

Power contactor, AC-3 225 A, 110 kW / 400 V AC (50-60 Hz) / DC operation 220-240 V UC Auxiliary contacts 2 NO + 2 NC 3-pole, Size S10 Busbar connections Drive: conventional 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 |
| 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 acc. to EN 60947-1 | 690 V |
| Protection class IP | |
| • on the front | IP00; IP20 on the front with cover / box terminal |
| • of the terminal | IP00 |
| Shock resistance at rectangular impulse | |
| • at AC | 8,5g / 5 ms, 4,2g / 10 ms |

| | |
|---|----------------------------|
| <ul style="list-style-type: none"> • at DC | 8,5g / 5 ms, 4,2g / 10 ms |
| Shock resistance with sine pulse | |
| <ul style="list-style-type: none"> • at AC | 13,4g / 5 ms, 6,5g / 10 ms |
| <ul style="list-style-type: none"> • at DC | 13,4g / 5 ms, 6,5g / 10 ms |
| Mechanical service life (switching cycles) | |
| <ul style="list-style-type: none"> • of contactor typical | 10 000 000 |
| <ul style="list-style-type: none"> • of the contactor with added electronics-compatible auxiliary switch block typical | 5 000 000 |
| <ul style="list-style-type: none"> • of the contactor with added auxiliary switch block typical | 10 000 000 |
| Reference code acc. to DIN 40719 extended according to IEC 204-2 acc. to IEC 750 | K |
| Reference code acc. to DIN EN 81346-2 | Q |

Ambient conditions

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| Installation altitude at height above sea level | |
| <ul style="list-style-type: none"> • maximum | 2 000 m |
| Ambient temperature | |
| <ul style="list-style-type: none"> • during operation | -25 ... +60 °C |
| <ul style="list-style-type: none"> • during storage | -55 ... +80 °C |

Main circuit

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|---|----------------------------------|
| Number of poles for main current circuit | 3 |
| Number of NO contacts for main contacts | 3 |
| Operating voltage | |
| <ul style="list-style-type: none"> • at AC-3 rated value maximum | 1 000 V |
| Operating current | |
| <ul style="list-style-type: none"> • at AC-1 at 400 V <ul style="list-style-type: none"> — at ambient temperature 40 °C rated value | 275 A |
| <ul style="list-style-type: none"> • at AC-1 <ul style="list-style-type: none"> — up to 690 V at ambient temperature 40 °C rated value — up to 690 V at ambient temperature 60 °C rated value — up to 1000 V at ambient temperature 40 °C rated value — up to 1000 V at ambient temperature 60 °C rated value | 275 A 250 A 100 A 100 A |
| <ul style="list-style-type: none"> • at AC-2 at 400 V rated value | 225 A |
| <ul style="list-style-type: none"> • at AC-3 <ul style="list-style-type: none"> — at 400 V rated value — at 500 V rated value — at 690 V rated value — at 1000 V rated value | 225 A 225 A 225 A 68 A |

| | |
|--|---------------------|
| • at AC-4 at 400 V rated value | 195 A |
| • at AC-5a up to 690 V rated value | 242 A |
| • at AC-5b up to 400 V rated value | 186 A |
| • at AC-6a | |
| — up to 230 V for current peak value n=20 rated value | 227 A |
| — up to 400 V for current peak value n=20 rated value | 227 A |
| — up to 500 V for current peak value n=20 rated value | 227 A |
| — up to 690 V for current peak value n=20 rated value | 227 A |
| — up to 1000 V for current peak value n=20 rated value | 68 A |
| • at AC-6a | |
| — up to 230 V for current peak value n=30 rated value | 151 A |
| — up to 400 V for current peak value n=30 rated value | 151 A |
| — up to 500 V for current peak value n=30 rated value | 151 A |
| — up to 690 V for current peak value n=30 rated value | 151 A |
| — up to 1000 V for current peak value n=30 rated value | 68 A |
| Minimum cross-section in main circuit | |
| • at maximum AC-1 rated value | 150 mm ² |
| Operating current for approx. 200000 operating cycles at AC-4 | |
| • at 400 V rated value | 96 A |
| • at 690 V rated value | 85 A |
| Operating current | |
| • at 1 current path at DC-1 | |
| — at 24 V rated value | 200 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 | 200 A |
| — at 110 V rated value | 200 A |
| — at 220 V rated value | 20 A |
| — at 440 V rated value | 3.2 A |

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|--|--------|
| — at 600 V rated value | 1.6 A |
| • with 3 current paths in series at DC-1 | |
| — at 24 V rated value | 200 A |
| — at 110 V rated value | 200 A |
| — at 220 V rated value | 200 A |
| — at 440 V rated value | 11 A |
| — at 600 V rated value | 4 A |
| Operating current | |
| • at 1 current path at DC-3 at DC-5 | |
| — at 24 V rated value | 200 A |
| — at 110 V rated value | 2.5 A |
| — at 220 V rated value | 0.6 A |
| — at 440 V rated value | 0.17 A |
| — at 600 V rated value | 0.12 A |
| • with 2 current paths in series at DC-3 at DC-5 | |
| — at 24 V rated value | 200 A |
| — at 110 V rated value | 200 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 | 200 A |
| — at 110 V rated value | 200 A |
| — at 220 V rated value | 200 A |
| — at 440 V rated value | 1.4 A |
| — at 600 V rated value | 0.75 A |
| Operating power | |
| • at AC-1 | |
| — at 230 V at 60 °C rated value | 94 kW |
| — at 400 V rated value | 164 kW |
| — at 400 V at 60 °C rated value | 164 kW |
| — at 690 V rated value | 283 kW |
| — at 690 V at 60 °C rated value | 283 kW |
| — at 1000 V at 60 °C rated value | 164 kW |
| • at AC-2 at 400 V rated value | 110 kW |
| • at AC-3 | |
| — at 230 V rated value | 55 kW |
| — at 400 V rated value | 110 kW |
| — at 500 V rated value | 160 kW |
| — at 690 V rated value | 200 kW |
| — at 1000 V rated value | 90 kW |

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|--|---|
| 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>54 kW</p> <p>82 kW</p> |
| Thermal short-time current limited to 10 s | 1 800 A |
| Power loss [W] at AC-3 at 400 V for rated value of the operating current per conductor | 17 W |
| No-load switching frequency | |
| <ul style="list-style-type: none"> • at AC • at DC | <p>2 000 1/h</p> <p>2 000 1/h</p> |
| Operating frequency | |
| <ul style="list-style-type: none"> • at AC-1 maximum • at AC-2 maximum • at AC-3 maximum • at AC-4 maximum | <p>750 1/h</p> <p>250 1/h</p> <p>500 1/h</p> <p>130 1/h</p> |

| 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 | <p>220 ... 240 V</p> <p>220 ... 240 V</p> |
| 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 | <p>0.8</p> <p>1.1</p> |
| 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 | <p>0.8 ... 1.1</p> <p>0.8 ... 1.1</p> |
| 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 | 590 V·A |
| Inductive power factor with closing power of the coil | |
| <ul style="list-style-type: none"> • at 50 Hz | 0.9 |
| Apparent holding power of magnet coil at AC | |
| <ul style="list-style-type: none"> • at 50 Hz | 6.7 V·A |
| Inductive power factor with the holding power of the coil | |
| <ul style="list-style-type: none"> • at 50 Hz | 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 | |
| <ul style="list-style-type: none"> • instantaneous contact | 2 |
| Number of NO contacts for auxiliary contacts | |
| <ul style="list-style-type: none"> • instantaneous contact | 2 |
| Operating current at AC-12 maximum | 10 A |
| Operating 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 |
| Operating 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 |
| Operating 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 three-phase AC motor | |
| <ul style="list-style-type: none"> • at 480 V rated value • at 600 V rated value | 180 A 192 A |
| Yielded mechanical performance [hp] | |
| <ul style="list-style-type: none"> • for three-phase AC motor | |

| | |
|----------------------------|--------|
| — at 200/208 V rated value | 60 hp |
| — at 220/230 V rated value | 75 hp |
| — at 460/480 V rated value | 150 hp |
| — at 575/600 V rated value | 200 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: 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

Mounting type

screw fixing

- Side-by-side mounting

Yes

Height

210 mm

Width

145 mm

Depth

202 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 current circuit

Connection bar
 screw-type terminals

| | |
|---|---|
| <ul style="list-style-type: none"> • at contactor for auxiliary contacts • of magnet coil | <p>Screw-type terminals</p> <p>Screw-type terminals</p> |
| Type of connectable conductor cross-sections <ul style="list-style-type: none"> • at AWG conductors for main contacts | 2/0 ... 500 kcmil |
| Connectable conductor cross-section for main contacts <ul style="list-style-type: none"> • stranded | 70 ... 240 mm ² |
| Connectable conductor cross-section for auxiliary contacts <ul style="list-style-type: none"> • single or multi-stranded • finely stranded with core end processing | <p>0.5 ... 4 mm²</p> <p>0.5 ... 2.5 mm²</p> |
| Type of connectable conductor cross-sections <ul style="list-style-type: none"> • for auxiliary contacts <ul style="list-style-type: none"> — solid — single or multi-stranded — finely stranded with core end processing • at AWG conductors for auxiliary contacts | <p>2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²), max. 2x (0.75 ... 4 mm²)</p> <p>2x (0,5 ... 1,5 mm²), 2x (0,75 ... 2,5 mm²), max. 2x (0,75 ... 4 mm²)</p> <p>2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²)</p> <p>2x (20 ... 16), 2x (18 ... 14), 1x 12</p> |
| AWG number as coded connectable conductor cross section <ul style="list-style-type: none"> • for auxiliary contacts | 18 ... 14 |

Safety related data

| | |
|---|--|
| B10 value <ul style="list-style-type: none"> • with high demand rate acc. to SN 31920 | 1 000 000 |
| Product function <ul style="list-style-type: none"> • Mirror contact acc. to IEC 60947-4-1 • positively driven operation acc. to IEC 60947-5-1 | <p>Yes</p> <p>No</p> |
| Protection against electrical shock | finger-safe when touched vertically from front acc. to IEC 60529 |

Certificates/ approvals

| | | |
|--------------------------|-----|---------------------------------------|
| General Product Approval | EMC | Functional Safety/Safety of Machinery |
|--------------------------|-----|---------------------------------------|



[Type Examination Certificate](#)

| | | |
|---------------------------|-------------------|-------------------|
| Declaration of Conformity | Test Certificates | Marine / Shipping |
|---------------------------|-------------------|-------------------|



[Miscellaneous](#)

[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)

[Miscellaneous](#)



| | | |
|-------------------|-------|---------|
| Marine / Shipping | other | Railway |
|-------------------|-------|---------|



[Confirmation](#)

[Miscellaneous](#)

[Special Test Certificate](#)

Further information

Information- and Downloadcenter (Catalogs, Brochures,...)

www.siemens.com/sirius/catalogs

Industry Mall (Online ordering system)

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RT1064-6AP36>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT1064-6AP36>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1064-6AP36>

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

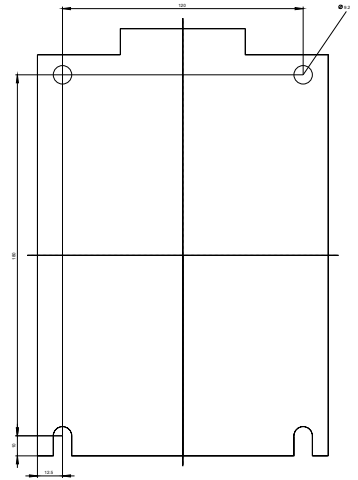
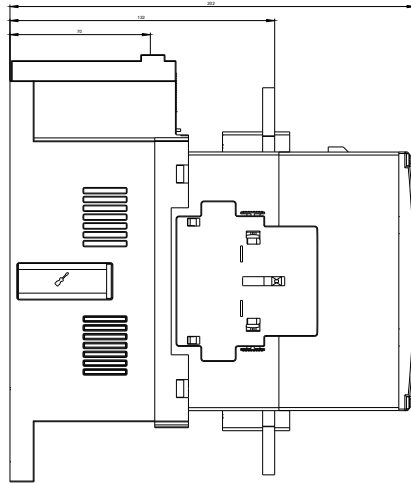
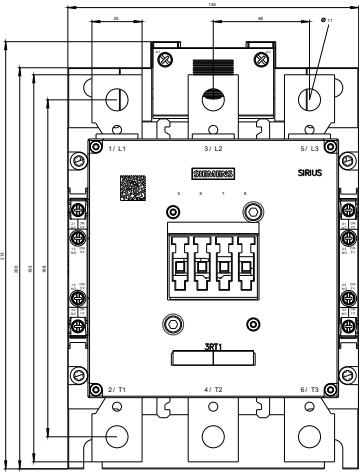
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT1064-6AP36&lang=en

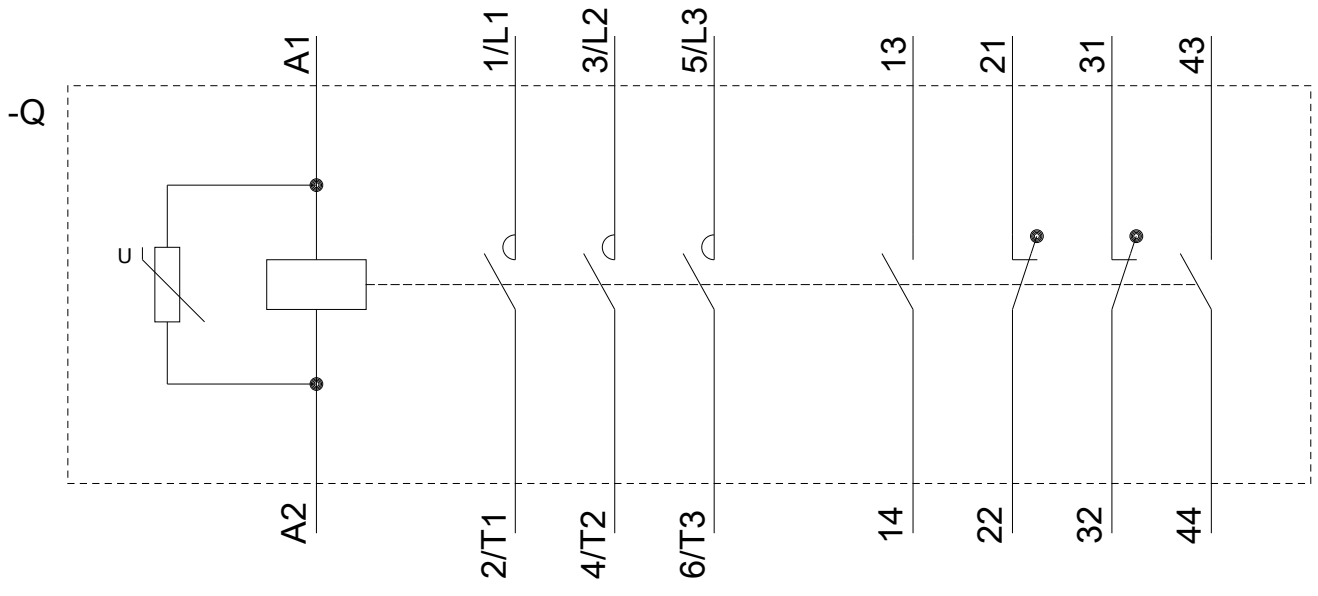
Characteristic: Tripping characteristics, I_t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1064-6AP36/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT1064-6AP36&objecttype=14&gridview=view1>





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