

CONTACTOR, AC-3, 4KW/400V, 1NO, DC 24V, 3-POLE, SZ S00
SPRING-LOADED TERMINAL



| | |
|---|-----------------|
| product brandname | SIRIUS |
| Product designation | Power contactor |
| Product type designation | 3RT2 |
| General technical data | |
| Size of contactor | S00 |
| Product extension | |
| • function module for communication | No |
| • Auxiliary switch | Yes |
| Insulation voltage | |
| • rated value | 690 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 | 400 V |
| Protection class IP | |
| • on the front | IP20 |
| • of the terminal | IP20 |
| Shock resistance at rectangular impulse | |

| | |
|---|----------------------------|
| <ul style="list-style-type: none"> • at DC | 6,7g / 5 ms, 4,2g / 10 ms |
| Shock resistance with sine pulse | |
| <ul style="list-style-type: none"> • at DC | 10,5g / 5 ms, 6,6g / 10 ms |
| Mechanical service life (switching cycles) | |
| <ul style="list-style-type: none"> • of contactor typical | 30 000 000 |
| <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 |

Ambient conditions

| | |
|--|----------------|
| 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

| | |
|---|---------------------|
| 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 | 690 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 | 22 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 | 22 A |
| <ul style="list-style-type: none"> — up to 690 V at ambient temperature 60 °C rated value | 20 A |
| <ul style="list-style-type: none"> • at AC-2 at 400 V rated value | 9 A |
| <ul style="list-style-type: none"> • at AC-3 <ul style="list-style-type: none"> — at 400 V rated value | 9 A |
| <ul style="list-style-type: none"> — at 500 V rated value | 7.7 A |
| <ul style="list-style-type: none"> — at 690 V rated value | 6.7 A |
| Connectable conductor cross-section in main circuit at AC-1 | |
| <ul style="list-style-type: none"> • at 60 °C minimum permissible | 2.5 mm ² |
| <ul style="list-style-type: none"> • at 40 °C minimum permissible | 4 mm ² |
| Operating current for approx. 200000 operating cycles at AC-4 | |
| <ul style="list-style-type: none"> • at 400 V rated value | 4.1 A |
| <ul style="list-style-type: none"> • at 690 V rated value | 3.3 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 | 20 A |

| | |
|--|--------|
| — at 110 V rated value | 2.1 A |
| — at 220 V rated value | 0.8 A |
| — at 440 V rated value | 0.6 A |
| — at 600 V rated value | 0.6 A |
| • with 2 current paths in series at DC-1 | |
| — at 24 V rated value | 20 A |
| — at 110 V rated value | 12 A |
| — at 220 V rated value | 1.6 A |
| — at 440 V rated value | 0.8 A |
| — at 600 V rated value | 0.7 A |
| • with 3 current paths in series at DC-1 | |
| — at 24 V rated value | 20 A |
| — at 110 V rated value | 20 A |
| — at 220 V rated value | 20 A |
| — at 440 V rated value | 1.3 A |
| — at 600 V rated value | 1 A |
| Operating current | |
| • at 1 current path at DC-3 at DC-5 | |
| — at 24 V rated value | 20 A |
| — at 110 V rated value | 0.1 A |
| • with 2 current paths in series at DC-3 at DC-5 | |
| — at 110 V rated value | 0.35 A |
| — at 24 V rated value | 20 A |
| • with 3 current paths in series at DC-3 at DC-5 | |
| — at 110 V rated value | 20 A |
| — at 220 V rated value | 1.5 A |
| — at 24 V rated value | 20 A |
| — at 440 V rated value | 0.2 A |
| — at 600 V rated value | 0.2 A |
| Operating power | |
| • at AC-1 | |
| — at 230 V rated value | 7.5 kW |
| — at 230 V at 60 °C rated value | 7.5 kW |
| — at 400 V rated value | 13 kW |
| — at 400 V at 60 °C rated value | 13 kW |
| — at 690 V rated value | 22 kW |
| — at 690 V at 60 °C rated value | 22 kW |
| • at AC-2 at 400 V rated value | 4 kW |
| • at AC-3 | |
| — at 230 V rated value | 2.2 kW |
| — at 400 V rated value | 4 kW |

| | |
|---|------------|
| — at 690 V rated value | 5.5 kW |
| Operating power for approx. 200000 operating cycles at AC-4 | |
| • at 400 V rated value | 2 kW |
| • at 690 V rated value | 2.5 kW |
| Thermal short-time current limited to 10 s | 72 A |
| Power loss [W] at AC-3 at 400 V for rated value of the operating current per conductor | 0.7 W |
| No-load switching frequency | |
| • at DC | 10 000 1/h |
| Operating frequency | |
| • at AC-1 maximum | 1 000 1/h |
| • at AC-2 maximum | 750 1/h |
| • at AC-3 maximum | 750 1/h |
| • at AC-4 maximum | 250 1/h |

| Control circuit/ Control | |
|--|---------------|
| Type of voltage of the control supply voltage | DC |
| Control supply voltage at DC | |
| • rated value | 24 V |
| Closing power of magnet coil at DC | 4 W |
| Holding power of magnet coil at DC | 4 W |
| Closing delay | |
| • at DC | 30 ... 100 ms |
| Opening delay | |
| • at DC | 7 ... 13 ms |
| Arcing time | 10 ... 15 ms |
| Residual current of the electronics for control with signal <0> | |
| • at AC at 230 V maximum permissible | 3 mA |
| • at DC at 24 V maximum permissible | 10 mA |

| Auxiliary circuit | |
|---|------|
| Number of NO contacts | |
| • for auxiliary contacts | |
| — instantaneous contact | 1 |
| Operating current at AC-12 maximum | 10 A |
| Operating current at AC-15 | |
| • at 230 V rated value | 10 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 |

| | |
|---|---|
| <ul style="list-style-type: none"> • 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 | <p>6 A</p> <p>6 A</p> <p>3 A</p> <p>2 A</p> <p>1 A</p> <p>0.15 A</p> |
| 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 | <p>10 A</p> <p>2 A</p> <p>2 A</p> <p>1 A</p> <p>0.9 A</p> <p>0.3 A</p> <p>0.1 A</p> |
| Contact reliability of auxiliary contacts | <p>1 faulty switching per 100 million (17 V, 1 mA)</p> |

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>7.6 A</p> <p>9 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>0.33 hp</p> <p>1 hp</p> <p>2 hp</p> <p>3 hp</p> <p>5 hp</p> <p>7.5 hp</p> |
| Contact rating of auxiliary contacts according to UL | <p>A600 / Q600</p> |

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 NH 3NA, DIAZED 5SB, NEOZED 5SE: 35 A</p> <p>gG NH 3NA, DIAZED 5SB, NEOZED 5SE: 20 A</p> <p>fuse gG: 10 A</p> |
|--|--|

Installation/ mounting/ dimensions

| | |
|--------------------------|---|
| Mounting position | <p>+/-180° rotation possible on vertical mounting surface; can be tilted forward and backward by +/- 22.5° on vertical mounting surface</p> |
|--------------------------|---|

| | |
|---|--|
| 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 | 70 mm |
| Width | 45 mm |
| Depth | 73 mm |
| Required spacing | |
| <ul style="list-style-type: none"> • for grounded parts <ul style="list-style-type: none"> — at the side | 6 mm |
| <ul style="list-style-type: none"> • for live parts <ul style="list-style-type: none"> — at the side | 6 mm |

Connections/Terminals

| | |
|--|--|
| Type of electrical connection | |
| <ul style="list-style-type: none"> • for main current circuit | spring-loaded terminals |
| <ul style="list-style-type: none"> • for auxiliary and control current circuit | spring-loaded terminals |
| Type of connectable conductor cross-sections | |
| <ul style="list-style-type: none"> • for main contacts <ul style="list-style-type: none"> — solid — single or multi-stranded — finely stranded with core end processing — finely stranded without core end processing • at AWG conductors for main contacts | 2x (0.5 ... 4 mm ²) 2x (0,5 ... 4 mm ²) 2x (0.5 ... 2.5 mm ²) 2x (0.5 ... 2.5 mm ²) 2x (20 ... 12) |
| 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 — finely stranded without core end processing • at AWG conductors for auxiliary contacts | 2x (0,5 ... 4 mm ²) 2x (0.5 ... 2.5 mm ²) 2x (0.5 ... 2.5 mm ²) 2x (20 ... 12) |

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 | 40 % 73 % |
| 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 | Yes; with 3RH29 |
| 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



CCC



CSA



UL

[KTL](#)[Baumusterbescheinigung](#)

Declaration of Conformity

Test Certificates

Shipping Approval



EG-Konf.

[Typprüfbescheinigung/Werkszeugnis](#)[spezielle Prüfbescheinigungen](#)[sonstige](#)

ABS



BUREAU VERITAS

Shipping Approval

other



GL



LRS



PRS



RINA



RMRS

[Bestätigungen](#)

other

[Umweltbestätigung](#)

VDE

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=3RT2016-2BB41>

Cax online generator

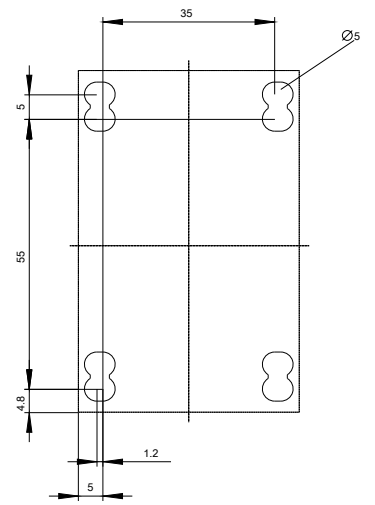
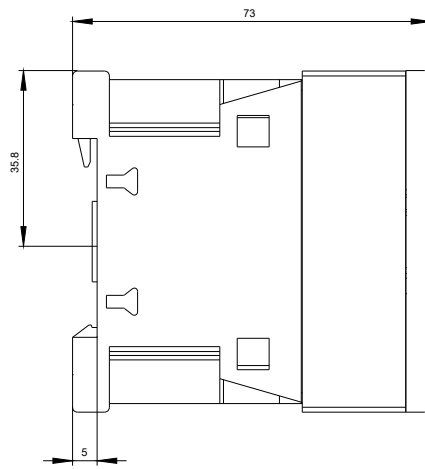
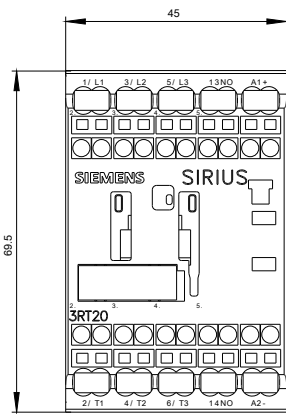
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2016-2BB41>

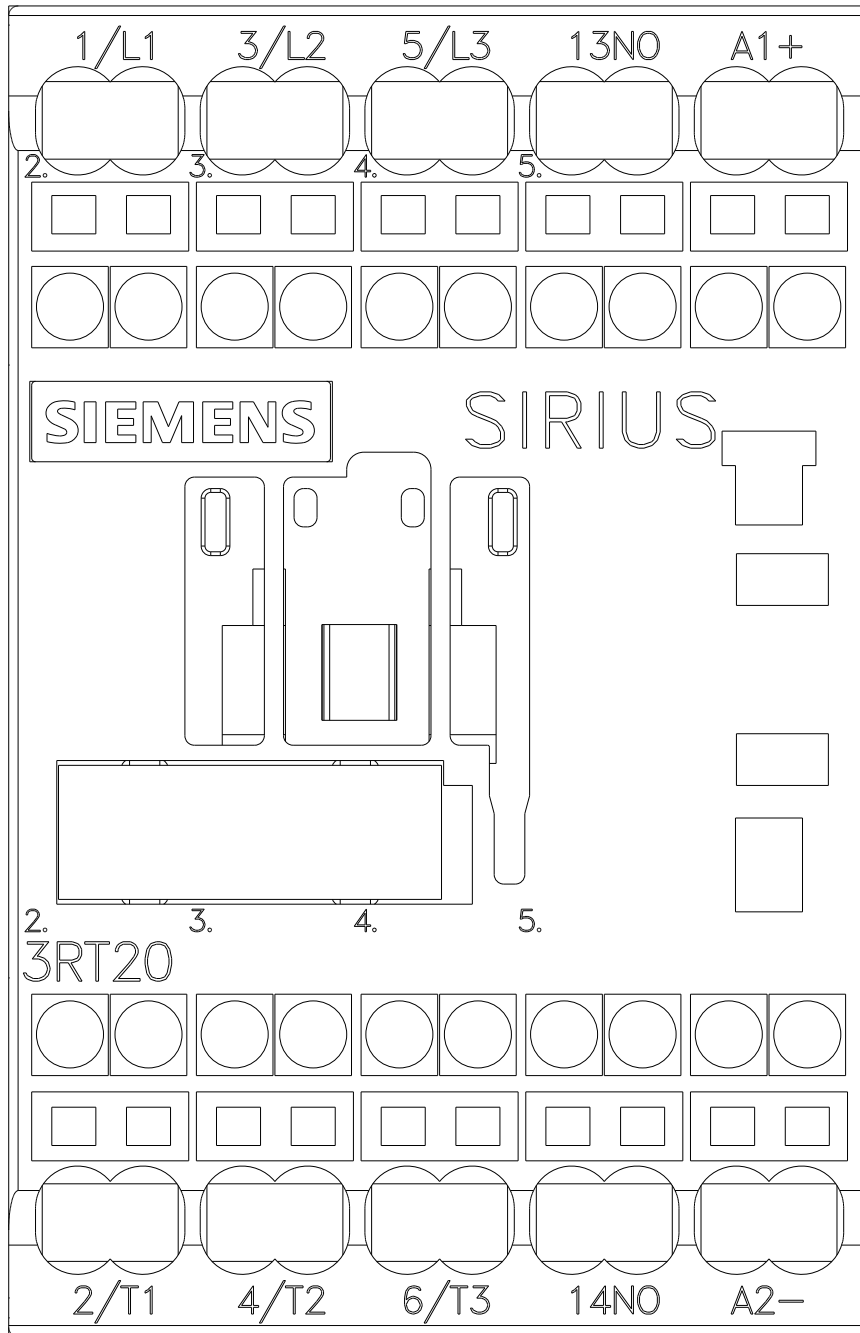
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

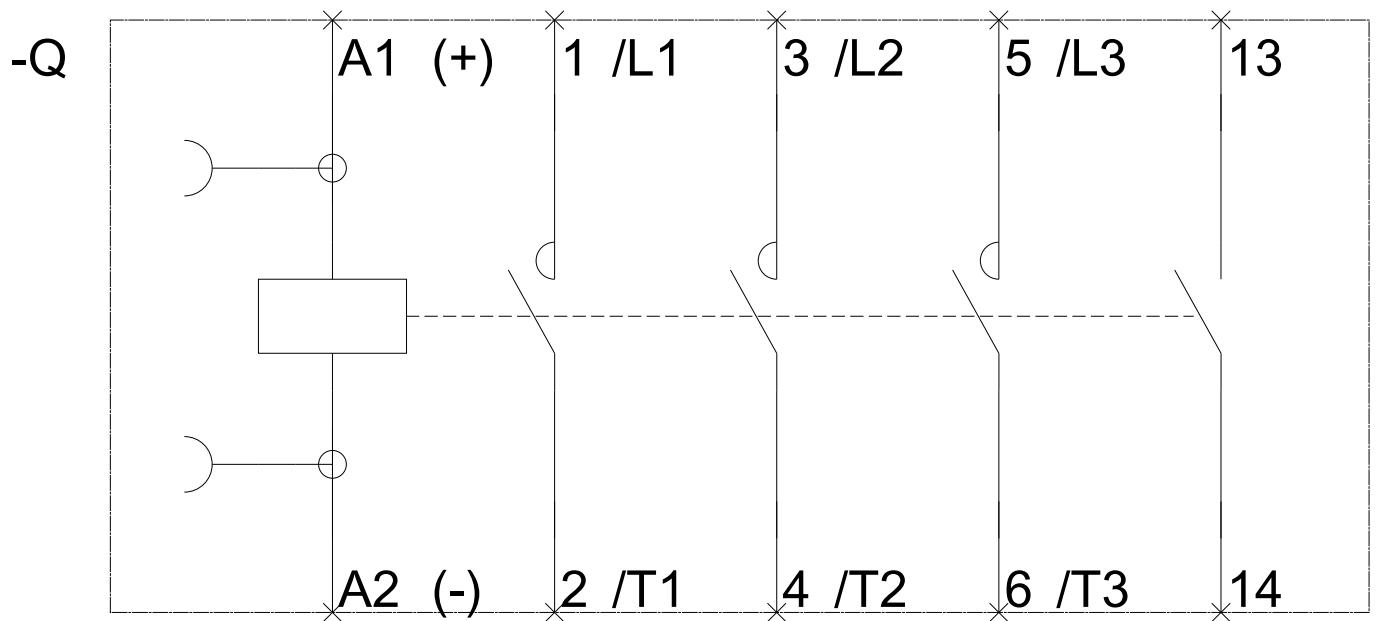
<https://support.industry.siemens.com/cs/ww/en/ps/3RT2016-2BB41>

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2016-2BB41&lang=en







last modified:

03/31/2017