## **SIEMENS**

3RT1275-6NF36 **Data sheet** 



vacuum contactor, AC-3 400 A, 200 kW / 400 V AC (50-60 Hz) / DC operation 96-127 V AC/DC auxiliary contacts 2 NO + 2 NC 3-pole, frame size S12 busbar connections drive: electronic with SPS interface DV 24 V

product brand name	SIRIUS
product designation	Vacuum contactor
product type designation	3RT12
General technical data	
size of contactor	S12
product extension	
<ul> <li>function module for communication</li> </ul>	No
<ul><li>auxiliary switch</li></ul>	Yes
power loss [W] for rated value of the current	
<ul> <li>at AC in hot operating state</li> </ul>	63 W
<ul> <li>at AC in hot operating state per pole</li> </ul>	21 W
<ul> <li>without load current share typical</li> </ul>	3.6 W
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	
<ul> <li>of main circuit rated value</li> </ul>	8 kV
of auxiliary circuit rated value	6 kV
maximum permissible voltage for safe isolation 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 (switching 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
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 %
Aain 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 value</li> <li>at AC-1</li> </ul>	610 A
— up to 690 V at ambient temperature 40 $^{\circ}\text{C}$ rated value	610 A
<ul> <li>up to 690 V at ambient temperature 60 °C rated value</li> </ul>	550 A
<ul> <li>up to 1000 V at ambient temperature 40 °C rated value</li> </ul>	610 A
— up to 1000 V at ambient temperature 60 °C rated value	550 A
• at AC-3	400.4
— 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	400 A
• at AC-3e	
— 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	400 A
<ul> <li>at AC-4 at 400 V rated value</li> </ul>	350 A
at AC-6a	
— up to 230 V for current peak value n=20 rated value	400 A
— up to 400 V for current peak value n=20 rated value	400 A 400 A
<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</li> </ul>	400 A
value  — up to 1000 V for current peak value n=20 rated	400 A
value	
• at AC-6a	
— up to 230 V for current peak value n=30 rated value	293 A
— up to 400 V for current peak value n=30 rated value	293 A
<ul> <li>— up to 500 V for current peak value n=30 rated value</li> <li>— up to 690 V for current peak value n=30 rated</li> </ul>	293 A 293 A
value  — up to 1000 V for current peak value n=30 rated  — up to 1000 V for current peak value n=30 rated	293 A
value  minimum cross-section in main circuit at maximum AC-1	370 mm <sup>2</sup>
rated value operational current for approx. 200000 operating	
cycles at AC-4	
at 400 V rated value	175 A
at 690 V rated value	175 A
operating power	
• at AC-3	400 1114
— at 230 V rated value	132 kW
<ul><li>— at 400 V rated value</li></ul>	200 kW

— at 500 V rated value	250 kW
— at 690 V rated value	400 kW
— at 1000 V rated value	560 kW
• at AC-3e	
— at 230 V rated value	132 kW
— at 400 V rated value	200 kW
— at 500 V rated value	250 kW
— at 690 V rated value	400 kW
— at 1000 V rated value	560 kW
operating power for approx. 200000 operating cycles at AC-4	
<ul><li>at 400 V rated value</li></ul>	98 kW
at 690 V rated value	172 kW
operating apparent power at AC-6a	
up to 230 V for current peak value n=20 rated value	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>	690 000 VA
operating apparent power at AC-6a	
up to 230 V for current peak value n=30 rated value	110 000 VA
<ul> <li>up to 400 V for current peak value n=30 rated value</li> </ul>	200 000 VA
• up to 500 V for current peak value n=30 rated value	250 000 VA
up to 690 V for current peak value n=30 rated value	350 000 VA
<ul> <li>up to 1000 V for current peak value n=30 rated value</li> </ul>	500 000 VA
no-load switching frequency	
• at AC	1 000 1/h
• at DC	1 000 1/h
operating frequency	700.4%
• at AC-1 maximum	700 1/h
• at AC-2 maximum	250 1/h
<ul> <li>at AC-3 maximum</li> </ul>	750 1/h
<ul> <li>at AC-3e maximum</li> </ul>	750 1/h
at AC-4 maximum	250 1/h
Control circuit/ Control	
type of voltage of the control supply voltage	AC/DC
control supply voltage at AC	
<ul> <li>at 50 Hz rated value</li> </ul>	96 127 V
at 60 Hz rated value	96 127 V
control supply voltage at DC	
• rated value	96 127 V
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
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 of magnet coil at AC	
• at 50 Hz	570 VA
• at 60 Hz	570 VA
inductive power factor with closing power of the coil	

● at 50 Hz	0.8
● at 60 Hz	0.8
apparent holding power of magnet coil at AC	
● at 50 Hz	5.6 VA
● at 60 Hz	5.6 VA
inductive power factor with the holding power of the	
coil	0.0
• at 50 Hz	0.8
• at 60 Hz	0.8 800 W
closing power of magnet coil at DC	3.6 W
holding power of magnet coil at DC	3.0 W
closing delay  • at AC	60 90 ms
• at DC	60 90 ms
opening delay	00 90 ms
• 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. 20 of otalidard 711 712 (adjustable)
	2
number of NC contacts for auxiliary contacts instantaneous contact	2
number of NO contacts for auxiliary contacts	2
instantaneous contact	10.4
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     at 500 V rated value	2 A
at 690 V rated value     at 690 V rated value	1 A
operational current at DC-12	1/4
• 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	0.1071
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

— with type of coordination 1 required

— with type of assignment 2 required

• for short-circuit protection of the auxiliary switch required

gG: 800 A (690 V, 100 kA)

gG: 800 A (690 V, 50 kA), aM: 630 A (690 V, 50 kA), BS88: 800 A (415 V, 50 kA)

gG: 10 A (500 V, 1 kA)

required	
nstallation/ mounting/ dimensions	
mounting position	+/-22,5° rotation possible on vertical mounting surface; can be tilted forward and backward by +/- 22.5° on vertical mounting surface; standing, on horizontal mounting surface
fastening method	screw fixing
side-by-side mounting	Yes
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
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	
• stranded	70 240 mm²
connectable conductor cross-section for auxiliary contacts	
solid or stranded	0.5 4 mm²
<ul> <li>finely stranded with core end processing</li> </ul>	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 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)
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	

<ul> <li>mirror contact according to IEC 60947-4-1</li> <li>positively driven operation according to IEC 60947-5-1</li> </ul>	Yes No
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
suitability for use	
<ul> <li>safety-related switching OFF</li> </ul>	Yes

Certificates/ approvals

**General Product Approval** 

**EMC** 



Confirmation









Functional Safety/Safety of Machinery

**Declaration of Conformity** 

**Test Certificates** 

Marine / Shipping

Type Examination Certificate





Type Test Certificates/Test Report

Special Test Certificate



Marine / Shipping







Confirmation

other

**Miscellaneous** 

Confirmation

Railway

Special Test Certificate

## 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=3RT1275-6NF36

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT1275-6NF36

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

https://support.industry.siemens.com/cs/ww/en/ps/3RT1275-6NF36

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

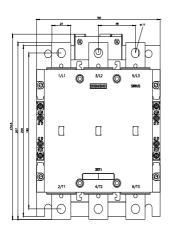
 $\underline{\text{http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=3RT1275-6NF36\&lang=enderse$ 

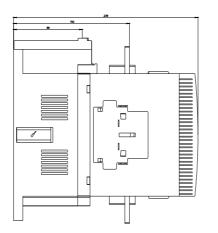
Characteristic: Tripping characteristics, I2t, Let-through current

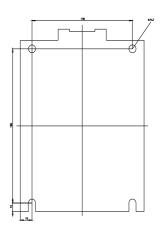
https://support.industry.siemens.com/cs/ww/en/ps/3RT1275-6NF36/char

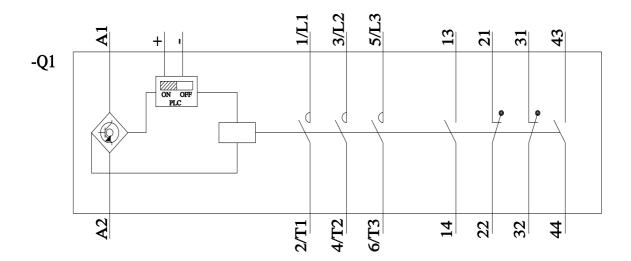
Further characteristics (e.g. electrical endurance, switching frequency)

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