with low demand rate acc. to IEC 61508	0.007
MTBF	75 y
Hardware fault tolerance acc. to IEC 61508	0
T1 value for proof test interval or service life acc. to IEC 61508	20 y
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	Test Certificates
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Type Examination Certificate



Special Test Certificate

Marine /	other
Shipping	



Confirmation Miscellaneous

Further information

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

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

Industry Mall (Online ordering system)

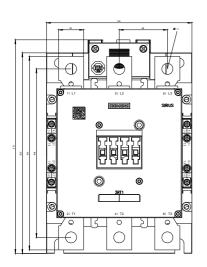
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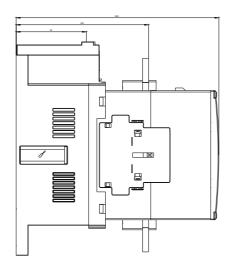
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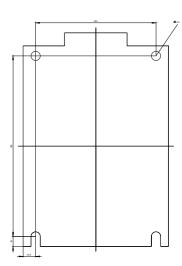
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Service&Support (Manuals, Certificates, Characteristics, FAQs,...) https://support.industry.siemens.com/cs/ww/en/ps/3RT1066-6SP36

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT1066-6SP36&lang=en







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