

CONTACTOR, AC-3, 7.5KW/400V, 1NO+1NC, DC 24V, 3-POLE, SZ  
S0 SCREW TERMINAL



|   |        |
|---|--------|
| product brandname                                   | SIRIUS |
| Product type designation                            | 3RT2   |
| <b>General technical data</b>                       |        |
| Size of contactor                                   | S0     |
| 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"> <li>— at DC</li> <li>• with sine pulse</li> <li>— at DC</li> </ul>   | <p>10g / 5 ms, 7,5g / 10 ms</p> <p>15g / 5 ms, 10g / 10 ms</p> |
| <b>Mechanical service life (switching cycles)</b> <ul style="list-style-type: none"> <li>• of contactor typical</li> <li>• of the contactor with added electronics-compatible auxiliary switch block typical</li> <li>• of the contactor with added auxiliary switch block typical</li> </ul> | <p>10 000 000</p> <p>5 000 000</p> <p>10 000 000</p>           |

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

| Main circuit   |   |
|--|---|
| <b>Number of poles for main current circuit</b>  | 3   |
| <b>Number of NO contacts for main contacts</b>   | 3   |
| <b>Number of NC contacts for main contacts</b>   | 0   |
| <b>Operating voltage</b>   |   |
| <ul style="list-style-type: none"> <li>• at AC-3 rated value maximum</li> </ul>  | 690 V   |
| <b>Operating current</b>   |   |
| <ul style="list-style-type: none"> <li>• at AC-1 at 400 V <ul style="list-style-type: none"> <li>— at ambient temperature 40 °C rated value</li> </ul> </li> <li>• at AC-1 <ul style="list-style-type: none"> <li>— up to 690 V at ambient temperature 40 °C rated value</li> <li>— up to 690 V at ambient temperature 60 °C rated value</li> </ul> </li> <li>• at AC-2 at 400 V rated value</li> <li>• at AC-3 <ul style="list-style-type: none"> <li>— at 400 V rated value</li> <li>— at 500 V rated value</li> <li>— at 690 V rated value</li> </ul> </li> </ul> | <p>40 A</p> <p>40 A</p> <p>35 A</p> <p>17 A</p> <p>17 A</p> <p>17 A</p> <p>17 A</p> <p>17 A</p> <p>13 A</p> |
| <b>Connectable conductor cross-section in main circuit at AC-1</b>   |   |
| <ul style="list-style-type: none"> <li>• at 60 °C minimum permissible</li> <li>• at 40 °C minimum permissible</li> </ul>   | <p>10 mm<sup>2</sup></p> <p>10 mm<sup>2</sup></p>   |
| <b>Operating current for approx. 200000 operating cycles at AC-4</b>   |   |
| <ul style="list-style-type: none"> <li>• at 400 V rated value</li> <li>• at 690 V rated value</li> </ul>   | <p>7.7 A</p> <p>7.7 A</p>   |

|  |  |
|--|--|
| <b>Operating current</b>   |  |
| <ul style="list-style-type: none"> <li>• at 1 current path at DC-1 <ul style="list-style-type: none"> <li>— at 24 V rated value</li> <li>— at 110 V rated value</li> <li>— at 220 V rated value</li> <li>— at 440 V rated value</li> <li>— at 600 V rated value</li> </ul> </li> <li>• with 2 current paths in series at DC-1 <ul style="list-style-type: none"> <li>— at 24 V rated value</li> <li>— at 110 V rated value</li> <li>— at 220 V rated value</li> <li>— at 440 V rated value</li> <li>— at 600 V rated value</li> </ul> </li> <li>• with 3 current paths in series at DC-1 <ul style="list-style-type: none"> <li>— at 24 V rated value</li> <li>— at 110 V rated value</li> <li>— at 220 V rated value</li> <li>— at 440 V rated value</li> <li>— at 600 V rated value</li> </ul> </li> </ul>                         | <p>35 A</p> <p>4.5 A</p> <p>1 A</p> <p>0.4 A</p> <p>0.25 A</p> <p>35 A</p> <p>35 A</p> <p>5 A</p> <p>1 A</p> <p>0.8 A</p> <p>35 A</p> <p>35 A</p> <p>35 A</p> <p>2.9 A</p> <p>1.4 A</p>      |
| <b>Operating current</b>   |  |
| <ul style="list-style-type: none"> <li>• at 1 current path at DC-3 at DC-5 <ul style="list-style-type: none"> <li>— at 24 V rated value</li> <li>— at 110 V rated value</li> <li>— at 220 V rated value</li> <li>— at 440 V rated value</li> <li>— at 600 V rated value</li> </ul> </li> <li>• with 2 current paths in series at DC-3 at DC-5 <ul style="list-style-type: none"> <li>— at 110 V rated value</li> <li>— at 220 V rated value</li> <li>— at 24 V rated value</li> <li>— at 440 V rated value</li> <li>— at 600 V rated value</li> </ul> </li> <li>• with 3 current paths in series at DC-3 at DC-5 <ul style="list-style-type: none"> <li>— at 110 V rated value</li> <li>— at 220 V rated value</li> <li>— at 24 V rated value</li> <li>— at 440 V rated value</li> <li>— at 600 V rated value</li> </ul> </li> </ul> | <p>20 A</p> <p>2.5 A</p> <p>1 A</p> <p>0.09 A</p> <p>0.06 A</p> <p>15 A</p> <p>3 A</p> <p>35 A</p> <p>0.27 A</p> <p>0.16 A</p> <p>35 A</p> <p>10 A</p> <p>35 A</p> <p>0.6 A</p> <p>0.6 A</p> |
| <b>Operating power</b>   |  |
| <ul style="list-style-type: none"> <li>• at AC-1 <ul style="list-style-type: none"> <li>— at 230 V rated value</li> </ul> </li> </ul>  | <p>13.3 kW</p>   |

|   |           |
|---|-----------|
| — 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     |
| — 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  | 7.5 kW    |
| • at AC-3   |           |
| — at 230 V rated value  | 4 kW      |
| — at 400 V rated value  | 7.5 kW    |
| — at 690 V rated value  | 11 kW     |
| <b>Operating power for approx. 200000 operating cycles at AC-4</b>                            |           |
| • at 400 V rated value  | 3.5 kW    |
| • at 690 V rated value  | 6 kW      |
| <b>Thermal short-time current limited to 10 s</b>   | 150 A     |
| <b>Power loss [W] at AC-3 at 400 V for rated value of the operating current per conductor</b> | 0.9 W     |
| <b>No-load switching frequency</b>  |           |
| • at DC   | 1 500 1/h |
| <b>Operating frequency</b>  |           |
| • 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   |

|   |                |
|---|----------------|
| <b>Control circuit/ Control</b>   |                |
| <b>Type of voltage of the control supply voltage</b>                                  | DC             |
| <b>Control supply voltage at DC</b>   |                |
| • rated value   | 24 V           |
| <b>Operating range factor control supply voltage rated value of magnet coil at DC</b> | 0.8 ... 1.1    |
| <b>Closing power of magnet coil at DC</b>   | 5.9 W          |
| <b>Holding power of magnet coil at DC</b>   | 5.9 W          |
| <b>Closing delay</b>  |                |
| • at DC   | 50 ... 170 ms  |
| <b>Opening delay</b>  |                |
| • at DC   | 15 ... 17.5 ms |
| <b>Arcing time</b>  | 10 ... 10 ms   |
| <b>Residual current of the electronics for control with signal &lt;0&gt;</b>          |                |
| • at AC at 230 V maximum permissible  | 6 mA           |
| • at DC at 24 V maximum permissible   | 16 mA          |

### Auxiliary circuit

|   |  |
|---|--|
| <b>Number of NC contacts</b>  |  |
| <ul style="list-style-type: none"> <li>• for auxiliary contacts <ul style="list-style-type: none"> <li>— instantaneous contact</li> </ul> </li> </ul>   | 1  |
| <b>Number of NO contacts</b>  |  |
| <ul style="list-style-type: none"> <li>• for auxiliary contacts <ul style="list-style-type: none"> <li>— instantaneous contact</li> </ul> </li> </ul>   | 1  |
| Operating current at AC-12 maximum  | 10 A   |
| <b>Operating current at AC-15</b>   |  |
| <ul style="list-style-type: none"> <li>• at 230 V rated value</li> <li>• at 400 V rated value</li> <li>• at 500 V rated value</li> <li>• at 690 V rated value</li> </ul>  | 10 A<br>3 A<br>2 A<br>1 A                            |
| <b>Operating current at DC-12</b>   |  |
| <ul style="list-style-type: none"> <li>• at 24 V rated value</li> <li>• at 48 V rated value</li> <li>• at 60 V rated value</li> <li>• at 110 V rated value</li> <li>• at 125 V rated value</li> <li>• at 220 V rated value</li> <li>• at 600 V rated value</li> </ul>   | 10 A<br>6 A<br>6 A<br>3 A<br>2 A<br>1 A<br>0.15 A    |
| <b>Operating current at DC-13</b>   |  |
| <ul style="list-style-type: none"> <li>• at 24 V rated value</li> <li>• at 48 V rated value</li> <li>• at 60 V rated value</li> <li>• at 110 V rated value</li> <li>• at 125 V rated value</li> <li>• at 220 V rated value</li> <li>• at 600 V rated value</li> </ul>   | 10 A<br>2 A<br>2 A<br>1 A<br>0.9 A<br>0.3 A<br>0.1 A |
| <b>Contact reliability of auxiliary contacts</b>  | 1 faulty switching per 100 million (17 V, 1 mA)      |
| <b>UL/CSA ratings</b>   |  |
| <b>Full-load current (FLA) for three-phase AC motor</b>   |  |
| <ul style="list-style-type: none"> <li>• at 480 V rated value</li> <li>• at 600 V rated value</li> </ul>  | 14 A<br>17 A   |
| <b>Yielded mechanical performance [hp]</b>  |  |
| <ul style="list-style-type: none"> <li>• for single-phase AC motor <ul style="list-style-type: none"> <li>— at 110/120 V rated value</li> <li>— at 230 V rated value</li> </ul> </li> <li>• for three-phase AC motor <ul style="list-style-type: none"> <li>— at 200/208 V rated value</li> <li>— at 220/230 V rated value</li> <li>— at 460/480 V rated value</li> </ul> </li> </ul> | 1 hp<br>3 hp<br>3 hp<br>5 hp<br>10 hp                |

|  |  |
|--|--|
| — at 575/600 V rated value   | 15 hp  |
| <b>Contact rating of auxiliary contacts according to UL</b>  | A600 / Q600  |
| <b>Short-circuit protection</b>  |  |
| <b>Design of the fuse link</b>   | fuse gG: 10 A  |
| <ul style="list-style-type: none"> <li>• for short-circuit protection of the auxiliary switch required</li> </ul>  |  |
| <b>Installation/ mounting/ dimensions</b>  |  |
| <b>Mounting position</b>   | +/-180° rotation possible on vertical mounting surface; can be tilted forward and backward by +/- 22.5° on vertical mounting surface |
| <b>Mounting type</b>   | screw and snap-on mounting onto 35 mm standard mounting rail according to DIN EN 50022   |
| <ul style="list-style-type: none"> <li>• Side-by-side mounting</li> </ul>  | Yes  |
| <b>Height</b>  | 85 mm  |
| <b>Width</b>   | 45 mm  |
| <b>Depth</b>   | 107 mm   |
| <b>Required spacing</b>  |  |
| <ul style="list-style-type: none"> <li>• with side-by-side mounting <ul style="list-style-type: none"> <li>— forwards</li> <li>— Backwards</li> <li>— upwards</li> <li>— downwards</li> <li>— at the side</li> </ul> </li> </ul> |  |
| <ul style="list-style-type: none"> <li>• for grounded parts <ul style="list-style-type: none"> <li>— forwards</li> <li>— Backwards</li> <li>— upwards</li> <li>— at the side</li> <li>— downwards</li> </ul> </li> </ul>         |  |
| <ul style="list-style-type: none"> <li>• for live parts <ul style="list-style-type: none"> <li>— forwards</li> <li>— Backwards</li> <li>— upwards</li> <li>— downwards</li> <li>— at the side</li> </ul> </li> </ul>             |  |
| 0 mm   |  |
| 0 mm   |  |
| 0 mm   |  |
| 0 mm   |  |
| 0 mm   |  |
| 0 mm   |  |
| 0 mm   |  |
| 0 mm   |  |
| 6 mm   |  |
| 0 mm   |  |
| 0 mm   |  |
| 0 mm   |  |
| 0 mm   |  |
| 6 mm   |  |
| <b>Connections/Terminals</b>   |  |
| <b>Type of electrical connection</b>   | screw-type terminals   |
| <ul style="list-style-type: none"> <li>• for main current circuit</li> <li>• for auxiliary and control current circuit</li> </ul>  |  |
| <b>Type of connectable conductor cross-sections</b>  | screw-type terminals   |
| <ul style="list-style-type: none"> <li>• for main contacts</li> </ul>  |  |

|   |  |
|---|--|
| <ul style="list-style-type: none"> <li>— solid</li> <li>— single or multi-stranded</li> <li>— finely stranded with core end processing</li> <li>• at AWG conductors for main contacts</li> </ul>  | <p>2x (1 ... 2.5 mm<sup>2</sup>), 2x (2.5 ... 10 mm<sup>2</sup>)</p> <p>2x (1 ... 2,5 mm<sup>2</sup>), 2x (2,5 ... 10 mm<sup>2</sup>)</p> <p>2x (1 ... 2.5 mm<sup>2</sup>), 2x (2.5 ... 6 mm<sup>2</sup>), 1x 10 mm<sup>2</sup></p> <p>2x (16 ... 12), 2x (14 ... 8)</p> |
| <p><b>Type of connectable conductor cross-sections</b></p> <ul style="list-style-type: none"> <li>• for auxiliary contacts <ul style="list-style-type: none"> <li>— single or multi-stranded</li> <li>— finely stranded with core end processing</li> </ul> </li> <li>• at AWG conductors for auxiliary contacts</li> </ul> | <p>2x (0,5 ... 1,5 mm<sup>2</sup>), 2x (0,75 ... 2,5 mm<sup>2</sup>)</p> <p>2x (0.5 ... 1.5 mm<sup>2</sup>), 2x (0.75 ... 2.5 mm<sup>2</sup>)</p> <p>2x (20 ... 16), 2x (18 ... 14)</p>  |

### Safety related data

|  |                         |
|--|-------------------------|
| <p><b>B10 value</b></p> <ul style="list-style-type: none"> <li>• with high demand rate acc. to SN 31920</li> </ul>   | 1 000 000               |
| <p><b>Proportion of dangerous failures</b></p> <ul style="list-style-type: none"> <li>• with low demand rate acc. to SN 31920</li> <li>• with high demand rate acc. to SN 31920</li> </ul> | <p>40 %</p> <p>73 %</p> |
| <p><b>Failure rate [FIT]</b></p> <ul style="list-style-type: none"> <li>• with low demand rate acc. to SN 31920</li> </ul>   | 100 FIT                 |
| <p><b>Product function</b></p> <ul style="list-style-type: none"> <li>• Mirror contact acc. to IEC 60947-4-1</li> </ul>  | Yes                     |
| <p><b>T1 value for proof test interval or service life acc. to IEC 61508</b></p>   | 20 y                    |
| <p><b>Protection against electrical shock</b></p>  | finger-safe             |

### Certificates/approvals

|                          |     |
|--------------------------|-----|
| General Product Approval | EMC |
|--------------------------|-----|



[KTL](#)



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

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|                   |
|-------------------|
| Shipping Approval |
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|                   |       |
|-------------------|-------|
| Shipping Approval | other |
|-------------------|-------|



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|                     |
|---------------------|
| 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=3RT2025-1BB40>

**Cax online generator**

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2025-1BB40>

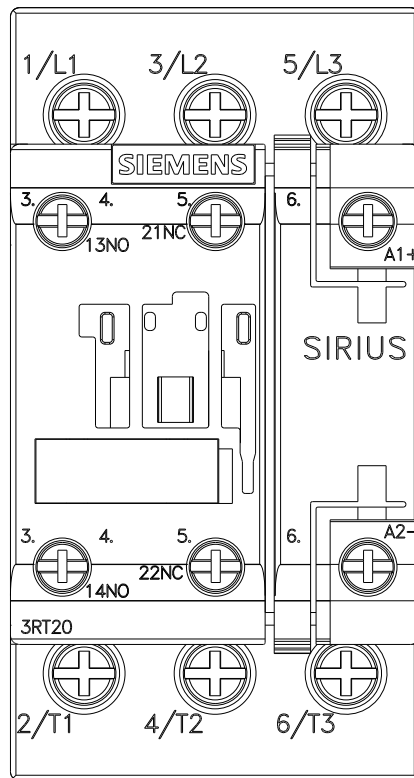
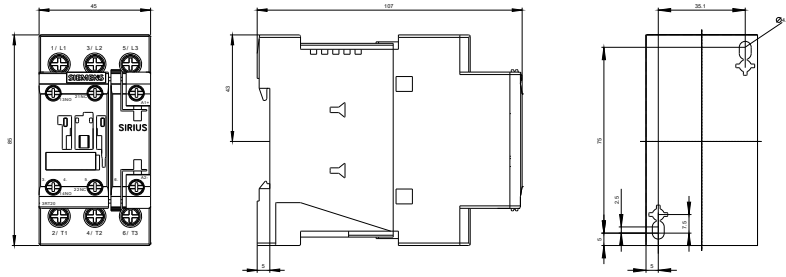
**Service&Support (Manuals, Certificates, Characteristics, FAQs,...)**

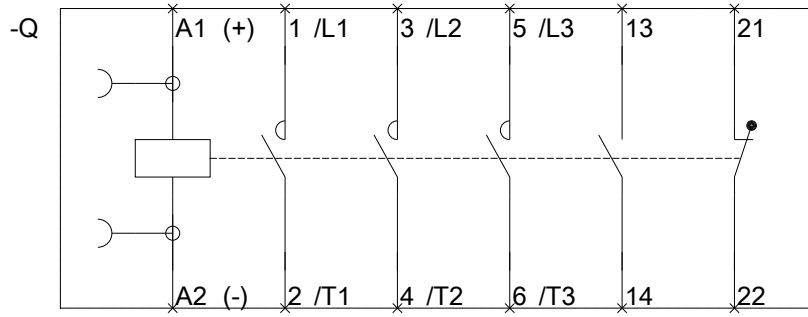
<https://support.industry.siemens.com/cs/ww/en/ps/3RT2025-1BB40>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RT2025-1BB40&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2025-1BB40&lang=en)







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