

CONTACTOR,AC3:22KW/400V, 1NO+1NC, 20-33V AC/DC, WITH VARISTOR, 3-POLE, SIZE S2, SCREW TERMINAL

|                     |                |
|---------------------|----------------|
| product brand name  | SIRIUS         |
| Product designation | 3RT2 contactor |

### General technical data:

|   |  |
|---|--|
| <b>Size of contactor</b>  | S2   |
| <b>Product extension</b>  |  |
| <ul style="list-style-type: none"> <li>function module for communication</li> </ul>   | No   |
| <ul style="list-style-type: none"> <li>Auxiliary switch</li> </ul>  | Yes  |
| <b>Insulation voltage</b>   |  |
| <ul style="list-style-type: none"> <li>rated value</li> </ul>   | 690 V  |
| <b>Degree of pollution</b>  | 3  |
| <b>Surge voltage resistance rated value</b>   | 6 kV   |
| <b>maximum permissible voltage for safe isolation</b>   |  |
| <ul style="list-style-type: none"> <li>between coil and main contacts acc. to EN 60947-1</li> </ul>   | 400 V  |
| <b>Protection class IP</b>  |  |
| <ul style="list-style-type: none"> <li>on the front</li> </ul>  | IP20   |
| <ul style="list-style-type: none"> <li>of the terminal</li> </ul>   | IP00   |
| <b>Shock resistance</b>   |  |
| <ul style="list-style-type: none"> <li>at rectangular impulse           <ul style="list-style-type: none"> <li>— at AC</li> <li>— at DC</li> </ul> </li> <li>with sine pulse           <ul style="list-style-type: none"> <li>— at AC</li> <li>— at DC</li> </ul> </li> </ul> | 7.7g / 5 ms, 4.5g / 10 ms<br>7.7g / 5 ms, 4.5g / 10 ms<br><br>12g / 5 ms, 7g / 10 ms<br>12g / 5 ms, 7g / 10 ms |
| <b>Mechanical service life (switching cycles)</b>   |  |
| <ul style="list-style-type: none"> <li>of contactor typical</li> </ul>  | 10 000 000   |
| <ul style="list-style-type: none"> <li>of the contactor with added electronics-compatible auxiliary switch block typical</li> </ul>   | 5 000 000  |
| <ul style="list-style-type: none"> <li>of the contactor with added auxiliary switch block typical</li> </ul>  | 10 000 000   |

### 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> </ul> | -25 ... +60 °C |
| <ul style="list-style-type: none"> <li>during storage</li> </ul>   | -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>   |  |
| <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>   | 70 A<br>70 A<br>60 A<br>51 A<br>51 A<br>50 A<br>24 A   |
| <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>   | 16 mm <sup>2</sup><br>25 mm <sup>2</sup>   |
| <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>   | 24 A<br>20 A   |
| <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> </ul> </li> </ul> | 55 A<br>4.5 A<br>1 A<br>0.4 A<br>0.25 A<br>55 A<br>45 A<br>5 A<br>1 A<br>0.8 A<br>55 A<br>55 A |

|  |         |
|--|---------|
| — at 220 V rated value   | 45 A    |
| — at 440 V rated value   | 2.9 A   |
| — at 600 V rated value   | 1.4 A   |
| <b>Operating current</b>   |         |
| • at 1 current path at DC-3 at DC-5                                |         |
| — at 24 V rated value  | 35 A    |
| — at 110 V rated value   | 2.5 A   |
| — at 220 V rated value   | 1 A     |
| — at 440 V rated value   | 0.1 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   | 25 A    |
| — at 220 V rated value   | 5 A     |
| — at 24 V rated value  | 55 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   | 55 A    |
| — at 220 V rated value   | 25 A    |
| — at 24 V rated value  | 55 A    |
| — at 440 V rated value   | 0.6 A   |
| — at 600 V rated value   | 0.35 A  |
| <b>Operating power</b>   |         |
| • at AC-1  |         |
| — at 230 V rated value   | 26 kW   |
| — at 230 V at 60 °C rated value                                    | 23 kW   |
| — at 400 V rated value   | 46 kW   |
| — at 400 V at 60 °C rated value                                    | 39 kW   |
| — at 690 V rated value   | 79 kW   |
| — at 690 V at 60 °C rated value                                    | 68 kW   |
| • at AC-2 at 400 V rated value                                     | 22 kW   |
| • at AC-3  |         |
| — at 230 V rated value   | 15 kW   |
| — at 400 V rated value   | 22 kW   |
| — at 500 V rated value   | 30 kW   |
| — at 690 V rated value   | 22 kW   |
| <b>Operating power for approx. 200000 operating cycles at AC-4</b> |         |
| • at 400 V rated value   | 12.6 kW |
| • at 690 V rated value   | 18.2 kW |
| <b>Thermal short-time current limited to 10 s</b>                  | 420 A   |

|   |           |
|---|-----------|
| <b>Power loss [W] at AC-3 at 400 V for rated value of the operating current per conductor</b> | 4 W       |
| <b>No-load switching frequency</b>  |           |
| • at AC   | 1 500 1/h |
| • at DC   | 1 500 1/h |
| <b>Operating frequency</b>  |           |
| • at AC-1 maximum   | 1 000 1/h |
| • at AC-2 maximum   | 600 1/h   |
| • at AC-3 maximum   | 800 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/DC         |
| <b>Control supply voltage at AC</b>   |               |
| • at 50 Hz rated value  | 20 ... 33 V   |
| • at 60 Hz rated value  | 20 ... 33 V   |
| <b>Control supply voltage at DC</b>   |               |
| • rated value   | 20 ... 33 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  | 0.8 ... 1.1   |
| <b>Operating range factor control supply voltage rated value of magnet coil at DC</b> | 0.8 ... 1.1   |
| <b>Design of the surge suppressor</b>   | with varistor |
| <b>Apparent pick-up power of magnet coil at AC</b>                                    |               |
| • at 50 Hz  | 40 V·A        |
| • at 60 Hz  | 40 V·A        |
| <b>Apparent holding power of magnet coil at AC</b>                                    |               |
| • at 50 Hz  | 2 V·A         |
| • at 60 Hz  | 2 V·A         |
| <b>Closing power of magnet coil at DC</b>   | 23 W          |
| <b>Holding power of magnet coil at DC</b>   | 1 W           |
| <b>Closing delay</b>  |               |
| • at AC   | 45 ... 70 ms  |
| • at DC   | 45 ... 60 ms  |
| <b>Opening delay</b>  |               |
| • at AC   | 35 ... 55 ms  |
| • at DC   | 35 ... 55 ms  |
| <b>Arcing time</b>  | 10 ... 20 ms  |
| <b>Residual current of the electronics for control with signal &lt;0&gt;</b>          |               |
| • at AC at 230 V maximum permissible  | 20 mA         |

- at DC at 24 V maximum permissible

20 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)      |

#### 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>  | 52 A<br>52 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> </ul> </li> </ul> | 3 hp<br>10 hp<br>15 hp |

|                            |       |
|----------------------------|-------|
| — at 220/230 V rated value | 15 hp |
| — at 460/480 V rated value | 40 hp |
| — at 575/600 V rated value | 50 hp |

|   |             |
|---|-------------|
| <b>Contact rating of auxiliary contacts according to UL</b> | A600 / P600 |
|---|-------------|

### Short-circuit protection

#### Design of the fuse link

|   |   |
|---|---|
| <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 coordination 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 NH 3NA, DIAZED 5SB, NEOZED 5SE: 160 A<br>gL/gG NH 3NA, DIAZED 5SB, NEOZED 5SE: 80 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>  | 114 mm   |
| <b>Width</b>   | 55 mm  |
| <b>Depth</b>   | 130 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> <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> <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<br>0 mm<br>0 mm<br>0 mm<br>0 mm<br>10 mm<br>0 mm<br>50 mm<br>6 mm<br>50 mm<br>10 mm<br>0 mm<br>50 mm<br>50 mm<br>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>  | <p>screw-type terminals</p> <p>screw-type terminals</p>   |
| <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>           | <p>2x (1 ... 35 mm<sup>2</sup>), 1x (1 ... 50 mm<sup>2</sup>)</p> <p>2x (1 ... 25 mm<sup>2</sup>), 1x (1 ... 35 mm<sup>2</sup>)</p> <p>2x (18 ... 2), 1x (18 ... 1)</p>                 |
| <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> | <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> |

|   |                         |
|---|-------------------------|
| <b>Safety related data:</b>   |                         |
| <b>B10 value</b>  |                         |
| <ul style="list-style-type: none"> <li>• with high demand rate acc. to SN 31920</li> </ul>  | 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>           | <p>40 %</p> <p>73 %</p> |
| <b>Product function</b>   |                         |
| <ul style="list-style-type: none"> <li>• Mirror contact acc. to IEC 60947-4-1</li> <li>• positively driven operation acc. to IEC 60947-5-1</li> </ul> | <p>Yes</p> <p>No</p>    |
| <b>T1 value for proof test interval or service life acc. to IEC 61508</b>   | 20 y                    |

**Certificates/approvals**

|                          |                           |
|--------------------------|---------------------------|
| General Product Approval | Declaration of Conformity |
|--------------------------|---------------------------|



CCC



CSA



UL

[sonstig](#)



EG-Konf.

|                   |                   |
|-------------------|-------------------|
| Test Certificates | Shipping Approval |
|-------------------|-------------------|

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ABS



DNV



GL

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



LRS



RMRS

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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=3RT2036-1NB30>

**Cax online generator**

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2036-1NB30>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2036-1NB30>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RT2036-1NB30&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2036-1NB30&lang=en)

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