## **SIEMENS**

Data sheet 3RT1075-2NF36



power contactor, AC-3e/AC-3 400 A, 200 kW / 400 V AC (50-60 Hz) / DC Uc: 96-127 V PLC input 24 V DC 3-pole, auxiliary contacts 2 NO + 2 NC drive: electronic main circuit: busbar control and auxiliary circuit: spring-loaded 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	
<ul> <li>at AC in hot operating state</li> </ul>	105 W
<ul> <li>at AC in hot operating state per pole</li> </ul>	35 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
• 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)	
<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	10.352 kg
Ambient 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>	430 A
value	
• at AC-1	
<ul> <li>up to 690 V at ambient temperature 40 °C rated value</li> </ul>	430 A
— up to 690 V at ambient temperature 60 $^{\circ}\text{C}$ rated value	400 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	400 A
— at 500 V rated value	400 A
— at 690 V rated value	400 A
<ul><li>— at 1000 V rated value</li><li>• at AC-3e</li></ul>	180 A
— at 400 V rated value	400 A
— at 500 V rated value	400 A
— at 690 V rated value	400 A
— at 1000 V rated value	180 A
<ul> <li>at AC-4 at 400 V rated value</li> </ul>	350 A
• at AC-5a up to 690 V rated value	378 A
<ul> <li>at AC-5b up to 400 V rated value</li> </ul>	332 A
• at AC-6a	
<ul> <li>up to 230 V for current peak value n=20 rated value</li> </ul>	395 A
<ul> <li>up to 400 V for current peak value n=20 rated value</li> </ul>	395 A
— up to 500 V for current peak value n=20 rated value	395 A
— up to 690 V for current peak value n=20 rated value	395 A
— up to 1000 V for current peak value n=20 rated	180 A
value	
• at AC-6a	
— up to 230 V for current peak value n=30 rated value	264 A
— up to 400 V for current peak value n=30 rated value	264 A
— up to 500 V for current peak value n=30 rated value	264 A
— up to 690 V for current peak value n=30 rated value	264 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	300 mm²
operational current for approx. 200000 operating cycles at AC-4	
at 400 V rated value	150 A
at 690 V rated value	135 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>	
<ul> <li>at 24 V rated value</li> </ul>	400 A

at 60 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	0.18 A
— at 600 V rated value	0.125 A
with 2 current paths in series at DC-3 at DC-5	400 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	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	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	122 141
<ul><li>— at 230 V rated value</li><li>— at 400 V rated value</li></ul>	132 kW
	200 kW
— at 500 V rated value	250 kW
<ul><li>— at 690 V rated value</li><li>— at 1000 V rated value</li></ul>	400 kW 250 kW
• at AC-3e	250 KVV
	132 kW
— at 230 V rated value	
<ul><li>— at 400 V rated value</li><li>— at 500 V rated value</li></ul>	200 kW
	250 kW
<ul><li>— at 690 V rated value</li><li>— at 1000 V rated value</li></ul>	400 kW 250 kW
operating power for approx. 200000 operating cycles at AC-	230 RVV
4	
at 400 V rated value	85 kW
at 690 V rated value	133 kW
operating apparent power at AC-6a	
<ul> <li>up to 230 V for current peak value n=20 rated value</li> </ul>	150 000 kVA
• up to 400 V for current peak value n=20 rated value	270 000 VA
• up to 500 V for current peak value n=20 rated value	340 000 VA
• up to 690 V for current peak value n=20 rated value	470 000 VA
<ul> <li>up to 1000 V for current peak value n=20 rated value</li> </ul>	310 000 VA
operating apparent power at AC-6a	
• up to 230 V for current peak value n=30 rated value	100 000 VA
• up to 400 V for current peak value n=30 rated value	180 000 VA
• up to 500 V for current peak value n=30 rated value	220 000 VA
• up to 690 V for current peak value n=30 rated value	310 000 VA
• up to 1000 V for current peak value n=30 rated value	310 000 VA

short-time withstand current in cold operating state up to 40 °C	
limited to 1 s switching at zero current maximum	6 600 A; Use minimum cross-section acc. to AC-1 rated value
-	5 761 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	4 143 A; Use minimum cross-section acc. to AC-1 rated value
<ul> <li>limited to 10 s switching at zero current maximum</li> <li>limited to 30 s switching at zero current maximum</li> </ul>	2 635 A; Use minimum cross-section acc. to AC-1 rated value
· ·	
Iimited to 60 s switching at zero current maximum	2 088 A; Use minimum cross-section acc. to AC-1 rated value
no-load switching frequency	4 000 4 %
• at AC	1 000 1/h
• at DC	1 000 1/h
operating frequency	700.4/b
• at AC-1 maximum	700 1/h
• at AC-2 maximum	200 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	
type of voltage of the control supply voltage	AC/DC
control supply voltage at AC	
at 50 Hz rated value	96 127 V
at 60 Hz rated value	96 127 V
control supply voltage at DC rated value	96 127 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
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	
<ul> <li>at minimum rated control supply voltage at AC</li> </ul>	
— at 50 Hz	560 VA
— at 60 Hz	560 VA
<ul> <li>at maximum rated control supply voltage at AC</li> </ul>	
— at 60 Hz	750 VA
— at 50 Hz	750 VA
apparent pick-up power of magnet coil at AC	
• at 50 Hz	750 VA
• at 60 Hz	750 VA
inductive power factor with closing power of the coil	
• at 50 Hz	0.8
• at 60 Hz	0.8
apparent holding power	
at minimum rated control supply voltage at DC	3 VA
at maximum rated control supply voltage at DC	3.6 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	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
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alacing navor of magazit as II 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	00 00 00
• at DC	60 90 ms
opening delay	60 90 HIS
• 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	FLO-IN OF Standard AT - AZ (adjustable)
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	1 A
operational current at DC-12	
<ul> <li>at 24 V rated value</li> </ul>	10 A
• at 48 V rated value	6 A
<ul> <li>at 60 V rated value</li> </ul>	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	361 A
at 600 V rated value	382 A
yielded mechanical performance [hp]	
• for 3-phase AC motor	
— at 200/208 V rated value	125 hp
— at 220/230 V rated value	150 hp
— at 460/480 V rated value	300 hp
— at 575/600 V rated value	400 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	0.000 1.000 1.000 1.00
— with type of coordination 1 required	gG: 630 A (690 V, 100 kA)
<ul> <li>— with type of assignment 2 required</li> </ul>	gG: 500 A (690 V, 100 kA), aM: 400 A (690 V, 50 kA), BS88: 450 A (415 V, 50 kA)
for short-circuit protection of the auxiliary switch required	gG: 10 A (500 V, 1 kA)
Installation/ mounting/ dimensions	35
mounting position	with vertical mounting surface +/-90° rotatable, with vertical mounting surface
B position	+/- 22.5° tiltable to the front and back
fastening method	screw fixing
height	214 mm
width	160 mm

<ul> <li>upwards</li> <li>downwards</li> <li>at the side</li> <li>for grounded parts</li> <li>forwards</li> </ul>	20 mm 10 mm 10 mm 0 mm
<ul> <li>with side-by-side mounting</li> <li>forwards</li> <li>upwards</li> <li>downwards</li> <li>at the side</li> <li>for grounded parts</li> <li>forwards</li> </ul>	10 mm 10 mm
<ul> <li>forwards</li> <li>upwards</li> <li>downwards</li> <li>at the side</li> <li>for grounded parts</li> <li>forwards</li> </ul>	10 mm 10 mm
<ul><li>— downwards</li><li>— at the side</li><li>• for grounded parts</li><li>— forwards</li></ul>	10 mm
<ul><li>— at the side</li><li>• for grounded parts</li><li>— forwards</li></ul>	
for grounded parts     — forwards	0 mm
for grounded parts     — forwards	
— 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
	spring-loaded terminals
•	Spring-type terminals
·	Spring-type terminals
	25 mm
thickness of connection bar	6 mm
diameter of holes	11 mm
number of holes	1
type of connectable conductor cross-sections	
	2/0 500 kcmil
connectable conductor cross-section for main contacts	
• stranded	70 240 mm²
connectable conductor cross-section for auxiliary contacts	
solid or stranded	0.25 2.5 mm²
finely stranded with core end processing	0.25 1.5 mm²
finely stranded without core end processing	0.25 2.5 mm²
type of connectable conductor cross-sections	
for auxiliary contacts	
— solid	2x (0.25 2.5 mm²)
— solid or stranded	2x (0,25 2,5 mm²)
<ul> <li>finely stranded with core end processing</li> </ul>	2x (0.25 1.5 mm²)
<ul> <li>finely stranded without core end processing</li> </ul>	2x (0.25 2.5 mm²)
for AWG cables for auxiliary contacts	2x (24 14)
AWG number as coded connectable conductor cross	
section	24 14
•	24 14
Safety related data	
product function	Ven
mirror contact according to IEC 60947-4-1      positively driven exerction according to IEC 60047 5.1	Yes
	No Vos
	Yes
· · · · · · · · · · · · · · · · · · ·	Yes; safety-related disconnection via A1 A2
	20 a Yes
j	160
proportion of dangerous failures  with low demand rate according to SN 31920	40 %
J. Company of the com	73 %
5 5	1 000 000
failure rate [FIT] with low demand rate according to SN 31920	100 FIT
31920	100111
ISO 13849	
device type according to ISO 13849-1	3

overdimensioning according to ISO 13849-2 necessary	Yes
IEC 61508	
safety device type according to IEC 61508-2	Type A
Electrical Safety	
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





EMV **Functional Saftey Test Certificates** Marine / Shipping



Type Examination Cer**tificate** 

Type Test Certificates/Test Report

**Special Test Certific-**<u>ate</u>





Marine / Shipping other







**Miscellaneous** 

Confirmation

**Miscellaneous** 

other Railway **Environment** 

Special Test Certific-Confirmation <u>ate</u>

Environmental Con-firmations

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=3RT1075-2NF36

Cax online generator

 $\underline{\text{http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en\&mlfb=3RT1075-2NF36}$ 

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

https://support.industry.siemens.com/cs/ww/en/ps/3RT1075-2NF36

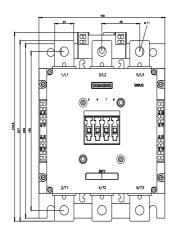
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)

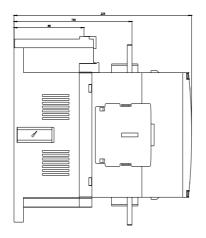
http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=3RT1075-2NF36&lang=en

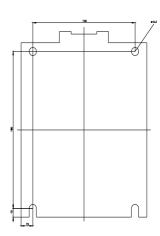
Characteristic: Tripping characteristics, I²t, Let-through current

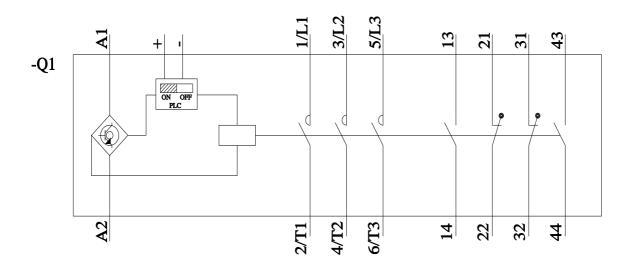
https://support.industry.siemens.com/cs/ww/en/ps/3RT1075-2NF36/char

Further characteristics (e.g. electrical endurance, switching frequency)
http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT1075-2NF36&objecttype=14&gridview=view1









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