

CONTACTOR, AC-3, 3KW/400V, 1NO, AC 230V, 50/60 HZ, 3-POLE, SZ S00 SCREW TERMINAL



|   |                           |
|---|---------------------------|
| product brandname                                   | SIRIUS                    |
| Product designation                                 | Power contactor           |
| Product type designation                            | 3RT2                      |
| <b>General technical data</b>                       |                           |
| Size of contactor                                   | S00                       |
| Product extension                                   |                           |
| • function module for communication                 | No                        |
| • Auxiliary switch                                  | Yes                       |
| Insulation voltage                                  |                           |
| • rated value                                       | 690 V                     |
| 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   | 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                 |

### Ambient conditions

|  |                |
|--|----------------|
| <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>    | 18 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> | 18 A                |
| <ul style="list-style-type: none"> <li>— up to 690 V at ambient temperature 60 °C rated value</li> </ul>  | 16 A                |
| <ul style="list-style-type: none"> <li>• at AC-2 at 400 V rated value</li> </ul>  | 7 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>                                 | 7 A                 |
| <ul style="list-style-type: none"> <li>— at 500 V rated value</li> </ul>  | 6 A                 |
| <ul style="list-style-type: none"> <li>— at 690 V rated value</li> </ul>  | 4.9 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>  | 2.5 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> </ul>  | 2.6 A               |
| <ul style="list-style-type: none"> <li>• at 690 V rated value</li> </ul>  | 1.8 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> </ul> </li> </ul>                | 15 A                |
| <ul style="list-style-type: none"> <li>— at 110 V rated value</li> </ul>  | 1.5 A               |

|  |         |
|--|---------|
| — at 220 V rated value                           | 0.6 A   |
| — at 440 V rated value                           | 0.42 A  |
| — at 600 V rated value                           | 0.42 A  |
| • with 2 current paths in series at DC-1         |         |
| — at 24 V rated value                            | 15 A    |
| — at 110 V rated value                           | 8.4 A   |
| — at 220 V rated value                           | 1.2 A   |
| — at 440 V rated value                           | 0.6 A   |
| — at 600 V rated value                           | 0.5 A   |
| • with 3 current paths in series at DC-1         |         |
| — at 24 V rated value                            | 15 A    |
| — at 110 V rated value                           | 15 A    |
| — at 220 V rated value                           | 15 A    |
| — at 440 V rated value                           | 0.9 A   |
| — at 600 V rated value                           | 0.7 A   |
| <b>Operating current</b>                         |         |
| • at 1 current path at DC-3 at DC-5              |         |
| — at 24 V rated value                            | 15 A    |
| — at 110 V rated value                           | 0.1 A   |
| • with 2 current paths in series at DC-3 at DC-5 |         |
| — at 24 V rated value                            | 15 A    |
| — at 110 V rated value                           | 0.25 A  |
| • with 3 current paths in series at DC-3 at DC-5 |         |
| — at 24 V rated value                            | 15 A    |
| — at 110 V rated value                           | 15 A    |
| — at 220 V rated value                           | 1.2 A   |
| — at 440 V rated value                           | 0.14 A  |
| — at 600 V rated value                           | 0.14 A  |
| <b>Operating power</b>                           |         |
| • at AC-1  |         |
| — at 230 V rated value                           | 6.3 kW  |
| — at 230 V at 60 °C rated value                  | 6 kW    |
| — at 400 V rated value                           | 11 kW   |
| — at 400 V at 60 °C rated value                  | 10.5 kW |
| — at 690 V rated value                           | 19 kW   |
| — at 690 V at 60 °C rated value                  | 18 kW   |
| • at AC-2 at 400 V rated value                   | 3 kW    |
| • at AC-3  |         |
| — at 230 V rated value                           | 1.5 kW  |
| — at 400 V rated value                           | 3 kW    |
| — at 690 V rated value                           | 4 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> <li>• at 690 V rated value</li> </ul>   | <p>1.15 kW</p> <p>1.15 kW</p>                                 |
| <b>Thermal short-time current limited to 10 s</b>  | 56 A  |
| <b>Power loss [W] at AC-3 at 400 V for rated value of the operating current per conductor</b>  | 0.4 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> <li>• at AC-2 maximum</li> <li>• at AC-3 maximum</li> <li>• at AC-4 maximum</li> </ul> | <p>1 000 1/h</p> <p>750 1/h</p> <p>750 1/h</p> <p>250 1/h</p> |

| <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> <li>• at 60 Hz rated value</li> </ul> | <p>230 V</p> <p>230 V</p>              |
| <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> <li>• at 60 Hz</li> </ul>                         | <p>0.8 ... 1.1</p> <p>0.85 ... 1.1</p> |
| <b>Apparent pick-up power of magnet coil at AC</b>   |  |
| <ul style="list-style-type: none"> <li>• at 50 Hz</li> <li>• at 60 Hz</li> </ul>                         | <p>27 V·A</p> <p>31.7 V·A</p>          |
| <b>Inductive power factor with closing power of the coil</b>   |  |
| <ul style="list-style-type: none"> <li>• at 50 Hz</li> <li>• at 60 Hz</li> </ul>                         | <p>0.8</p> <p>0.81</p>                 |
| <b>Apparent holding power of magnet coil at AC</b>   |  |
| <ul style="list-style-type: none"> <li>• at 50 Hz</li> <li>• at 60 Hz</li> </ul>                         | <p>4.2 V·A</p> <p>4.8 V·A</p>          |
| <b>Inductive power factor with the holding power of the coil</b>   |  |
| <ul style="list-style-type: none"> <li>• at 50 Hz</li> <li>• at 60 Hz</li> </ul>                         | <p>0.25</p> <p>0.25</p>                |
| <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>Residual current of the electronics for control with signal &lt;0&gt;</b>                             |  |

- at AC at 230 V maximum permissible 3 mA
- at DC at 24 V maximum permissible 10 mA

### Auxiliary circuit

|  |   |
|--|---|
| <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 1</li> </ul> </li> </ul>  |   |
| 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 10 A</li> <li>• at 400 V rated value 3 A</li> <li>• at 500 V rated value 2 A</li> <li>• at 690 V rated value 1 A</li> </ul>  |   |
| <b>Operating current at DC-12</b>  |   |
| <ul style="list-style-type: none"> <li>• at 24 V rated value 10 A</li> <li>• at 48 V rated value 6 A</li> <li>• at 60 V rated value 6 A</li> <li>• at 110 V rated value 3 A</li> <li>• at 125 V rated value 2 A</li> <li>• at 220 V rated value 1 A</li> <li>• at 600 V rated value 0.15 A</li> </ul>    |   |
| <b>Operating current at DC-13</b>  |   |
| <ul style="list-style-type: none"> <li>• at 24 V rated value 10 A</li> <li>• at 48 V rated value 2 A</li> <li>• at 60 V rated value 2 A</li> <li>• at 110 V rated value 1 A</li> <li>• at 125 V rated value 0.9 A</li> <li>• at 220 V rated value 0.3 A</li> <li>• at 600 V rated value 0.1 A</li> </ul> |   |
| <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 4.8 A</li> <li>• at 600 V rated value 6.1 A</li> </ul>   |  |
| <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 0.25 hp</li> <li>— at 230 V rated value 0.75 hp</li> </ul> </li> <li>• for three-phase AC motor <ul style="list-style-type: none"> <li>— at 200/208 V rated value 1.5 hp</li> <li>— at 220/230 V rated value 2 hp</li> <li>— at 460/480 V rated value 3 hp</li> </ul> </li> </ul> |  |

|  |  |
|--|--|
| — at 575/600 V rated value   | 5 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> <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  |
| <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> <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>  | 58 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   |
| <b>Connections/Terminals</b>   |  |
| <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>   | screw-type terminals<br>screw-type 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> <li>— finely stranded with core end processing</li> </ul> </li> <li>• at AWG conductors for main contacts</li> </ul>                          | 2x (0.5 ... 1.5 mm <sup>2</sup> ), 2x (0.75 ... 2.5 mm <sup>2</sup> ), 2x 4 mm <sup>2</sup><br>2x (0,5 ... 1,5 mm <sup>2</sup> ), 2x (0,75 ... 2,5 mm <sup>2</sup> ), 2x 4 mm <sup>2</sup><br>2x (0.5 ... 1.5 mm <sup>2</sup> ), 2x (0.75 ... 2.5 mm <sup>2</sup> )<br>2x (20 ... 16), 2x (18 ... 14), 2x 12 |
| <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>                                 | 2x (0,5 ... 1,5 mm <sup>2</sup> ), 2x (0,75 ... 2,5 mm <sup>2</sup> ), 2x 4 mm <sup>2</sup><br>2x (0.5 ... 1.5 mm <sup>2</sup> ), 2x (0.75 ... 2.5 mm <sup>2</sup> )<br>2x (20 ... 16), 2x (18 ... 14), 2x 12  |
| <b>Safety related data</b>   |  |
| <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; with 3RH29 |
| <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>Functional Safety/Safety of Machinery</b> |
|---------------------------------|--|



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[Type Examination](#)

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



[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)



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



[Confirmation](#)

[Environmental Confirmations](#)

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



### 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=3RT2015-1AP01>

**Cax online generator**

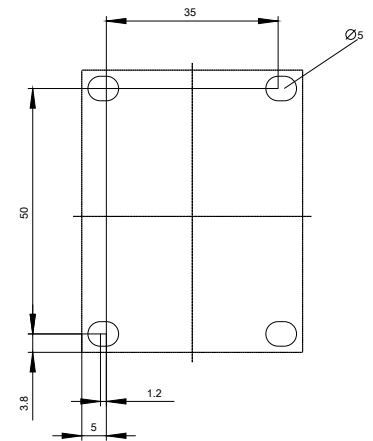
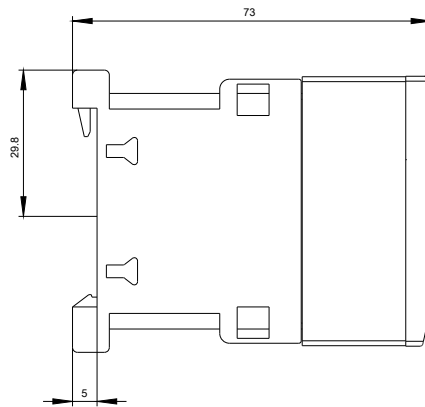
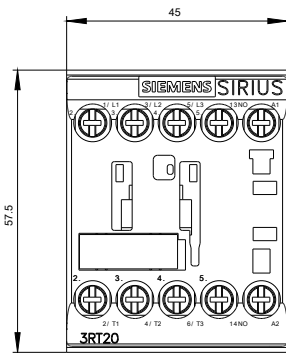
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2015-1AP01>

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

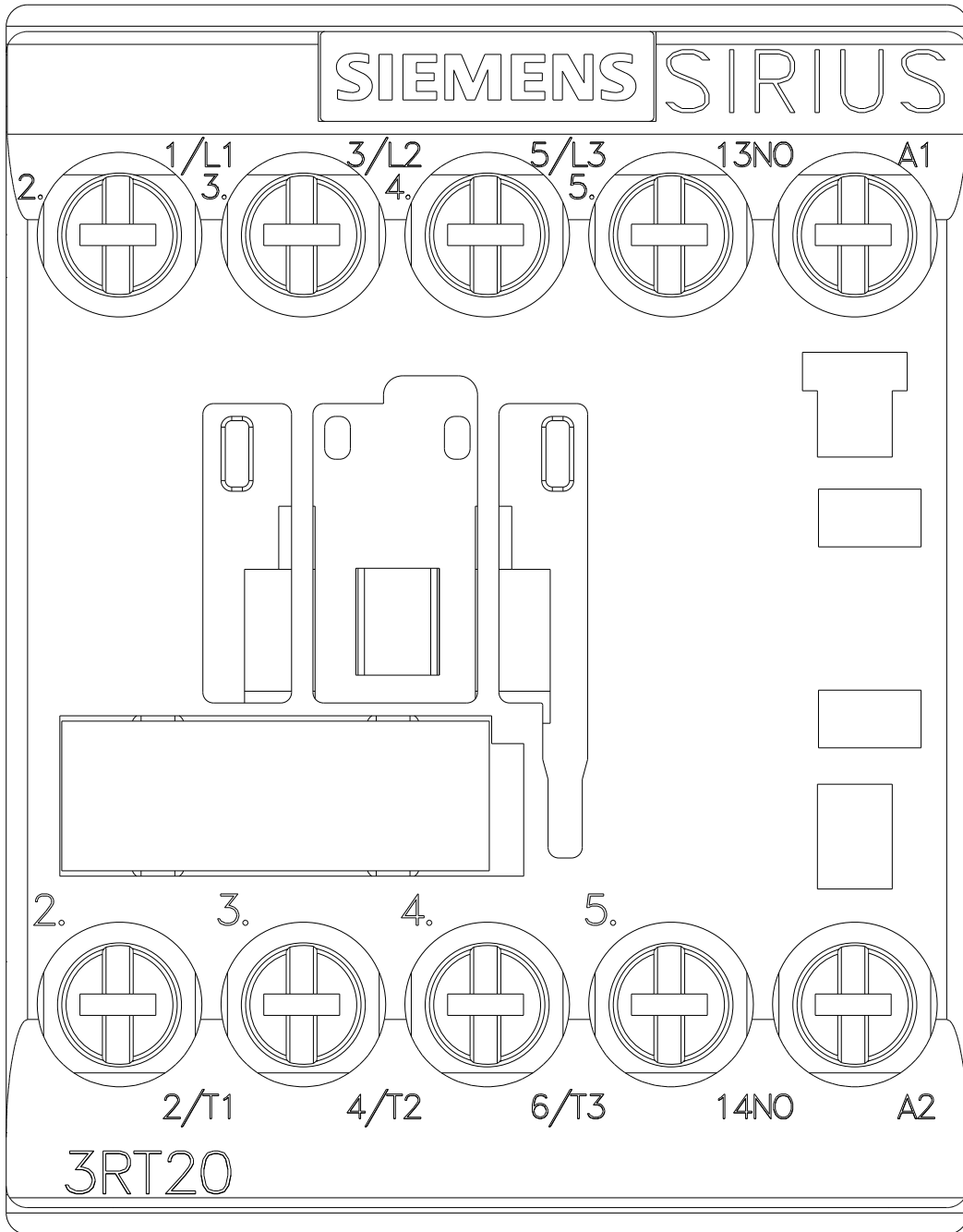
<https://support.industry.siemens.com/cs/ww/en/ps/3RT2015-1AP01>

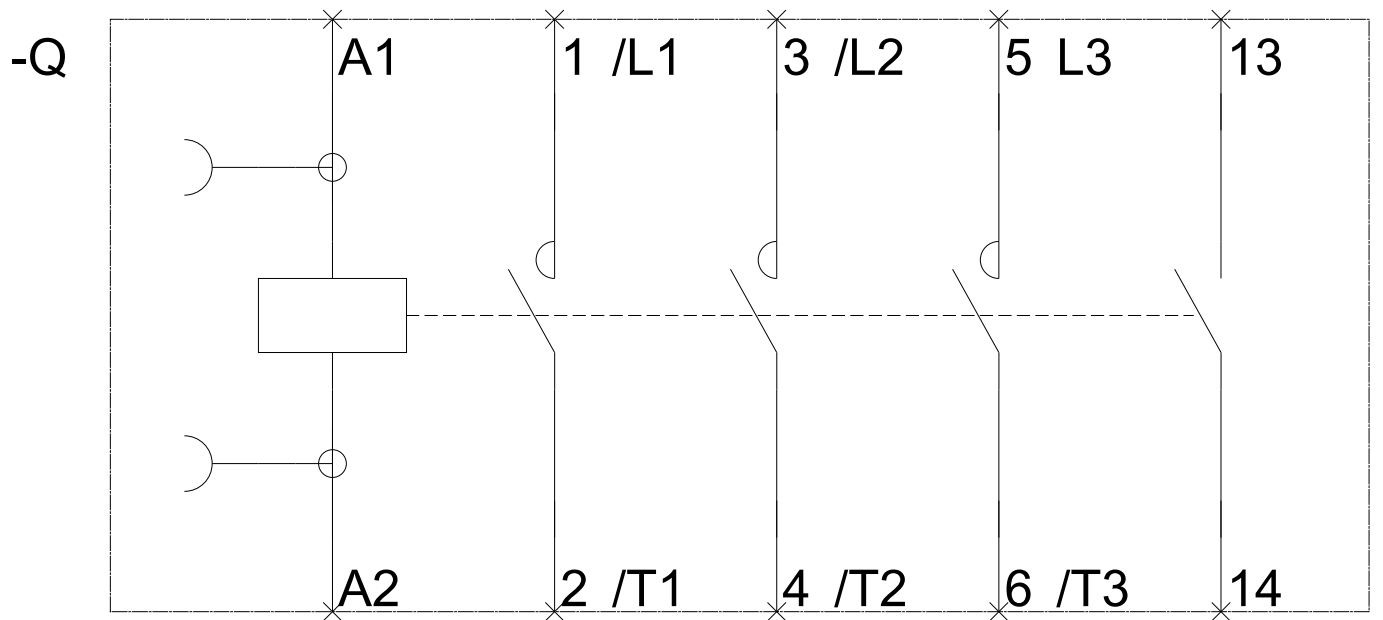
**Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)**

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RT2015-1AP01&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2015-1AP01&lang=en)









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