

CONTACTOR, AC3: 55KW/400V, 1NO+1NC, 24VAC 50HZ, 3-POLE, 3NO, SIZE: S3, SCREW TERMINALS



Figure similar

|                          |                 |
|--------------------------|-----------------|
| product brandname        | 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 | 400 V   |
| Protection class IP                                 |         |
| • on the front                                      | IP20    |

|   |                                       |
|---|---------------------------------------|
| <ul style="list-style-type: none"> <li>• of the terminal</li> </ul>   | IP00                                  |
| <b>Shock resistance at rectangular impulse</b> <ul style="list-style-type: none"> <li>• at AC</li> </ul>  | 6.7 g / 5 ms, 4.0 g / 10 ms           |
| <b>Shock resistance with sine pulse</b> <ul style="list-style-type: none"> <li>• at AC</li> </ul>   | 10.6 g / 5 ms, 6.3 g / 10 ms          |
| <b>Mechanical service life (switching cycles)</b> <ul style="list-style-type: none"> <li>• of contactor typical</li> <li>• of the contactor with added electronics-compatible auxiliary switch block typical</li> <li>• of the contactor with added auxiliary switch block typical</li> </ul> | 10 000 000<br>5 000 000<br>10 000 000 |

| Ambient conditions  |                                  |
|---|----------------------------------|
| <b>Ambient temperature</b> <ul style="list-style-type: none"> <li>• during operation</li> <li>• during storage</li> </ul> | -25 ... +60 °C<br>-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> <ul style="list-style-type: none"> <li>• at AC-3 rated value maximum</li> </ul>  | 1 000 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> | 130 A<br>130 A<br>110 A<br>110 A<br>110 A<br>110 A<br>95 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>   | 35 mm <sup>2</sup><br>50 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>   | 46 A<br>36 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>                         | 100 A<br>9 A<br>2 A<br>0.6 A<br>0.4 A<br><br>100 A<br>100 A<br>10 A<br>1.8 A<br>1 A<br><br>100 A<br>100 A<br>80 A<br>4.5 A<br>2.6 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 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-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> </ul> | 40 A<br>2.5 A<br>1 A<br>0.15 A<br>0.06 A<br><br>100 A<br>100 A<br>7 A<br>0.42 A<br>0.16 A<br><br>100 A<br>100 A<br>35 A<br>0.8 A<br>0.35 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> <li>— at 230 V at 60 °C rated value</li> </ul> </li> </ul>   | 49 kW<br>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     |
| <b>• at AC-3</b>  |           |
| — 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  | 24 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>                                      |              |
| <ul style="list-style-type: none"> <li>• at AC</li> </ul> | 10 ... 21 ms |
| <b>Arcing time</b>  | 10 ... 20 ms |

### 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  |
| <b>Operating current at AC-12 maximum</b>   | 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>  | 6 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>  | 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> </ul> | 10 hp<br>20 hp |

- for three-phase AC motor
  - at 200/208 V rated value 30 hp
  - at 220/230 V rated value 40 hp
  - at 460/480 V rated value 75 hp
  - at 575/600 V rated value 100 hp

**Contact rating of auxiliary contacts according to UL** A600 / P600

### Short-circuit protection

#### Design of the fuse link

- for short-circuit protection of the main circuit
  - with type of coordination 1 required gL/gG NH 3NA, DIAZED 5SB, NEOZED 5SE: 250 A
  - with type of assignment 2 required gL/gG NH 3NA, DIAZED 5SB, NEOZED 5SE: 200 A
- for short-circuit protection of the auxiliary switch required fuse gG: 10 A

### Installation/ mounting/ dimensions

#### Mounting position

+/-180° rotation possible on vertical mounting surface; can be tilted forward and backward by +/- 22.5° on vertical mounting surface

#### Mounting type

screw and snap-on mounting onto 35 mm standard mounting rail according to DIN EN 60715

- Side-by-side mounting

Yes

#### Height

140 mm

#### Width

70 mm

#### Depth

152 mm

#### Required spacing

- 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 10 mm
  - at the side 10 mm
  - downwards 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> <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>— finely stranded with core end processing</li> </ul> </li> <li>• at AWG conductors for main contacts</li> </ul>   | <p>2x (2.5 ... 35 mm<sup>2</sup>), 1x (2.5 ... 50 mm<sup>2</sup>)</p> <p>2x (10 ... 1/0), 1x (10 ... 2)</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> |

### Safety related data

|   |  |
|---|--|
| <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   |
| <b>Protection against electrical shock</b>  | finger-safe when touched vertically from front acc. to IEC 60529 |

### Certificates/approvals

| General Product Approval   | Declaration of Conformity   | Test Certificates  | Shipping Approval   |
|--|---|--|---|
| <br>CSA | <br>UL | <br>EAC | <br>EG-Konf. |
|  |   | <a href="#">Typprüfbescheinigung/Werkszeugnis</a>  | <br>ABS    |

| Shipping Approval  | other   |
|--|---|
| <br>LRS | <br>RMRS |
| <a href="#">Bestätigungen</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?mfb=3RT2047-1AB00>

### **Cax online generator**

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mfb=3RT2047-1AB00>

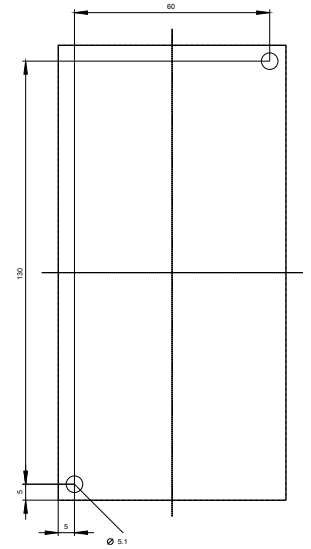
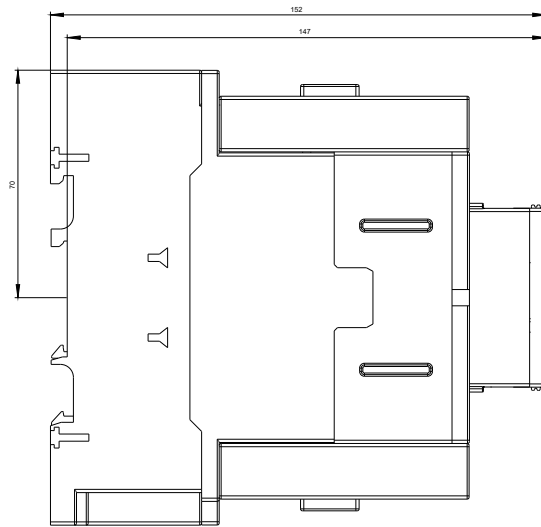
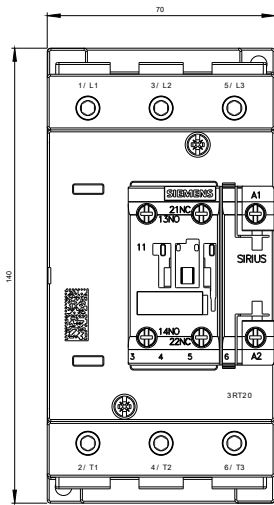
### **Service&Support (Manuals, Certificates, Characteristics, FAQs,...)**

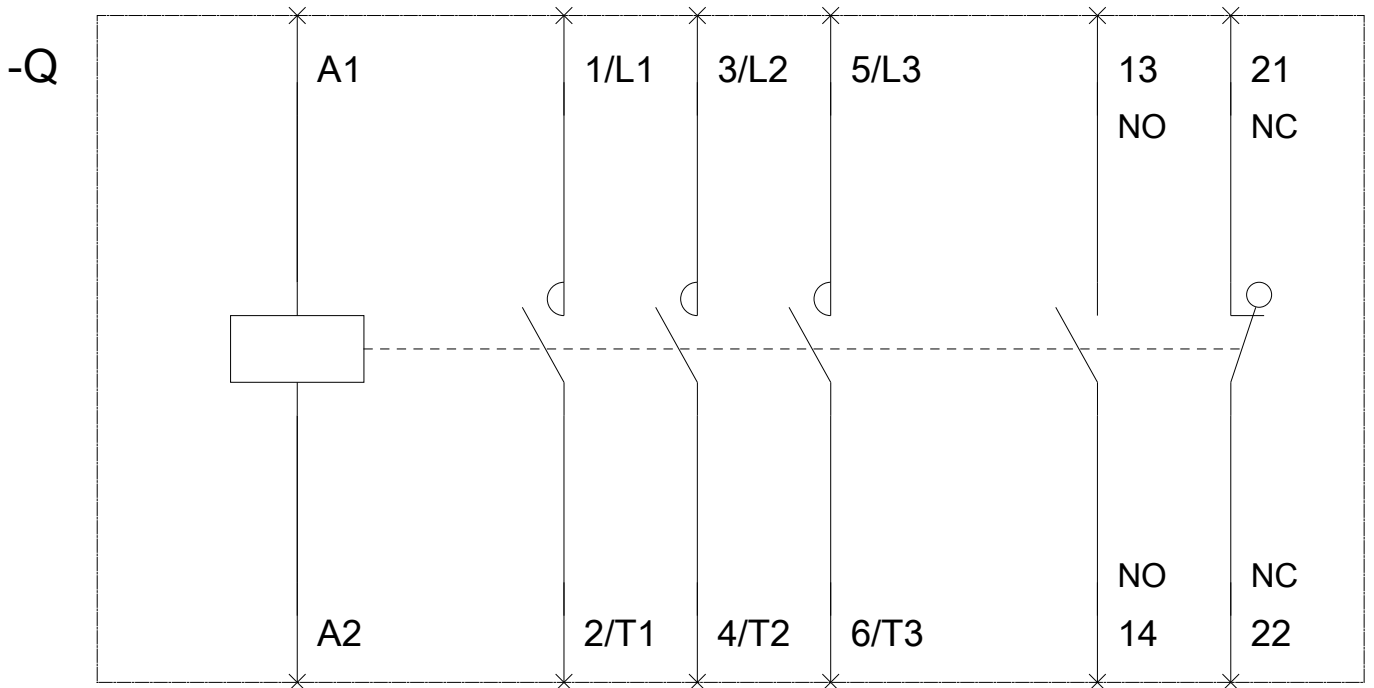
<https://support.industry.siemens.com/cs/ww/en/ps/3RT2047-1AB00>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mfb=3RT2047-1AB00&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mfb=3RT2047-1AB00&lang=en)







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