SIEMENS

Data sheet

3RT1056-2NF36



power contactor, AC-3 185 A, 90 kW / 400 V AC (50-60 Hz) / DC operation 96-127 V AC/DC auxiliary contacts 2 NO + 2 NC 3-pole, frame size S6 busbar connections drive: electronic with PLC interface 24 V DC spring-loaded terminal

product designation Power contactor product type designation 3RT1 Ceneral technical data 3 size of contactor S6 product extension No • auxiliary switch Yes power loss [W] for rated value of the current 39 W • at AC in hot operating state per pole 13 W • at AC in hot operating state per pole 13 W • of main circuit with degree of pollution 3 rated value 1000 V • of auxiliary circuit rated value 6 KV edmain circuit with degree of pollution 3 rated value 6 W • of main circuit with degree of pollution 3 rated value 6 KV • of auxiliary circuit rated value 8 kV • of auxiliary circuit with degree of safe isolation between 680 V cold and main contacts according to EN 60947-1 560 • at AC 8.5g / 5 ms, 4.2g / 10 ms • at AC 13.4g / 5 ms, 6.5g / 10 ms • at AC 13.4g / 5 ms, 6.5g / 10 ms • at AC 13.4g / 5 ms, 6.5g / 10 ms • at AC 13.4g / 5 ms, 6.5g / 10 ms • at AC 10 000 000 5000	product brand name	SIRIUS
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installation altitude at height above sea level maximum 2 000 m ambient temperature -25 +60 °C	Substance Prohibitance (Date)	05/01/2012
ambient temperature • during operation -25 +60 °C	Ambient conditions	
• during operation -25 +60 °C	installation altitude at height above sea level maximum	2 000 m
	ambient temperature	
• during storage -55 +80 °C	 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
number of NO contacts for main contacts	3
operating voltage	
at AC-3 rated value maximum	1 000 V
at AC-3 rated value maximum at AC-3e rated value maximum	
operational current	1 000 V
•	04F A
 at AC-1 at 400 V at ambient temperature 40 °C rated value 	215 A
• at AC-1	
— up to 690 V at ambient temperature 40 °C	215 A
rated value	213 A
— up to 690 V at ambient temperature 60 °C	185 A
rated value	
— up to 1000 V at ambient temperature 40 °C	100 A
rated value	
— up to 1000 V at ambient temperature 60 °C	100 A
rated value	
• at AC-3	
— at 400 V rated value	185 A
— at 500 V rated value	185 A
— at 690 V rated value	170 A
— at 1000 V rated value	65 A
• at AC-3e	
— at 400 V rated value	185 A
— at 500 V rated value	185 A
— at 690 V rated value	170 A
— at 1000 V rated value	65 A
 at AC-4 at 400 V rated value 	160 A
• at AC-5a up to 690 V rated value	189 A
 at AC-5b up to 400 V rated value 	153 A
• at AC-6a	100 /
 up to 230 V for current peak value n=20 rated 	157 A
value	157 A
— up to 400 V for current peak value n=20 rated	157 A
value	
 up to 500 V for current peak value n=20 rated 	157 A
value	
— up to 690 V for current peak value n=20 rated	157 A
value	
— up to 1000 V for current peak value n=20 rated	65 A
value	
• at AC-6a	
 up to 230 V for current peak value n=30 rated 	105 A
value	105.4
 — up to 400 V for current peak value n=30 rated value 	105 A
— up to 500 V for current peak value n=30 rated	105 A
value	
— up to 690 V for current peak value n=30 rated	105 A
value	
— up to 1000 V for current peak value n=30 rated	65 A
value	
minimum cross-section in main circuit at maximum AC-1	95 mm²
rated value	
operational current for approx. 200000 operating	
cycles at AC-4	04.4
• at 400 V rated value	81 A
at 690 V rated value	65 A
operational current	
 at 1 current path at DC-1 	

— at 24 V rated value	160 A		
— at 110 V rated value	18 A		
— at 220 V rated value	3.4 A		
— at 440 V rated value	0.8 A		
— at 600 V rated value	0.5 A		
 with 2 current paths in series at DC-1 			
— at 24 V rated value	160 A		
— at 110 V rated value	160 A		
— at 220 V rated value	20 A		
— at 440 V rated value	3.2 A		
— at 600 V rated value	1.6 A		
 with 3 current paths in series at DC-1 			
— at 24 V rated value	160 A		
— at 110 V rated value	160 A		
— at 220 V rated value	160 A		
— at 440 V rated value	11.5 A		
— at 600 V rated value	4 A		
 at 1 current path at DC-3 at DC-5 			
— at 24 V rated value	160 A		
— at 110 V rated value	2.5 A		
— at 220 V rated value	0.6 A		
— at 440 V rated value	0.17 A		
— at 600 V rated value	0.12 A		
 with 2 current paths in series at DC-3 at DC-5 			
— at 24 V rated value	160 A		
— at 110 V rated value	160 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	160 A		
— at 110 V rated value	160 A		
— at 220 V rated value	160 A		
— at 440 V rated value	1.4 A		
— at 600 V rated value	0.75 A		
operating power			
• at AC-3			
— at 230 V rated value	55 kW		
— at 400 V rated value	90 kW		
— at 500 V rated value	132 kW		
— at 690 V rated value	160 kW		
— at 1000 V rated value	90 kW		
• at AC-3e			
— at 230 V rated value	55 kW		
— at 400 V rated value	90 kW		
— at 500 V rated value	132 kW		
— at 690 V rated value	160 kW		
— at 1000 V rated value	90 kW		
operating power for approx. 200000 operating cycles			
at AC-4			
at 400 V rated value	45 kW		
at 690 V rated value	65 kW		
operating apparent power at AC-6a			
• up to 230 V for current peak value n=20 rated value	60 000 kVA		
• up to 400 V for current peak value n=20 rated value	100 000 VA		
• up to 500 V for current peak value n=20 rated value	130 000 VA		
• up to 690 V for current peak value n=20 rated value	180 000 VA		
 up to 1000 V for current peak value n=20 rated value 	110 000 VA		
operating apparent power at AC-6a			
up to 230 V for current peak value n=30 rated value	40 000 VA		
- up to 200 v for our ont pour value in-ou rateu value			

 up to 400 V for current peak value n=30 rated value 	70 000 VA		
 up to 500 V for current peak value n=30 rated value 	90 000 VA		
 up to 690 V for current peak value n=30 rated value 	120 000 VA		
 up to 1000 V for current peak value n=30 rated 	110 000 VA		
value			
short-time withstand current in cold operating state up to 40 °C			
 limited to 1 s switching at zero current maximum 	2 900 A: Use minimum cross-section acc. to AC-1 rated value		
 limited to 5 s switching at zero current maximum 	2 900 A; Use minimum cross-section acc. to AC-1 rated value		
 limited to 0 s switching at zero current maximum 	2 084 A; Use minimum cross-section acc. to AC-1 rated value		
 limited to 30 s switching at zero current maximum 	1 480 A; Use minimum cross-section acc. to AC-1 rated value 968 A: Use minimum cross-section acc. to AC-1 rated value		
 limited to 60 s switching at zero current maximum 	801 A: Use minimum cross-section acc. to AC-1 rated value		
no-load switching frequency			
• at AC	1 000 1/h		
• at DC	1 000 1/h		
operating frequency			
• at AC-1 maximum	800 1/h		
• at AC-2 maximum	300 1/h		
• at AC-3 maximum	750 1/h		
• at AC-3e maximum	750 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	96 127 V		
at 60 Hz rated value	96 127 V		
control supply voltage at DC	30 127 V		
• rated value	96 127 V		
type of PLC-control input according to IEC 60947-1	Type 2		
consumed current at PLC-control input according to	20 mA		
IEC 60947-1 maximum	20 11/4		
voltage at PLC-control input rated value	24 V		
operating range factor of the voltage at PLC-control	0.8 1.1		
input			
operating range factor control supply voltage rated			
value of magnet coil at DC initial value 	0.0		
	0.8 1.1		
• full-scale value operating range factor control supply voltage rated	1.1		
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	280 VA		
• at 60 Hz	280 VA		
inductive power factor with closing power of the coil			
• at 50 Hz	0.8		
• at 60 Hz	0.8		
apparent holding power of magnet coil at AC			
• at 50 Hz	4.4 VA		
• at 60 Hz	4.4 VA		
inductive power factor with the holding power of the coil			
• at 50 Hz	0.5		
• at 60 Hz	0.5		
closing power of magnet coil at DC	320 W		
holding power of magnet coil at DC	2.8 W		
closing delay			
• at AC	35 75 ms		
• at DC	35 75 ms		
opening delay			

• at AC	80 90 ms		
• at DC	80 90 ms 10 15 ms		
arcing time			
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		
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 	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 	180 A		
at 600 V rated value	192 A		
yielded mechanical performance [hp]			
 for single-phase AC motor 			
— at 230 V rated value	30 hp		
 for 3-phase AC motor 			
— at 200/208 V rated value	60 hp		
— at 220/230 V rated value	75 hp		
— at 460/480 V rated value	150 hp		
— at 575/600 V rated value	200 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: 355 A (690 V, 100 kA)		
— with type of assignment 2 required	gG: 315 A (690 V, 100 kA), aM: 200 A (690 V, 50 kA), BS88: 315 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	screw fixing		
 side-by-side mounting 	Yes		
height	172 mm		
width	120 mm		
depth	170 mm		

required spacing			
 with side-by-side mounting 			
— forwards	20 mm		
— upwards	10 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	Connection bar		
 for auxiliary and control circuit 	spring-loaded terminals		
 at contactor for auxiliary contacts 	Spring-type terminals		
of magnet coil	Spring-type terminals		
width of connection bar	17 mm		
thickness of connection bar	3 mm		
diameter of holes	9 mm		
number of holes	1		
type of connectable conductor cross-sections			
at AWG cables for main contacts	4 250 kcmil		
connectable conductor cross-section for main contacts			
stranded	25 120 mm²		
connectable conductor cross-section for auxiliary contacts			
 solid or stranded 	0.25 2.5 mm ²		
 finely stranded with core end processing 	0.25 1.5 mm ²		
 finely stranded without core end processing 	0.25 2.5 mm ²		
type of connectable conductor cross-sections			
 for auxiliary contacts 			
— solid	2x (0.25 2.5 mm²)		
— solid or stranded	2x (0,25 2,5 mm ²)		
 finely stranded with core end processing 	2x (0.25 1.5 mm²)		
 finely stranded without core end processing 	2x (0.25 2.5 mm²)		
 at AWG cables for auxiliary contacts 	2x (24 14)		
AWG number as coded connectable conductor cross section			
for auxiliary contacts	24 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		
protection class IP on the front according to IEC 60529	IP00; IP20 with box terminal/cover		
touch protection on the front according to IEC 60529	finger-safe, for vertical contact from the front with box terminal/cover		
suitability for use			
 safety-related switching OFF 	Yes		
Certificates/ approvals			
General Product Approval			

S.	<u>Confirmation</u>	CCC		<u>KC</u>	EHC
EMC	Functional Safety/Safety of Machinery	Declaration of Con	formity	Test Certificates	
RCM	<u>Type Examination</u> <u>Certificate</u>	UK CA	CE EG-Konf.	Type Test Certific- ates/Test Report	Special Test Certific- ate
Marine / Shipping					other
ABS	Lloyd's Register urs	PRS	RMRS	DNV-GL	<u>Miscellaneous</u>
other			Railway		
Confirmation	Confirmation	<u>Miscellaneous</u>	Special Test Certific- ate		

Further information
Information- and Downloadcenter (Catalogs, Brochures,)
https://www.siemens.com/ic10
Industry Mall (Online ordering system)
https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RT1056-2NF36
Cax online generator
http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT1056-2NF36
Service&Support (Manuals, Certificates, Characteristics, FAQs,)
https://support.industry.siemens.com/cs/ww/en/ps/3RT1056-2NF36
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros,) http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT1056-2NF36⟨=en
Characteristic: Tripping characteristics, I ² t, Let-through current https://support.industry.siemens.com/cs/ww/en/ps/3RT1056-2NF36/char
Further characteristics (e.g. electrical endurance, switching frequency) http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT1056-2NF36&objecttype=14&gridview=view1
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