SIEMENS

Data sheet

3RT1054-3NB36



power contactor, AC-3e/AC-3 115 A, 55 kW / 400 V, AC (50-60 Hz) / DC Uc: 21-27.3 V PLC input 24 V DC 3-pole, auxiliary contacts 2 NO + 2 NC drive: electronic main circuit: box terminal control and auxiliary circuit: spring-loaded terminal

1000	
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 	21 W
 at AC in hot operating state per pole 	7 W
 without load current share typical 	2.8 W
insulation voltage	
 of main circuit with degree of pollution 3 rated value 	1 000 V
 of auxiliary circuit with degree of pollution 3 rated value 	500 V
surge voltage resistance	
of main circuit rated value	8 kV
 of auxiliary circuit rated value 	6 kV
maximum permissible voltage for protective separation between coil and main contacts according 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 (operating 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 according to IEC 81346-2	Q
Substance Prohibitance (Date)	05/01/2012
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 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	
• 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 rated value	160 A
— up to 690 V at ambient temperature 60 °C rated value	140 A
— up to 1000 V at ambient temperature 40 °C rated value	80 A
— up to 1000 V at ambient temperature 60 $^\circ\mathrm{C}$ rated value	80 A
• 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 at AC-6a 	95 A
 — up to 230 V for current peak value n=20 rated value 	115 A
 — 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 value	115 A
— 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 value 	53 A
• at AC-6a	
 — up to 230 V for current peak value n=30 rated value 	98 A
 — up to 400 V for current peak value n=30 rated value 	98 A
 — up to 500 V for current peak value n=30 rated value 	98 A
— up to 690 V for current peak value n=30 rated value	98 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 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	160 A
— at 24 V rated value	160 A
— at 60 V rated value	160 A
— at 110 V rated value	18 A 3.4 A
— at 220 V rated value	3.4 A 0.8 A
— at 440 V rated value	
— 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 24 V rated value	160 A
— at 60 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 60 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 60 V rated value	7.5 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 60 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 60 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 690 V rated value	48 kW
operating apparent power at AC-6a	40 KW
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 500 V for current peak value n=20 rated value	130 000 VA
• 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 	
 up to 690 V for current peak value n=30 rated value up to 1000 V for current peak value n=30 rated value 	110 000 VA
up to 690 V for current peak value n=30 rated value up to 1000 V for current peak value n=30 rated value short-time withstand current in cold operating state up to	

 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 50 Hz rated value at 60 Hz rated value	2127.3 V			
	2127.J V			
control supply voltage at DC	24 27 2 1/			
rated value	21 27.3 V			
operating range factor control supply voltage rated value of magnet coil at DC				
• initial value	0.8			
• full-scale value operating range factor control supply voltage rated value of	1.1			
magnet coil at AC				
• at 50 Hz	0.8 1.1			
• at 60 Hz	0.8 1.1			
type of PLC-control input according to IEC 60947-1	Type 2			
consumed current at PLC-control input according to IEC 60947-1 maximum	20 mA			
voltage at PLC-control input rated value	24 V			
operating range factor of the voltage at PLC-control input	0.8 1.1			
design of the surge suppressor	with varistor			
apparent pick-up power				
 at minimum rated control supply voltage at AC 				
— at 50 Hz	190 VA			
— at 60 Hz	190 VA			
 at maximum rated control supply voltage at AC 				
— at 60 Hz	280 VA			
— at 50 Hz	280 VA			
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				
 at minimum rated control supply voltage at DC 	2.1 VA			
• at maximum rated control supply voltage at DC	2.8 VA			
apparent holding power				
at minimum rated control supply voltage at AC				
— at 50 Hz	3.5 VA			
— at 60 Hz	3.5 VA			
 at maximum rated control supply voltage at AC 				
— at 50 Hz	4.8 VA			
— at 60 Hz	4.8 VA			
apparent holding power of magnet coil at AC				
• at 50 Hz	4.8 VA			
• at 60 Hz	4.8 VA			
inductive power factor with the holding power of the coil				

a at 50 Hz	0.6			
• at 50 Hz	0.6			
• at 60 Hz	0.6			
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			
arcing time	10 15 ms			
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				
moundations mountaing, dimensions				

mounting position	with vertical mounting surface +/-90° rotatable, with vertical mounting surface		
factoring method	+/- 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 	box terminal		
 for auxiliary and control circuit 	spring-loaded terminals		
 at contactor for auxiliary contacts 	Spring-type terminals		
 of magnet coil 	Spring-type terminals		
type of connectable conductor cross-sections for main contacts			
 stranded 	max. 1x 50, 1x 70 mm ²		
 solid or stranded 	max. 1x 50, 1x 70 mm ²		
 finely stranded with core end processing 	max. 1x 50, 1x 70 mm ²		
 finely stranded without core end processing 	max. 1x 50, 1x 70 mm²		
connectable conductor cross-section for main contacts			
stranded	16 70 mm²		
 finely stranded with core end processing 	16 70 mm²		
 finely stranded without core end processing 	16 70 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 mm ²)		
 finely stranded without core end processing 	2x (0.25 2.5 mm ²)		
for 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		
T1 value for proof test interval or service life according to IEC 61508	20 a		
protection class IP on the front according to IEC 60529	IP20		
touch protection on the front according to IEC 60529	finger-safe, for vertical contact from the front		

 suitability for use safety-related settificates/ approval 	•	Yes	3		
General Product Ap					
SP.		<u>Confirmation</u>	(UL)	KC	EHC
EMC	Functional Safety/Safety of Ma- chinery	Declaration of Conf	ormity	Test Certificates	
RCM	Type Examination Cer- tificate	UK CA	CE EG-Konf.	Type Test Certific- ates/Test Report	<u>Special Test Certifi</u> <u>ate</u>
Marine / Shipping					other
ABS	Lloyds Register urs	PRS	RMRS		<u>Confirmation</u>
other			Railway		
Miscellaneous	<u>Miscellaneous</u>	Confirmation	Special Test Certific- ate	Vibration and Shock	
ther information					
ttps://press.siemens	ed to exit the Russian mark .com/global/en/pressrelease on the renewal of the curr	/siemens-wind-down-ru	<u>issian-business</u>		

Please contact your local Siemens office on the status of validity of the EAC certification if you intend to import or offer to supply these products to an EAC relevant market (other than the sanctioned EAEU member states Russia or Belarus).

Information on the packaging

https://support.industry.siemens.com/cs/ww/en/view/109813875

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=3RT1054-3NB36

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT1054-3NB36

Service&Support (Manuals, Certificates, Characteristics, FAQs,...) https://support.industry.siemens.com/cs/ww/en/ps/3RT1054-3NB36

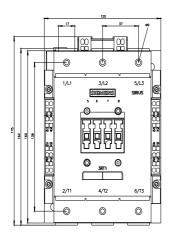
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)

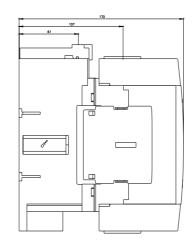
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT1054-3NB36&lang=en

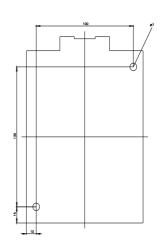
Characteristic: Tripping characteristics, I²t, Let-through current

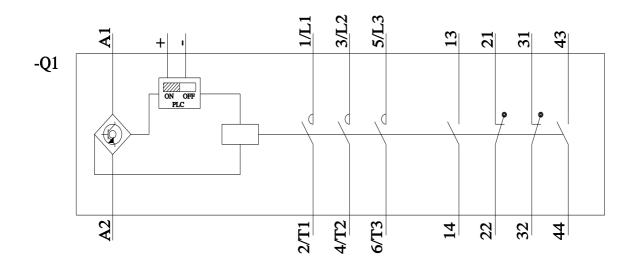
https://support.industry.siemens.com/cs/ww/en/ps/3RT105 -3NB36/char

Further characteristics (e.g. electrical endurance, switching frequency) http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT1054-3NB36&objecttype=14&gridview=view1









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