

CONTACTOR, AC-3, 5.5KW/400V, 1NC, AC 24V, 50/60 HZ, 3-POLE, SZ S00 SCREW TERMINAL



|   |                |
|---|----------------|
| product brand name                                  | SIRIUS         |
| Product designation                                 | 3RT2 contactor |
| <b>General technical data:</b>                      |                |
| Size of contactor                                   | S00            |
| 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                            |                |

|   |                            |
|---|----------------------------|
| — at AC   | 7,3g / 5 ms, 4,7g / 10 ms  |
| • with sine pulse   |                            |
| — at AC   | 11,4g / 5 ms, 7,3g / 10 ms |
| <b>Mechanical service life (switching cycles)</b>                                   |                            |
| • of contactor typical  | 30 000 000                 |
| • 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                 |

#### Ambient conditions:

|  |                |
|--|----------------|
| <b>Installation altitude at height above sea level maximum</b> | 2 000 m        |
| <b>Ambient temperature</b>                                     |                |
| • during operation   | -25 ... +60 °C |
| • during storage   | -55 ... +80 °C |

#### Main circuit:

|  |                     |
|--|---------------------|
| <b>Number of NO contacts for main contacts</b>                       | 3                   |
| <b>Number of NC contacts for main contacts</b>                       | 0                   |
| <b>Operating voltage</b>   |                     |
| • at AC-3 rated value maximum  | 690 V               |
| <b>Operating current</b>   |                     |
| • at AC-1 at 400 V   |                     |
| — at ambient temperature 40 °C rated value                           | 22 A                |
| • at AC-1 up to 690 V  |                     |
| — at ambient temperature 40 °C rated value                           | 22 A                |
| — at ambient temperature 60 °C rated value                           | 20 A                |
| • at AC-2 at 400 V rated value                                       | 12 A                |
| • at AC-3  |                     |
| — at 400 V rated value   | 12 A                |
| — at 500 V rated value   | 9.2 A               |
| — at 690 V rated value   | 6.7 A               |
| <b>Connectable conductor cross-section in main circuit at AC-1</b>   |                     |
| • at 60 °C minimum permissible                                       | 2.5 mm <sup>2</sup> |
| • at 40 °C minimum permissible                                       | 4 mm <sup>2</sup>   |
| <b>Operating current for approx. 200000 operating cycles at AC-4</b> |                     |
| • at 400 V rated value   | 4.1 A               |
| • at 690 V rated value   | 3.3 A               |
| <b>Operating current</b>   |                     |
| • at 1 current path at DC-1  |                     |
| — 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    |
| <b>Operating current</b>                         |        |
| • 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  |
| <b>Operating power</b>                           |        |
| • 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                   | 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  | 5.5 kW     |
| <b>Operating power for approx. 200000 operating cycles at AC-4</b>                            |            |
| • at 400 V rated value  | 2 kW       |
| • at 690 V rated value  | 2.5 kW     |
| <b>Thermal short-time current limited to 10 s</b>   | 90 A       |
| <b>Power loss [W] at AC-3 at 400 V for rated value of the operating current per conductor</b> | 1.2 W      |
| <b>No-load switching frequency</b>  |            |
| • at AC   | 10 000 1/h |
| <b>Operating frequency</b>  |            |
| • 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    |

|   |              |
|---|--------------|
| <b>Control circuit/ Control:</b>  |              |
| <b>Type of voltage of the control supply voltage</b>                                  | AC           |
| <b>Control supply voltage at AC</b>   |              |
| • at 50 Hz rated value  | 24 V         |
| • at 60 Hz rated value  | 24 V         |
| <b>Operating range factor control supply voltage rated value of magnet coil at AC</b> |              |
| • at 50 Hz  | 0.8 ... 1.1  |
| • at 60 Hz  | 0.85 ... 1.1 |
| <b>Apparent pick-up power of magnet coil at AC</b>                                    |              |
| • at 50 Hz  | 37 V·A       |
| • at 60 Hz  | 43 V·A       |
| <b>Inductive power factor with closing power of the coil</b>                          |              |
| • at 50 Hz  | 0.8          |
| • at 60 Hz  | 0.8          |
| <b>Apparent holding power of magnet coil at AC</b>                                    |              |
| • at 50 Hz  | 5.7 V·A      |
| • at 60 Hz  | 6.5 V·A      |
| <b>Inductive power factor with the holding power of the coil</b>                      |              |
| • at 50 Hz  | 0.25         |
| • at 60 Hz  | 0.25         |
| <b>Closing delay</b>  |              |
| • at AC   | 8 ... 33 ms  |
| <b>Opening delay</b>  |              |
| • at AC   | 4 ... 15 ms  |
| <b>Arcing time</b>  | 10 ... 15 ms |

|   |                          |
|---|--------------------------|
| <b>Residual current of the electronics for control with signal &lt;0&gt;</b>  |                          |
| <ul style="list-style-type: none"> <li>• at AC at 230 V maximum permissible</li> <li>• at DC at 24 V maximum permissible</li> </ul> | <p>4 mA</p> <p>10 mA</p> |

**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>   | 0   |
| 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>  | <p>10 A</p> <p>3 A</p> <p>2 A</p> <p>1 A</p>  |
| <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> | <p>10 A</p> <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>    |
| <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> | <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> |
| <b>Contact reliability of auxiliary contacts</b>  | 1 faulty switching per 100 million (17 V, 1 mA)                                     |

**UL/CSA ratings:**

|   |                                       |
|---|---------------------------------------|
| <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> <li>• yielded mechanical performance [hp] for single-phase AC motor <ul style="list-style-type: none"> <li>— at 110/120 V rated value</li> </ul> </li> </ul> | <p>11 A</p> <p>11 A</p> <p>0.5 hp</p> |

|  |             |
|--|-------------|
| — at 230 V rated value   | 2 hp        |
| • Yielded mechanical performance [hp] for three-phase AC motor |             |
| — at 200/208 V rated value                                     | 3 hp        |
| — at 220/230 V rated value                                     | 3 hp        |
| — at 460/480 V rated value                                     | 7.5 hp      |
| — at 575/600 V rated value                                     | 10 hp       |
| <b>Contact rating of auxiliary contacts according to UL</b>    | A600 / Q600 |

### Short-circuit protection

|   |  |
|---|--|
| <b>Design of the fuse link</b>                                  |  |
| • for short-circuit protection of the main circuit              |  |
| — with type of assignment 1 required                            | gL/gG NH 3NA, DIAZED 5SB, NEOZED 5SE: 50 A     |
| — with type of assignment 2 required                            | gL/gG LV HRC 3NA, DIAZED 5SB, NEOZED 5SE: 25 A |
| • for short-circuit protection of the auxiliary switch required | fuse gL/gG: 10 A                               |

### Installation/ mounting/ dimensions:

|                              |  |
|------------------------------|--|
| <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   |
| • Side-by-side mounting      | Yes  |
| <b>Height</b>                | 58 mm  |
| <b>Width</b>                 | 45 mm  |
| <b>Depth</b>                 | 73 mm  |
| <b>Required spacing</b>      |  |
| • 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
- at the side

0 mm  
6 mm

#### Connections/ Terminals:

|  |   |
|--|---|
| <b>Type of electrical connection</b> <ul style="list-style-type: none"> <li>• for main current circuit</li> <li>• for auxiliary and control current circuit</li> </ul>   | screw-type terminals<br>screw-type terminals  |
| <b>Type of connectable conductor cross-sections</b> <ul style="list-style-type: none"> <li>• for main 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 main contacts</li> </ul>           | 2x (0,5 ... 1,5 mm <sup>2</sup> ), 2x (0,75 ... 2,5 mm <sup>2</sup> ), 2x 4 mm <sup>2</sup><br>2x (0.5 ... 1.5 mm <sup>2</sup> ), 2x (0.75 ... 2.5 mm <sup>2</sup> )<br>2x (20 ... 16), 2x (18 ... 14), 2x 12 |
| <b>Type of connectable conductor cross-sections</b> <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> | 2x (0,5 ... 1,5 mm <sup>2</sup> ), 2x (0,75 ... 2,5 mm <sup>2</sup> ), 2x 4 mm <sup>2</sup><br>2x (0.5 ... 1.5 mm <sup>2</sup> ), 2x (0.75 ... 2.5 mm <sup>2</sup> )<br>2x (20 ... 16), 2x (18 ... 14), 2x 12 |

#### Safety related data:

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

#### Certificates/approvals

|                          |                                       |
|--------------------------|---------------------------------------|
| General Product Approval | Functional Safety/Safety of Machinery |
|--------------------------|---------------------------------------|



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|                           |                   |                   |
|---------------------------|-------------------|-------------------|
| Declaration of Conformity | Test Certificates | Shipping Approval |
|---------------------------|-------------------|-------------------|



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



[Bestätigungen](#)

|       |
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| other |
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[Umweltbestätigung](#)



|                     |
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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=3RT20171AB02>

**Cax online generator**

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT20171AB02>

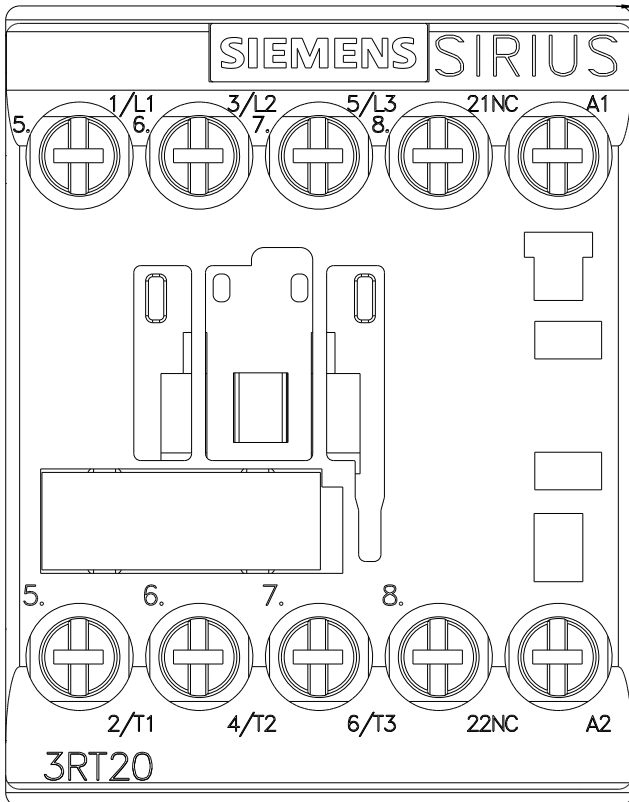
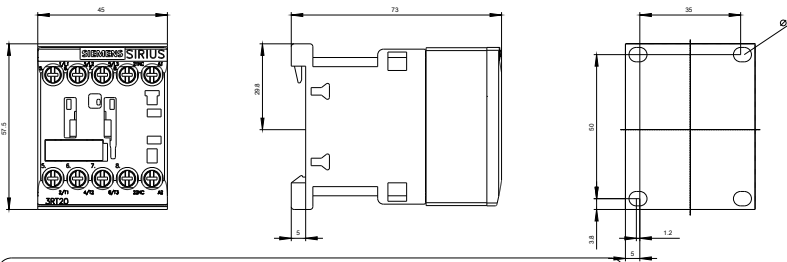
**Service&Support (Manuals, Certificates, Characteristics, FAQs,...)**

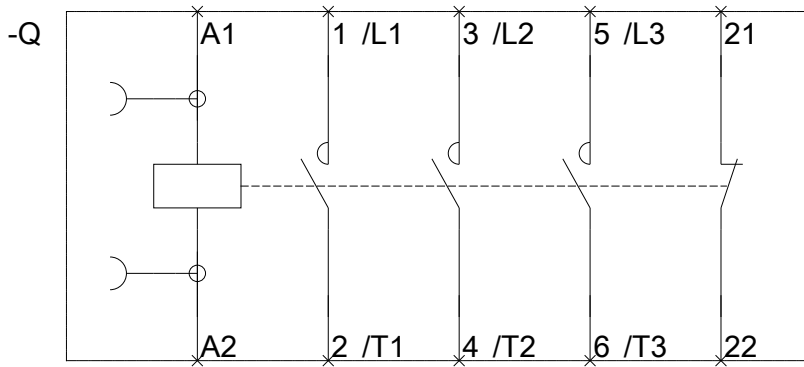
<https://support.industry.siemens.com/cs/ww/en/ps/3RT20171AB02>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RT20171AB02&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT20171AB02&lang=en)







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