SIEMENS

Data sheet

3RT1054-2NB36



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 spring-loaded terminal

product designation Power contactor product type designation 3RT1 Central technical data 3RT1 size of contactor S6 product extension No • auxiliary switch Yes power loss [W] for rated value of the current 7 W • at AC in hot operating state per pole 7 W • without load current share typical 2.8 W insulation voltage 7 W • of main circuit with degree of pollution 3 rated value 1000 V • of main circuit with degree of pollution 3 rated value 6 KV • of main circuit with degree of pollution 3 rated value 8 kV • of auxiliary circuit rated value 8 kV • 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 <th>product brand name</th> <th>SIRIUS</th>	product brand name	SIRIUS
product type designation 3RT1 General technical data size of contactor size of contactor S6 product extension No • auxiliary switch Yes power loss [W] for rated value of the current 21 W • 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 1 000 V • of main circuit with degree of pollution 3 rated value 1000 V • of main circuit with degree of pollution 3 rated value 8 kV • of auxiliary circuit rated value 8 kV • at AC 8.5g / 5 ms, 4.2g / 10 ms • at AC 13,4g / 5 ms, 6.5g / 10 ms • at DC 13,4g / 5 ms, 6.5g / 10 ms • at DC 13,4g / 5 ms, 6.5g / 10 ms • at DC 10 000 000 • of the contactor with added electronically optimized auxiliary switch block typical • of the contactor with addede		Power contactor
size of contactor S6 product extension No • d function module for communication No • auxiliary switch Yes power loss [W] for rated value of the current 21 W • at AC in hot operating state per pole 7 W • without load current share typical 2.8 W insulation voltage 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 500 V surge voltage resistance 8 kV • of auxiliary circuit rated value 6 kV maximum permissible voltage for safe isolation between coli and main contacts according to EN 60947-1 680 V shock resistance at rectangular impulse at AC • at AC 8.5g / 5 ms, 4.2g / 10 ms • at AC 13.4g / 5 ms, 6.5g / 10 ms • at DC 13.4g / 5 ms, 6.5g / 10 ms • at DC 10 000 000 • of the contactor with added electronically optimized auxiliary switch block typical 10 000 000 • of the contactor with added auxiliary switch block typical 10 000 000 • of the contactor with added auxiliary switch block typical 10 000 000 • of the contactor with added auxiliary switch block typical 10 000 000 • of the contactor with added auxiliary switch block typical	product type designation	3RT1
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• of auxiliary circuit rated value6 kVmaximum permissible voltage for safe isolation between coil and main contacts according to EN 60947-1690 Vshock resistance at rectangular impulse6• at AC8,5g / 5 ms, 4,2g / 10 ms• at DC8,5g / 5 ms, 4,2g / 10 msshock resistance with sine pulse13,4g / 5 ms, 6,5g / 10 ms• at AC13,4g / 5 ms, 6,5g / 10 ms• at DC13,4g / 5 ms, 6,5g / 10 ms• at DC13,4g / 5 ms, 6,5g / 10 ms• of contactor typical10 000 000• of the contactor with added electronically optimized auxiliary switch block typical10 000 000• of the contactor with added auxiliary switch block typical10 000 000reference code according to IEC 81346-2 Substance Prohibitance (Date)QAmbient conditions2 000 minstallation altitude at height above sea level maximum • during operation2 000 m	surge voltage resistance	
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• at DC 8,5g / 5 ms, 4,2g / 10 ms shock resistance with sine pulse 13,4g / 5 ms, 6,5g / 10 ms • 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) 10 000 000 • of contactor typical 10 000 000 • of the contactor with added electronically optimized auxiliary switch block typical 10 000 000 • of the contactor with added auxiliary switch block typical 10 000 000 • of the contactor with added auxiliary switch block typical 0 000 000 • of the contactor with added auxiliary switch block typical 10 000 000 methem conditions 05/01/2012 Ambient conditions 2 000 m installation altitude at height above sea level maximum 2 000 m ambient temperature -25 +60 °C	shock resistance at rectangular impulse	
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• at AC13,4g / 5 ms, 6,5g / 10 ms• at DC13,4g / 5 ms, 6,5g / 10 msmechanical service life (switching cycles)10 000 000• of contactor typical10 000 000• of the contactor with added electronically optimized auxiliary switch block typical5 000 000• of the contactor with added auxiliary switch block typical10 000 000• of the contactor with added auxiliary switch block typical10 000 000• of the contactor with added auxiliary switch block typical000 000reference code according to IEC 81346-2QSubstance Prohibitance (Date)05/01/2012Ambient conditions2 000 minstallation altitude at height above sea level maximum • during operation2 000 m	● at DC	8,5g / 5 ms, 4,2g / 10 ms
• at DC 13,4g / 5 ms, 6,5g / 10 ms mechanical service life (switching cycles) 10 000 000 • 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 • of the contactor with added auxiliary switch block typical 10 000 000 • of the contactor with added auxiliary switch block typical 0000 000 reference code according to IEC 81346-2 Q Substance Prohibitance (Date) 05/01/2012 Ambient conditions 2 000 m installation altitude at height above sea level maximum 2 000 m ambient temperature -25 +60 °C	shock resistance with sine pulse	
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Substance Prohibitance (Date) 05/01/2012 Ambient conditions installation altitude at height above sea level maximum ambient temperature 2 000 m • during operation -25 +60 °C		10 000 000
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 during operation -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-3e rated value maximum	1 000 V
operational current	1000 V
•	160 A
 at AC-1 at 400 V at ambient temperature 40 °C rated value 	160 A
• at AC-1	
— up to 690 V at ambient temperature 40 °C	160 A
rated value	100 A
— 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	
— 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 value 	115 A
— up to 500 V for current peak value n=20 rated	115 A
value	113A
— up to 690 V for current peak value n=20 rated	115 A
value	
— 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	00.4
 — up to 690 V for current peak value n=30 rated value 	98 A
	53 A
 — up to 1000 V for current peak value n=30 rated value 	53 A
minimum cross-section in main circuit at maximum AC-1	70 mm ²
rated value	
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 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

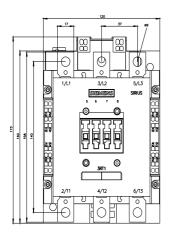
 up to 400 V for current peak value n=30 rated value 	60 000 VA		
 up to 500 V for current peak value n=30 rated value 	80 000 VA		
 up to 690 V for current peak value n=30 rated value 	110 000 VA		
 up to 1000 V for current peak value n=30 rated 	90 000 VA		
value			
short-time withstand current in cold 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			

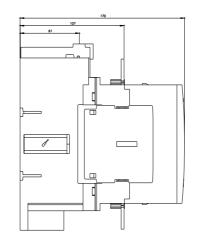
• at AC	80 90 ms			
• at DC	80 90 ms 10 15 ms			
arcing time				
control version of the switch operating mechanism	PLC-IN or Standard A1 - A2 (adjustable)			
Auxiliary circuit				
number of NC contacts for auxiliary contacts instantaneous contact	2			
number of NO contacts for auxiliary contacts instantaneous 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			

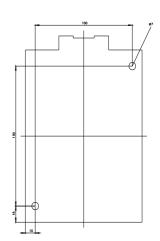
required spacing			
 with side-by-side mounting 			
— forwards	20 mm		
— upwards	10 mm		
— downwards	10 mm		
— at the side	0 mm		
 for grounded parts 			
— forwards	20 mm		
— upwards	10 mm		
— at the side	10 mm		
— downwards	10 mm		
 for live parts 			
— forwards	20 mm		
— upwards	10 mm		
— downwards	10 mm		
— at the side	10 mm		
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 mm²		
 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			

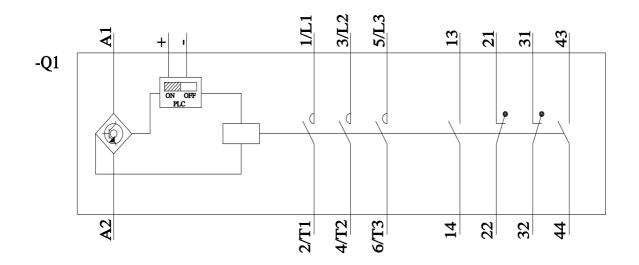
S.	CCC	<u>Confirmation</u>		<u>KC</u>	EHC
EMC	Functional Safety/Safety of Machinery	Declaration of Con	formity	Test Certificates	
RCM	<u>Type Examination</u> <u>Certificate</u>	UK CA	CE EG-Konf.	<u>Type Test Certific-</u> ates/Test Report	<u>Special Test Certific-</u> <u>ate</u>
Marine / Shipping			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









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