

CONTACTOR, AC-3, 15KW/400V, 1NO+1NC, AC 110V 50HZ, 120V 60HZ 3-POLE, SZ S0 SCREW TERMINAL



|   |        |
|---|--------|
| product brandname                                   | SIRIUS |
| Product type designation                            | 3RT2   |
| General technical data                              |        |
| 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                            |        |

|   |                            |
|---|----------------------------|
| — at AC   | 8,3g / 5 ms, 5,3g / 10 ms  |
| • with sine pulse   |                            |
| — at AC   | 13,5g / 5 ms, 8,3g / 10 ms |
| <b>Mechanical service life (switching cycles)</b>                                   |                            |
| • of contactor typical  | 10 000 000                 |
| • 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 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>   |        |
| • 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                           | 50 A   |
| • at AC-1  |        |
| — up to 690 V at ambient temperature 40 °C rated value               | 50 A   |
| — up to 690 V at ambient temperature 60 °C rated value               | 42 A   |
| • at AC-2 at 400 V rated value                                       | 32 A   |
| • at AC-3  |        |
| — at 400 V rated value   | 32 A   |
| — at 500 V rated value   | 32 A   |
| — at 690 V rated value   | 21 A   |
| <b>Connectable conductor cross-section in main circuit at AC-1</b>   |        |
| • at 60 °C minimum permissible                                       | 10 mm² |
| • at 40 °C minimum permissible                                       | 10 mm² |
| <b>Operating current for approx. 200000 operating cycles at AC-4</b> |        |
| • at 400 V rated value   | 12 A   |
| • at 690 V rated value   | 12 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> <li>— at 220 V rated value</li> <li>— at 440 V rated value</li> <li>— at 600 V rated value</li> </ul> </li> </ul>                         | 35 A<br>4.5 A<br>1 A<br>0.4 A<br>0.25 A<br><br>35 A<br>35 A<br>5 A<br>1 A<br>0.8 A<br><br>35 A<br>35 A<br>35 A<br>2.9 A<br>1.4 A      |
| <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> | 20 A<br>2.5 A<br>1 A<br>0.09 A<br>0.06 A<br><br>15 A<br>3 A<br>35 A<br>0.27 A<br>0.16 A<br><br>35 A<br>10 A<br>35 A<br>0.6 A<br>0.6 A |
| <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>  | 16 kW   |

|   |              |
|---|--------------|
| — at 230 V at 60 °C rated value   | 15.5 kW      |
| — at 400 V rated value  | 28 kW        |
| — at 400 V at 60 °C rated value   | 27.5 kW      |
| — at 690 V rated value  | 48 kW        |
| — at 690 V at 60 °C rated value   | 47.5 kW      |
| • at AC-2 at 400 V rated value  | 15 kW        |
| • <b>at AC-3</b>  |              |
| — at 230 V rated value  | 7.5 kW       |
| — at 400 V rated value  | 15 kW        |
| — at 690 V rated value  | 18.5 kW      |
| <b>Operating power for approx. 200000 operating cycles at AC-4</b>                            |              |
| • at 400 V rated value  | 6 kW         |
| • at 690 V rated value  | 10.3 kW      |
| <b>Thermal short-time current limited to 10 s</b>   | 260 A        |
| <b>Power loss [W] at AC-3 at 400 V for rated value of the operating current per conductor</b> | 2.7 W        |
| <b>No-load switching frequency</b>  |              |
| • at AC   | 5 000 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  | 110 V        |
| • at 60 Hz rated value  | 120 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  | 81 V·A       |
| • at 60 Hz  | 79 V·A       |
| <b>Inductive power factor with closing power of the coil</b>                                  |              |
| • at 50 Hz  | 0.72         |
| • at 60 Hz  | 0.74         |
| <b>Apparent holding power of magnet coil at AC</b>  |              |
| • at 50 Hz  | 10.5 V·A     |
| • at 60 Hz  | 8.5 V·A      |

|  |              |
|--|--------------|
| <b>Inductive power factor with the holding power of the coil</b>             |              |
| • at 50 Hz   | 0.25         |
| • at 60 Hz   | 0.28         |
| <b>Closing delay</b>   |              |
| • at AC  | 8 ... 40 ms  |
| <b>Opening delay</b>   |              |
| • at AC  | 4 ... 16 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   | 7 mA         |
| • at DC at 24 V maximum permissible  | 16 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            | 1      |
| 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 500 V rated value             | 2 A    |
| • at 690 V rated value             | 1 A    |
| <b>Operating current at DC-12</b>  |        |
| • at 24 V rated value              | 10 A   |
| • at 48 V rated value              | 6 A    |
| • 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>  |        |
| • at 24 V rated value              | 10 A   |
| • at 48 V rated value              | 2 A    |
| • at 60 V rated value              | 2 A    |
| • at 110 V rated value             | 1 A    |
| • at 125 V rated value             | 0.9 A  |
| • at 220 V rated value             | 0.3 A  |
| • at 600 V rated value             | 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>         |  |
| • at 480 V rated value  | 27 A   |
| • at 600 V rated value  | 27 A   |
| <b>Yielded mechanical performance [hp]</b>                      |  |
| • for single-phase AC motor                                     |  |
| — at 110/120 V rated value                                      | 2 hp   |
| — at 230 V rated value  | 5 hp   |
| • for three-phase AC motor                                      |  |
| — at 200/208 V rated value                                      | 10 hp  |
| — at 220/230 V rated value                                      | 10 hp  |
| — at 460/480 V rated value                                      | 20 hp  |
| — at 575/600 V rated value                                      | 25 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>                                  |  |
| • for short-circuit protection of the main circuit              |  |
| — with type of coordination 1 required                          | gG NH 3NA, DIAZED 5SB, NEOZED 5SE: 125 A   |
| — with type of assignment 2 required                            | gG NH 3NA, DIAZED 5SB, NEOZED 5SE: 50 A  |
| • for short-circuit protection of the auxiliary switch required | fuse gG: 10 A  |
| <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   |
| • Side-by-side mounting   | Yes  |
| <b>Height</b>   | 85 mm  |
| <b>Width</b>  | 45 mm  |
| <b>Depth</b>  | 97 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      | 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-sections</b> |   |
| • for main contacts                                 |   |
| — solid   | 2x (1 ... 2.5 mm <sup>2</sup> ), 2x (2.5 ... 10 mm <sup>2</sup> )                       |
| — single or multi-stranded                          | 2x (1 ... 2,5 mm <sup>2</sup> ), 2x (2,5 ... 10 mm <sup>2</sup> )                       |
| — finely stranded with core end processing          | 2x (1 ... 2.5 mm <sup>2</sup> ), 2x (2.5 ... 6 mm <sup>2</sup> ), 1x 10 mm <sup>2</sup> |
| • at AWG conductors for main contacts               | 2x (16 ... 12), 2x (14 ... 8)   |
| <b>Type of connectable conductor cross-sections</b> |   |
| • 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> )                   |
| — finely stranded with core end processing          | 2x (0.5 ... 1.5 mm <sup>2</sup> ), 2x (0.75 ... 2.5 mm <sup>2</sup> )                   |
| • at AWG conductors for auxiliary contacts          | 2x (20 ... 16), 2x (18 ... 14)  |

## Safety related data

|   |             |
|---|-------------|
| <b>B10 value</b>  |             |
| • with high demand rate acc. to SN 31920                                  | 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>Failure rate [FIT]</b>   |             |
| • with low demand rate acc. to SN 31920                                   | 100 FIT     |
| <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 |

## Certificates/approvals

|                                 |            |
|---------------------------------|------------|
| <b>General Product Approval</b> | <b>EMC</b> |
|---------------------------------|------------|



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

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|                          |
|--------------------------|
| <b>Shipping Approval</b> |
|--------------------------|



|              |
|--------------|
| <b>other</b> |
|--------------|

[Bestätigungen](#)

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|                            |
|----------------------------|
| <b>Further information</b> |
|----------------------------|

**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=3RT2027-1AK60>

**Cax online generator**

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2027-1AK60>

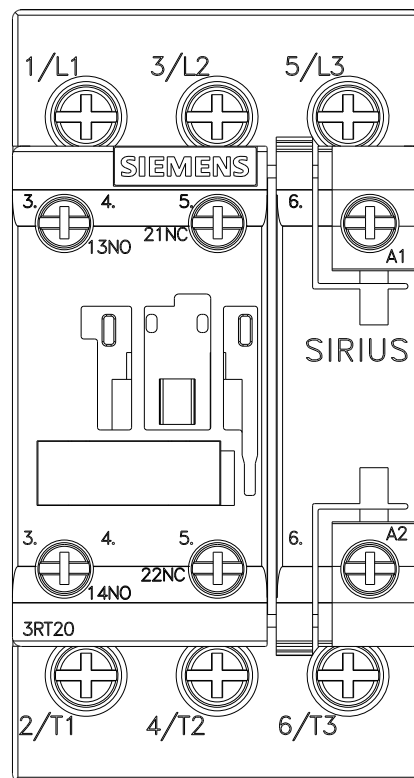
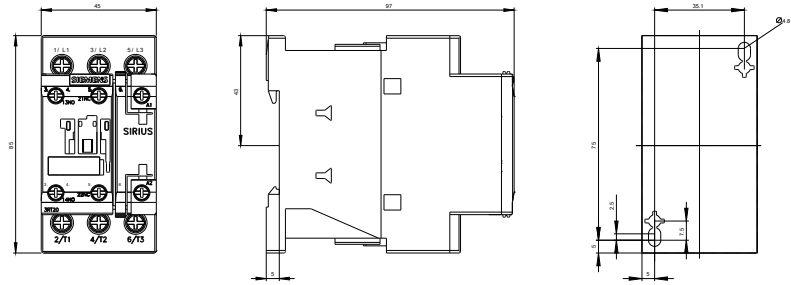
**Service&Support (Manuals, Certificates, Characteristics, FAQs,...)**

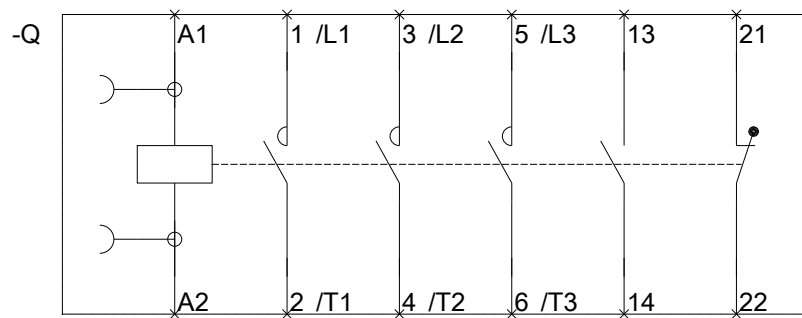
<https://support.industry.siemens.com/cs/ww/en/ps/3RT2027-1AK60>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RT2027-1AK60&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2027-1AK60&lang=en)







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