SIEMENS

Data sheet

3RT1054-6NB36



power contactor, AC-3 115 A, 55 kW / 400 V AC (50-60 Hz) / DC operation 21-27 AC/DC, 3 V auxiliary contacts 2 NO + 2 NC 3-pole, frame size S6 busbar connections drive: electronic with PLC interface 24 V DC screw terminal

size of contactor S6 product extension No • function module for communication No • auxilary switch Yes power loss [W] for rated value of the current ************************************	product brand name	SIRIUS	
Size of contactor S6 product extension No • function module for communication No • auxillary switch Yes power loss [W] for rated value of the current 1 W • at AC in hot operating state per pole 7 W • of main circuit with degree of pollution 3 rated value 1 000 V • of main circuit with degree of pollution 3 rated value 1 000 V • of main circuit with degree of pollution 3 rated value 1 000 V • of main circuit rated value 6 KV maximum permissible voltage for safe isolation between coll and main contacts according to EN 60947-1 680 V shock resistance at rectangular impulse 8.5g / 5 ms, 4.2g / 10 ms • at AC 8.5g / 5 ms, 4.2g / 10 ms • at AC 13.4g / 5 ms, 6.5g / 10 ms • at AC 10.00 000 • at AC 10.000 000 • at DC 0.500 100 ms </td <td>product designation</td> <td>Power contactor</td>	product designation	Power contactor	
size of contactor S6 product extension No • function module for communication No • auxilary switch Yes power loss [W] for rated value of the current ************************************	product type designation	3RT1	
product extension No • function module for communication No • auxiliary switch Yes power loss [W] for rated value of the current 1 • at AC in hot operating state 21 W • at AC in hot operating state per pole 7 W • without load current share typical 2.8 W insulation voltage 0 of main circuit with degree of pollution 3 rated value • of main circuit with degree of pollution 3 rated value 1000 V • of main circuit rated value 6 kV • of main circuit rated value 8 kV • of main circuit rated value 6 kV • of main circuit rated value 6 kV • of main circuit rated value 8 kV • of main circuit rated value 6 kV • of main circuit rated value 8 kV • of auxiliary circuit rated value 6 kV • at AC 8.5g / 5 ms, 4.2g / 10 ms • at AC 8.5g / 5 ms, 4.2g / 10 ms • at DC 8.6g / 5 ms, 6.5g / 10 ms • at DC 10 000 000 • at AC 10 000 000 • at DC 5000 000 • of the contactor with added electronically optimiz	General technical data		
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Ambient conditions installation altitude at height above sea level maximum 2 000 m ambient temperature -25 +60 °C	reference code according to IEC 81346-2	Q	
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	 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 %
lain 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	160 A
rated value	
● at AC-1	
— up to 690 V at ambient temperature 40 °C	160 A
rated value	
— up to 690 V at ambient temperature 60 °C	140 A
rated value	
— up to 1000 V at ambient temperature 40 °C	80 A
rated value	
— up to 1000 V at ambient temperature 60 °C	80 A
rated value	
• at AC-3	44E A
— at 400 V rated value	115 A
— at 500 V rated value	115 A
— at 690 V rated value	115 A
— at 1000 V rated value	53 A
● at AC-3e	
— at 400 V rated value	115 A
— at 500 V rated value	115 A
— at 690 V rated value	115 A
— at 1000 V rated value	53 A
 at AC-4 at 400 V rated value 	97 A
 at AC-5a up to 690 V rated value 	140 A
 at AC-5b up to 400 V rated value 	95 A
● at AC-6a	
 up to 230 V for current peak value n=20 rated 	115 A
value	
 — up to 400 V for current peak value n=20 rated 	115 A
value	
 up to 500 V for current peak value n=20 rated 	115 A
value	445.4
 — up to 690 V for current peak value n=20 rated value 	115 A
— up to 1000 V for current peak value n=20 rated	53 A
value	
• at AC-6a	
up to 230 V for current peak value n=30 rated	98 A
value	
— up to 400 V for current peak value n=30 rated	98 A
value	
 — up to 500 V for current peak value n=30 rated 	98 A
value	
— up to 690 V for current peak value n=30 rated	98 A
value	
 up to 1000 V for current peak value n=30 rated 	53 A
value	70 mm ²
minimum cross-section in main circuit at maximum AC-1 rated value	70 mm ²
operational current for approx. 200000 operating	
cycles at AC-4	
at 400 V rated value	54 A
at 690 V rated value	48 A
operational current	
• at 1 current path at DC-1	

at 24 M rated value	400 A
— 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	37 kW
— at 400 V rated value	55 kW
— at 500 V rated value	75 kW
— at 690 V rated value	110 kW
— at 1000 V rated value	75 kW
• at AC-3e	
— at 230 V rated value	37 kW
— at 400 V rated value	55 kW
— at 500 V rated value	75 kW
— at 690 V rated value	110 kW
— at 1000 V rated value	75 kW
operating power for approx. 200000 operating cycles at AC-4	
at 400 V rated value	29 kW
at 400 V rated value	48 kW
operating apparent power at AC-6a	
up to 230 V for current peak value n=20 rated value	40 000 kVA
• up to 400 V for current peak value n=20 rated value	80 000 VA
• up to 500 V for current peak value n=20 rated value	100 000 VA
• up to 690 V for current peak value n=20 rated value	130 000 VA
 up to 000 V for current peak value n=20 rated value up to 1000 V for current peak value n=20 rated value 	90 000 VA
operating apparent power at AC-6a	
 up to 230 V for current peak value n=30 rated value 	30 000 VA

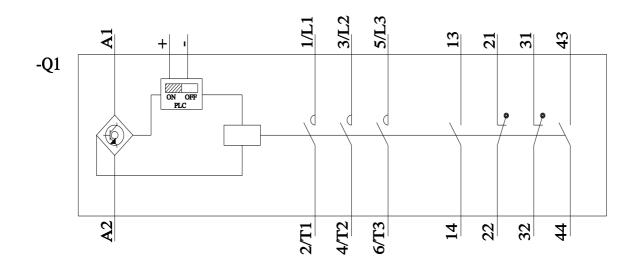
 up to 400 V for current peak value n=30 rated value 	60 000 VA		
 up to 500 V for current peak value n=30 rated value 	80 000 VA		
 up to 690 V for current peak value n=30 rated value 	110 000 VA		
 up to 1000 V for current peak value n=30 rated 	90 000 VA		
value			
short-time withstand current in cold operating state up to 40 °C			
 limited to 1 s switching at zero current maximum 	2 565 A; Use minimum cross-section acc. to AC-1 rated value		
 limited to 5 s switching at zero current maximum 	1 654 A: Use minimum cross-section acc. to AC-1 rated value		
 limited to 10 s switching at zero current maximum 	1 170 A: Use minimum cross-section acc. to AC-1 rated value		
 limited to 30 s switching at zero current maximum 	729 A; Use minimum cross-section acc. to AC-1 rated value		
 limited to 60 s switching at zero current maximum 	572 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	400 1/h		
• at AC-3 maximum	1 000 1/h		
• at AC-3e maximum	1 000 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	21 27.3 V		
• at 60 Hz rated value	21 27.3 V		
control supply voltage at DC			
rated value	21 27.3 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			
voltage at PLC-control input rated value	24 V		
operating range factor of the voltage at PLC-control input	0.8 1.1		
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	222.1/4		
• at 50 Hz	280 VA		
• at 60 Hz	280 VA		
inductive power factor with closing power of the coil	0.0		
• at 50 Hz	0.8		
• at 60 Hz	0.8		
apparent holding power of magnet coil at AC	4.4.1/0		
• at 50 Hz	4.4 VA		
at 60 Hz inductive power factor with the holding power of the	4.4 VA		
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			
	80 90 ms 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 	124 A			
at 600 V rated value	125 A			
yielded mechanical performance [hp]				
 for single-phase AC motor 				
— at 230 V rated value	25 hp			
 for 3-phase AC motor 				
— at 200/208 V rated value	40 hp			
— at 220/230 V rated value	50 hp			
— at 460/480 V rated value	100 hp			
— at 575/600 V rated value	125 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: 250 A (690 V, 100 kA), aM: 200 A (690 V, 50 kA), BS88: 250 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
	10 11111
Connections/ Terminals	
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
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 	0.5 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 mm ²), 2x (0.75 2,5 mm ²), max. 2x (0.75 4 mm ²)
— finely stranded with core end processing	2x (0,5 1,5 mm ²), 2x (0,75 2,5 mm ²)
at AWG cables for auxiliary contacts	2x (0.5 1.5 mm), 2x (0.75 2.5 mm) 2x (20 16), 2x (18 14), 1x 12
AWG number as coded connectable conductor cross	2^ (20 10), 2^ (10 14), 1A 12
section	
for auxiliary contacts	18 14
Safety related data	
product function	
	Voc
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
• Salety-related switching of r	

S.	CCC	<u>Confirmation</u>		<u>KC</u>	EAC
EMC	Functional Safety/Safety of Machinery	Declaration of Con	formity	Test Certificates	
RCM	<u>Type Examination</u> <u>Certificate</u>	CE EG-Konf.	UK CA	<u>Special Test Certific-</u> <u>ate</u>	<u>Type Test Certific-</u> ates/Test Report
Marine / Shipping					other
ABS	Llovd's Register urs	PRS	RMRS RMRS	DIVI-GL Division	<u>Miscellaneous</u>
other			Railway		
<u>Confirmation</u>	<u>Confirmation</u>	<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=3RT1054-6NB36
Cax online generator http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT1054-6NB36
Service&Support (Manuals, Certificates, Characteristics, FAQs,) https://support.industry.siemens.com/cs/ww/en/ps/3RT1054-6NB36
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros,) http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT1054-6NB36⟨=en
Characteristic: Tripping characteristics, I ² t, Let-through current https://support.industry.siemens.com/cs/ww/en/ps/3RT1054-6NB36/char
Further characteristics (e.g. electrical endurance, switching frequency) http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT1054-6NB36&objecttype=14&gridview=view1



last modified:

3/24/2022 🖸