## SIEMENS

## Data sheet

## 3RT1054-6NB36



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: busbar control and auxiliary circuit: 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
<ul> <li>auxiliary switch</li> </ul>	Yes
power loss [W] for rated value of the current	
• at AC in hot operating state	21 W
<ul> <li>at AC in hot operating state per pole</li> </ul>	7 W
<ul> <li>without load current share typical</li> </ul>	2.8 W
insulation voltage	
<ul> <li>of main circuit with degree of pollution 3 rated value</li> </ul>	1 000 V
<ul> <li>of auxiliary circuit with degree of pollution 3 rated value</li> </ul>	500 V
surge voltage resistance	
<ul> <li>of main circuit rated value</li> </ul>	8 kV
<ul> <li>of auxiliary circuit rated value</li> </ul>	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)	
<ul> <li>of contactor typical</li> </ul>	10 000 000
<ul> <li>of the contactor with added electronically optimized auxiliary switch block typical</li> </ul>	5 000 000
<ul> <li>of the contactor with added auxiliary switch block typical</li> </ul>	10 000 000
reference code according to IEC 81346-2	Q
Substance Prohibitance (Date)	05/01/2012
SVHC substance name	Blei - 7439-92-1 Bleimonoxid (Bleioxid) - 1317-36-8 Bleititanzirkonoxid - 12626-81-2 Perfluorbutansulfonsäure (PFBS) und ihre
Ambient conditions	
installation altitude at height above sea level maximum	2 000 m
ambient temperature	
<ul> <li>during operation</li> </ul>	-25 +60 °C
during storage	-55 +80 °C

relative humidity minimum	10 %
relative humidity at 55 °C according to IEC 60068-2-30	95 %
maximum	
Main circuit	
number of poles for main current circuit	3
number of NO contacts for main contacts	3
operating voltage	
<ul> <li>at AC-3 rated value maximum</li> </ul>	1 000 V
at AC-3e rated value maximum	1 000 V
operational current	
<ul> <li>at AC-1 at 400 V at ambient temperature 40 °C rated value</li> </ul>	160 A
• at AC-1	
— up to 690 V at ambient temperature 40 °C rated	160 A
value	
— up to 690 V at ambient temperature 60 °C rated value	140 A
— up to 1000 V at ambient temperature 40 $^\circ \text{C}$ 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
<ul> <li>at AC-4 at 400 V rated value</li> </ul>	97 A
<ul> <li>at AC-5a up to 690 V rated value</li> </ul>	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 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
<ul> <li>— up to 1000 V for current peak value n=20 rated value</li> </ul>	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
<ul> <li>— up to 1000 V for current peak value n=30 rated value</li> </ul>	53 A
minimum cross-section in main circuit at maximum AC-1 rated value	70 mm²
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 V rated value	160 A
— at 60 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
<ul> <li>with 2 current paths in series at DC-1</li> </ul>	
— 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
<ul> <li>with 3 current paths in series at DC-1</li> </ul>	
— 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
<ul> <li>at 1 current path at DC-3 at DC-5</li> </ul>	
— 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
<ul> <li>with 2 current paths in series at DC-3 at DC-5</li> </ul>	
— 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
<ul> <li>with 3 current paths in series at DC-3 at DC-5</li> </ul>	
— 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 400 V rated value     at 690 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 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 value	90 000 VA

short-time withstand current in cold operating state up to 40 °C			
<ul> <li>limited to 1 s switching at zero current maximum</li> </ul>	2 565 A; Use minimum cross-section acc. to AC-1 rated value		
<ul> <li>limited to 5 s switching at zero current maximum</li> </ul>	1 654 A; Use minimum cross-section acc. to AC-1 rated value		
<ul> <li>limited to 10 s switching at zero current maximum</li> </ul>	1 170 A; Use minimum cross-section acc. to AC-1 rated value		
<ul> <li>limited to 30 s switching at zero current maximum</li> </ul>	729 A; Use minimum cross-section acc. to AC-1 rated value		
<ul> <li>limited to 60 s switching at zero current maximum</li> </ul>	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 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		
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		
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			
<ul> <li>at minimum rated control supply voltage at AC</li> </ul>			
— at 50 Hz	190 VA		
— at 60 Hz	190 VA		
<ul> <li>at maximum rated control supply voltage at AC</li> </ul>			
— 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			
• 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	2		
contact			
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		
<ul> <li>at 125 V rated value</li> </ul>	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	104.4		
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			
<ul> <li>for short-circuit protection of the main circuit</li> </ul>			
<ul> <li>— with type of coordination 1 required</li> </ul>	gG: 355 A (690 V, 100 kA)		
<ul> <li>— with type of assignment 2 required</li> </ul>	gG: 250 A (690 V, 100 kA), aM: 200 A (690 V, 50 kA), BS88: 250 A (415 V, 50		
	kA)		

<ul> <li>for short-circuit protection of the auxiliary switch req</li> </ul>	uired

gG: 10 A (500 V, 1 kA)

<ul> <li>for short-circuit protection of the auxiliary switch required</li> </ul>	gG: 10 A (500 V, 1 kA)		
stallation/ 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		
<ul> <li>side-by-side mounting</li> </ul>	Yes		
height	172 mm		
width	120 mm		
depth	170 mm		
required spacing			
<ul> <li>with side-by-side mounting</li> </ul>			
— forwards	20 mm		
— upwards	10 mm		
— downwards	10 mm		
— at the side	0 mm		
<ul> <li>for grounded parts</li> </ul>			
— 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			
type of electrical connection			
<ul> <li>for main current circuit</li> </ul>	Connection bar		
<ul> <li>for auxiliary and control circuit</li> </ul>	screw-type terminals		
<ul> <li>at contactor for auxiliary contacts</li> </ul>	Screw-type terminals		
<ul> <li>of magnet coil</li> </ul>	Screw-type terminals		
width of connection bar	17 mm		
thickness of connection bar	3 mm		
diameter of holes	9 mm		
number of holes	1		
connectable conductor cross-section for main contacts			
stranded	25 120 mm²		
connectable conductor cross-section for auxiliary contacts			
<ul> <li>solid or stranded</li> </ul>	0.5 4 mm²		
<ul> <li>finely stranded with core end processing</li> </ul>	0.5 2.5 mm <sup>2</sup>		
type of connectable conductor cross-sections			
<ul> <li>for auxiliary contacts</li> </ul>			
— 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)		
<ul> <li>for AWG cables for auxiliary contacts</li> </ul>	2x (20 16), 2x (18 14), 1x 12		
AWG number as coded connectable conductor cross			
AWG number as coded connectable conductor cross section	40 44		
AWG number as coded connectable conductor cross section • for auxiliary contacts	18 14		
AWG number as coded connectable conductor cross section • for auxiliary contacts afety related data	18 14		
AWG number as coded connectable conductor cross section  • for auxiliary contacts afety related data product function			
AWG number as coded connectable conductor cross section  • for auxiliary contacts afety related data product function  • mirror contact according to IEC 60947-4-1	Yes		
AWG number as coded connectable conductor cross section • for auxiliary contacts ifety related data product function • mirror contact according to IEC 60947-4-1 • positively driven operation according to IEC 60947-5-1	Yes No		
AWG number as coded connectable conductor cross section • for auxiliary contacts afety related data product function • mirror contact according to IEC 60947-4-1 • positively driven operation according to IEC 60947-5-1 suitability for use safety-related switching OFF	Yes No No		
AWG number as coded connectable conductor cross section • for auxiliary contacts afety related data product function • mirror contact according to IEC 60947-4-1 • positively driven operation according to IEC 60947-5-1 suitability for use safety-related switching OFF B10 value with high demand rate according to SN 31920	Yes No No 1 000 000		
AWG number as coded connectable conductor cross section • for auxiliary contacts afety related data product function • mirror contact according to IEC 60947-4-1 • positively driven operation according to IEC 60947-5-1 suitability for use safety-related switching OFF B10 value with high demand rate according to SN 31920 T1 value for proof test interval or service life according to IEC 61508	Yes No No 1 000 000 20 a		
AWG number as coded connectable conductor cross section • for auxiliary contacts afety related data product function • mirror contact according to IEC 60947-4-1 • positively driven operation according to IEC 60947-5-1 suitability for use safety-related switching OFF B10 value with high demand rate according to SN 31920 T1 value for proof test interval or service life according to IEC 61508 protection class IP on the front according to IEC 60529	Yes No No 1 000 000 20 a IP00; IP20 with box terminal/cover		
AWG number as coded connectable conductor cross section • for auxiliary contacts afety related data product function • mirror contact according to IEC 60947-4-1 • positively driven operation according to IEC 60947-5-1 suitability for use safety-related switching OFF B10 value with high demand rate according to SN 31920 T1 value for proof test interval or service life according to IEC	Yes No No 1 000 000 20 a		

		<u>Confirmation</u>	(UL) UL	<u>KC</u>	EHC
EMC	Functional Safety/Safety of Ma- chinery	Declaration of Conform	nity	Test Certificates	
RCM	<u>Type Examination Cer-</u> <u>tificate</u>	CE EG-Konf.	UK CA	Special Test Certific- ate	<u>Type Test Certific-</u> ates/Test Report
Marine / Shipping					other
ABS	Lloyd's Register uis	PRS	KMRS	DNV-GL DNV-GL	<u>Miscellaneous</u>
other			Railway		
Confirmation	<u>Confirmation</u>	Miscellaneous	<u>Special Test Certific-</u> <u>ate</u>	Vibration and Shock	

Siemens has decided to exit the Russian market (see here).

https://press.siemens.com/global/en/pressrelease/siemens-wind-down-russian-business

Siemens is working on the renewal of the current EAC certificates.

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,...)

htt om/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,...)

http .industry.siemens.com/cs/ww/en/ps/3RT105

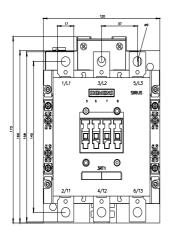
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=3RT1054-6NB36&lang=en

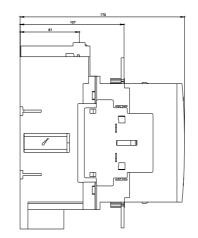
Characteristic: Tripping characteristics, I2t, Let-through current

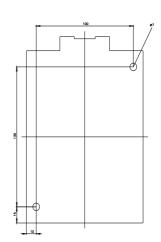
https://support.industry.siemens.com/cs/ww/en/ps/3RT1054 -6NB36/char

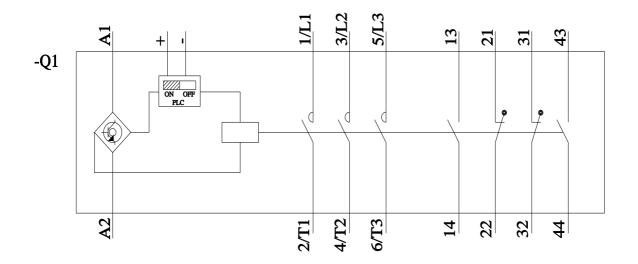
Further characteristics (e.g. electrical endurance, switching frequency)

3RT1054-6NB36&objecttype=14&gridview=view1 http://www.automation.si s.com/bilddb/index.aspx?view=









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