

power contactor, AC-3 50 A, 22 kW / 400 V 2 NO + 2 NC, 230 V AC, 50 Hz, 3-pole, Size S2, screw terminal



Figure similar

| | |
|---|-----------------|
| Product brand name | SIRIUS |
| Product designation | Power contactor |
| Product type designation | 3RT2 |
| General technical data | |
| Size of contactor | S2 |
| Product extension | |
| • function module for communication | No |
| • Auxiliary switch | No |
| Surge voltage resistance | |
| • of main circuit rated value | 6 kV |
| • of auxiliary circuit rated value | 6 kV |
| maximum permissible voltage for safe isolation | |
| • between coil and main contacts acc. to EN 60947-1 | 400 V |
| Protection class IP | |
| • on the front | IP20 |
| • of the terminal | IP00 |

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| Shock resistance at rectangular impulse | |
| • at AC | 9.8g / 5 ms, 6.5g / 10 ms |
| Shock resistance with sine pulse | |
| • at AC | 15.3g / 5 ms, 10.1g / 10 ms |
| Mechanical service life (switching cycles) | |
| • of contactor typical | 10 000 000 |
| • of the contactor with added electronics-compatible auxiliary switch block typical | 5 000 000 |
| • 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 |

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| 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 |

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| 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 | 690 V |
| Operating current | |
| • at AC-1 at 400 V | |
| — at ambient temperature 40 °C rated value | 70 A |
| • at AC-1 | |
| — up to 690 V at ambient temperature 40 °C rated value | 70 A |
| — up to 690 V at ambient temperature 60 °C rated value | 60 A |
| • at AC-2 at 400 V rated value | 50 A |
| • at AC-3 | |
| — at 400 V rated value | 51 A |
| — at 500 V rated value | 51 A |
| — at 690 V rated value | 24 A |
| • at AC-4 at 400 V rated value | 41 A |
| Connectable conductor cross-section in main circuit at AC-1 | |
| • at 60 °C minimum permissible | 16 mm ² |
| • at 40 °C minimum permissible | 25 mm ² |

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| Operating current 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>24 A</p> <p>20 A</p> |
| Operating current | |
| <ul style="list-style-type: none"> • at 1 current path at DC-1 <ul style="list-style-type: none"> — at 24 V rated value — at 110 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-1 <ul style="list-style-type: none"> — at 24 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 110 V rated value — at 220 V rated value — at 440 V rated value — at 600 V rated value | <p>55 A</p> <p>4.5 A</p> <p>1 A</p> <p>0.4 A</p> <p>0.25 A</p> <p>55 A</p> <p>45 A</p> <p>5 A</p> <p>1 A</p> <p>0.8 A</p> <p>55 A</p> <p>55 A</p> <p>45 A</p> <p>2.9 A</p> <p>1.4 A</p> |
| Operating current | |
| <ul style="list-style-type: none"> • at 1 current path at DC-3 at DC-5 <ul style="list-style-type: none"> — at 24 V rated value — at 110 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 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 110 V rated value — at 220 V rated value — at 440 V rated value | <p>35 A</p> <p>2.5 A</p> <p>1 A</p> <p>0.1 A</p> <p>0.06 A</p> <p>55 A</p> <p>25 A</p> <p>5 A</p> <p>0.27 A</p> <p>0.16 A</p> <p>55 A</p> <p>55 A</p> <p>25 A</p> <p>0.6 A</p> |

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| — at 600 V rated value | 0.35 A |
| Operating power | |
| • at AC-1 | |
| — at 230 V rated value | 26 kW |
| — at 230 V at 60 °C rated value | 23 kW |
| — at 400 V rated value | 46 kW |
| — at 400 V at 60 °C rated value | 39 kW |
| — at 690 V rated value | 79 kW |
| — at 690 V at 60 °C rated value | 68 kW |
| • at AC-2 at 400 V rated value | 22 kW |
| • at AC-3 | |
| — at 230 V rated value | 15 kW |
| — at 400 V rated value | 22 kW |
| — at 500 V rated value | 30 kW |
| — at 690 V rated value | 22 kW |
| Operating power for approx. 200000 operating cycles at AC-4 | |
| • at 400 V rated value | 12.6 kW |
| • at 690 V rated value | 18.2 kW |
| Thermal short-time current limited to 10 s | 420 A |
| Power loss [W] at AC-3 at 400 V for rated value of the operating current per conductor | 4 W |
| No-load switching frequency | |
| • at AC | 5 000 1/h |
| Operating frequency | |
| • at AC-1 maximum | 1 000 1/h |
| • at AC-2 maximum | 600 1/h |
| • at AC-3 maximum | 800 1/h |
| • at AC-4 maximum | 250 1/h |
| Control circuit/ Control | |
| Type of voltage of the control supply voltage | AC |
| Control supply voltage at AC | |
| • at 50 Hz rated value | 230 V |
| Operating range factor control supply voltage rated value of magnet coil at AC | |
| • at 50 Hz | 0.8 ... 1.1 |
| Apparent pick-up power of magnet coil at AC | |
| • at 50 Hz | 190 V·A |
| Inductive power factor with closing power of the coil | |
| • at 50 Hz | 0.72 |
| Apparent holding power of magnet coil at AC | |
| • at 50 Hz | 16 V·A |

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| Inductive power factor with the holding power of the coil | |
| • at 50 Hz | 0.37 |
| Closing delay | |
| • at AC | 10 ... 80 ms |
| Opening delay | |
| • at AC | 10 ... 18 ms |
| Arcing time | 10 ... 20 ms |
| Control version of the switch operating mechanism | Standard A1 - A2 |

Auxiliary circuit

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|---|---|
| Number of NC contacts for auxiliary contacts | |
| • instantaneous contact | 2 |
| Number of NO contacts for auxiliary contacts | |
| • instantaneous contact | 2 |
| Operating current at AC-12 maximum | 10 A |
| Operating current at AC-15 | |
| • at 230 V rated value | 6 A |
| • at 400 V rated value | 3 A |
| • at 500 V rated value | 2 A |
| • at 690 V rated value | 1 A |
| Operating 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 |
| Operating current at DC-13 | |
| • at 24 V rated value | 6 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 three-phase AC motor | |
| • at 480 V rated value | 52 A |
| • at 600 V rated value | 52 A |

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| Yielded mechanical performance [hp] | |
| <ul style="list-style-type: none"> • for single-phase AC motor <ul style="list-style-type: none"> — at 110/120 V rated value — at 230 V rated value • for three-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 | <p>3 hp</p> <p>10 hp</p> <p>15 hp</p> <p>15 hp</p> <p>40 hp</p> <p>50 hp</p> |
| 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 | <p>gG: 160 A (690 V, 100 kA), aM: 80 A (690 V, 100 kA), BS88: 125 A (415 V, 80 kA)</p> <p>gG: 80A (690V,100kA), aM: 50A (690V,100kA), BS88: 63A (415V,80kA)</p> <p>fuse gG: 10 A</p> |

Installation/ mounting/ dimensions

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|--|--|
| Mounting position | +/-180° rotation possible on vertical mounting surface; can be tilted forward and backward by +/- 22.5° on vertical mounting surface |
| Mounting type | screw and snap-on mounting onto 35 mm standard mounting rail according to DIN EN 60715 |
| <ul style="list-style-type: none"> • Side-by-side mounting | Yes |
| Height | 114 mm |
| Width | 55 mm |
| Depth | 174 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 | <p>10 mm</p> <p>10 mm</p> <p>10 mm</p> <p>0 mm</p> <p>10 mm</p> <p>10 mm</p> <p>6 mm</p> <p>10 mm</p> <p>10 mm</p> |

| | |
|---------------|-------|
| — upwards | 10 mm |
| — downwards | 10 mm |
| — at the side | 6 mm |

Connections/Terminals

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|--|---|
| Type of electrical connection | |
| <ul style="list-style-type: none"> • for main current circuit • for auxiliary and control current circuit | <p>screw-type terminals</p> <p>screw-type terminals</p> |
| Type of connectable conductor cross-sections | |
| <ul style="list-style-type: none"> • for main contacts <ul style="list-style-type: none"> — single or multi-stranded — finely stranded with core end processing • at AWG conductors for main contacts | <p>2x (1 ... 35 mm²), 1x (1 ... 50 mm²)</p> <p>2x (1 ... 25 mm²), 1x (1 ... 35 mm²)</p> <p>2x (18 ... 2), 1x (18 ... 1)</p> |
| Connectable conductor cross-section for main contacts | |
| <ul style="list-style-type: none"> • finely stranded with core end processing | 1 ... 35 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 ... 2.5 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"> — 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)</p> <p>2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²)</p> <p>2x (20 ... 16), 2x (18 ... 14)</p> |
| AWG number as coded connectable conductor cross section | |
| <ul style="list-style-type: none"> • for main contacts • for auxiliary contacts | <p>18 ... 1</p> <p>20 ... 14</p> |




Safety related data

| | |
|---|-------------------------|
| B10 value | |
| <ul style="list-style-type: none"> • with high demand rate acc. to SN 31920 | 1 000 000 |
| Proportion of dangerous failures | |
| <ul style="list-style-type: none"> • with low demand rate acc. to SN 31920 • with high demand rate acc. to SN 31920 | <p>40 %</p> <p>73 %</p> |
| Failure rate [FIT] | |
| <ul style="list-style-type: none"> • with low demand rate acc. to SN 31920 | 100 FIT |
| 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> |
| T1 value for proof test interval or service life acc. to IEC 61508 | 20 y |

Certificates/approvals

| | | | | | |
|---|---|---|---|--|---|
| General Product Approval | | | | Functional Safety/Safety of Machinery | Declaration of Conformity |
|  |  |  |  | Type Examination Certificate |  |
| CCC | CSA | UL | | | EG-Konf. |

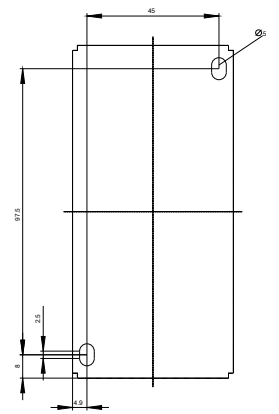
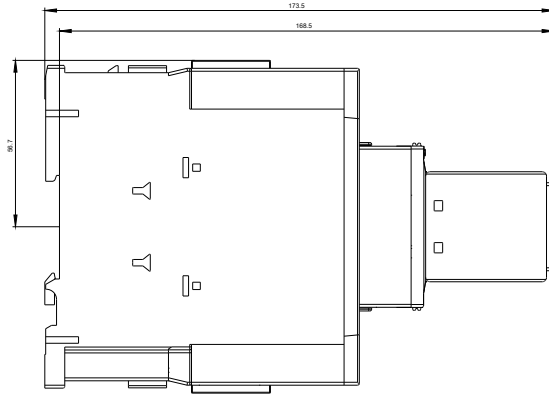
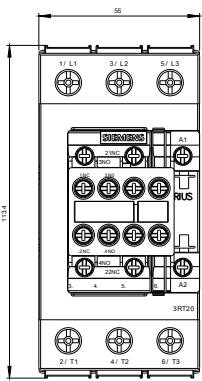
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|--|--|---|---|---|---|
| Test Certificates | Marine / Shipping | | | | |
| Type Test Certificates/Test Report | Special Test Certificate |  |  |  |  |
| | | ABS | BUREAU VERITAS | LRS | PRS |

| | | |
|---|---|---|
| Marine / Shipping | other | |
|  |  |  |
| RINA | RMRS | DNV-GL DNVGL.COM/AF |

[Confirmation](#)

Further information

- Information- and Downloadcenter (Catalogs, Brochures,...)**
<http://www.siemens.com/industrial-controls/catalogs>
- Industry Mall (Online ordering system)**
<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RT2036-1AP04>
- Cax online generator**
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2036-1AP04>
- Service&Support (Manuals, Certificates, Characteristics, FAQs,...)**
<https://support.industry.siemens.com/cs/ww/en/ps/3RT2036-1AP04>
- Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)**
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2036-1AP04&lang=en
- Characteristic: Tripping characteristics, I²t, Let-through current**
<https://support.industry.siemens.com/cs/ww/en/ps/3RT2036-1AP04/char>
- Further characteristics (e.g. electrical endurance, switching frequency)**
<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2036-1AP04&objecttype=14&gridview=view1>





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