## **SIEMENS**

Data sheet 3RT1076-6NP36



power contactor, AC-3e/AC-3 500 A, 250 kW / 400 V AC (50-60 Hz) / DC Uc: 200-277 V PLC input 24 V DC 3-pole, auxiliary contacts 2 NO + 2 NC drive: electronic 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	S12
product extension	
<ul> <li>function module for communication</li> </ul>	No
auxiliary switch	Yes
power loss [W] for rated value of the current	
at AC in hot operating state	165 W
<ul> <li>at AC in hot operating state per pole</li> </ul>	55 W
<ul> <li>without load current share typical</li> </ul>	3.6 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)	
<ul> <li>of contactor typical</li> </ul>	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)	
SVHC substance name	Lead - 7439-92-1
Weight	10.26 kg
mbient conditions	
installation altitude at height above sea level maximum	2 000 m
ambient temperature	
<ul> <li>during operation</li> </ul>	-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 %
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
at AC-3e rated value maximum	1 000 V
operational current	
<ul> <li>at AC-1 at 400 V at ambient temperature 40 °C rated</li> </ul>	610 A
value	
• at AC-1	
<ul> <li>up to 690 V at ambient temperature 40 °C rated value</li> </ul>	610 A
— up to 690 V at ambient temperature 60 $^{\circ}\text{C}$ rated value	550 A
— up to 1000 V at ambient temperature 40 $^{\circ}\text{C}$ rated value	200 A
— up to 1000 V at ambient temperature 60 $^{\circ}\text{C}$ rated value	200 A
• at AC-3	
— at 400 V rated value	500 A
— at 500 V rated value	500 A
— at 690 V rated value	450 A
<ul><li>— at 1000 V rated value</li><li>• at AC-3e</li></ul>	180 A
— at 400 V rated value	500 A
— at 500 V rated value	500 A
— at 690 V rated value	450 A
— at 1000 V rated value	180 A
<ul> <li>at AC-4 at 400 V rated value</li> </ul>	430 A
<ul> <li>at AC-5a up to 690 V rated value</li> </ul>	536 A
<ul> <li>at AC-5b up to 400 V rated value</li> </ul>	415 A
• at AC-6a	
— up to 230 V for current peak value n=20 rated value	414 A
<ul> <li>up to 400 V for current peak value n=20 rated value</li> </ul>	414 A
<ul> <li>up to 500 V for current peak value n=20 rated value</li> </ul>	414 A
<ul> <li>up to 690 V for current peak value n=20 rated value</li> </ul>	414 A
<ul> <li>up to 1000 V for current peak value n=20 rated value</li> </ul>	180 A
• at AC-6a	
— up to 230 V for current peak value n=30 rated value	276 A
— up to 400 V for current peak value n=30 rated value	276 A
— up to 500 V for current peak value n=30 rated value	276 A
— up to 690 V for current peak value n=30 rated value	276 A
— up to 1000 V for current peak value n=30 rated value	180 A
minimum cross-section in main circuit at maximum AC-1 rated value	370 mm²
operational current for approx. 200000 operating cycles at AC-4	
• at 400 V rated value	175 A
at 690 V rated value	150 A
operational current	
at 1 current path at DC-1	
— at 24 V rated value	400 A
— at 60 V rated value	330 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
<ul> <li>with 2 current paths in series at DC-1</li> </ul>	
— at 24 V rated value	400 A

at CO V rated value	400 A
— at 60 V rated value	400 A
— at 110 V rated value	400 A
— at 220 V rated value	400 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	400 A
— at 60 V rated value	400 A
— at 110 V rated value	400 A
— at 220 V rated value	400 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	400 A
— at 24 V rated value	400 A
— at 60 V rated value	11 A
— at 220 V rated value	0.6 A
— at 440 V rated value  — at 600 V rated value	0.18 A 0.125 A
with 2 current paths in series at DC-3 at DC-5	0.125 A
— at 24 V rated value	400 A
— at 24 V rated value  — at 60 V rated value	400 A
— at 100 V rated value  — at 110 V rated value	400 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	0.01 A
— at 24 V rated value	400 A
— at 60 V rated value	400 A
— at 110 V rated value	400 A
— at 220 V rated value	400 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	160 kW
— at 400 V rated value	250 kW
— at 500 V rated value	315 kW
— at 690 V rated value	400 kW
— at 1000 V rated value	250 kW
• at AC-3e	
— at 230 V rated value	160 kW
— at 400 V rated value	250 kW
— at 500 V rated value	315 kW
— at 690 V rated value	400 kW
— at 1000 V rated value	250 kW
operating power for approx. 200000 operating cycles at AC-	
at 400 V rated value	98 kW
at 400 V rated value     at 690 V rated value	148 kW
operating apparent power at AC-6a	170 KW
• up to 230 V for current peak value n=20 rated value	160 000 kVA
up to 400 V for current peak value n=20 rated value	280 000 VA
<ul> <li>up to 500 V for current peak value n=20 rated value</li> </ul>	350 000 VA
up to 690 V for current peak value n=20 rated value  up to 690 V for current peak value n=20 rated value	490 000 VA
up to 1000 V for current peak value n=20 rated value  up to 1000 V for current peak value n=20 rated value	310 000 VA
operating apparent power at AC-6a	
up to 230 V for current peak value n=30 rated value	110 000 VA
up to 400 V for current peak value n=30 rated value	190 000 VA
• up to 500 V for current peak value n=30 rated value	230 000 VA
<ul> <li>up to 690 V for current peak value n=30 rated value</li> </ul>	330 000 VA
<ul> <li>up to 1000 V for current peak value n=30 rated value</li> </ul>	310 000 VA
·	

short-time withstand current in cold operating state up to 40 °C	
limited to 1 s switching at zero current maximum	7 484 A; Use minimum cross-section acc. to AC-1 rated value
limited to 1 s switching at zero current maximum	7 484 A; Use minimum cross-section acc. to AC-1 rated value
limited to 3 s switching at zero current maximum	5 978 A; Use minimum cross-section acc. to AC-1 rated value
limited to 10 3 switching at zero current maximum     limited to 30 s switching at zero current maximum	3 765 A; Use minimum cross-section acc. to AC-1 rated value
limited to 50 s switching at zero current maximum     limited to 60 s switching at zero current maximum	2 887 A; Use minimum cross-section acc. to AC-1 rated value
no-load switching frequency	2 007 A, USE IIIIIIIIIIIII CIUSS-SECLIUII acc. tu AO-1 fateu value
• at AC	1 000 1/h
• at DC	1 000 1/h
operating frequency	1 000 1/11
at AC-1 maximum	500 1/h
• at AC-1 maximum	170 1/h
• at AC-3 maximum	420 1/h
at AC-3 maximum     at AC-3e maximum	420 1/h
• at AC-4 maximum	130 1/h
Control circuit/ Control	40/00
type of voltage of the control supply voltage	AC/DC
control supply voltage at AC	000 077.1/
at 50 Hz rated value	200 277 V
at 60 Hz rated value	200 277 V
control supply voltage at DC rated value	200 277 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
type of PLC-control input according to IEC 60947-1	Type 2
consumed current at PLC-control input according to IEC 60947-1 maximum	20 mA
voltage at PLC-control input rated value	24 V
operating range factor of the voltage at PLC-control input	0.8 1.1
design of the surge suppressor	with varistor
apparent pick-up power	Will Validio
at minimum rated control supply voltage at AC	
— at 50 Hz	560 VA
— at 60 Hz	560 VA
at maximum rated control supply voltage at AC	330 171
— at 60 Hz	750 VA
— at 50 Hz	750 VA 750 VA
apparent pick-up power of magnet coil at AC	100 VA
at 50 Hz	750 VA
• at 50 Hz	750 VA 750 VA
inductive power factor with closing power of the coil	100 VA
at 50 Hz	0.8
• at 50 Hz	0.8
apparent holding power	V.U
at minimum rated control supply voltage at DC	3 VA
at minimum rated control supply voltage at DC     at maximum rated control supply voltage at DC	3.6 VA
	V.V VA
apparent holding power	
at minimum rated control supply voltage at AC     t 50 Hz	5 G VA
— at 50 Hz	5.6 VA
— at 60 Hz	5.6 VA
at maximum rated control supply voltage at AC	0.1/4
— at 50 Hz	9 VA
— at 60 Hz	9 VA
inductive power factor with the holding power of the coil	
• at 50 Hz	0.5
at 60 Hz	0.4

closing newer of magnet sail at DC	900 W
closing power of magnet coil at DC	800 W
holding power of magnet coil at DC	3.6 W
closing delay  • at AC	60 90 ms
• at DC	60 90 ms
opening delay	60 90 IIIS
• at AC	80 100 ms
• at DC	80 100 ms
arcing time	10 15 ms
control version of the switch operating mechanism	PLC-IN or Standard A1 - A2 (adjustable)
Auxiliary circuit	1 EO-IN OF Standard AT - AZ (adjustable)
number of NC contacts for auxiliary contacts instantaneous	2
contact	
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	1.4
at 600 V rated value	0.15 A
operational current at DC-13	40.4
at 24 V rated value	10 A
at 48 V rated value	2 A
at 60 V rated value     at 110 V rated value	2 A
at 110 V rated value     at 125 V rated value	1.4
at 125 V rated value     at 230 V rated value	0.9 A
at 220 V rated value     at 600 V rated value	0.3 A
at 600 V rated value	0.1 A
contact reliability of auxiliary contacts  JL/CSA ratings	1 faulty switching per 100 million (17 V, 1 mA)
full-load current (FLA) for 3-phase AC motor	
• at 480 V rated value	477 A
at 400 V rated value     at 600 V rated value	472 A
yielded mechanical performance [hp]	
• for 3-phase AC motor	
— at 200/208 V rated value	150 hp
— at 220/230 V rated value	200 hp
— at 460/480 V rated value	400 hp
— at 575/600 V rated value	500 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: 630 A (690 V, 100 kA)
— with type of assignment 2 required	gG: 500 A (690 V, 100 kA), aM: 500 A (690 V, 50 kA), BS88: 500 A (415 V, 50 kA)
• for short-circuit protection of the auxiliary switch required	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
height	214 mm
width	160 mm

depth	225 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 Screw-type terminals
of magnet coil	Screw-type terminals 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	
for AWG cables for main contacts	2/0 500 kcmil
connectable conductor cross-section for main contacts	270 000 North
• stranded	70 240 mm²
connectable conductor cross-section for auxiliary contacts	70 2-10 Hilli
solid or stranded	0.5 4 mm²
finely stranded with core end processing	0.5 2.5 mm <sup>2</sup>
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)
for AWG cables for auxiliary contacts	2x (20 16), 2x (18 14), 1x 12
AWG number as coded connectable conductor cross	
section	
<ul> <li>for auxiliary contacts</li> </ul>	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; safety-related disconnection via A1 A2
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 %
with high demand rate according to SN 31920	73 %
B10 value with high demand rate according to SN 31920	1 000 000
failure rate [FIT] with low demand rate according to SN 31920	100 FIT
ISO 13849	
device type according to ISO 13849-1	3
overdimensioning according to ISO 13849-2 necessary	Yes
IEC 61508	

Type A
IP00; IP20 with box terminal/cover
finger-safe, for vertical contact from the front with box terminal/cover

## General Product Approval





Confirmation







EMV

**Functional Saftey** 

**Test Certificates** 

Marine / Shipping



Type Examination Certificate

Type Test Certificates/Test Report

Special Test Certificate





Marine / Shipping

other







Confirmation

**Miscellaneous** 

Confirmation

Railway

**Environment** 

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=3RT1076-6NP36

Cax online generator

 $\underline{\text{http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en\&mlfb=3RT1076-6NP36}$ 

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

https://support.industry.siemens.com/cs/ww/en/ps/3RT1076-6NP36

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

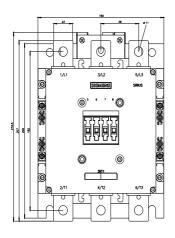
http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=3RT1076-6NP36&lang=en

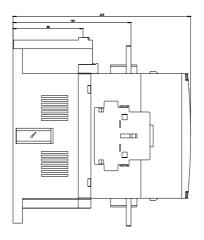
Characteristic: Tripping characteristics, I²t, Let-through current

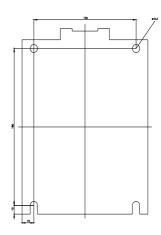
https://support.industry.siemens.com/cs/ww/en/ps/3RT1076-6NP36/char

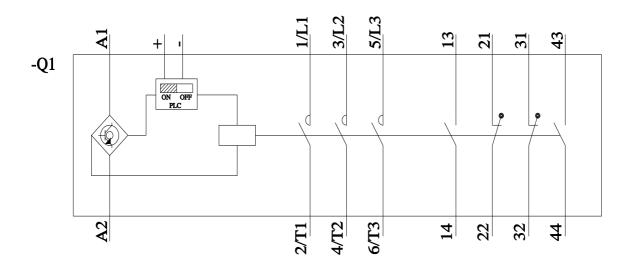
Further characteristics (e.g. electrical endurance, switching frequency)

http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT1076-6NP36&objecttype=14&gridview=view1









last modified:

