



power contactor, AC-3e/AC-3 300 A, 160 kW / 400 V, AC (50-60 Hz) / DC
 Uc: 220-240 V 3-pole, auxiliary contacts 2 NO + 2 NC 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	S10
product extension	
• function module for communication	No
• auxiliary switch	Yes
power loss [W] for rated value of the current	
• at AC in hot operating state	66 W
• at AC in hot operating state per pole	22 W
• without load current share typical	7.4 W
insulation voltage	
• of main circuit with degree of pollution 3 rated value	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 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 (operating cycles)	
• of contactor typical	10 000 000
• of the contactor with added electronically optimized auxiliary switch block typical	5 000 000
• of the contactor with added auxiliary switch block typical	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	-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 %

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	330 A
• at AC-1	
— up to 690 V at ambient temperature 40 °C rated value	330 A
— up to 690 V at ambient temperature 60 °C rated value	300 A
— up to 1000 V at ambient temperature 40 °C rated value	150 A
— up to 1000 V at ambient temperature 60 °C rated value	150 A
• at AC-3	
— at 400 V rated value	300 A
— at 500 V rated value	300 A
— at 690 V rated value	280 A
— at 1000 V rated value	95 A
• at AC-3e	
— at 400 V rated value	300 A
— at 500 V rated value	300 A
— at 1000 V rated value	95 A
• at AC-4 at 400 V rated value	280 A
• at AC-5a up to 690 V rated value	290 A
• at AC-5b up to 400 V rated value	249 A
• at AC-6a	
— up to 230 V for current peak value n=20 rated value	292 A
— up to 400 V for current peak value n=20 rated value	292 A
— up to 500 V for current peak value n=20 rated value	292 A
— up to 690 V for current peak value n=20 rated value	280 A
— up to 1000 V for current peak value n=20 rated value	95 A
• at AC-6a	
— up to 230 V for current peak value n=30 rated value	195 A
— up to 400 V for current peak value n=30 rated value	195 A
— up to 500 V for current peak value n=30 rated value	195 A
— up to 690 V for current peak value n=30 rated value	195 A
— up to 1000 V for current peak value n=30 rated value	95 A
minimum cross-section in main circuit at maximum AC-1 rated value	185 mm ²
operational current for approx. 200000 operating cycles at AC-4	
• at 400 V rated value	125 A
• at 690 V rated value	115 A
operational current	
• at 1 current path at DC-1	
— at 24 V rated value	300 A
— at 60 V rated value	300 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	300 A
— at 60 V rated value	300 A
— at 110 V rated value	300 A
— at 220 V rated value	300 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	300 A
— at 60 V rated value	300 A
— at 110 V rated value	300 A
— at 220 V rated value	300 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	
— at 24 V rated value	300 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	
— at 24 V rated value	300 A
— at 60 V rated value	300 A
— at 110 V rated value	300 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	300 A
— at 60 V rated value	300 A
— at 110 V rated value	300 A
— at 220 V rated value	300 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	90 kW
— at 400 V rated value	160 kW
— at 500 V rated value	200 kW
— at 690 V rated value	250 kW
— at 1000 V rated value	132 kW
• at AC-3e	
— at 230 V rated value	90 kW
— at 400 V rated value	160 kW
— at 500 V rated value	200 kW
— at 1000 V rated value	132 kW
operating power for approx. 200000 operating cycles at AC-4	
• at 400 V rated value	71 kW
• at 690 V rated value	112 kW
operating apparent power at AC-6a	
• up to 230 V for current peak value n=20 rated value	110 000 kVA
• up to 400 V for current peak value n=20 rated value	200 000 VA
• up to 500 V for current peak value n=20 rated value	250 000 VA
• up to 690 V for current peak value n=20 rated value	330 000 VA
• up to 1000 V for current peak value n=20 rated value	160 000 VA
operating apparent power at AC-6a	
• up to 230 V for current peak value n=30 rated value	70 000 VA
• up to 400 V for current peak value n=30 rated value	130 000 VA
• up to 500 V for current peak value n=30 rated value	160 000 VA
• up to 690 V for current peak value n=30 rated value	230 000 VA
• up to 1000 V for current peak value n=30 rated value	160 000 VA
short-time withstand current in cold operating state up to 40 °C	

<ul style="list-style-type: none"> • 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 	5 524 A; Use minimum cross-section acc. to AC-1 rated value 4 579 A; Use minimum cross-section acc. to AC-1 rated value 3 153 A; Use minimum cross-section acc. to AC-1 rated value 1 883 A; Use minimum cross-section acc. to AC-1 rated value 1 445 A; Use minimum cross-section acc. to AC-1 rated value
no-load switching frequency	
<ul style="list-style-type: none"> • at AC • at DC 	2 000 1/h 2 000 1/h
operating frequency	
<ul style="list-style-type: none"> • at AC-1 maximum • at AC-2 maximum • at AC-3 maximum • at AC-3e maximum • at AC-4 maximum 	750 1/h 250 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	
<ul style="list-style-type: none"> • at 50 Hz rated value • at 60 Hz rated value 	220 ... 240 V 220 ... 240 V
control supply voltage at DC	
<ul style="list-style-type: none"> • rated value 	220 ... 240 V
operating range factor control supply voltage rated value of magnet coil at DC	
<ul style="list-style-type: none"> • initial value • full-scale value 	0.8 1.1
operating range factor control supply voltage rated value of magnet coil at AC	
<ul style="list-style-type: none"> • at 50 Hz • at 60 Hz 	0.8 ... 1.1 0.8 ... 1.1
design of the surge suppressor	with varistor
apparent pick-up power of magnet coil at AC	
<ul style="list-style-type: none"> • at 50 Hz • at 60 Hz 	590 VA 590 VA
inductive power factor with closing power of the coil	
<ul style="list-style-type: none"> • at 50 Hz • at 60 Hz 	0.9 0.9
apparent holding power of magnet coil at AC	
<ul style="list-style-type: none"> • at 50 Hz • at 60 Hz 	6.7 VA 6.7 VA
inductive power factor with the holding power of the coil	
<ul style="list-style-type: none"> • at 50 Hz • at 60 Hz 	0.9 0.9
closing power of magnet coil at DC	650 W
holding power of magnet coil at DC	7.4 W
closing delay	
<ul style="list-style-type: none"> • at AC • at DC 	30 ... 95 ms 30 ... 95 ms
opening delay	
<ul style="list-style-type: none"> • at AC • at DC 	40 ... 80 ms 40 ... 80 ms
arcing time	10 ... 15 ms
control version of the switch operating mechanism	Standard A1 - A2
Auxiliary circuit	
number of NC contacts for auxiliary contacts instantaneous 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	
<ul style="list-style-type: none"> • 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 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

- 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 302 A
- at 600 V rated value 289 A

yielded mechanical performance [hp]

- for 3-phase AC motor
 - at 200/208 V rated value 100 hp
 - at 220/230 V rated value 125 hp
 - at 460/480 V rated value 250 hp
 - at 575/600 V rated value 300 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: 500 A (690 V, 100 kA)
 - with type of assignment 2 required gG: 400 A (690 V, 100 kA), aM: 315 A (690 V, 50 kA), BS88: 400 A (415 V, 50 kA)
- for short-circuit protection of the auxiliary switch required 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

height

Yes

width

210 mm

depth

145 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
- 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

screw-type terminals
Screw-type terminals
Screw-type terminals
25 mm
6 mm
11 mm
1

70 ... 240 mm²

0.5 ... 4 mm²
0.5 ... 2.5 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), 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

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



[Confirmation](#)



[KC](#)



EMC

Functional Safety/Safety of Machinery

Declaration of Conformity

Test Certificates



[Type Examination Certificate](#)



EG-Konf.



[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)

Test Certificates

Marine / Shipping

[Miscellaneous](#)



ABS



LRS



PRS



RMRS



DNV-GL

other

Railway

Environment

[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=3RT1066-6AP36>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT1066-6AP36>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1066-6AP36>

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

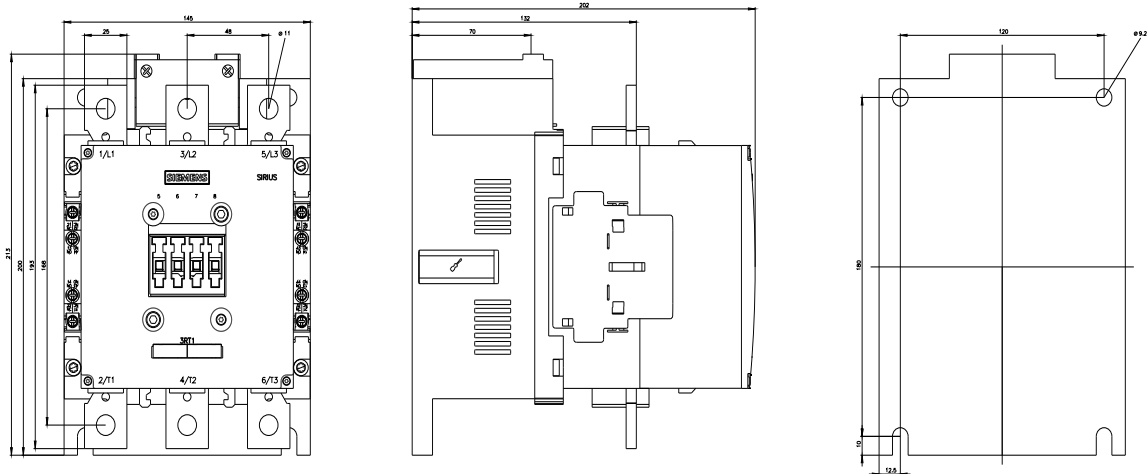
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT1066-6AP36&lang=en

Characteristic: Tripping characteristics, I²t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1066-6AP36/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT1066-6AP36&objecttype=14&gridview=view1>





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