SIEMENS

Data sheet 3RT1056-6LA06



Power contactor, AC-3 185 A, 90 kW / 400 V without coil Auxiliary contacts 2 NO + 2 NC 3-pole, Size S6 Busbar connections Drive: conventional Auxiliary conductor: Screw terminals

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 	39 W
 at AC in hot operating state per pole 	13 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 safe isolation between coil and main contacts acc. 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 (switching 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 acc. to IEC 81346-2	Q
Substance Prohibitance (Date)	01.05.2012
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 acc. to IEC 60068-2-30 maximum	95 %
Main circuit	
	3
number of poles for main current circuit number of NO contacts for main contacts	3
	3
operating voltage ● at AC-3 rated value maximum	1 000 V
 operational current at AC-1 at 400 V at ambient temperature 40 °C rated value 	215 A
• at AC-1	
 up to 690 V at ambient temperature 40 °C rated value 	215 A
 up to 690 V at ambient temperature 60 °C rated value 	185 A
 up to 1000 V at ambient temperature 40 °C rated value 	100 A
 up to 1000 V at ambient temperature 60 °C rated value at AC-3 	100 A
— at 400 V rated value	185 A
— at 400 V rated value — at 500 V rated value	185 A
— at 500 V rated value — at 690 V rated value	170 A
— at 1000 V rated value	65 A
at AC-4 at 400 V rated value	160 A
• at AC-5a up to 690 V rated value	189 A
• at AC-5b up to 400 V rated value	153 A
• at AC-6a	
up to 230 V for current peak value n=20 rated value	157 A
 up to 400 V for current peak value n=20 rated value 	157 A
 up to 500 V for current peak value n=20 rated value 	157 A
 up to 690 V for current peak value n=20 rated value 	157 A
 up to 1000 V for current peak value n=20 rated value 	65 A
• at AC-6a	
 up to 230 V for current peak value n=30 rated value 	105 A
— up to 400 V for current peak value n=30 rated value	105 A
— up to 500 V for current peak value n=30 rated value	105 A
— up to 690 V for current peak value n=30 rated value	105 A
— up to 1000 V for current peak value n=30 rated value	65 A
minimum cross-section in main circuit at maximum AC-1 rated value	95 mm²
operational current for approx. 200000 operating cycles at AC-4	
• at 400 V rated value	81 A
at 690 V rated value	65 A
operational current	
• at 1 current path at DC-1	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	400.4
— 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	55 kW
— at 400 V rated value	90 kW
— at 500 V rated value	132 kW
— at 690 V rated value	160 kW
— at 1000 V rated value	90 kW
operating power for approx. 200000 operating cycles	
at AC-4	
 at 400 V rated value 	45 kW
at 690 V rated value	65 kW
operating apparent power at AC-6a	
• up to 230 V for current peak value n=20 rated value	60 000 kVA
• up to 400 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 690 V for current peak value n=20 rated value	180 000 VA
• up to 1000 V for current peak value n=20 rated	110 000 VA
value	
 operating apparent power at AC-6a up to 230 V for current peak value n=30 rated value 	40 000 VA
 up to 250 V for current peak value n=30 rated value up to 400 V for current peak value n=30 rated value 	70 000 VA
 up to 400 V for current peak value n=30 rated value up to 500 V for current peak value n=30 rated value 	90 000 VA
	120 000 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 	110 000 VA
short-time withstand current in cold operating state up to 40 °C	
 limited to 1 s switching at zero current maximum 	2 900 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 5 s switching at zero current maximum 	2 084 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 10 s switching at zero current maximum 	1 480 A; Use minimum cross-section acc. to AC-1 rated value
limited to 30 s switching at zero current maximum	968 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 60 s switching at zero current maximum 	801 A; Use minimum cross-section acc. to AC-1 rated value
no-load switching frequency	

a at AC	2,000,1/b
• at AC	2 000 1/h
• at DC	2 000 1/h
operating frequency	800 1/h
• at AC-2 maximum	
• at AC-2 maximum	300 1/h
• at AC-3 maximum	750 1/h
at AC-4 maximum	130 1/h
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	
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	180 A
at 600 V rated value	192 A
yielded mechanical performance [hp]	
for single-phase AC motor	
— at 230 V rated value	30 hp
• for 3-phase AC motor	
— at 200/208 V rated value	60 hp
— at 220/230 V rated value	75 hp
— at 460/480 V rated value	150 hp
— at 575/600 V rated value	200 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	
The state of the state of the month of the state of the s	

— with type of coordination 1 required— with type of assignment 2 required	gG: 355 A (690 V, 100 kA) gG: 315 A (690 V, 100 kA), aM: 200 A (690 V, 50 kA), BS88: 315 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
	10 mm
— upwards	
— 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 	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 mm ²
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 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)
at AWG cables for auxiliary contacts	2x (20 16), 2x (18 14), 1x 12
AWG number as coded connectable conductor cross section	
for auxiliary contacts	18 14
Safety related data	
product function	
mirror contact acc. to IEC 60947-4-1	Yes
• positively driven operation acc. to IEC 60947-5-1	No
- positively driver operation acc. to IEO 00341-3-1	110

B10 value with high demand rate acc. to SN 31920	1 000 000
protection class IP on the front acc. to IEC 60529	IP00; IP20 with box terminal/cover
touch protection on the front acc. to IEC 60529	finger-safe, for vertical contact from the front with box terminal/cover
suitability for use	
 safety-related switching OFF 	No

Certificates/ approvals

General Product Approval





Confirmation



<u>KC</u>



Functional
Safety/Safety of
Machinery

Declaration of Conformity

Test Certificates



Type Examination Certificate



UK Declaration of Conformity Special Test Certificate

Type Test Certificates/Test Report

Marine / Shipping









Confirmation

other

Miscellaneous

other Railway

Miscellaneous Special Test Certific-

<u>ate</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=3RT1056-6LA06

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT1056-6LA06

Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

https://support.industry.siemens.com/cs/ww/en/ps/3RT1056-6LA06

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

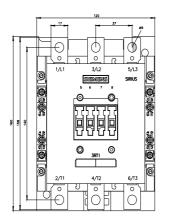
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT1056-6LA06&lang=en

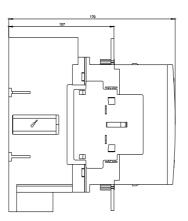
Characteristic: Tripping characteristics, I2t, Let-through current

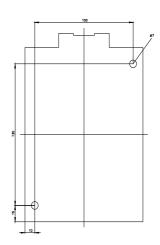
https://support.industry.siemens.com/cs/ww/en/ps/3RT1056-6LA06/char

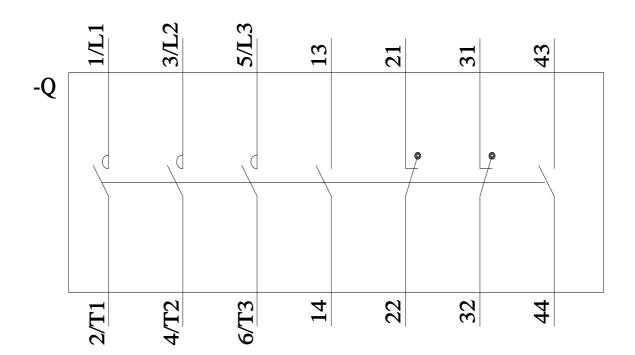
Further characteristics (e.g. electrical endurance, switching frequency)

http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT1056-6LA06&objecttype=14&gridview=view1









last modified: 12/23/2021 🖸