



CONTACTOR, AC-3, 7.5KW/400V, 1NC, AC 230V, 50/60 HZ, 3-POLE, SZ S00 SCREW TERMINAL

|  |                            |
|--|----------------------------|
| product brand name   | SIRIUS                     |
| Product designation  | 3RT2 contactor             |
| <b>General technical data:</b>   |                            |
| Product expansion function module for communication  | No                         |
| Insulation voltage   |                            |
| • Rated value  | 690 V                      |
| maximum permissible voltage for safe isolation between coil and main contacts acc. to EN 60947-1 | 400 V                      |
| Degree of pollution  | 3                          |
| Shock resistance   |                            |
| • at rectangular impulse   |                            |
| — with AC  | 7,3g / 5 ms, 4,7g / 10 ms  |
| • with sine pulse  |                            |
| — with AC  | 11,4g / 5 ms, 7,3g / 10 ms |
| Surge voltage resistance Rated value   | 6 kV                       |
| Mechanical service life (switching cycles)   |                            |
| • of the 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                 |
| Thermal short-time current restricted to 10 s  | 128 A                      |
| Protection class IP  |                            |
| • on the front   | IP20                       |

|   |   |
|---|---|
| <ul style="list-style-type: none"> <li>• of the terminal</li> </ul>   | IP20  |
| <b>Equipment marking</b>  |   |
| <ul style="list-style-type: none"> <li>• acc. to DIN EN 61346-2</li> </ul>  | Q   |
| <ul style="list-style-type: none"> <li>• acc. to DIN EN 81346-2</li> </ul>  | Q   |
| <b>Main circuit:</b>  |   |
| <b>Number of poles for main current circuit</b>   | 3   |
| <b>Number of NC contacts for main contacts</b>  | 0   |
| <b>Number of NO contacts for main contacts</b>  | 3   |
| <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 <ul style="list-style-type: none"> <li>— at 400 V at ambient temperature 40 °C<br/>Rated value</li> <li>— up to 690 V at ambient temperature 40 °C<br/>Rated value</li> <li>— up to 690 V at ambient temperature 60 °C<br/>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> <li>• at AC-4 at 400 V Rated value</li> </ul> | 22 A<br>22 A<br>20 A<br>16 A<br>16 A<br>12.4 A<br>8.9 A<br>11.5 A |
| <b>Operating current with 1 current path</b>  |   |
| <ul style="list-style-type: none"> <li>• 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>• 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> </ul> </li> </ul>  | 20 A<br>2.1 A<br>0.8 A<br>0.6 A<br>0.6 A<br>20 A<br>0.1 A         |
| <b>Operating current with 2 current paths in series</b>   |   |
| <ul style="list-style-type: none"> <li>• 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>• at DC-3 at DC-5</li> </ul>   | 20 A<br>12 A<br>1.6 A<br>0.8 A<br>0.7 A                           |

|  |              |
|--|--------------|
| — at 110 V Rated value   | 0.35 A       |
| — at 24 V Rated value  | 20 A         |
| <b>Operating current with 3 current paths in series</b>  |              |
| • 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          |
| • 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 at 60 °C Rated value  | 7.5 kW       |
| — at 400 V at 60 °C Rated value  | 13 kW        |
| — at 690 V at 60 °C Rated value  | 22 kW        |
| <b>Operating power for ≥ 200000 operating cycles at AC-4</b>                                     |              |
| • at 400 V Rated value   | 2.5 kW       |
| • at 690 V Rated value   | 3.5 kW       |
| <b>Active power loss at AC-3 at 400 V for rated value of the operating current per conductor</b> | 2.2 W        |
| <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>No-load switching frequency</b>   |              |
| • with AC  | 10 000 1/h   |
| <b>Control circuit/ Control:</b>   |              |
| <b>Type of voltage of the control supply voltage</b>   | AC           |
| <b>Control supply voltage with AC</b>  |              |
| • at 50 Hz Rated value   | 230 V        |
| • at 60 Hz Rated value   | 230 V        |
| <b>Operating range factor control supply voltage rated value of the magnet coil with AC</b>      |              |
| • at 50 Hz   | 0.8 ... 1.1  |
| • at 60 Hz   | 0.85 ... 1.1 |

|  |              |
|--|--------------|
| <b>Apparent pick-up power of the magnet coil with 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 the magnet coil with 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>   |              |
| • with AC  | 8 ... 33 ms  |
| <b>Opening delay</b>   |              |
| • with 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> |              |
| • with AC at 230 V maximum permissible                                       | 4 mA         |
| • for DC at 24 V maximum permissible   | 10 mA        |

#### Auxiliary circuit:

|   |        |
|---|--------|
| <b>Number of NC contacts</b>              |        |
| • for auxiliary contacts                  |        |
| — instantaneous contact                   | 1      |
| <b>Number of NO contacts</b>              |        |
| • for auxiliary contacts                  |        |
| — instantaneous contact                   | 0      |
| <b>Product expansion Auxiliary switch</b> | Yes    |
| Operating current at AC-12 maximum        | 10 A   |
| <b>Operating current at AC-15</b>         |        |
| • at 230 V Rated value                    | 10 A   |
| • at 400 V Rated value                    | 3 A    |
| • at 690 V Rated value                    | 1 A    |
| <b>Operating current at DC-12</b>         |        |
| • at 60 V Rated value                     | 6 A    |
| • at 110 V Rated value                    | 3 A    |
| • at 125 V Rated value                    | 2 A    |
| • at 220 V Rated value                    | 1 A    |
| • at 600 V Rated value                    | 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 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>1 A<br>0.9 A<br>0.3 A<br>0.1 A   |
| <b>Contact reliability of the 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> </ul>  | 14 A<br>11 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> <li>— at 575/600 V Rated value</li> </ul> </li> </ul> | 1 hp<br>2 hp<br>3 hp<br>5 hp<br>10 hp<br>10 hp |
| <b>Contact rating of the auxiliary contacts acc. to UL</b>  | A600 / Q600                                    |

#### Short-circuit:

|   |  |
|---|--|
| <b>Design of the fuse link</b>  |  |
| <ul style="list-style-type: none"> <li>• for short-circuit protection of the main circuit <ul style="list-style-type: none"> <li>— with type of assignment 1 required</li> <li>— with type of assignment 2 required</li> </ul> </li> <li>• for short-circuit protection of the auxiliary switch required</li> </ul> | gL/gG LV HRC 3NA, DIAZED 5SB, NEOZED 5SE: 35 A<br>gL/gG LV HRC 3NA, DIAZED 5SB, NEOZED 5SE: 20 A<br>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   |
| <ul style="list-style-type: none"> <li>• Side-by-side mounting</li> </ul>  | Yes  |
| <b>Height</b>  | 57.5 mm  |
| <b>Width</b>   | 45 mm  |
| <b>Depth</b>   | 73 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> </ul> </li> </ul> | 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:

|  |   |
|--|---|
| <b>Type of electrical connection</b>               |   |
| • for main current circuit                         | screw-type terminals  |
| • for auxiliary and control current circuit        | screw-type terminals  |
| <b>Type of connectable conductor cross-section</b> |   |
| • for main contacts                                |   |
| — single or multi-stranded                         | 2x (0,5 ... 1,5 mm <sup>2</sup> ), 2x (0,75 ... 2,5 mm <sup>2</sup> ), 2x 4 mm <sup>2</sup> |
| — finely stranded with core end processing         | 2x (0.5 ... 1.5 mm <sup>2</sup> ), 2x (0.75 ... 2.5 mm <sup>2</sup> )                       |
| • for AWG conductors for main contacts             | 2x (20 ... 16), 2x (18 ... 14), 2x 12   |
| • for auxiliary contacts                           |   |
| — single or multi-stranded                         | 2x (0,5 ... 1,5 mm <sup>2</sup> ), 2x (0,75 ... 2,5 mm <sup>2</sup> ), 2x 4 mm <sup>2</sup> |
| — finely stranded with core end processing         | 2x (0.5 ... 1.5 mm <sup>2</sup> ), 2x (0.75 ... 2.5 mm <sup>2</sup> )                       |
| • for AWG conductors for auxiliary contacts        | 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>                                   |             |
| • with low demand rate acc. to SN 31920                                   | 40 %        |
| • with high demand rate acc. to SN 31920                                  | 73 %        |
| <b>Product function</b>   |             |
| • Mirror contact acc. to IEC 60947-4-1                                    | Yes         |
| <b>T1 value for proof test interval or service life acc. to IEC 61508</b> | 20 y        |
| <b>Protection against electrical shock</b>                                | finger-safe |






#### Mechanical data:






|                          |     |
|--------------------------|-----|
| <b>Size of contactor</b> | S00 |
|--------------------------|-----|





### Ambient conditions:

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

### Certificates/ approvals:

|  |  |   |
|--|--|---|
| General Product Approval   | Functional Safety/Safety of Machinery  | Declaration of Conformity   |
| <br>CCC | <br>CSA | <br>EAC        |
| <br>UL  | <a href="#">Type Examination</a>   | <br>EG-Konf. |

|  |  |
|--|--|
| Test Certificates                        | Shipping Approval  |
| <a href="#">Special Test Certificate</a> | <br>ABS             |
|  | <br>BUREAU VERITAS |
|  | <br>DNV             |
|  | <br>GL            |
|  | <br>LRS           |

|   |  |
|---|--|
| Shipping Approval   | other  |
| <br>PRS  | <a href="#">Environmental Confirmations</a>  |
| <br>RINA | <a href="#">Confirmation</a>   |
| <br>RMRS | <br>VDE |

### Further information

Information- and Downloadcenter (Catalogs, Brochures,...)

<http://www.siemens.com/industrial-controls/catalogs>

Industry Mall (Online ordering system)

<http://www.siemens.com/industrymall>

Cax online generator

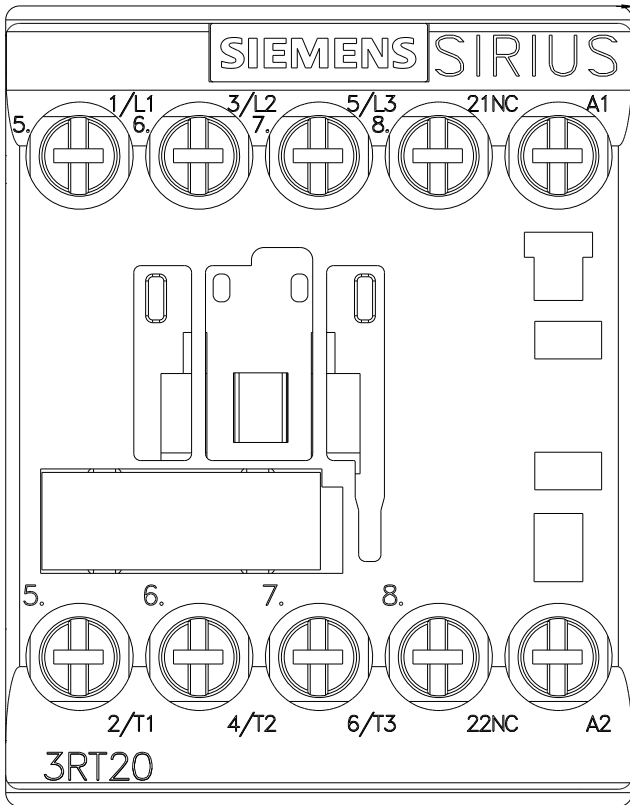
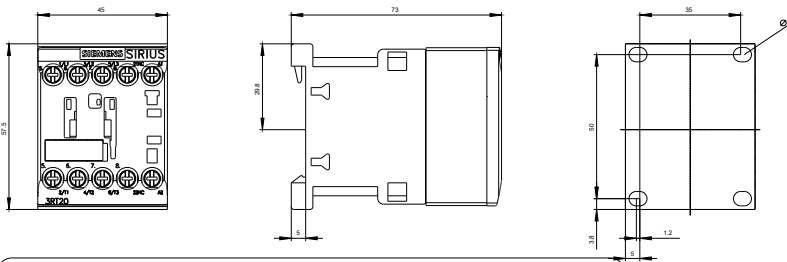
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT20181AP02>

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

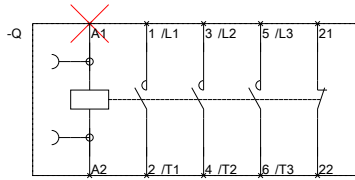
<https://support.industry.siemens.com/cs/ww/en/ps/3RT20181AP02>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RT20181AP02&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT20181AP02&lang=en)







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