

Power contactor, AC-3 9 A, 4 kW / 400 V 1 NO, 24 V AC, 50 / 60 Hz, 3-pole, size S00 spring-type terminal



|                          |                 |
|--------------------------|-----------------|
| Product brand name       | SIRIUS          |
| Product designation      | Power contactor |
| Product type designation | 3RT2            |

| General technical data  |                           |
|---|---------------------------|
| Size of contactor   | S00                       |
| Product extension   |                           |
| <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                       |
| Insulation voltage  |                           |
| <ul style="list-style-type: none"> <li>rated value</li> </ul>                                       | 690 V                     |
| Surge voltage resistance rated value  | 6 kV                      |
| maximum permissible voltage for safe isolation  |                           |
| <ul style="list-style-type: none"> <li>between coil and main contacts acc. to EN 60947-1</li> </ul> | 400 V                     |
| Protection class IP   |                           |
| <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>                                   | IP20                      |
| Shock resistance at rectangular impulse   |                           |
| <ul style="list-style-type: none"> <li>at AC</li> </ul>   | 6,7g / 5 ms, 4,2g / 10 ms |

|   |                            |
|---|----------------------------|
| <b>Shock resistance with sine pulse</b>   |                            |
| <ul style="list-style-type: none"> <li>• at AC</li> </ul>   | 10,5g / 5 ms, 6,6g / 10 ms |
| <b>Mechanical service life (switching cycles)</b>   |                            |
| <ul style="list-style-type: none"> <li>• of contactor typical</li> </ul>  | 30 000 000                 |
| <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                 |
| <b>Equipment marking</b>  |                            |
| <ul style="list-style-type: none"> <li>• acc. to DIN 40719 extended according to IEC 204-2 acc. to IEC 750</li> </ul>                 | K                          |
| <ul style="list-style-type: none"> <li>• acc. to DIN EN 61346-2</li> </ul>  | Q                          |

### Ambient conditions

|  |                |
|--|----------------|
| <b>Installation altitude at height above sea level</b>               |                |
| <ul style="list-style-type: none"> <li>• maximum</li> </ul>          | 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 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>   | 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> </ul>    | 22 A                |
| <ul style="list-style-type: none"> <li>• at AC-1 <ul style="list-style-type: none"> <li>— up to 690 V at ambient temperature 40 °C rated value</li> </ul> </li> </ul> | 22 A                |
| <ul style="list-style-type: none"> <li>— up to 690 V at ambient temperature 60 °C rated value</li> </ul>  | 20 A                |
| <ul style="list-style-type: none"> <li>• at AC-2 at 400 V rated value</li> </ul>  | 9 A                 |
| <ul style="list-style-type: none"> <li>• at AC-3 <ul style="list-style-type: none"> <li>— at 400 V rated value</li> </ul> </li> </ul>                                 | 9 A                 |
| <ul style="list-style-type: none"> <li>— at 500 V rated value</li> </ul>  | 7.7 A               |
| <ul style="list-style-type: none"> <li>— at 690 V rated value</li> </ul>  | 6.7 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> </ul>  | 2.5 mm <sup>2</sup> |
| <ul style="list-style-type: none"> <li>• at 40 °C minimum permissible</li> </ul>  | 4 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>   | <p>4.1 A</p> <p>3.3 A</p>  |
| <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> | <p>20 A</p> <p>2.1 A</p> <p>0.8 A</p> <p>0.6 A</p> <p>0.6 A</p> <p>20 A</p> <p>12 A</p> <p>1.6 A</p> <p>0.8 A</p> <p>0.7 A</p> <p>20 A</p> <p>20 A</p> <p>20 A</p> <p>1.3 A</p> <p>1 A</p> |
| <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> </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> </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>   | <p>20 A</p> <p>0.1 A</p> <p>20 A</p> <p>0.35 A</p> <p>20 A</p> <p>20 A</p> <p>1.5 A</p> <p>0.2 A</p> <p>0.2 A</p>  |
| <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> <li>— at 400 V rated value</li> <li>— at 400 V at 60 °C rated value</li> <li>— at 690 V rated value</li> </ul> </li> </ul>  | <p>7.5 kW</p> <p>7.5 kW</p> <p>13 kW</p> <p>13 kW</p> <p>22 kW</p>   |

|   |              |
|---|--------------|
| <ul style="list-style-type: none"> <li>— at 690 V at 60 °C rated value</li> </ul>             | 22 kW        |
| <ul style="list-style-type: none"> <li>• at AC-2 at 400 V rated value</li> </ul>              | 4 kW         |
| <ul style="list-style-type: none"> <li>• at AC-3</li> </ul>                                   |              |
| <ul style="list-style-type: none"> <li>— at 230 V rated value</li> </ul>                      | 2.2 kW       |
| <ul style="list-style-type: none"> <li>— at 400 V rated value</li> </ul>                      | 4 kW         |
| <ul style="list-style-type: none"> <li>— at 500 V rated value</li> </ul>                      | 4 kW         |
| <ul style="list-style-type: none"> <li>— at 690 V rated value</li> </ul>                      | 5.5 kW       |
| <b>Operating power for approx. 200000 operating cycles at AC-4</b>                            |              |
| <ul style="list-style-type: none"> <li>• at 400 V rated value</li> </ul>                      | 2 kW         |
| <ul style="list-style-type: none"> <li>• at 690 V rated value</li> </ul>                      | 2.5 kW       |
| <b>Thermal short-time current limited to 10 s</b>   | 72 A         |
| <b>Power loss [W] at AC-3 at 400 V for rated value of the operating current per conductor</b> | 0.7 W        |
| <b>No-load switching frequency</b>  |              |
| <ul style="list-style-type: none"> <li>• at AC</li> </ul>                                     | 10 000 1/h   |
| <b>Operating frequency</b>  |              |
| <ul style="list-style-type: none"> <li>• at AC-1 maximum</li> </ul>                           | 1 000 1/h    |
| <ul style="list-style-type: none"> <li>• at AC-2 maximum</li> </ul>                           | 750 1/h      |
| <ul style="list-style-type: none"> <li>• at AC-3 maximum</li> </ul>                           | 750 1/h      |
| <ul style="list-style-type: none"> <li>• at AC-4 maximum</li> </ul>                           | 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>   |              |
| <ul style="list-style-type: none"> <li>• at 50 Hz rated value</li> </ul>                      | 24 V         |
| <ul style="list-style-type: none"> <li>• at 60 Hz rated value</li> </ul>                      | 24 V         |
| <b>Operating range factor control supply voltage rated value of magnet coil at AC</b>         |              |
| <ul style="list-style-type: none"> <li>• at 50 Hz</li> </ul>                                  | 0.8 ... 1.1  |
| <ul style="list-style-type: none"> <li>• at 60 Hz</li> </ul>                                  | 0.85 ... 1.1 |
| <b>Apparent pick-up power of magnet coil at AC</b>  |              |
| <ul style="list-style-type: none"> <li>• at 50 Hz</li> </ul>                                  | 27 V·A       |
| <ul style="list-style-type: none"> <li>• at 60 Hz</li> </ul>                                  | 24.3 V·A     |
| <b>Inductive power factor with closing power of the coil</b>                                  |              |
| <ul style="list-style-type: none"> <li>• at 50 Hz</li> </ul>                                  | 0.8          |
| <ul style="list-style-type: none"> <li>• at 60 Hz</li> </ul>                                  | 0.75         |
| <b>Apparent holding power of magnet coil at AC</b>  |              |
| <ul style="list-style-type: none"> <li>• at 50 Hz</li> </ul>                                  | 4.2 V·A      |
| <ul style="list-style-type: none"> <li>• at 60 Hz</li> </ul>                                  | 3.3 V·A      |
| <b>Inductive power factor with the holding power of the coil</b>                              |              |
| <ul style="list-style-type: none"> <li>• at 50 Hz</li> </ul>                                  | 0.25         |

|  |                  |
|--|------------------|
| <ul style="list-style-type: none"> <li>• at 60 Hz</li> </ul>                           | 0.25             |
| <b>Closing delay</b>   |                  |
| <ul style="list-style-type: none"> <li>• at AC</li> </ul>                              | 9 ... 35 ms      |
| <b>Opening delay</b>   |                  |
| <ul style="list-style-type: none"> <li>• at AC</li> </ul>                              | 3.5 ... 14 ms    |
| <b>Arcing time</b>   | 10 ... 15 ms     |
| <b>Control version of the switch operating mechanism</b>                               | Standard A1 - A2 |
| <b>Residual current of the electronics for control with signal &lt;0&gt;</b>           |                  |
| <ul style="list-style-type: none"> <li>• at AC at 230 V maximum permissible</li> </ul> | 3 mA             |
| <ul style="list-style-type: none"> <li>• at DC at 24 V maximum permissible</li> </ul>  | 10 mA            |

### Auxiliary circuit

|  |   |
|--|---|
| <b>Number of NO contacts</b>   |   |
| <ul style="list-style-type: none"> <li>• for auxiliary contacts</li> </ul> |   |
| <ul style="list-style-type: none"> <li>— instantaneous contact</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> </ul>   | 10 A  |
| <ul style="list-style-type: none"> <li>• at 400 V rated value</li> </ul>   | 3 A   |
| <ul style="list-style-type: none"> <li>• at 500 V rated value</li> </ul>   | 2 A   |
| <ul style="list-style-type: none"> <li>• at 690 V rated value</li> </ul>   | 1 A   |
| <b>Operating current at DC-12</b>  |   |
| <ul style="list-style-type: none"> <li>• at 24 V rated value</li> </ul>    | 10 A  |
| <ul style="list-style-type: none"> <li>• at 48 V rated value</li> </ul>    | 6 A   |
| <ul style="list-style-type: none"> <li>• at 60 V rated value</li> </ul>    | 6 A   |
| <ul style="list-style-type: none"> <li>• at 110 V rated value</li> </ul>   | 3 A   |
| <ul style="list-style-type: none"> <li>• at 125 V rated value</li> </ul>   | 2 A   |
| <ul style="list-style-type: none"> <li>• at 220 V rated value</li> </ul>   | 1 A   |
| <ul style="list-style-type: none"> <li>• at 600 V rated value</li> </ul>   | 0.15 A  |
| <b>Operating current at DC-13</b>  |   |
| <ul style="list-style-type: none"> <li>• at 24 V rated value</li> </ul>    | 10 A  |
| <ul style="list-style-type: none"> <li>• at 48 V rated value</li> </ul>    | 2 A   |
| <ul style="list-style-type: none"> <li>• at 60 V rated value</li> </ul>    | 2 A   |
| <ul style="list-style-type: none"> <li>• at 110 V rated value</li> </ul>   | 1 A   |
| <ul style="list-style-type: none"> <li>• at 125 V rated value</li> </ul>   | 0.9 A   |
| <ul style="list-style-type: none"> <li>• at 220 V rated value</li> </ul>   | 0.3 A   |
| <ul style="list-style-type: none"> <li>• at 600 V rated value</li> </ul>   | 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> </ul> | 7.6 A |

|   |   |
|---|---|
| <ul style="list-style-type: none"> <li>• at 600 V rated value</li> </ul>  | 9 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> | 0.33 hp<br>1 hp<br>2 hp<br>3 hp<br>5 hp<br>7.5 hp |
| <b>Contact rating of auxiliary contacts according to UL</b>   | A600 / Q600                                       |

| 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> | gG NH 3NA, DIAZED 5SB, NEOZED 5SE: 35 A<br>gG NH 3NA, DIAZED 5SB, NEOZED 5SE: 20 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>   | screw and snap-on mounting onto 35 mm standard mounting rail according to DIN EN 60715   |
| <ul style="list-style-type: none"> <li>• Side-by-side mounting</li> </ul>  | Yes  |
| <b>Height</b>  | 70 mm  |
| <b>Width</b>   | 45 mm  |
| <b>Depth</b>   | 73 mm  |
| <b>Required spacing</b>  |  |
| <ul style="list-style-type: none"> <li>• for grounded parts <ul style="list-style-type: none"> <li>— at the side</li> </ul> </li> <li>• for live parts <ul style="list-style-type: none"> <li>— at the side</li> </ul> </li> </ul> | 6 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>                                    | spring-loaded terminals<br>spring-loaded terminals                 |
| <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>— solid</li> <li>— single or multi-stranded</li> </ul> </li> </ul> | 2x (0.5 ... 4 mm <sup>2</sup> )<br>2x (0,5 ... 4 mm <sup>2</sup> ) |

|  |  |
|--|--|
| <ul style="list-style-type: none"> <li>— finely stranded with core end processing</li> <li>— finely stranded without core end processing</li> <li>• at AWG conductors for main contacts</li> </ul>   | <p>2x (0.5 ... 2.5 mm<sup>2</sup>)</p> <p>2x (0.5 ... 2.5 mm<sup>2</sup>)</p> <p>2x (20 ... 12)</p>                                      |
| <p><b>Connectable conductor cross-section for main contacts</b></p> <ul style="list-style-type: none"> <li>• solid</li> <li>• stranded</li> </ul>  | <p>0.5 ... 4 mm<sup>2</sup></p> <p>0.5 ... 4 mm<sup>2</sup></p>  |
| <p><b>Type of connectable conductor cross-sections</b></p> <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> <li>— finely stranded without core end processing</li> </ul> </li> <li>• at AWG conductors for auxiliary contacts</li> </ul> | <p>2x (0,5 ... 4 mm<sup>2</sup>)</p> <p>2x (0.5 ... 2.5 mm<sup>2</sup>)</p> <p>2x (0.5 ... 2.5 mm<sup>2</sup>)</p> <p>2x (20 ... 12)</p> |

**Safety related data**

|  |                         |
|--|-------------------------|
| <p><b>B10 value</b></p> <ul style="list-style-type: none"> <li>• with high demand rate acc. to SN 31920</li> </ul>   | <p>1 000 000</p>        |
| <p><b>Proportion of dangerous failures</b></p> <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> |
| <p><b>Failure rate [FIT]</b></p> <ul style="list-style-type: none"> <li>• with low demand rate acc. to SN 31920</li> </ul>   | <p>100 FIT</p>          |
| <p><b>Product function</b></p> <ul style="list-style-type: none"> <li>• Mirror contact acc. to IEC 60947-4-1</li> </ul>  | <p>Yes; with 3RH29</p>  |
| <p><b>T1 value for proof test interval or service life acc. to IEC 61508</b></p>   | <p>20 y</p>             |
| <p><b>Protection against electrical shock</b></p>  | <p>finger-safe</p>      |

**Certificates/approvals**

|                          |                                       |
|--------------------------|---------------------------------------|
| General Product Approval | Functional Safety/Safety of Machinery |
|--------------------------|---------------------------------------|



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[Type Examination](#)

|                           |                   |                   |  |  |  |
|---------------------------|-------------------|-------------------|--|--|--|
| Declaration of Conformity | Test Certificates | Marine / Shipping |  |  |  |
|---------------------------|-------------------|-------------------|--|--|--|



[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)



|                   |  |  |  |  |       |
|-------------------|--|--|--|--|-------|
| Marine / Shipping |  |  |  |  | other |
|-------------------|--|--|--|--|-------|



[Confirmation](#)

|       |
|-------|
| other |
|-------|



|                     |
|---------------------|
| 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=3RT2016-2AB01>

**Cax online generator**

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2016-2AB01>

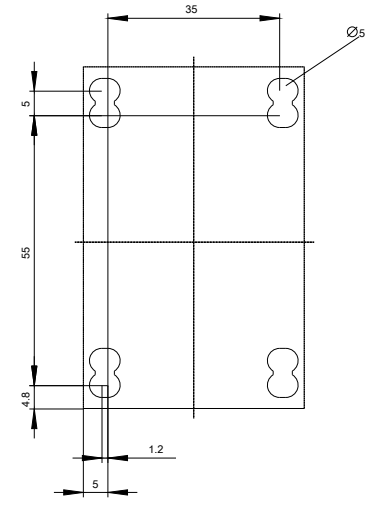
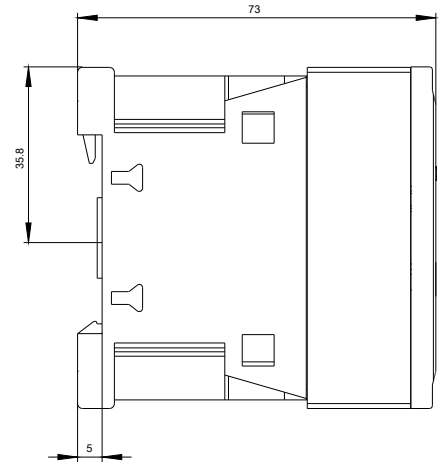
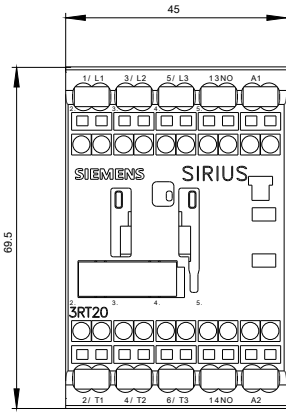
**Service&Support (Manuals, Certificates, Characteristics, FAQs,...)**

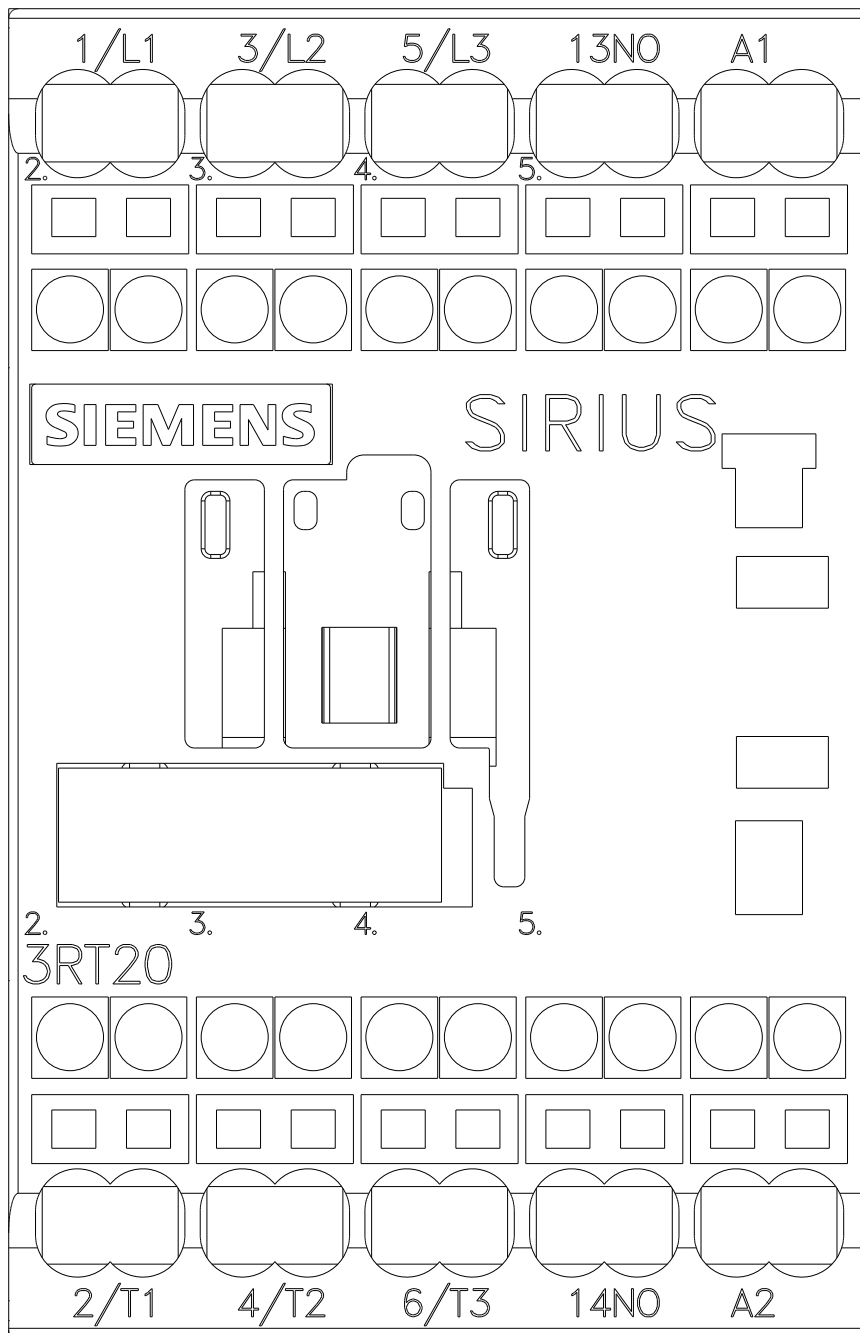
<https://support.industry.siemens.com/cs/ww/en/ps/3RT2016-2AB01>

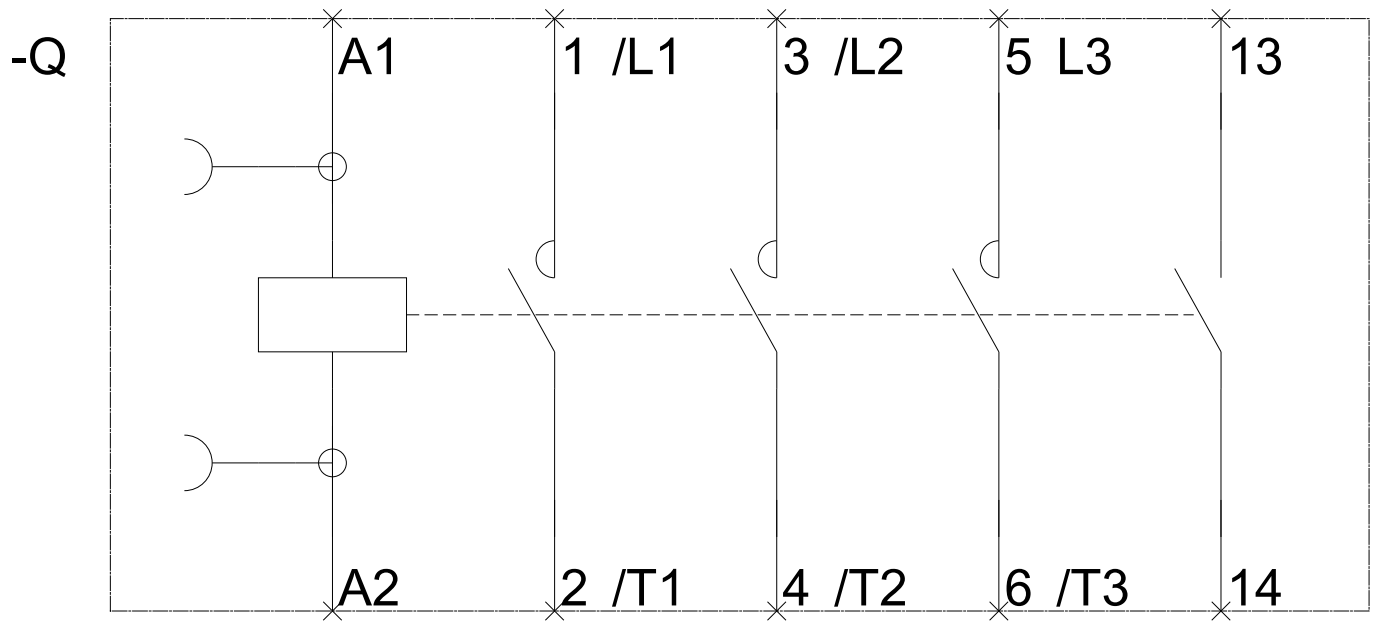
**Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)**

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RT2016-2AB01&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2016-2AB01&lang=en)









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