

CONTACTOR, AC-3, 5.5KW/400V, 1NO+1NC, DC 24V, 3-POLE, SZ
S0 SCREW TERMINAL



| | |
|---|----------------|
| product brand name | SIRIUS |
| Product designation | 3RT2 contactor |
| General technical data: | |
| Size of contactor | S0 |
| Product expansion | |
| • function module for communication | No |
| • Auxiliary switch | Yes |
| Insulation voltage | |
| • rated value | 690 V |
| 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 |
| Degree of pollution | 3 |
| Shock resistance | |
| • at rectangular impulse | |

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| <ul style="list-style-type: none"> — at DC • with sine pulse — at DC | <p>10g / 5 ms, 7,5g / 10 ms</p> <p>15g / 5 ms, 10g / 10 ms</p> |
| 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 | <p>10 000 000</p> <p>5 000 000</p> <p>10 000 000</p> |

Ambient conditions:

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

Main circuit:

| | |
|---|--|
| Number of NO contacts for main contacts | 3 |
| Number of NC contacts for main contacts | 0 |
| 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 • at AC-1 up to 690 V <ul style="list-style-type: none"> — at ambient temperature 40 °C rated value — 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 | <p>40 A</p> <p>40 A</p> <p>35 A</p> <p>12 A</p> <p>12 A</p> <p>12 A</p> <p>9 A</p> |
| 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 | <p>10 mm²</p> <p>10 mm²</p> |
| 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>5.5 A</p> <p>5.5 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 | 35 A |

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| — at 110 V rated value | 4.5 A |
| — at 220 V rated value | 1 A |
| — at 440 V rated value | 0.4 A |
| — at 600 V rated value | 0.25 A |
| • with 2 current paths in series at DC-1 | |
| — at 24 V rated value | 35 A |
| — at 110 V rated value | 35 A |
| — at 220 V rated value | 5 A |
| — at 440 V rated value | 1 A |
| — at 600 V rated value | 0.8 A |
| • with 3 current paths in series at DC-1 | |
| — at 24 V rated value | 35 A |
| — at 110 V rated value | 35 A |
| — at 220 V rated value | 35 A |
| — at 440 V rated value | 2.9 A |
| — at 600 V rated value | 1.4 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 | 2.5 A |
| — at 220 V rated value | 1 A |
| — at 440 V rated value | 0.09 A |
| — at 600 V rated value | 0.06 A |
| • with 2 current paths in series at DC-3 at DC-5 | |
| — at 110 V rated value | 15 A |
| — at 220 V rated value | 3 A |
| — at 24 V rated value | 35 A |
| — at 440 V rated value | 0.27 A |
| — at 600 V rated value | 0.16 A |
| • with 3 current paths in series at DC-3 at DC-5 | |
| — at 110 V rated value | 35 A |
| — at 220 V rated value | 10 A |
| — at 24 V rated value | 35 A |
| — at 440 V rated value | 0.6 A |
| — at 600 V rated value | 0.6 A |
| Operating power | |
| • at AC-1 | |
| — at 230 V rated value | 13.3 kW |
| — at 230 V at 60 °C rated value | 13.3 kW |
| — at 400 V rated value | 23 kW |
| — at 400 V at 60 °C rated value | 23 kW |

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|---|----------------|
| — at 690 V rated value | 40 kW |
| — at 690 V at 60 °C rated value | 40 kW |
| • at AC-2 at 400 V rated value | 5.5 kW |
| • at AC-3 | |
| — at 230 V rated value | 3 kW |
| — at 400 V rated value | 5.5 kW |
| — at 690 V rated value | 7.5 kW |
| Operating power for approx. 200000 operating cycles at AC-4 | |
| • at 400 V rated value | 2.6 kW |
| • at 690 V rated value | 4.6 kW |
| Thermal short-time current limited to 10 s | 110 A |
| Power loss [W] at AC-3 at 400 V for rated value of the operating current per conductor | 0.5 W |
| No-load switching frequency | |
| • at DC | 1 500 1/h |
| Operating frequency | |
| • at AC-1 maximum | 1 000 1/h |
| • at AC-2 maximum | 1 000 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 | DC |
| Control supply voltage at DC | |
| • rated value | 24 V |
| Operating range factor control supply voltage rated value of magnet coil at DC | 0.8 ... 1.1 |
| Closing power of magnet coil at DC | 5.9 W |
| Holding power of magnet coil at DC | 5.9 W |
| Closing delay | |
| • at DC | 50 ... 170 ms |
| Opening delay | |
| • at DC | 15 ... 17.5 ms |
| Arcing time | 10 ... 10 ms |
| Residual current of the electronics for control with signal <0> | |
| • at AC at 230 V maximum permissible | 6 mA |
| • at DC at 24 V maximum permissible | 16 mA |
| Auxiliary circuit: | |
| Number of NC contacts | |
| • for auxiliary contacts | |
| — 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 | 10 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 | 11 A 11 A |
| <ul style="list-style-type: none"> • yielded mechanical performance [hp] for single-phase AC motor <ul style="list-style-type: none"> — at 110/120 V rated value — at 230 V rated value • Yielded mechanical performance [hp] 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 | 1 hp 2 hp 3 hp 3 hp 7.5 hp 10 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 assignment 1 required
 - with type of assignment 2 required
- for short-circuit protection of the auxiliary switch required

gL/gG LV HRC 3NA, DIAZED 5SB, NEOZED 5SE: 63 A
gL/gG LV HRC 3NA, DIAZED 5SB, NEOZED 5SE: 25 A
fuse gL/gG: 10 A

Installation/ mounting/ dimensions:

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 50022

- Side-by-side mounting

Yes

Height

85 mm

Width

45 mm

Depth

107 mm

Required spacing

- with side-by-side mounting

— forwards

0 mm

— Backwards

0 mm

— upwards

0 mm

— downwards

0 mm

— at the side

0 mm

- for grounded parts

— forwards

0 mm

— Backwards

0 mm

— upwards

0 mm

— at the side

6 mm

— downwards

0 mm

- for live parts

— forwards

0 mm

— Backwards

0 mm

— upwards

0 mm

— downwards

0 mm

— at the side

6 mm

Connections/ Terminals:

Type of electrical connection

- for main current circuit
- for auxiliary and control current circuit

screw-type terminals

screw-type terminals

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 ... 2,5 mm²), 2x (2,5 ... 10 mm²)</p> <p>2x (1 ... 2.5 mm²), 2x (2.5 ... 6 mm²), 1x 10 mm²</p> <p>2x (16 ... 12), 2x (14 ... 8)</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> |

| Safety related data: | |
|---|-------------------------|
| B10 value 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 | Yes |
| T1 value for proof test interval or service life acc. to IEC 61508 | 20 y |

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| Certificates/approvals |
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|--------------------------|-----|
| General Product Approval | EMC |
|--------------------------|-----|



[KTL](#)



| | | | |
|---------------------------------------|---------------------------|-------------------|-------------------|
| Functional Safety/Safety of Machinery | Declaration of Conformity | Test Certificates | Shipping Approval |
|---------------------------------------|---------------------------|-------------------|-------------------|

[Baumusterbescheinigung](#)



[spezielle Prüfbescheinigung](#)

[Typprüfbescheinigung/Werkszeugnis](#)



| |
|-------------------|
| Shipping Approval |
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|-------|
| other |
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[Umweltbestätigung](#)

[Bestätigungen](#)



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| Further information |
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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=3RT20241BB40>

Cax online generator

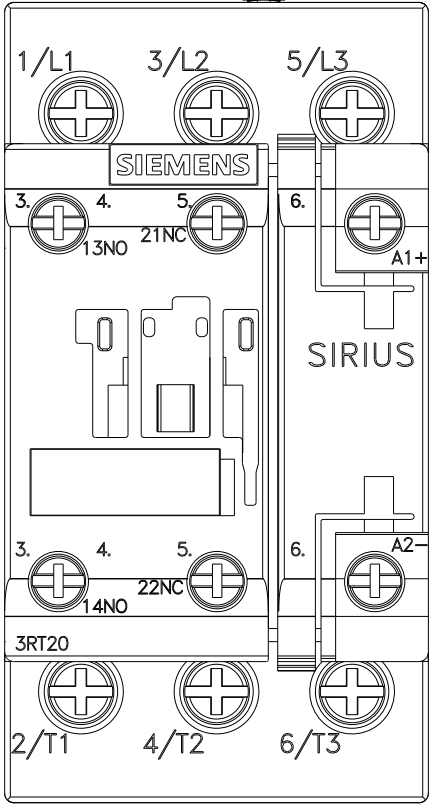
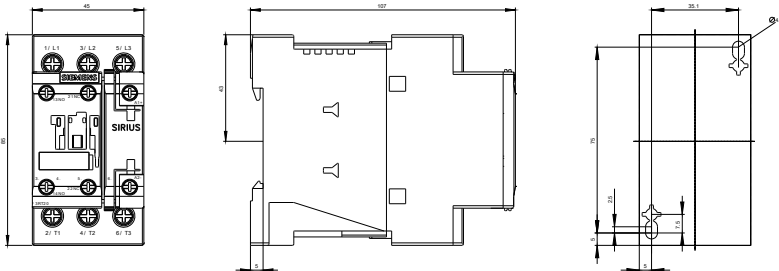
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT20241BB40>

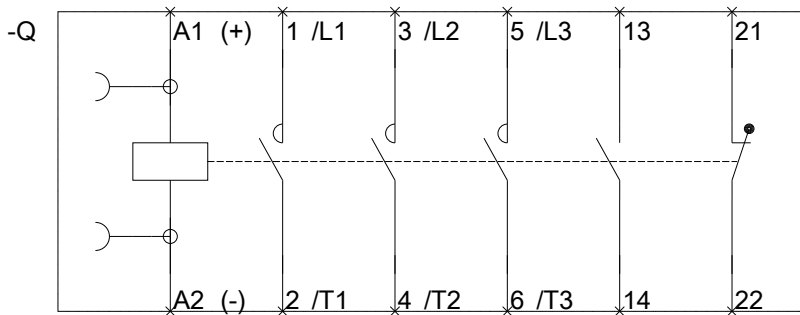
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

<https://support.industry.siemens.com/cs/ww/en/ps/3RT20241BB40>

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT20241BB40&lang=en





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