

CONTACTOR, AC3: 37KW/400V, 1NO+1NC, 110VAC 50/60HZ, 3-POLE, 3NO, SIZE: S3, SPRING-TYPE TERMINALS



Figure similar

| | |
|--------------------------|-----------------|
| Product brand name | SIRIUS |
| Product designation | Power contactor |
| Product type designation | 3RT2 |

| General technical data | |
|---|---------|
| Size of contactor | S3 |
| Product extension | |
| • function module for communication | No |
| • Auxiliary switch | Yes |
| Insulation voltage | |
| • rated value | 1 000 V |
| Degree of pollution | 3 |
| Surge voltage resistance 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 | IP20 |

| | |
|---|---------------------------------------|
| <ul style="list-style-type: none"> • of the terminal | IP00 |
| Shock resistance at rectangular impulse <ul style="list-style-type: none"> • at AC | 6.7 g / 5 ms, 4.0 g / 10 ms |
| Shock resistance with sine pulse <ul style="list-style-type: none"> • at AC | 10.6 g / 5 ms, 6.3 g / 10 ms |
| Mechanical service life (switching cycles) <ul style="list-style-type: none"> • of contactor typical • of the contactor with added electronics-compatible auxiliary switch block typical • of the contactor with added auxiliary switch block typical | 10 000 000 5 000 000 10 000 000 |

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|---|----------------------------------|
| Ambient conditions | |
| 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 • during storage | -25 ... +60 °C -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 <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 • 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 • at AC-2 at 400 V rated value • at AC-3 <ul style="list-style-type: none"> — at 400 V rated value — at 500 V rated value — at 690 V rated value | 125 A 125 A 105 A 80 A 80 A 80 A 58 A |
| Connectable conductor cross-section in main circuit at AC-1 <ul style="list-style-type: none"> • at 60 °C minimum permissible • at 40 °C minimum permissible | 35 mm ² 50 mm ² |
| Operating current for approx. 200000 operating cycles at AC-4 <ul style="list-style-type: none"> • at 400 V rated value | 34 A |

| | |
|--|--|
| <ul style="list-style-type: none"> • at 690 V rated value | 24 A |
| 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 | 100 A 9 A 2 A 0.6 A 0.4 A 100 A 100 A 10 A 1.8 A 1 A 100 A 100 A 80 A 4.5 A 2.6 A |
| 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 — at 600 V rated value | 40 A 2.5 A 1 A 0.15 A 0.06 A 100 A 100 A 7 A 0.42 A 0.16 A 100 A 100 A 35 A 0.8 A 0.35 A |
| Operating power | |
| <ul style="list-style-type: none"> • at AC-1 | |

| | |
|---|--------------|
| — at 230 V rated value | 47 kW |
| — at 230 V at 60 °C rated value | 40 kW |
| — at 400 V rated value | 82 kW |
| — at 400 V at 60 °C rated value | 69 kW |
| — at 690 V rated value | 142 kW |
| — at 690 V at 60 °C rated value | 119 kW |
| • at AC-2 at 400 V rated value | 37 kW |
| • at AC-3 | |
| — at 230 V rated value | 22 kW |
| — at 400 V rated value | 37 kW |
| — at 500 V rated value | 45 kW |
| — at 690 V rated value | 55 kW |
| Operating power for approx. 200000 operating cycles at AC-4 | |
| • at 400 V rated value | 17.9 kW |
| • at 690 V rated value | 21.8 kW |
| Thermal short-time current limited to 10 s | 760 A |
| Power loss [W] at AC-3 at 400 V for rated value of the operating current per conductor | 5.3 W |
| No-load switching frequency | |
| • at AC | 5 000 1/h |
| Operating frequency | |
| • at AC-1 maximum | 900 1/h |
| • at AC-2 maximum | 400 1/h |
| • at AC-3 maximum | 1 000 1/h |
| • at AC-4 maximum | 300 1/h |
| Control circuit/ Control | |
| Type of voltage of the control supply voltage | AC |
| Control supply voltage at AC | |
| • at 50 Hz rated value | 110 V |
| • at 60 Hz rated value | 110 V |
| Operating range factor control supply voltage rated value of magnet coil at AC | |
| • at 50 Hz | 0.8 ... 1.1 |
| • at 60 Hz | 0.85 ... 1.1 |
| Apparent pick-up power of magnet coil at AC | |
| • at 50 Hz | 348 V·A |
| • at 60 Hz | 296 V·A |
| Inductive power factor with closing power of the coil | |
| • at 50 Hz | 0.62 |
| • at 60 Hz | 0.55 |
| Apparent holding power of magnet coil at AC | |

| | |
|---|--|
| <ul style="list-style-type: none"> • at 50 Hz • at 60 Hz | 25 V·A 18 V·A |
| Inductive power factor with the holding power of the coil | |
| <ul style="list-style-type: none"> • at 50 Hz • at 60 Hz | 0.35 0.41 |
| Closing delay | |
| <ul style="list-style-type: none"> • at AC | 13 ... 50 ms |
| Opening delay | |
| <ul style="list-style-type: none"> • at AC | 10 ... 21 ms |
| Arcing time | 10 ... 20 ms |
| Auxiliary circuit | |
| Number of NC contacts | |
| <ul style="list-style-type: none"> • for auxiliary contacts <ul style="list-style-type: none"> — instantaneous contact | 1 |
| Number of NO contacts | |
| <ul style="list-style-type: none"> • for auxiliary contacts <ul style="list-style-type: none"> — instantaneous contact | 1 |
| 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 | <p>77 A</p> <p>62 A</p> |
| 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>7.5 hp</p> <p>15 hp</p> <p>25 hp</p> <p>30 hp</p> <p>60 hp</p> <p>60 hp</p> |
| Contact rating of auxiliary contacts according to UL | A600 / P600 |

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>gL/gG NH 3NA, DIAZED 5SB, NEOZED 5SE: 250 A</p> <p>gL/gG NH 3NA, DIAZED 5SB, NEOZED 5SE: 160 A</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 | 140 mm |
| Width | 70 mm |
| Depth | 152 mm |
| Required spacing | |
| <ul style="list-style-type: none"> • with side-by-side mounting <ul style="list-style-type: none"> — forwards — Backwards — upwards — downwards — at the side • for grounded parts <ul style="list-style-type: none"> — forwards — Backwards — upwards | <p>0 mm</p> <p>0 mm</p> <p>0 mm</p> <p>0 mm</p> <p>0 mm</p> <p>0 mm</p> <p>0 mm</p> <p>0 mm</p> <p>10 mm</p> |

| | |
|------------------|-------|
| — at the side | 10 mm |
| — downwards | 10 mm |
| • for live parts | |
| — forwards | 0 mm |
| — Backwards | 0 mm |
| — upwards | 10 mm |
| — downwards | 10 mm |
| — at the side | 10 mm |

Connections/Terminals






| | |
|---|--|
| Type of electrical connection | |
| • for main current circuit | screw-type terminals |
| • for auxiliary and control current circuit | spring-loaded terminals |
| Type of connectable conductor cross-sections | |
| • for main contacts | |
| — finely stranded with core end processing | 2x (2.5 ... 35 mm ²), 1x (2.5 ... 50 mm ²) |
| • at AWG conductors for main contacts | 2x (10 ... 1/0), 1x (10 ... 2) |
| Type of connectable conductor cross-sections | |
| • for auxiliary contacts | |
| — single or multi-stranded | 2x (0,5 ... 2,5 mm ²) |
| — finely stranded with core end processing | 2x (0.5 ... 1.5 mm ²) |
| — finely stranded without core end processing | 2x (0.5 ... 2.5 mm ²) |
| • at AWG conductors for auxiliary contacts | 2x (20 ... 16) |


Safety related data

| | |
|---|--|
| B10 value | |
| • with high demand rate acc. to SN 31920 | 1 000 000 |
| Proportion of dangerous failures | |
| • with low demand rate acc. to SN 31920 | 40 % |
| • with high demand rate acc. to SN 31920 | 73 % |
| Product function | |
| • Mirror contact acc. to IEC 60947-4-1 | Yes |
| • positively driven operation acc. to IEC 60947-5-1 | No |
| T1 value for proof test interval or service life acc. to IEC 61508 | 20 y |
| Protection against electrical shock | finger-safe when touched vertically from front acc. to IEC 60529 |

Certificates/approvals

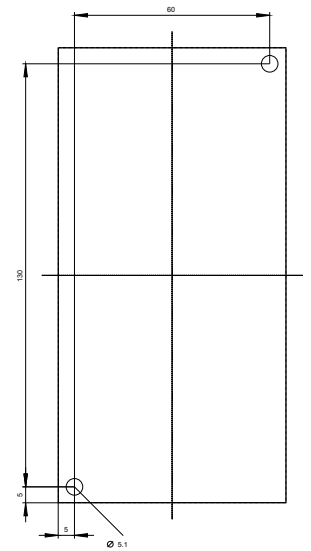
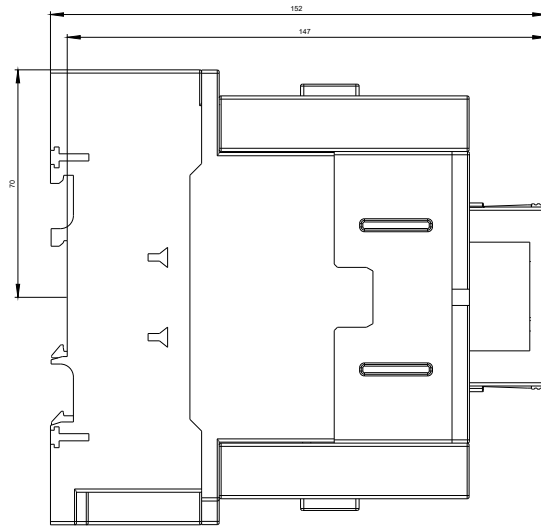
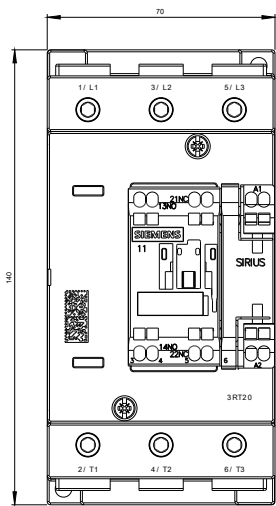
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|--|--|---|---|---|--|
| General Product Approval | | | | Declaration of Conformity | Test Certificates |
|  CCC |  CSA |  UL |  |  EG-Konf. | Type Test Certificates/Test Report |

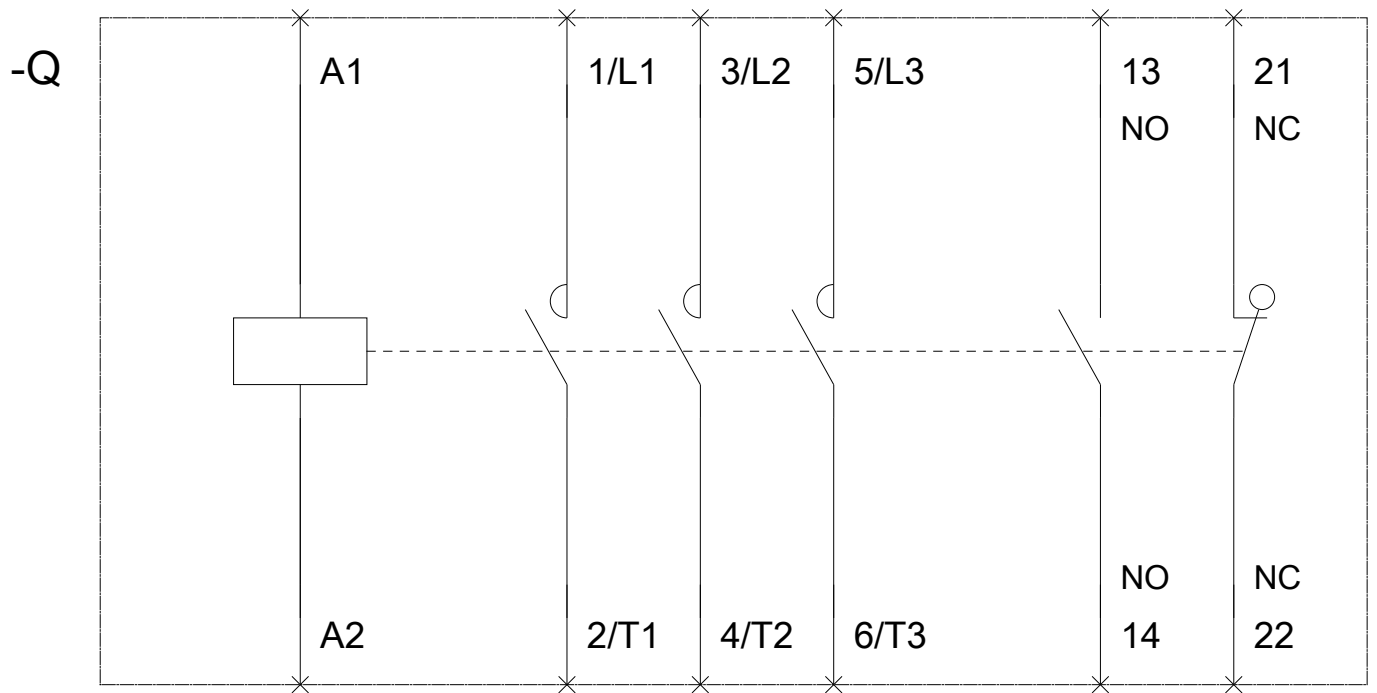
| | | | | | |
|--|--|---|---|--|---|
| Test Certificates | Marine / Shipping | | | | |
| Special Test Certificate |  ABS |  BUREAU VERITAS |  GL |  LRS |  RMRS |

| | | |
|---|------------------------------|-------------------------------------|
| Marine / Shipping | other | Railway |
|  DNV-GL DNVGL.COM/AF | Confirmation | Vibration and Shock |

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=3RT2045-3AG20>
- Cax online generator**
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2045-3AG20>
- Service&Support (Manuals, Certificates, Characteristics, FAQs,...)**
<https://support.industry.siemens.com/cs/ww/en/ps/3RT2045-3AG20>
- Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)**
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2045-3AG20&lang=en





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