



power contactor, AC-3e/AC-3 150 A, 75 kW / 400 V AC (50-60 Hz) / DC
Uc: 220-240 V 3-pole, without auxiliary contacts 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	S6
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	27 W 9 W 5.2 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	185 A
• at AC-1	
— up to 690 V at ambient temperature 40 °C rated value	185 A
— up to 690 V at ambient temperature 60 °C rated value	160 A
— up to 1000 V at ambient temperature 40 °C rated value	90 A
— up to 1000 V at ambient temperature 60 °C rated value	90 A
• at AC-3	
— at 400 V rated value	150 A
— at 500 V rated value	150 A
— at 690 V rated value	150 A
— at 1000 V rated value	65 A
• at AC-3e	
— at 400 V rated value	150 A
— at 500 V rated value	150 A
— at 690 V rated value	150 A
— at 1000 V rated value	65 A
• at AC-4 at 400 V rated value	132 A
• at AC-5a up to 690 V rated value	162 A
• at AC-5b up to 400 V rated value	124 A
• at AC-6a	
— up to 230 V for current peak value n=20 rated value	150 A
— up to 400 V for current peak value n=20 rated value	150 A
— up to 500 V for current peak value n=20 rated value	150 A
— up to 690 V for current peak value n=20 rated value	150 A
— up to 1000 V for current peak value n=20 rated value	65 A
• at AC-6a	
— up to 230 V for current peak value n=30 rated value	105 A
— up to 400 V for current peak value n=30 rated value	105 A
— up to 500 V for current peak value n=30 rated value	105 A
— up to 690 V for current peak value n=30 rated value	105 A
— up to 1000 V for current peak value n=30 rated value	65 A
minimum cross-section in main circuit at maximum AC-1 rated value	95 mm ²
operational current for approx. 200000 operating cycles at AC-4	
• at 400 V rated value	68 A
• at 690 V rated value	57 A
operational current	
• at 1 current path at DC-1	
— at 24 V rated value	160 A
— at 60 V rated value	160 A
— at 110 V rated value	18 A
— at 220 V rated value	3.4 A
— at 440 V rated value	0.8 A
— at 600 V rated value	0.5 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	160 A 160 A 160 A 20 A 3.2 A 1.6 A 160 A 160 A 160 A 160 A 11.5 A 4 A 160 A 7.5 A 0.6 A 0.17 A 0.12 A 160 A 160 A 160 A 2.5 A 0.65 A 0.37 A 160 A 160 A 160 A 160 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	45 kW 75 kW 90 kW 132 kW 90 kW 45 kW 75 kW 90 kW 132 kW 90 kW
operating power for approx. 200000 operating cycles at AC-4	
• at 400 V rated value • at 690 V rated value	38 kW 55 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	60 000 kVA 100 000 VA 130 000 VA 170 000 VA 110 000 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	40 000 VA 70 000 VA 90 000 VA 120 000 VA 110 000 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

2 727 A; Use minimum cross-section acc. to AC-1 rated value
 1 831 A; Use minimum cross-section acc. to AC-1 rated value
 1 300 A; Use minimum cross-section acc. to AC-1 rated value
 850 A; Use minimum cross-section acc. to AC-1 rated value
 703 A; Use minimum cross-section acc. to AC-1 rated value

2 000 1/h
 2 000 1/h

800 1/h
 300 1/h
 750 1/h
 750 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

220 ... 240 V
 220 ... 240 V

control supply voltage at DC

- rated value

220 ... 240 V

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

300 VA
 300 VA

inductive power factor with closing power of the coil

- at 50 Hz
- at 60 Hz

0.9
 0.9

apparent holding power of magnet coil at AC

- at 50 Hz
- at 60 Hz

5.8 VA
 5.8 VA

inductive power factor with the holding power of the coil

- at 50 Hz
- at 60 Hz

0.8
 0.8

closing power of magnet coil at DC

360 W

holding power of magnet coil at DC

5.2 W

closing delay

- at AC
- at DC

20 ... 95 ms
 20 ... 95 ms

opening delay

- at AC
- at DC

40 ... 60 ms
 40 ... 60 ms

arcing time

10 ... 15 ms

control version of the switch operating mechanism

Standard A1 - A2

UL/CSA ratings**full-load current (FLA) for 3-phase AC motor**

- at 480 V rated value
- at 600 V rated value

156 A
 144 A

yielded mechanical performance [hp]

- for single-phase AC motor
 - at 230 V rated value
- for 3-phase AC motor
 - at 200/208 V rated value

30 hp
 50 hp

- at 220/230 V rated value
- at 460/480 V rated value
- at 575/600 V rated value

60 hp
125 hp
150 hp

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: 355 A (690 V, 100 kA)
gG: 315 A (690 V, 100 kA), aM: 200 A (690 V, 50 kA), BS88: 315 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

172 mm

width

120 mm

depth

170 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
 - upwards
 - downwards
 - at the side

20 mm

10 mm

10 mm

0 mm

20 mm

10 mm

10 mm

10 mm

20 mm

10 mm

10 mm

10 mm

Connections/ Terminals

type of electrical connection

- for main current circuit
- for auxiliary and control circuit
- of magnet coil

Connection bar

screw-type terminals

Screw-type terminals

width of connection bar

17 mm

thickness of connection bar

3 mm

diameter of holes

9 mm

number of holes

1

connectable conductor cross-section for main contacts

- stranded

25 ... 120 mm²

connectable conductor cross-section for auxiliary contacts

- solid or stranded
- finely stranded with core end processing

0.5 ... 4 mm²

0.5 ... 2.5 mm²

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

2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²), max. 2x (0.75 ... 4 mm²)

2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²), max. 2x (0.75 ... 4 mm²)

2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²)

2x (20 ... 16), 2x (18 ... 14), 1x 12

AWG number as coded connectable conductor cross section

- for auxiliary contacts

18 ... 14

Safety related data

product function

- positively driven operation according to IEC 60947-5-1

No

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

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



[Confirmation](#)



[KC](#)



EMC	Functional Safety/Safety of Machinery	Declaration of Conformity	Test Certificates
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[Type Examination Certificate](#)



EG-Konf.



[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)

Marine / Shipping	other
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LRS



PRS



RMRS



DNV-GL

[Miscellaneous](#)

other	Railway
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[Confirmation](#)

[Miscellaneous](#)

[Confirmation](#)

[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=3RT1055-6AP30>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT1055-6AP30>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1055-6AP30>

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

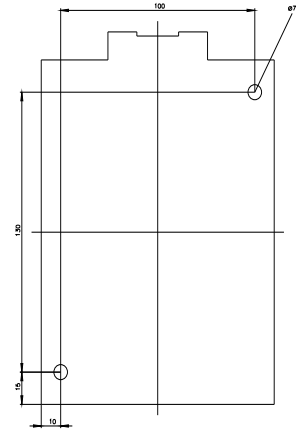
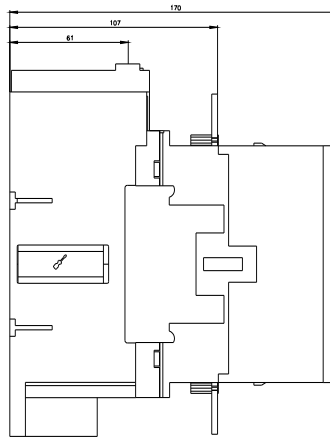
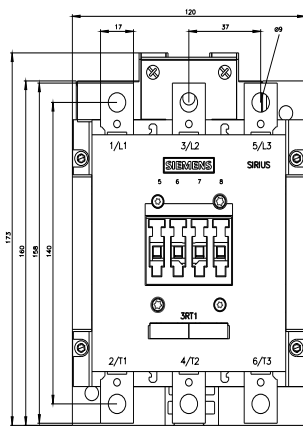
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT1055-6AP30&lang=en

Characteristic: Tripping characteristics, I_t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1055-6AP30/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT1055-6AP30&objecttype=14&gridview=view1>



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