## 3RT1066-6AB36-3PA0

**Data sheet** 



power contactor, AC-3e/AC-3 300 A, 160 kW / 400 V, AC (50-60 Hz) / DC Uc: 23-26 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	
<ul> <li>function module for communication</li> </ul>	No
auxiliary switch	Yes
power loss [W] for rated value of the current	
<ul> <li>at AC in hot operating state</li> </ul>	66 W
<ul> <li>at AC in hot operating state per pole</li> </ul>	22 W
<ul> <li>without load current share typical</li> </ul>	7.4 W
type of calculation of power loss depending on pole	quadratic
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	
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
<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	Lead - 7439-92-1
Weight	6.599 kg
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 maximum	95 %
fain 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	
<ul> <li>at AC-1 at 400 V at ambient temperature 40 °C rated</li> </ul>	330 A
value	
• at AC-1	
<ul> <li>up to 690 V at ambient temperature 40 °C rated value</li> </ul>	330 A
— up to 690 V at ambient temperature 60 $^{\circ}\text{C}$ rated value	300 A
— up to 1000 V at ambient temperature 40 $^{\circ}\text{C}$ rated value	150 A
— up to 1000 V at ambient temperature 60 °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 5a up to 600 V rated value	280 A 290 A
<ul> <li>at AC-5a up to 690 V rated value</li> <li>at AC-5b up to 400 V rated value</li> </ul>	249 A
at AC-5b up to 400 V rated value     at AC-6a	249 A
— 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	95 A
value	
• 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
<ul> <li>up to 1000 V for current peak value n=30 rated value</li> </ul>	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     at 600 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 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 Verted value.	200 A
— 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	200 A
— at 24 V rated value	300 A 11 A
<ul><li>— at 60 V rated value</li><li>— at 220 V rated value</li></ul>	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	0.12071
— 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
<ul> <li>with 3 current paths in series at DC-3 at DC-5</li> </ul>	
— 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	00 NW
— at 230 V rated value	90 kW 160 kW
<ul><li>— at 400 V rated value</li><li>— at 500 V rated value</li></ul>	
— at 500 V rated value  — at 690 V rated value	200 kW 250 kW
— at 1000 V rated value	132 kW
operating power for approx. 200000 operating cycles at AC-	IOZ RVV
4	
• at 400 V rated value	71 kW
at 690 V rated value	112 kW
operating apparent power at AC-6a	440,000 1374
• 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
<ul> <li>up to 500 V for current peak value n=20 rated value</li> <li>up to 690 V for current peak value n=20 rated value</li> </ul>	250 000 VA 330 000 VA
<ul> <li>up to 690 V for current peak value n=20 rated value</li> <li>up to 1000 V for current peak value n=20 rated value</li> </ul>	160 000 VA
operating apparent power at AC-6a	100 000 471
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
•	

	100 000 \
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
Ilmited to 1 s switching at zero current maximum     Imited to 5 s switching at zero current maximum	4 579 A; Use minimum cross-section acc. to AC-1 rated value
Ilmited to 5 s switching at zero current maximum     Imited to 10 s switching at zero current maximum	3 153 A; Use minimum cross-section acc. to AC-1 rated value
Ilmited to 10's switching at zero current maximum     Imited to 30's switching at zero current maximum	1 883 A; Use minimum cross-section acc. to AC-1 rated value
-	
Ilmited 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	2.000 1/h
• at AC	2 000 1/h
• at DC	2 000 1/h
operating frequency	750.1/b
• 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	ACIDO
type of voltage of the control supply voltage	AC/DC
control supply voltage at AC	22 26 V
at 50 Hz rated value	23 26 V
at 60 Hz rated value	23 26 V
control supply voltage at DC rated value	23 26 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
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	00 00 III3
at AC	40 80 ms
• at DC	40 80 ms
	10 15 ms
arcing time  control version of the switch operating mechanism	Standard A1 - A2
Auxiliary circuit	Statituaru AT - AZ
	lateral, permanently connected
design of the auxiliary switch	lateral, permanently connected
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
<ul><li>at 110 V rated value</li></ul>	1 A
<ul> <li>at 125 V rated value</li> </ul>	0.9 A
<ul> <li>at 220 V rated value</li> </ul>	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	
<ul> <li>at 480 V rated value</li> </ul>	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	
<ul> <li>— with type of coordination 1 required</li> </ul>	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 side-by-side mounting	Yes
fastening method	screw fixing
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
<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
for auxiliary and control circuit	screw-type terminals
at contactor for auxiliary contacts	Screw-type terminals Screw-type terminals
of magnet coil	Screw-type terminals Screw-type terminals
width of connection bar	25 mm
	6 mm
thickness of connection bar	6 mm 11 mm
diameter of holes	
number of holes	1
type of connectable conductor cross-sections	0/0 700 / "
for AWG cables for main contacts	2/0 500 kcmil
connectable conductor cross-section for main contacts	
stranded	70 240 mm²
connectable conductor cross-section for auxiliary contacts	
<ul> <li>solid or stranded</li> </ul>	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)
<ul><li>— solid or stranded</li></ul>	2x (0,5 1,5 mm²), 2x (0,75 2,5 mm²), max. 2x (0,75 4 mm²)
<ul> <li>finely stranded with core end processing</li> </ul>	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	
section	40
for auxiliary contacts	18 14
Safety related data	
product function	
<ul> <li>mirror contact according to IEC 60947-4-1</li> </ul>	Yes
<ul> <li>positively driven operation according to IEC 60947-5-1</li> </ul>	No
suitable for safety function	Yes
suitability for use safety-related switching OFF	Yes
service life maximum	20 a
test wear-related service life necessary	Yes
proportion of dangerous failures	
<ul> <li>with low demand rate according to SN 31920</li> </ul>	40 %
<ul> <li>with high demand rate according to SN 31920</li> </ul>	73 %
B10 value with high demand rate according to SN 31920	1 000 000
failure rate [FIT] with low demand rate according to SN	100 FIT
31920	
100 100 10	
ISO 13849	
device type according to ISO 13849-1	3
	3 Yes
device type according to ISO 13849-1	
device type according to ISO 13849-1 overdimensioning according to ISO 13849-2 necessary	

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

Approvals Certificates

## **General Product Approval**







Confirmation



<u>KC</u>

General Product Approval

EMV

**Functional Saftey** 

**Test Certificates** 





Type Examination Certificate

Special Test Certificate

Type Test Certificates/Test Report

**Miscellaneous** 

Marine / Shipping











**Miscellaneous** 

other

other

Railway

**Environment** 

Confirmation

**Miscellaneous** 

Confirmation

Special Test Certificate

Environmental Confirmations

## **Further information**

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=3RT1066-6AB36-3PA0

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT1066-6AB36-3PA0

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

https://support.industry.siemens.com/cs/ww/en/ps/3RT1066-6AB36-3PA0

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

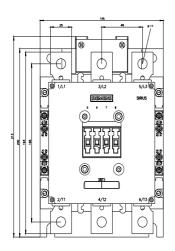
http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=3RT1066-6AB36-3PA0&lang=en

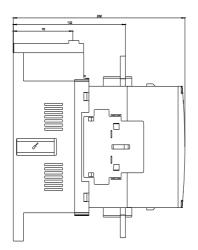
Characteristic: Tripping characteristics, I2t, Let-through current

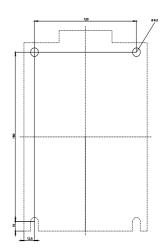
https://support.industry.siemens.com/cs/ww/en/ps/3RT1066-6AB36-3PA0/char

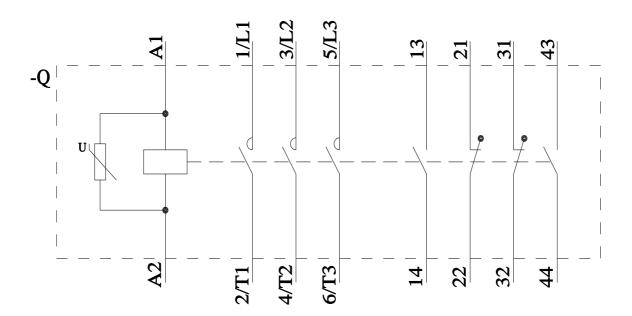
Further characteristics (e.g. electrical endurance, switching frequency)

http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT1066-6AB36-3PA0&objecttype=14&gridview=view1









last modified:

