



power contactor, AC-3e/AC-3 300 A, 160 kW / 400 V, AC (50-60 Hz) / DC
 Uc: 440-480 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 690 V rated value | 225 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 |

| | |
|--|--|
| <ul style="list-style-type: none"> ● with 2 current paths in series at DC-1 <ul style="list-style-type: none"> — 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 <ul style="list-style-type: none"> — 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 <ul style="list-style-type: none"> — 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 <ul style="list-style-type: none"> — 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 <ul style="list-style-type: none"> — 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 | <p>300 A 300 A 300 A 300 A 4 A 2 A</p> <p>300 A 300 A 300 A 300 A 11 A 5.2 A</p> <p>300 A 11 A 0.6 A 0.18 A 0.125 A</p> <p>300 A 300 A 300 A 2.5 A 0.65 A 0.37 A</p> <p>300 A 300 A 300 A 300 A 1.4 A 0.75 A</p> |
| operating power | |
| <ul style="list-style-type: none"> ● at AC-3 <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 — at 1000 V rated value ● at AC-3e <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 — at 1000 V rated value | <p>90 kW 160 kW 200 kW 250 kW 132 kW</p> <p>90 kW 160 kW 200 kW 200 kW 132 kW</p> |
| operating power for approx. 200000 operating cycles at AC-4 | |
| <ul style="list-style-type: none"> ● at 400 V rated value ● at 690 V rated value | <p>71 kW 112 kW</p> |
| operating apparent power at AC-6a | |
| <ul style="list-style-type: none"> ● 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 | <p>110 000 kVA 200 000 VA 250 000 VA 330 000 VA 160 000 VA</p> |
| operating apparent power at AC-6a | |
| <ul style="list-style-type: none"> ● 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 | <p>70 000 VA 130 000 VA 160 000 VA 230 000 VA 160 000 VA</p> |

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

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

- at AC
- at DC

2 000 1/h
 2 000 1/h

operating frequency

- 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

- at 50 Hz rated value
- at 60 Hz rated value

440 ... 480 V
 440 ... 480 V

control supply voltage at DC

- rated value

440 ... 480 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

590 VA
 590 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

6.7 VA
 6.7 VA

inductive power factor with the holding power of the coil

- 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

- at AC
- at DC

30 ... 95 ms
 30 ... 95 ms

opening delay

- 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

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

6 A
 3 A
 2 A

| | |
|---|--|
| <ul style="list-style-type: none"> • at 690 V rated value | 1 A |
| operational current at DC-12 | |
| <ul style="list-style-type: none"> • 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 | |
| <ul style="list-style-type: none"> • 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 | |
| <ul style="list-style-type: none"> • at 480 V rated value • at 600 V rated value | 302 A 289 A |
| yielded mechanical performance [hp] | |
| <ul style="list-style-type: none"> • for 3-phase AC motor <ul style="list-style-type: none"> — at 200/208 V rated value — at 220/230 V rated value — at 460/480 V rated value — at 575/600 V rated value | 100 hp 125 hp 250 hp 300 hp |
| contact rating of auxiliary contacts according to UL | A600 / Q600 |
| Short-circuit protection | |
| design of the fuse link | |
| <ul style="list-style-type: none"> • for short-circuit protection of the main circuit <ul style="list-style-type: none"> — with type of coordination 1 required — with type of assignment 2 required • for short-circuit protection of the auxiliary switch required | gG: 500 A (690 V, 100 kA) gG: 400 A (690 V, 100 kA), aM: 315 A (690 V, 50 kA), BS88: 400 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 | screw fixing |
| <ul style="list-style-type: none"> • side-by-side mounting | Yes |
| height | 210 mm |
| width | 145 mm |
| depth | 202 mm |
| required spacing | |
| <ul style="list-style-type: none"> • with side-by-side mounting <ul style="list-style-type: none"> — forwards — upwards — downwards — at the side • for grounded parts <ul style="list-style-type: none"> — forwards — upwards — at the side — downwards • for live parts <ul style="list-style-type: none"> — 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
- 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 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](#)

Marine / Shipping

other



[Confirmation](#)

| other | | Railway | | Environment | |
|-------------------------------|------------------------------|-------------------------------|--|-------------------------------------|---|
| Miscellaneous | Confirmation | Miscellaneous | Special Test Certificate | Vibration and Shock | Environmental Confirmations |

Further information

Siemens has decided to exit the Russian market (see here).

<https://press.siemens.com/global/en/pressrelease/siemens-wind-down-russian-business>

Siemens is working on the renewal of the current EAC certificates.

Please contact your local Siemens office on the status of validity of the EAC certification if you intend to import or offer to supply these products to an EAC relevant market (other than the sanctioned EAEU member states Russia or Belarus).

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=3RT1066-6AR36>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT1066-6AR36>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1066-6AR36>

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

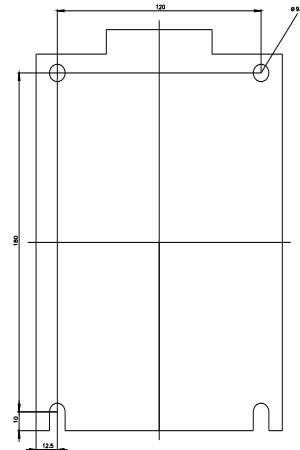
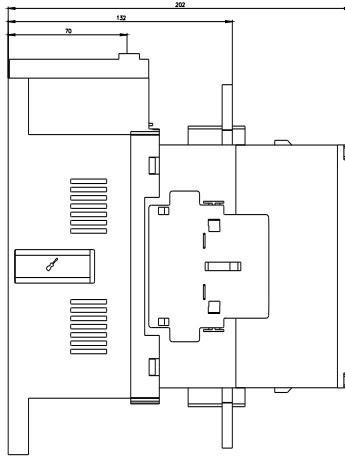
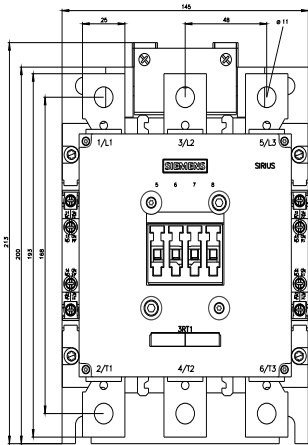
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT1066-6AR36&lang=en

Characteristic: Tripping characteristics, I_t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1066-6AR36/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT1066-6AR36&objecttype=14&gridview=view1>





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