SIEMENS

Data sheet

3RT1066-6AF36-3PA0



power contactor, AC-3e/AC-3 300 A, 160 kW / 400 V, AC (50-60 Hz) / DC Uc: 110-127 V 3-pole, auxiliary contacts 2 NO + 2 NC permanently mounted 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	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
 without load current share typical 	7.4 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
SVHC substance name	Blei - 7439-92-1
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	95 %

maximum	
lain circuit	
number of poles for main current circuit	3
number of NO contacts for main contacts	3
operating voltage	
	1 000 \/
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 	330 A
• at AC-1	
— up to 690 V at ambient temperature 40 $^\circ\mathrm{C}$ 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 $^\circ\mathrm{C}$ rated value	150 A
— up to 1000 V at ambient temperature 60 $^\circ\mathrm{C}$ rated value	150 A
• at AC-3	
— 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-3e	
— 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	
 — 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	95 A
• at AC-6a	
— up to 230 V for current peak value n=30 rated value	195 A
 — up to 400 V for current peak value n=30 rated value 	195 A
 — up to 500 V for current peak value n=30 rated value 	195 A
 — 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
ninimum cross-section in main circuit at maximum AC-1 rated value	185 mm²
 operational current for approx. 200000 operating cycles at AC-4 • at 400 V rated value 	125 A
at 400 V rated value at 690 V rated value	125 A 115 A
• at 690 v rated value	
at 1 current path at DC-1	
-	300 A
— at 24 V rated value	300 A
— at 60 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 60 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 60 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 60 V rated value	11 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 60 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 60 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-2 at 400 V rated value	160 kW
• 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
• at AC-3e	
— 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
Imited to 1 s switching at zero current maximum	4 579 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 5 s switching at zero current maximum limited to 10 s switching at zero current maximum 	
Ū Ū	3 153 A; Use minimum cross-section acc. to AC-1 rated value
Imited to 30 s switching at zero current maximum	1 883 A; Use minimum cross-section acc. to AC-1 rated value
Imited 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	0.000.4#
• at AC	2 000 1/h
• at DC	2 000 1/h
operating frequency	750.4%
• at AC-1 maximum	750 1/h
• at AC-2 maximum	250 1/h
• at AC-3 maximum	500 1/h
• at AC-3e maximum	500 1/h
• at AC-4 maximum	130 1/h
Control circuit/ Control	10/00
type of voltage of the control supply voltage	AC/DC
control supply voltage at AC	440 407.14
• at 50 Hz rated value	110 127 V
at 60 Hz rated value	110 127 V
control supply voltage at DC	
rated value	110 127 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
design of the surge suppressor	with varistor
apparent pick-up power	
 at minimum rated control supply voltage at AC 	
— at 50 Hz	490 VA
— at 60 Hz	490 VA
 at maximum rated control supply voltage at AC 	
— at 60 Hz	590 VA
— at 50 Hz	590 VA
apparent pick-up power of magnet coil at AC	
• at 50 Hz	590 VA
• at 60 Hz	590 VA
inductive power factor with closing power of the coil	
• at 50 Hz	0.9
• at 60 Hz	0.9
apparent holding power	
 at minimum rated control supply voltage at DC 	6.1 VA
 at maximum rated control supply voltage at DC 	7.4 VA
apparent holding power	
 at minimum rated control supply voltage at AC 	
— at 50 Hz	5.6 VA
— at 60 Hz	5.6 VA
 at maximum rated control supply voltage at AC 	
— at 50 Hz	6.7 VA
— at 60 Hz	6.7 VA
apparent holding power of magnet coil at AC	
• at 50 Hz	6.7 VA
• at 60 Hz	6.7 VA
inductive power factor with the holding power of the coil	
• at 50 Hz	0.9
• at 60 Hz	0.9
closing power of magnet coil at DC	650 W

holding power of magnet coil at DC	7.4 W
closing delay	
• 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	Standard A1 - A2
Auxiliary circuit	
number of NC contacts for auxiliary contacts instantaneous	2
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	1A
operational current at DC-12	
at 24 V rated value	10.4
	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	302 A
at 460 V rated value at 600 V rated value	289 A
	200 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
 for short-circuit protection of the auxiliary switch required 	KA) 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
-	Yes
 side-by-side mounting 	100
haight	210 mm
height	210 mm 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		
	0 mm		
for grounded parts	20 mm		
— 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		
connectable conductor cross-section for main contacts			
stranded	70 240 mm²		
connectable conductor cross-section for auxiliary contacts			
solid or stranded	0.5 4 mm²		
 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 mm ²), 2x (0,75 2,5 mm ²), max. 2x (0,75 4 mm ²)		
— finely stranded with core end processing	2x (0,5 1,5 mm ²), 2x (0,75 2,5 mm ²)		
• for 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 according to IEC 60947-4-1	Yes		
 positively driven operation according to IEC 60947-5-1 	No		
suitability for use safety-related switching OFF	Yes		
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	20 a		
61508	20 a		
protection class IP on the front according to IEC 60529	IP00; IP20 with box terminal/cover		
touch protection on the front according to IEC 60529	finger-safe, for vertical contact from the front with box terminal/cover		
Certificates/ approvals			
General Product Approval			
Constant rounde Approval			
EMC Functional Declaration of Ma-	of Conformity Test Certificates		

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	chinery				
RCM	<u>Type Examination Cer-</u> <u>tificate</u>	UK CA	CE EG-Konf.	<u>Type Test Certific-</u> ates/Test Report	<u>Special Test Certific-</u> <u>ate</u>
Test Certificates	Marine / Shipping				
<u>Miscellaneous</u>	ABS	Llovd's Register Lirs	PRS	KMRS	DNV-GL ENVILCONSE
other				Railway	
<u>Confirmation</u>	<u>Miscellaneous</u>	<u>Confirmation</u>	<u>Miscellaneous</u>	<u>Special Test Certific-</u> <u>ate</u>	

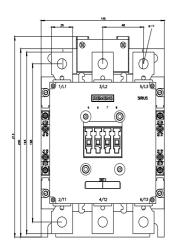
https://press.siemens.com/global/en/pressrelease/siemens-wind-down-russian-business
Siemens is working on the renewal of the current EAC certificates.
Please contact your local Siemens office on the status of validity of the EAC certification if you intend to import or offer to supply these products 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,)
https://www.siemens.com/ic10
Industry Mall (Online ordering system)
https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RT1066-6AF36-3PA0
Cax online generator
http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT1066-6AF36-3PA0
Service&Support (Manuals, Certificates, Characteristics, FAQs,)
https://support.industry.siemens.com/cs/ww/en/ps/3RT1066-6AF36-3PA0
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros,)
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT1066-6AF36-3PA0⟨=en

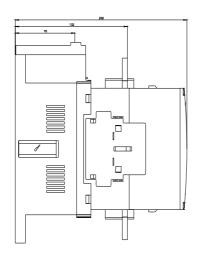
Siemens has decided to exit the Russian market (see here).

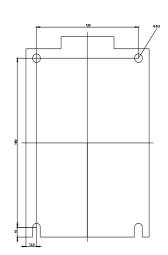
Characteristic: Tripping characteristics, I²t, Let-through current https://support.industry.siemens.com/cs/ww/en/ps/3RT1066-6AF36-3PA0/char

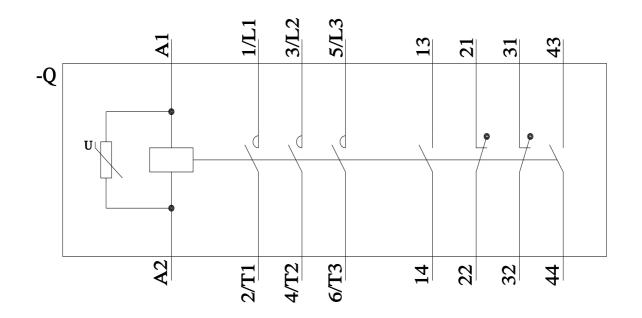
Further characteristics (e.g. electrical endurance, switching frequency)

http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT1066-6AF36-3PA0&objecttype=14&gridview=view1









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