SIEMENS

Data sheet 3RT1066-6LA06



Power contactor, AC-3 300 A, 160 kW / 400 V without coil Auxiliary contacts 2 NO + 2 NC 3-pole, Size S10 Main conductor: 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	S10	
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 	66 W	
 at AC in hot operating state per pole 	22 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		

maximum	95 %
lain 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
operational current	
 at AC-1 at 400 V at ambient temperature 40 °C rated value 	330 A
• at AC-1	
— up to 690 V at ambient temperature 40 °C rated value	330 A
— up to 690 V at ambient temperature 60 °C rated value	300 A
— up to 1000 V at ambient temperature 40 °C rated value	150 A 150 A
 up to 1000 V at ambient temperature 60 °C rated value at AC-3 	150 A
— at 400 V rated value	300 A
— at 500 V rated value	300 A
— at 690 V rated value	280 A
— at 1000 V rated value	95 A
at AC-4 at 400 V rated value	280 A
at AC-5a up to 690 V rated value	290 A
at AC-5b up to 400 V rated value	249 A
• at AC-6a	24071
up to 230 V for current peak value n=20 rated value	292 A
— up to 400 V for current peak value n=20 rated value	292 A
 up to 500 V for current peak value n=20 rated value 	292 A
— up to 690 V for current peak value n=20 rated value	280 A
 up to 1000 V for current peak value n=20 rated value at AC-6a 	95 A
— up to 230 V for current peak value n=30 rated	195 A
value — up to 400 V for current peak value n=30 rated	195 A
value — up to 500 V for current peak value n=30 rated	195 A
value — up to 690 V for current peak value n=30 rated value	195 A
up to 1000 V for current peak value n=30 rated value	95 A
minimum cross-section in main circuit at maximum AC-1 rated value	185 mm²
operational current for approx. 200000 operating cycles at AC-4	405.4
• at 400 V rated value	125 A
at 690 V rated value	115 A
operational current	
• at 1 current path at DC-1	
— at 24 V rated value	300 A
— at 110 V rated value	33 A
— at 220 V rated value	3.8 A
— at 440 V rated value	0.9 A
— at 600 V rated value	0.6 A
with 2 current paths in series at DC-1	
— at 24 V rated value	300 A

— at 110 V rated value	300 A
— at 220 V rated value	300 A
— at 440 V rated value	4 A
— at 600 V rated value	2 A
with 3 current paths in series at DC-1	
— at 24 V rated value	300 A
— at 110 V rated value	300 A
— at 220 V rated value	300 A
— at 440 V rated value	11 A
— at 600 V rated value	5.2 A
 at 1 current path at DC-3 at DC-5 	
— at 24 V rated value	300 A
— at 110 V rated value	3 A
— at 220 V rated value	0.6 A
— at 440 V rated value	0.18 A
— at 600 V rated value	0.125 A
 with 2 current paths in series at DC-3 at DC-5 	
— at 24 V rated value	300 A
— at 110 V rated value	300 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	300 A
— at 110 V rated value	300 A
— at 220 V rated value	300 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	90 kW
— at 400 V rated value	160 kW
— at 500 V rated value	200 kW
— at 690 V rated value	250 kW
— at 1000 V rated value	132 kW
operating power for approx. 200000 operating cycles at AC-4	
• at 400 V rated value	71 kW
at 690 V rated value	112 kW
operating apparent power at AC-6a	
• up to 230 V for current peak value n=20 rated value	110 000 kVA
• up to 400 V for current peak value n=20 rated value	200 000 VA
• up to 500 V for current peak value n=20 rated value	250 000 VA
• up to 690 V for current peak value n=20 rated value	330 000 VA
up to 1000 V for current peak value n=20 rated value	160 000 VA
operating apparent power at AC-6a	
• up to 230 V for current peak value n=30 rated value	70 000 VA
• up to 400 V for current peak value n=30 rated value	130 000 VA
• up to 500 V for current peak value n=30 rated value	160 000 VA
• up to 690 V for current peak value n=30 rated value	230 000 VA
up to 1000 V for current peak value n=30 rated value	160 000 VA
short-time withstand current in cold operating state up to 40 °C	
 limited to 1 s switching at zero current maximum 	5 524 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 5 s switching at zero current maximum 	4 579 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 10 s switching at zero current maximum 	3 153 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 30 s switching at zero current maximum 	1 883 A; Use minimum cross-section acc. to AC-1 rated value
limited to 60 s switching at zero current maximum	1 445 A; Use minimum cross-section acc. to AC-1 rated value
no-load switching frequency	

a at AC	2 000 4/h
• at AC	2 000 1/h
at DC appreting frequency	2 000 1/h
operating frequency ● at AC-1 maximum	750.1/b
at AC-1 maximum at AC-2 maximum	750 1/h 250 1/h
at AC-2 maximum at AC-3 maximum	500 1/h
at AC-3 maximum at AC-4 maximum	130 1/h
Control circuit/ Control	100 1/11
	AC/DC
type of voltage of the control supply voltage closing delay	AOIDO
• at AC	30 95 ms
• at DC	30 95 ms
opening delay	
• at AC	40 80 ms
• at DC	40 80 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	2
instantaneous contact	
number of NO contacts for auxiliary contacts	2
instantaneous contact	40.4
operational current at AC-12 maximum	10 A
operational current at AC-15	6.0
at 230 V rated value at 400 V rated value	6 A
 at 400 V rated value at 500 V rated value 	3 A 2 A
at 500 V rated value at 690 V rated value	1 A
operational current at DC-12	171
• at 24 V rated value	10 A
at 48 V rated value	6 A
at 60 V rated value at 60 V rated value	6 A
at 110 V rated value 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	302 A
• at 600 V rated value	289 A
yielded mechanical performance [hp]	
 for 3-phase AC motor 	
 — at 200/208 V rated value 	100 hp
— at 220/230 V rated value	125 hp
— at 460/480 V rated value	250 hp
— at 575/600 V rated value	300 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: 500 A (690 V, 100 kA)

— with type of assignment 2 required	gG: 400 A (690 V, 100 kA), aM: 315 A (690 V, 50 kA), BS88: 400 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	210 mm
width	145 mm
depth	202 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 	screw-type terminals
 at contactor for auxiliary contacts 	Screw-type terminals
of magnet coil	Screw-type terminals
width of connection bar	25 mm
thickness of connection bar	6 mm
diameter of holes	11 mm
number of holes	1
type of connectable conductor cross-sections	
at AWG cables for main contacts	2/0 500 kcmil
connectable conductor cross-section for main	
contacts	70 0402
stranded connectable conductor cross-section for auxiliary	70 240 mm ²
contacts	
solid or stranded	0.5 4 mm²
finely stranded with core end processing	0.5 2.5 mm ²
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
P10 value with high domand rate age, to SN 21020	1,000,000

B10 value with high demand rate acc. to SN 31920

1 000 000

protection class IP on the front acc. to IEC 60529

touch protection on the front acc. 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>



Functional
Safety/Safety of Declaration of Conformity
Machinery

Test Certificates



Type Examination Certificate



UK Declaration of Conformity Special Test Certificate

Type Test Certificates/Test Report

Marine / Shipping other









Confirmation

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=3RT1066-6LA06

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT1066-6LA06

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

https://support.industry.siemens.com/cs/ww/en/ps/3RT1066-6LA06

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

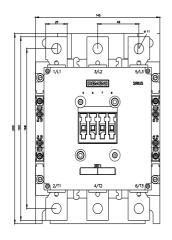
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT1066-6LA06&lang=en

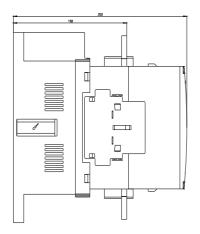
Characteristic: Tripping characteristics, I2t, Let-through current

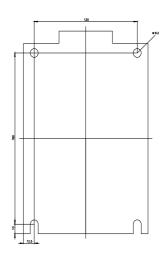
https://support.industry.siemens.com/cs/ww/en/ps/3RT1066-6LA06/char

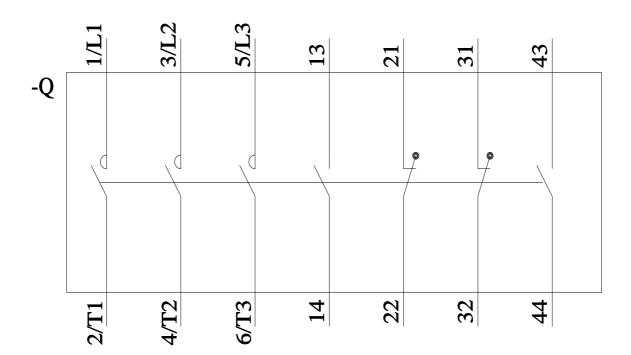
Further characteristics (e.g. electrical endurance, switching frequency)

http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT1066-6LA06&objecttype=14&gridview=view1









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