



power contactor, AC-3e/AC-3 400 A, 200 kW / 400 V AC (50-60 Hz) / DC
 Uc: 21-27, 3 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	
- function module for communication - auxiliary switch	No Yes
power loss [W] for rated value of the current	
- at AC in hot operating state - at AC in hot operating state per pole - without load current share typical	105 W 35 W 3.6 W
insulation voltage	
- of main circuit with degree of pollution 3 rated value - of auxiliary circuit with degree of pollution 3 rated value	1 000 V 500 V
surge voltage resistance	
- of main circuit rated value - of auxiliary circuit rated value	8 kV 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 - at DC	8,5g / 5 ms, 4,2g / 10 ms 8,5g / 5 ms, 4,2g / 10 ms
shock resistance with sine pulse	
- at AC - at DC	13,4g / 5 ms, 6,5g / 10 ms 13,4g / 5 ms, 6,5g / 10 ms
mechanical service life (operating cycles)	
- of contactor typical - of the contactor with added electronically optimized auxiliary switch block typical - of the contactor with added auxiliary switch block typical	10 000 000 5 000 000 10 000 000
reference code according to IEC 81346-2	Q
Substance Prohibition (Date)	05/01/2012

Ambient conditions

installation altitude at height above sea level maximum	2 000 m
ambient temperature	
- during operation - during storage	-25 ... +60 °C -55 ... +80 °C
relative humidity minimum	10 %
relative humidity at 55 °C according to IEC 60068-2-30 maximum	95 %

Main 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	
• at AC-1 at 400 V at ambient temperature 40 °C rated value	430 A
• at AC-1	
— up to 690 V at ambient temperature 40 °C rated value	430 A
— up to 690 V at ambient temperature 60 °C rated value	400 A
— up to 1000 V at ambient temperature 40 °C rated value	200 A
— up to 1000 V at ambient temperature 60 °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
— at 1000 V rated value	180 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	180 A
• at AC-4 at 400 V rated value	350 A
• at AC-5a up to 690 V rated value	378 A
• at AC-5b up to 400 V rated value	332 A
• at AC-6a	
— up to 230 V for current peak value n=20 rated value	395 A
— up to 400 V for current peak value n=20 rated value	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 value	180 A
• 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 mm ²
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

• with 2 current paths in series at DC-1 — at 24 V rated value — at 60 V rated value — at 110 V rated value — at 220 V rated value — at 440 V rated value — at 600 V rated value • with 3 current paths in series at DC-1 — at 24 V rated value — at 60 V rated value — at 110 V rated value — at 220 V rated value — at 440 V rated value — at 600 V rated value • at 1 current path at DC-3 at DC-5 — at 24 V rated value — at 60 V rated value — at 220 V rated value — at 440 V rated value — at 600 V rated value • with 2 current paths in series at DC-3 at DC-5 — at 24 V rated value — at 60 V rated value — at 110 V rated value — at 220 V rated value — at 440 V rated value — at 600 V rated value • with 3 current paths in series at DC-3 at DC-5 — at 24 V rated value — at 60 V rated value — at 110 V rated value — at 220 V rated value — at 440 V rated value — at 600 V rated value	400 A 400 A 400 A 400 A 4 A 2 A 400 A 400 A 400 A 400 A 11 A 5.2 A 400 A 11 A 0.6 A 0.18 A 0.125 A 400 A 400 A 400 A 2.5 A 0.65 A 0.37 A 400 A 400 A 400 A 400 A 1.4 A 0.75 A
operating power	
• at AC-3 — at 230 V rated value — at 400 V rated value — at 500 V rated value — at 690 V rated value — at 1000 V rated value • at AC-3e — at 230 V rated value — at 400 V rated value — at 500 V rated value — at 690 V rated value — at 1000 V rated value	132 kW 200 kW 250 kW 400 kW 250 kW 132 kW 200 kW 250 kW 400 kW 250 kW
operating power for approx. 200000 operating cycles at AC-4	
• at 400 V rated value • at 690 V rated value	85 kW 133 kW
operating apparent power at AC-6a	
• up to 230 V for current peak value n=20 rated value • up to 400 V for current peak value n=20 rated value • up to 500 V for current peak value n=20 rated value • up to 690 V for current peak value n=20 rated value • up to 1000 V for current peak value n=20 rated value	150 000 kVA 270 000 VA 340 000 VA 470 000 VA 310 000 VA
operating apparent power at AC-6a	
• up to 230 V for current peak value n=30 rated value • up to 400 V for current peak value n=30 rated value • up to 500 V for current peak value n=30 rated value • up to 690 V for current peak value n=30 rated value • up to 1000 V for current peak value n=30 rated value	100 000 VA 180 000 VA 220 000 VA 310 000 VA 310 000 VA

short-time withstand current in cold operating state up to 40 °C

- limited to 1 s switching at zero current maximum
- limited to 5 s switching at zero current maximum
- limited to 10 s switching at zero current maximum
- limited to 30 s switching at zero current maximum
- limited to 60 s switching at zero current maximum

no-load switching frequency

- at AC
- at DC

operating frequency

- at AC-1 maximum
- at AC-2 maximum
- at AC-3 maximum
- at AC-3e maximum
- at AC-4 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
 4 143 A; Use minimum cross-section acc. to AC-1 rated value
 2 635 A; Use minimum cross-section acc. to AC-1 rated value
 2 088 A; Use minimum cross-section acc. to AC-1 rated value

1 000 1/h
 1 000 1/h

700 1/h
 200 1/h
 500 1/h
 500 1/h
 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
- at 60 Hz rated value

21 ... 27.3 V
 21 ... 27.3 V

control supply voltage at DC

- rated value

21 ... 27.3 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
- full-scale value

0.8
 1.1

operating range factor control supply voltage rated value of magnet coil at AC

- at 50 Hz
- at 60 Hz

0.8 ... 1.1
 0.8 ... 1.1
 with varistor

design of the surge suppressor**apparent pick-up power of magnet coil at AC**

- at 50 Hz
- at 60 Hz

750 VA
 750 VA

inductive power factor with closing power of the coil

- at 50 Hz
- at 60 Hz

0.8
 0.8

apparent holding power of magnet coil at AC

- at 50 Hz
- at 60 Hz

9 VA
 9 VA

inductive power factor with the holding power of the coil

- at 50 Hz
- at 60 Hz

0.4
 0.4

closing power of magnet coil at DC

800 W

holding power of magnet coil at DC

3.6 W

closing delay

- at AC
- at DC

60 ... 90 ms
 60 ... 90 ms

opening delay

- at AC
- at DC

80 ... 100 ms
 80 ... 100 ms

arcing time

10 ... 15 ms

control version of the switch operating mechanism

PLC-IN or Standard A1 - A2 (adjustable)

Auxiliary circuit

number of NC contacts for auxiliary contacts
 instantaneous contact
 number of NO contacts for auxiliary contacts

2

2

instantaneous contact
operational current at AC-12 maximum

10 A

operational current at AC-15

- at 230 V rated value
- at 400 V rated value
- at 500 V rated value
- at 690 V rated value

6 A
3 A
2 A
1 A

operational current at DC-12

- at 24 V rated value
- at 48 V rated value
- at 60 V rated value
- at 110 V rated value
- at 125 V rated value
- at 220 V rated value
- at 600 V rated value

10 A
6 A
6 A
3 A
2 A
1 A
0.15 A

operational current at DC-13

- at 24 V rated value
- at 48 V rated value
- at 60 V rated value
- at 110 V rated value
- at 125 V rated value
- at 220 V rated value
- at 600 V rated value

10 A
2 A
2 A
1 A
0.9 A
0.3 A
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
- at 600 V rated value

361 A
382 A

yielded mechanical performance [hp]

- for 3-phase AC motor
 - at 200/208 V rated value
 - at 220/230 V rated value
 - at 460/480 V rated value
 - at 575/600 V rated value

125 hp
150 hp
300 hp
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: 630 A (690 V, 100 kA)
gG: 500 A (690 V, 100 kA), aM: 400 A (690 V, 50 kA), BS88: 450 A (415 V, 50 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

- side-by-side mounting

screw fixing
Yes

height

214 mm

width

160 mm

depth

225 mm

required spacing

- with side-by-side mounting
 - forwards
 - upwards
 - downwards
 - at the side
- for grounded parts
 - forwards
 - upwards
 - at the side
 - downwards
- for live parts
 - forwards

20 mm
10 mm
10 mm
0 mm

20 mm
10 mm
10 mm
10 mm

20 mm

— upwards	10 mm
— downwards	10 mm
— at the side	10 mm

Connections/ Terminals

type of electrical connection

- for main current circuit
- for auxiliary and control circuit
- at contactor for auxiliary contacts
- of magnet coil

width of connection bar

thickness of connection bar

diameter of holes

number of holes

connectable conductor cross-section for main contacts

- stranded

connectable conductor cross-section for auxiliary contacts

- solid or stranded
- finely stranded with core end processing

type of connectable conductor cross-sections

- for auxiliary contacts
 - solid
 - solid or stranded
 - finely stranded with core end processing
- at AWG cables for auxiliary contacts

AWG number as coded connectable conductor cross section

- for auxiliary contacts

Connection bar
screw-type terminals
Screw-type terminals
Screw-type terminals
25 mm
6 mm
11 mm
1
70 ... 240 mm ²
0.5 ... 4 mm ²
0.5 ... 2.5 mm ²
2x (0.5 ... 1.5 mm ²), 2x (0.75 ... 2.5 mm ²), max. 2x (0.75 ... 4 mm ²)
2x (0.5 ... 1.5 mm ²), 2x (0.75 ... 2.5 mm ²), max. 2x (0.75 ... 4 mm ²)
2x (0.5 ... 1.5 mm ²), 2x (0.75 ... 2.5 mm ²)
2x (20 ... 16), 2x (18 ... 14), 1x 12
18 ... 14

Safety related data

product function

- mirror contact according to IEC 60947-4-1
- positively driven operation according to IEC 60947-5-1

B10 value with high demand rate according to SN 31920
T1 value for proof test interval or service life according to IEC 61508

protection class IP on the front according to IEC 60529

touch protection on the front according to IEC 60529

suitability for use

- safety-related switching OFF

Yes
No
1 000 000
20 a
IP00; IP20 with box terminal/cover
finger-safe, for vertical contact from the front with box terminal/cover
Yes

Certificates/ approvals

General Product Approval

EMC



[Confirmation](#)



Functional Safety/Safety of Machinery

Declaration of Conformity

Test Certificates

Marine / Shipping

[Type Examination Certificate](#)



[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)



Marine / Shipping

other



[Miscellaneous](#)

[Confirmation](#)

other

Railway

[Confirmation](#)

[Miscellaneous](#)

[Vibration and Shock](#)

[Special Test Certificate](#)

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=3RT1075-6NB36>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT1075-6NB36>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1075-6NB36>

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

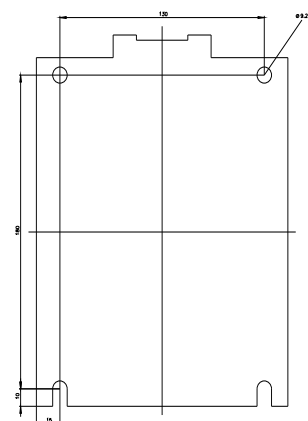
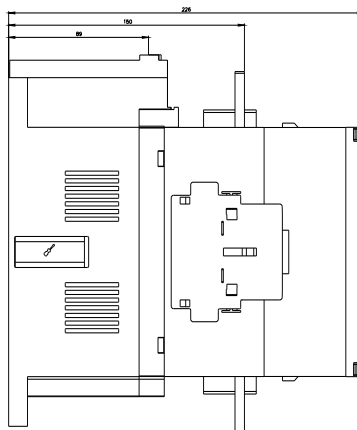
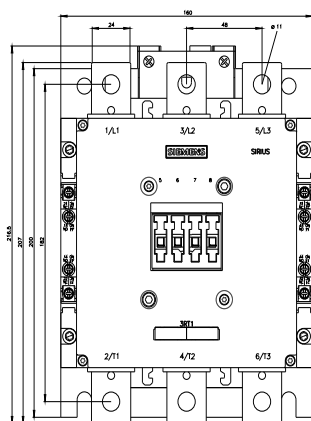
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT1075-6NB36&lang=en

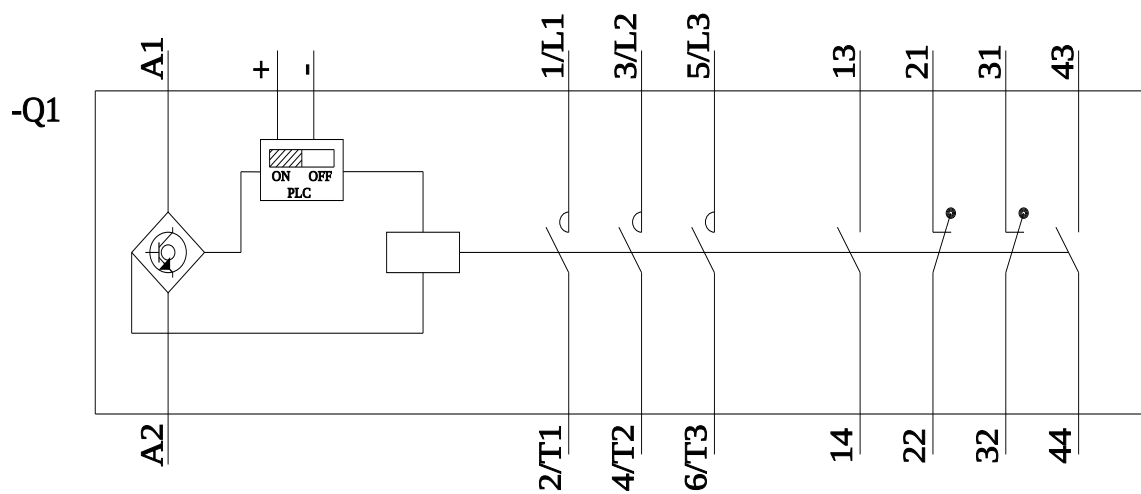
Characteristic: Tripping characteristics, I^2t , Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1075-6NB36/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT1075-6NB36&objecttype=14&gridview=view1>





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