## **SIEMENS**

Data sheet 3RT1054-6LA06



power contactor, AC-3e/AC-3 115 A, 55 kW / 400 V, without operating mechanism 3-pole, auxiliary contacts 2 NO + 2 NC drive: conventional 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	
<ul> <li>function module for communication</li> </ul>	No
<ul> <li>auxiliary switch</li> </ul>	Yes
power loss [W] for rated value of the current	
<ul> <li>at AC in hot operating state</li> </ul>	21 W
<ul> <li>at AC in hot operating state per pole</li> </ul>	7 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 safe isolation 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
<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
Ambient conditions	
installation altitude at height above sea level maximum	2 000 m
ambient temperature	
<ul> <li>during operation</li> </ul>	-25 +60 °C
<ul><li>during storage</li></ul>	-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
<ul> <li>at AC-3e rated value maximum</li> </ul>	1 000 V
operational current	
at AC-1 at 400 V at ambient temperature 40 °C	160 A
rated value	
• at AC-1	400 A
<ul> <li>up to 690 V at ambient temperature 40 °C rated value</li> </ul>	160 A
<ul> <li>up to 690 V at ambient temperature 60 °C rated value</li> </ul>	140 A
<ul> <li>up to 1000 V at ambient temperature 40 °C rated value</li> </ul>	80 A
<ul> <li>up to 1000 V at ambient temperature 60 °C rated value</li> </ul>	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
<ul> <li>at AC-5b up to 400 V rated value</li> </ul>	95 A
• at AC-6a	
<ul> <li>up to 230 V for current peak value n=20 rated value</li> </ul>	115 A
<ul> <li>up to 400 V for current peak value n=20 rated value</li> </ul>	115 A
<ul> <li>up to 500 V for current peak value n=20 rated value</li> </ul>	115 A
<ul> <li>up to 690 V for current peak value n=20 rated value</li> </ul>	115 A
<ul> <li>up to 1000 V for current peak value n=20 rated value</li> </ul>	53 A
• at AC-6a	
<ul> <li>up to 230 V for current peak value n=30 rated value</li> </ul>	98 A
<ul> <li>up to 400 V for current peak value n=30 rated value</li> </ul>	98 A
<ul> <li>up to 500 V for current peak value n=30 rated value</li> </ul>	98 A
<ul> <li>up to 690 V for current peak value n=30 rated value</li> </ul>	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 <sup>2</sup>
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 sate describes	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
<ul> <li>with 2 current paths in series at DC-1</li> </ul>	

at 24 V rated value	160 A
— at 24 V rated value	160 A 160 A
— at 110 V rated value — 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	1.0 A
— 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 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
<ul> <li>with 3 current paths in series at DC-3 at DC-5</li> </ul>	
— 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	07.1114
— 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	
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	90 000 VA
value	
operating apparent power at AC-6a	
<ul> <li>up to 230 V for current peak value n=30 rated value</li> </ul>	30 000 VA
<ul> <li>up to 400 V for current peak value n=30 rated value</li> </ul>	60 000 VA
• up to 500 V for current peak value n=30 rated value	80 000 VA
<ul> <li>up to 690 V for current peak value n=30 rated value</li> </ul>	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	
Iimited to 1 s switching at zero current maximum	2 565 A; Use minimum cross-section acc. to AC-1 rated value
Ilmited to 1 3 switching at zero current maximum	1 654 A; Use minimum cross-section acc. to AC-1 rated value
Ilmited to 10 s switching at zero current maximum	1 170 A; Use minimum cross-section acc. to AC-1 rated value
Ilmited to 30 s switching at zero current maximum	729 A; Use minimum cross-section acc. to AC-1 rated value
g at 2010 out one maximum	,

<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	2 000 1/h
• at DC	2 000 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-3e maximum     at AC-4 maximum	130 1/h
	130 1/11
Control circuit/ Control	
closing delay	
• at AC	20 95 ms
• at DC	20 95 ms
opening delay	
• at AC	40 60 ms
• at DC	40 60 ms
arcing time	10 15 ms
control version of the switch operating mechanism	Without operating mechanism
Auxiliary circuit	
	2
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
<ul> <li>at 400 V rated value</li> </ul>	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
<ul> <li>at 600 V rated value</li> </ul>	0.15 A
operational current at DC-13	
<ul> <li>at 24 V rated value</li> </ul>	10 A
<ul><li>at 48 V rated value</li></ul>	2 A
<ul><li>at 60 V rated value</li></ul>	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	194 A
• at 480 V rated value	124 A
• at 600 V rated value	125 A
yielded mechanical performance [hp]	
for single-phase AC motor	251
— at 230 V rated value	25 hp
<ul> <li>for 3-phase AC motor</li> </ul>	
— at 200/208 V rated value	40 hp
<ul> <li>— at 220/230 V rated value</li> </ul>	50 hp
<ul> <li>— at 460/480 V rated value</li> </ul>	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	
- 101 Office of our protocolors of the main officer	

— with type of coordination 1 required

- with type of assignment 2 required

• for short-circuit protection of the auxiliary switch required

gG: 355 A (690 V, 100 kA)

gG: 250 A (690 V, 100 kA), aM: 200 A (690 V, 50 kA), BS88: 250 A (415 V, 50 kA)

gG: 10 A (500 V, 1 kA)

nstallation/ 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
Connections/ Terminals	
type of electrical connection	
for main current circuit	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
type of connectable conductor cross-sections	
<ul> <li>at AWG cables for main contacts</li> </ul>	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
<ul> <li>finely stranded with core end processing</li> </ul>	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)
	, , , , , , , , , , , , , , , , , , , ,

Safety	related	data

• for auxiliary contacts

## product function

• mirror contact according to IEC 60947-4-1

• at AWG cables for auxiliary contacts

AWG number as coded connectable conductor cross

• positively driven operation according to IEC 60947-

5-1

section

B10 value with high demand rate according to SN 31920 T1 value for proof test interval or service life according to IEC 61508

Yes

18 ... 14

2x (20 ... 16), 2x (18 ... 14), 1x 12

No

1 000 000 20 y

protection class IP on the front according to IEC 60529

touch protection on the front according to IEC 60529 suitability for use

• safety-related switching OFF

IP00; IP20 with box terminal/cover

finger-safe, for vertical contact from the front with box terminal/cover

No

Certificates/ approvals

## **General Product Approval**



Confirmation





<u>KC</u>



EMC	Functional Safety/Safety of Machinery	Declaration of Conformity		Test Certificates	
$\wedge$	Type Examination Certificate	UK	CE	Type Test Certificates/Test Report	Special Test Certific- ate

Marine / Shipping









other

Miscellaneous Confirmation

other	Railway

<u>Miscellaneous</u> <u>Vibration and Shock</u> <u>Special Test Certificate</u>

## **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=3RT1054-6LA06

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT1054-6LA06

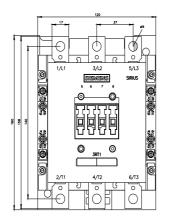
Service&Support (Manuals, Certificates, Characteristics, FAQs,...) <a href="https://support.industry.siemens.com/cs/ww/en/ps/3RT1054-6LA06">https://support.industry.siemens.com/cs/ww/en/ps/3RT1054-6LA06</a>

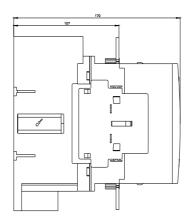
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)

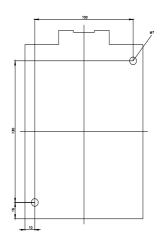
http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=3RT1054-6LA06&lang=en

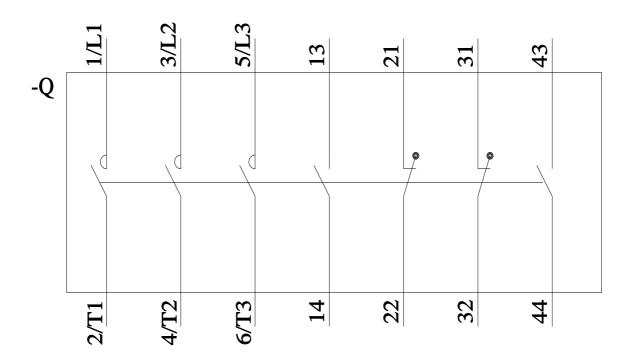
Further characteristics (e.g. electrical endurance, switching frequency)

http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT1054-6LA06&objecttype=14&gridview=view1









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