SIEMENS

Data sheet

3RT1056-6AP36



Power contactor, AC-3 185 A, 90 kW / 400 V AC (50-60 Hz) / DC operation 220-240 V UC Auxiliary contacts 2 NO + 2 NC 3-pole, Size S6 Busbar connections Drive: conventional screw terminal

product brand name	SIRIUS
product designation	Power contactor
product type designation	3RT1
General technical data	
size of contactor	S6
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	39 W
• per pole	13 W
power loss [W] for rated value of the current without load current share typical	5.2 W
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 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 (switching 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 acc. to IEC 81346-2	Q
Substance Prohibitance (Date)	01.05.2012
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 acc. 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
operational current	
 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 rated value 	215 A
 — up to 690 V at ambient temperature 60 °C rated value 	185 A
 up to 1000 V at ambient temperature 40 °C rated value 	100 A
— up to 1000 V at ambient temperature 60 °C rated value	100 A
• 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-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	
 up to 230 V for current peak value n=20 rated value 	157 A
 — up to 400 V for current peak value n=20 rated value 	157 A
 up to 500 V for current peak value n=20 rated value 	157 A
 — up to 690 V for current peak value n=20 rated value 	157 A
 up to 1000 V for current peak value n=20 rated value at AC-6a 	65 A
— up to 230 V for current peak value n=30 rated	105 A
value — up to 400 V for current peak value n=30 rated	105 A
value — 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
valueup 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	
• at 400 V rated value	81 A
• at 690 V rated value	65 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
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 kV·A

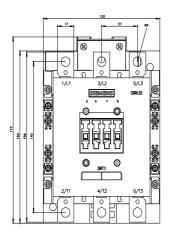
 up to 400 V for current peak value n=20 rated value 	100 000 V·A				
 up to 500 V for current peak value n=20 rated value 	130 000 V·A				
 up to 690 V for current peak value n=20 rated value 	180 000 V·A				
 up to 1000 V for current peak value n=20 rated 	110 000 V·A				
value					
operating apparent power at AC-6a					
 up to 230 V for current peak value n=30 rated value 	40 000 V·A				
 up to 400 V for current peak value n=30 rated value 	70 000 V·A				
 up to 500 V for current peak value n=30 rated value 	90 000 V·A				
 up to 690 V for current peak value n=30 rated value 	120 000 V·A				
 up to 1000 V for current peak value n=30 rated value 	110 000 V·A				
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 	2 084 A; Use minimum cross-section acc. to AC-1 rated value				
 limited to 10 s switching at zero current maximum 	1 480 A; Use minimum cross-section acc. to AC-1 rated value				
 limited to 30 s switching at zero current maximum 	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	2 000 1/h				
• at DC	2 000 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-4 maximum	130 1/h				
Control circuit/ Control					
type of voltage of the control supply voltage	AC/DC				
control supply voltage at AC	Acibe				
at 50 Hz rated value	220 240 V				
at 60 Hz rated value	220 240 V 220 240 V				
	220 240 V				
 control supply voltage at DC rated value 	220 240 V				
	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 of magnet coil at AC					
• at 50 Hz	300 V·A				
• at 60 Hz	300 V·A				
inductive power factor with closing power of the coil					
• at 50 Hz	0.9				
• at 60 Hz	0.9				
apparent holding power of magnet coil at AC	5.01/4				
• at 50 Hz	5.8 V·A				
• at 60 Hz	5.8 V·A				
inductive power factor with the holding power of the coil					
• at 50 Hz	0.8				
• at 60 Hz	0.8				
closing power of magnet coil at DC	360 W				
holding power of magnet coil at DC	5.2 W				
closing delay					
• at AC	20 95 ms				
	20 95 ms 20 95 ms				

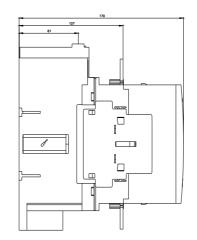
oponing dolov				
opening delay	40 60 mg			
• at AC	40 60 ms			
• at DC	40 60 ms			
arcing time	10 15 ms			
control version of the switch operating mechanism	Standard A1 - A2			
Auxiliary circuit				
number of NC contacts for auxiliary contacts instantaneous contact	2			
number of NO contacts for auxiliary 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				

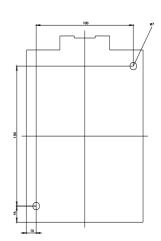
depth	170 mm				
required spacing					
 with side-by-side mounting 					
— forwards	20 mm				
— upwards	10 mm				
— downwards	10 mm				
— at the side	0 mm				
 for grounded parts 					
— forwards	20 mm				
— upwards	10 mm				
— at the side	10 mm				
— downwards	10 mm				
 for live parts 					
— forwards	20 mm				
— upwards	10 mm				
— downwards	10 mm				
— at the side	10 mm				
onnections/ Terminals					
width of connection bar	17 mm				
thickness of connection bar	3 mm				
diameter of holes	9 mm				
number of holes	1				
type of electrical connection					
for main current circuit	Connection bar				
 for auxiliary and control circuit 	screw-type terminals				
at contactor for auxiliary contacts	Screw-type terminals				
 of magnet coil 	Screw-type terminals				
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 	0.5 4 mm²				
 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)				
— 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)				
at 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				
afety related data					
B10 value with high demand rate acc. to SN 31920	1 000 000				
protection class IP on the front acc. to IEC 60529	IP00; IP20 with box terminal/cover				
touch protection on the front acc. to IEC 60529	finger-safe, for vertical contact from the front with box terminal/cover				
suitability for use					
 safety-related switching OFF 	Yes				
ertificates/ approvals					
General Product Approval					

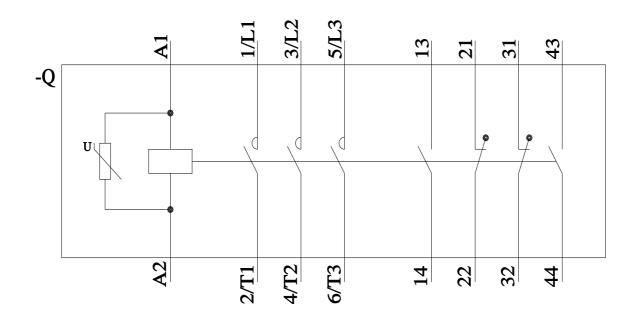
EMC	Functional Safety/Safety of Machinery	Declaration of Conformity		Test Certificates	
RCM	<u>Type Examination</u> <u>Certificate</u>	<u>UK Declaration of</u> <u>Conformity</u>	CE EG-Konf.	Special Test Certific- ate	<u>Type Test Certific-</u> ates/Test Report
Test Certificates	Marine / Shipping				other
<u>Miscellaneous</u>	ABS	Lloyd's Register uis	RMRS	CINV-GL CHV3LCORD	<u>Confirmation</u>
other			Railway		
<u>Miscellaneous</u>	<u>Miscellaneous</u>	<u>Confirmation</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=3RT1056-6AP36 Cax online generator					
http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT1056-6AP36 Service&Support (Manuals, Certificates, Characteristics, FAQs,) https://support.industry.siemens.com/cs/ww/en/ps/3RT1056-6AP36					
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros,) http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT1056-6AP36⟨=en Characteristic: Tripping characteristics, I ² t, Let-through current https://support.industry.siemens.com/cs/ww/en/ps/3RT1056-6AP36/char					

Further characteristics (e.g. electrical endurance, switching frequency) http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT1056-6AP36&objecttype=14&gridview=view1









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