

Contactor, AC-3, 55 kW/400 V 1 NO+1 NC, 110 V AC 50 Hz 3-pole,  
3 NO, Size S3 Screw terminal



Figure similar

|   |                 |
|---|-----------------|
| Product brand name                                  | SIRIUS          |
| Product designation                                 | Power contactor |
| Product type designation                            | 3RT2            |
| General technical data                              |                 |
| Size of contactor                                   | S3              |
| Product extension                                   |                 |
| • function module for communication                 | No              |
| • Auxiliary switch                                  | Yes             |
| Insulation voltage                                  |                 |
| • rated value                                       | 1 000 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 | 690 V           |
| Protection class IP                                 |                 |
| • on the front                                      | IP20            |

|  |                              |
|--|------------------------------|
| • of the terminal  | IP00                         |
| <b>Shock resistance at rectangular impulse</b>   |                              |
| • at AC  | 6.7 g / 5 ms, 4.0 g / 10 ms  |
| <b>Shock resistance with sine pulse</b>  |                              |
| • at AC  | 10.6 g / 5 ms, 6.3 g / 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                   |
| Reference identifier acc. to DIN 40719 extended according to IEC 204-2 acc. to IEC 750 | K                            |

#### Ambient conditions

|  |                |
|--|----------------|
| <b>Installation altitude at height above sea level</b> |                |
| • maximum  | 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>Operating voltage</b>   |         |
| • at AC-3 rated value maximum                                      | 1 000 V |
| <b>Operating current</b>   |         |
| • at AC-1 at 400 V   |         |
| — at ambient temperature 40 °C rated value                         | 130 A   |
| • at AC-1  |         |
| — up to 690 V at ambient temperature 40 °C rated value             | 130 A   |
| — up to 690 V at ambient temperature 60 °C rated value             | 110 A   |
| • at AC-2 at 400 V rated value                                     | 110 A   |
| • at AC-3  |         |
| — at 400 V rated value   | 110 A   |
| — at 500 V rated value   | 110 A   |
| — at 690 V rated value   | 98 A    |
| <b>Connectable conductor cross-section in main circuit at AC-1</b> |         |
| • at 60 °C minimum permissible                                     | 35 mm²  |
| • at 40 °C minimum permissible                                     | 50 mm²  |

|  |        |
|--|--------|
| <b>Operating current for approx. 200000 operating cycles at AC-4</b> |        |
| • at 400 V rated value   | 46 A   |
| • at 690 V rated value   | 36 A   |
| <b>Operating current</b>   |        |
| • at 1 current path at DC-1  |        |
| — at 24 V rated value  | 100 A  |
| — at 110 V rated value   | 9 A    |
| — at 220 V rated value   | 2 A    |
| — at 440 V rated value   | 0.6 A  |
| — at 600 V rated value   | 0.4 A  |
| • with 2 current paths in series at DC-1                             |        |
| — at 24 V rated value  | 100 A  |
| — at 110 V rated value   | 100 A  |
| — at 220 V rated value   | 10 A   |
| — at 440 V rated value   | 1.8 A  |
| — at 600 V rated value   | 1 A    |
| • with 3 current paths in series at DC-1                             |        |
| — at 24 V rated value  | 100 A  |
| — at 110 V rated value   | 100 A  |
| — at 220 V rated value   | 80 A   |
| — at 440 V rated value   | 4.5 A  |
| — at 600 V rated value   | 2.6 A  |
| <b>Operating current</b>   |        |
| • at 1 current path at DC-3 at DC-5                                  |        |
| — at 24 V rated value  | 40 A   |
| — at 110 V rated value   | 2.5 A  |
| — at 220 V rated value   | 1 A    |
| — at 440 V rated value   | 0.15 A |
| — at 600 V rated value   | 0.06 A |
| • with 2 current paths in series at DC-3 at DC-5                     |        |
| — at 24 V rated value  | 100 A  |
| — at 110 V rated value   | 100 A  |
| — at 220 V rated value   | 7 A    |
| — at 440 V rated value   | 0.42 A |
| — at 600 V rated value   | 0.16 A |
| • with 3 current paths in series at DC-3 at DC-5                     |        |
| — at 24 V rated value  | 100 A  |
| — at 110 V rated value   | 100 A  |
| — at 220 V rated value   | 35 A   |
| — at 440 V rated value   | 0.8 A  |

|   |             |
|---|-------------|
| — at 600 V rated value  | 0.35 A      |
| <b>Operating power</b>  |             |
| • at AC-1   |             |
| — at 230 V rated value  | 49 kW       |
| — at 230 V at 60 °C rated value   | 42 kW       |
| — at 400 V rated value  | 86 kW       |
| — at 400 V at 60 °C rated value   | 72 kW       |
| — at 690 V rated value  | 148 kW      |
| — at 690 V at 60 °C rated value   | 125 kW      |
| • at AC-2 at 400 V rated value  | 55 kW       |
| • at AC-3   |             |
| — at 230 V rated value  | 30 kW       |
| — at 400 V rated value  | 55 kW       |
| — at 500 V rated value  | 75 kW       |
| — at 690 V rated value  | 90 kW       |
| <b>Operating power for approx. 200000 operating cycles at AC-4</b>                            |             |
| • at 400 V rated value  | 24.3 kW     |
| • at 690 V rated value  | 32.9 kW     |
| <b>Thermal short-time current limited to 10 s</b>   | 880 A       |
| <b>Power loss [W] at AC-3 at 400 V for rated value of the operating current per conductor</b> | 7.9 W       |
| <b>No-load switching frequency</b>  |             |
| • at AC   | 5 000 1/h   |
| <b>Operating frequency</b>  |             |
| • at AC-1 maximum   | 900 1/h     |
| • at AC-2 maximum   | 350 1/h     |
| • at AC-3 maximum   | 850 1/h     |
| • at AC-4 maximum   | 200 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       |
| <b>Operating range factor control supply voltage rated value of magnet coil at AC</b>         |             |
| • at 50 Hz  | 0.8 ... 1.1 |
| <b>Apparent pick-up power of magnet coil at AC</b>  |             |
| • at 50 Hz  | 296 V·A     |
| <b>Inductive power factor with closing power of the coil</b>                                  |             |
| • at 50 Hz  | 0.61        |
| <b>Apparent holding power of magnet coil at AC</b>  |             |
| • at 50 Hz  | 19 V·A      |

|  |                  |
|--|------------------|
| <b>Inductive power factor with the holding power of the coil</b> |                  |
| • at 50 Hz   | 0.38             |
| <b>Closing delay</b>   |                  |
| • at AC  | 13 ... 50 ms     |
| <b>Opening delay</b>   |                  |
| • at AC  | 10 ... 21 ms     |
| <b>Arcing time</b>   | 10 ... 20 ms     |
| <b>Control version of the switch operating mechanism</b>         | Standard A1 - A2 |

#### 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   |
| <b>Operating current at AC-12 maximum</b>        | 10 A  |
| <b>Operating current at AC-15</b>                |   |
| • at 230 V rated value                           | 6 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) |

#### 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>   | 96 A<br>99 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> | 10 hp<br>20 hp<br><br>30 hp<br>40 hp<br>75 hp<br>100 hp |
| <b>Contact rating of auxiliary contacts according to UL</b>  | A600 / P600   |

### Short-circuit protection

|  |   |
|--|---|
| <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 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: 250 A<br>gL/gG NH 3NA, DIAZED 5SB, NEOZED 5SE: 200 A<br>fuse 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> <ul style="list-style-type: none"> <li>• Side-by-side mounting</li> </ul>   | screw and snap-on mounting onto 35 mm standard mounting rail according to DIN EN 60715<br>Yes  |
| <b>Height</b>  | 140 mm   |
| <b>Width</b>   | 70 mm  |
| <b>Depth</b>   | 152 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> </ul> | 0 mm<br>0 mm<br>0 mm<br>0 mm<br>0 mm<br><br>0 mm<br>0 mm<br>10 mm<br>10 mm<br>10 mm  |

|                  |       |
|------------------|-------|
| • for live parts |       |
| — forwards       | 0 mm  |
| — Backwards      | 0 mm  |
| — upwards        | 10 mm |
| — downwards      | 10 mm |
| — at the side    | 10 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  |   |
| — finely stranded with core end processing                   | 2x (2.5 ... 35 mm <sup>2</sup> ), 1x (2.5 ... 50 mm <sup>2</sup> )    |
| • at AWG conductors for main contacts                        | 2x (10 ... 1/0), 1x (10 ... 2)  |
| <b>Connectable conductor cross-section for main contacts</b> |   |
| • solid  | 2.5 ... 16 mm <sup>2</sup>  |
| • stranded   | 6 ... 70 mm <sup>2</sup>  |
| <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>Product function</b>   |  |
| • Mirror contact acc. to IEC 60947-4-1                                    | Yes  |
| • positively driven operation acc. to IEC 60947-5-1                       | No   |
| <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 when touched vertically from front acc. to IEC 60529 |

## Certificates/approvals

| General Product Approval   |  |   |   | Declaration of<br>Conformity  | Test<br>Certificates                                       |
|--|--|---|---|---|--|
| <br>CCC | <br>CSA | <br>UL |  | <br>EG-Konf. | <a href="#">Type Test<br/>Certificates/Test<br/>Report</a> |

| Test<br>Certificates                         | other                        | Railway                             |
|--|------------------------------|-------------------------------------|
| <a href="#">Special Test<br/>Certificate</a> | <a href="#">Confirmation</a> | <a href="#">Vibration and Shock</a> |

#### 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=3RT2047-1AF00>

##### Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2047-1AF00>

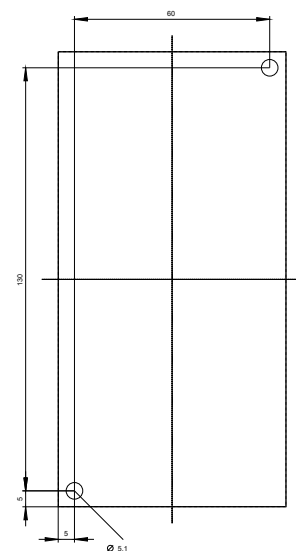
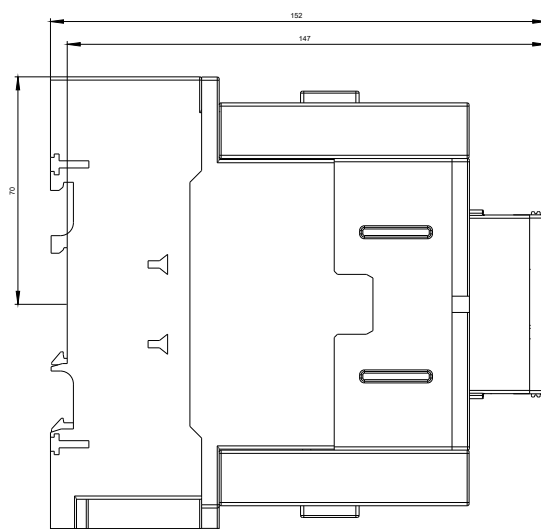
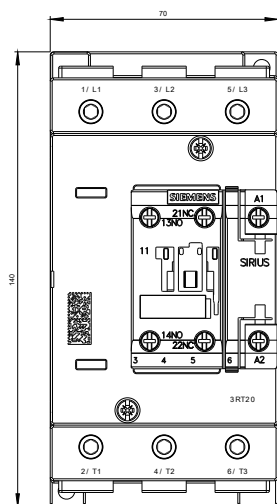
##### Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

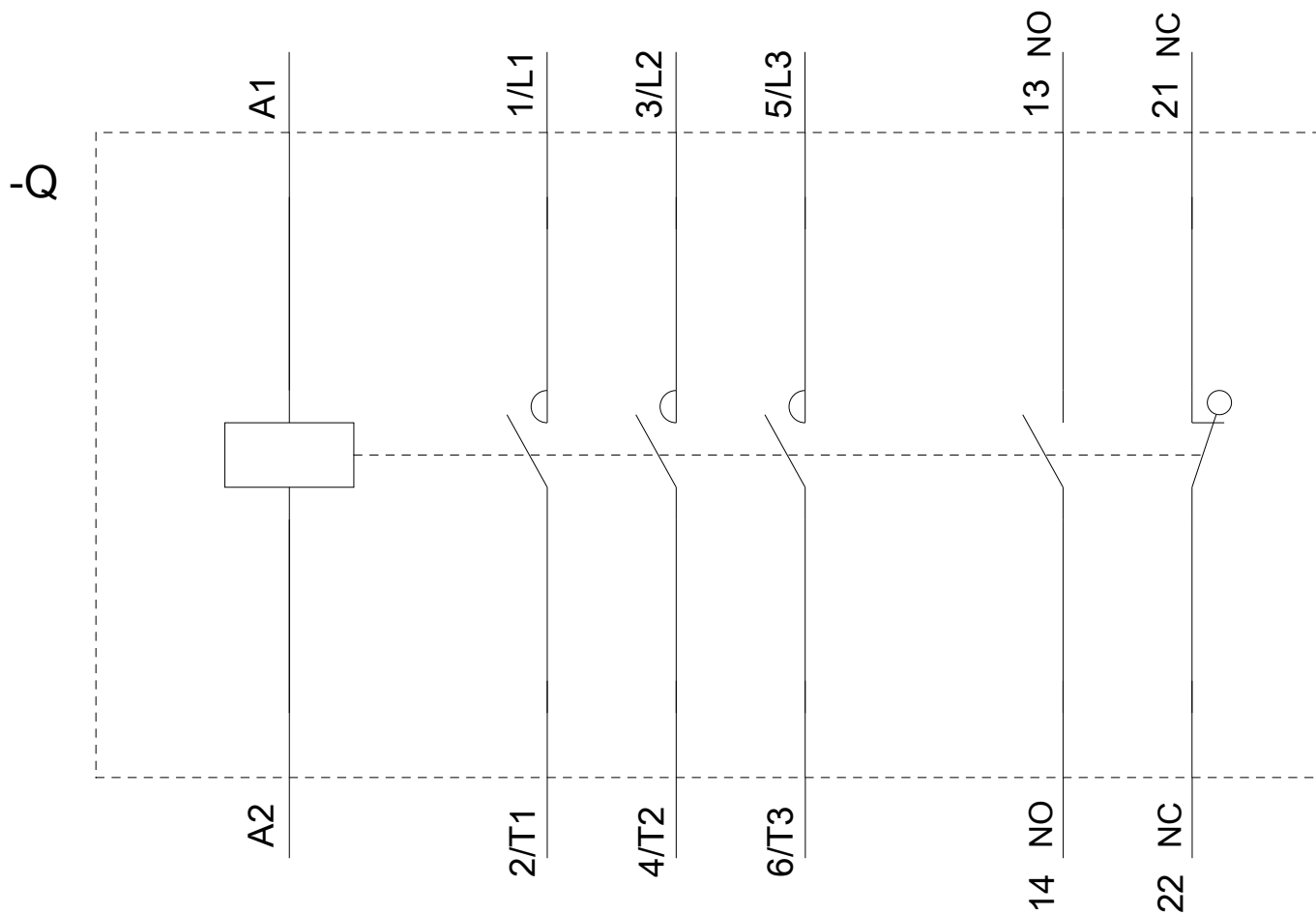
<https://support.industry.siemens.com/cs/ww/en/ps/3RT2047-1AF00>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RT2047-1AF00&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2047-1AF00&lang=en)







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