

Power contactor, AC-3 300 A, 160 kW / 400 V AC (50-60 Hz) / DC operation 42-48 V UC Auxiliary contacts 2 NO + 2 NC 3-pole, Size S10 Busbar connections Drive: conventional Spring-type terminal



Figure similar

|                          |                 |
|--------------------------|-----------------|
| Product brand name       | SIRIUS          |
| Product designation      | Power contactor |
| Product type designation | 3RT1            |

| General technical data  |   |
|---|---|
| Size of contactor   | S10   |
| 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   |
| Surge voltage resistance  |   |
| <ul style="list-style-type: none"> <li>of main circuit rated value</li> </ul>                       | 8 kV  |
| <ul style="list-style-type: none"> <li>of auxiliary circuit rated value</li> </ul>                  | 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> | 690 V   |
| Protection class IP   |   |
| <ul style="list-style-type: none"> <li>on the front</li> </ul>                                      | IP00; IP20 on the front with cover / box terminal |
| <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> <li>• at DC</li> </ul>  | 8,5g / 5 ms, 4,2g / 10 ms<br>8,5g / 5 ms, 4,2g / 10 ms   |
| <b>Shock resistance with sine pulse</b>   |  |
| <ul style="list-style-type: none"> <li>• at AC</li> <li>• at DC</li> </ul>  | 13,4g / 5 ms, 6,5g / 10 ms<br>13,4g / 5 ms, 6,5g / 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                    |
| <b>Reference code acc. to DIN 40719 extended according to IEC 204-2 acc. to IEC 750</b>   | K  |
| <b>Reference code acc. to DIN EN 81346-2</b>  | 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> <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> <li>— up to 1000 V at ambient temperature 40 °C rated value</li> <li>— up to 1000 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> </ul> </li> </ul> | 330 A<br>330 A<br>300 A<br>150 A<br>150 A<br>300 A<br>300 A<br>300 A |

|  |                     |
|--|---------------------|
| — at 690 V rated value   | 280 A               |
| — at 1000 V rated value  | 95 A                |
| • at AC-4 at 400 V rated value                                       | 280 A               |
| <b>Connectable conductor cross-section in main circuit at AC-1</b>   |                     |
| • at 60 °C minimum permissible                                       | 185 mm <sup>2</sup> |
| • at 40 °C minimum permissible                                       | 185 mm <sup>2</sup> |
| <b>Operating current for approx. 200000 operating cycles at AC-4</b> |                     |
| • at 400 V rated value   | 125 A               |
| • at 690 V rated value   | 115 A               |
| <b>Operating current</b>   |                     |
| • at 1 current path at DC-1  |                     |
| — at 24 V rated value  | 300 A               |
| — at 110 V rated value   | 33 A                |
| — at 220 V rated value   | 3.8 A               |
| — at 440 V rated value   | 0.9 A               |
| — at 600 V rated value   | 0.6 A               |
| • with 2 current paths in series at DC-1                             |                     |
| — at 24 V rated value  | 300 A               |
| — at 110 V rated value   | 300 A               |
| — at 220 V rated value   | 300 A               |
| — at 440 V rated value   | 4 A                 |
| — at 600 V rated value   | 2 A                 |
| • with 3 current paths in series at DC-1                             |                     |
| — at 24 V rated value  | 300 A               |
| — at 110 V rated value   | 300 A               |
| — at 220 V rated value   | 300 A               |
| — at 440 V rated value   | 11 A                |
| — at 600 V rated value   | 5.2 A               |
| <b>Operating current</b>   |                     |
| • at 1 current path at DC-3 at DC-5                                  |                     |
| — at 24 V rated value  | 300 A               |
| — at 110 V rated value   | 3 A                 |
| — at 220 V rated value   | 0.6 A               |
| — at 440 V rated value   | 0.18 A              |
| — at 600 V rated value   | 0.125 A             |
| • with 2 current paths in series at DC-3 at DC-5                     |                     |
| — at 24 V rated value  | 300 A               |
| — at 110 V rated value   | 300 A               |
| — at 220 V rated value   | 2.5 A               |
| — at 440 V rated value   | 0.65 A              |

|  |   |
|--|---|
| <ul style="list-style-type: none"> <li>— at 600 V rated value</li> </ul>   | 0.37 A  |
| <ul style="list-style-type: none"> <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>  | 300 A<br>300 A<br>300 A<br>1.4 A<br>0.75 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 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> <li>— at 690 V at 60 °C rated value</li> <li>— at 1000 V at 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 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> <li>— at 1000 V rated value</li> </ul> </li> </ul> | 113 kW<br>197 kW<br>197 kW<br>340 kW<br>340 kW<br>246 kW<br>160 kW<br>90 kW<br>160 kW<br>200 kW<br>250 kW<br>132 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>   | 71 kW<br>112 kW   |
| <b>Thermal short-time current limited to 10 s</b>  | 2 400 A   |
| <b>Power loss [W] at AC-3 at 400 V for rated value of the operating current per conductor</b>  | 22 W  |
| <b>No-load switching frequency</b>   |   |
| <ul style="list-style-type: none"> <li>• at AC</li> <li>• at DC</li> </ul>   | 2 000 1/h<br>2 000 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>   | 750 1/h<br>250 1/h<br>500 1/h<br>130 1/h  |
| <b>Control circuit/ Control</b>  |   |
| <b>Type of voltage of the control supply voltage</b>   | AC/DC   |
| <b>Control supply voltage at AC</b>  |   |
| <ul style="list-style-type: none"> <li>• at 50 Hz rated value</li> </ul>   | 42 ... 48 V   |

|   |                  |
|---|------------------|
| <ul style="list-style-type: none"> <li>• at 60 Hz rated value</li> </ul>              | 42 ... 48 V      |
| <b>Control supply voltage at DC</b>   |                  |
| <ul style="list-style-type: none"> <li>• rated value</li> </ul>                       | 42 ... 48 V      |
| <b>Operating range factor control supply voltage rated value of magnet coil at DC</b> |                  |
| <ul style="list-style-type: none"> <li>• initial value</li> </ul>                     | 0.8              |
| <ul style="list-style-type: none"> <li>• Full-scale value</li> </ul>                  | 1.1              |
| <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>                          | 0.8 ... 1.1      |
| <b>Design of the surge suppressor</b>   | with varistor    |
| <b>Apparent pick-up power of magnet coil at AC</b>                                    |                  |
| <ul style="list-style-type: none"> <li>• at 50 Hz</li> </ul>                          | 590 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>                          | 0.9              |
| <b>Apparent holding power of magnet coil at AC</b>                                    |                  |
| <ul style="list-style-type: none"> <li>• at 50 Hz</li> </ul>                          | 6.7 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>                          | 0.9              |
| <b>Closing power of magnet coil at DC</b>   | 650 W            |
| <b>Holding power of magnet coil at DC</b>   | 7.4 W            |
| <b>Closing delay</b>  |                  |
| <ul style="list-style-type: none"> <li>• at AC</li> </ul>                             | 30 ... 95 ms     |
| <ul style="list-style-type: none"> <li>• at DC</li> </ul>                             | 30 ... 95 ms     |
| <b>Opening delay</b>  |                  |
| <ul style="list-style-type: none"> <li>• at AC</li> </ul>                             | 40 ... 80 ms     |
| <ul style="list-style-type: none"> <li>• at DC</li> </ul>                             | 40 ... 80 ms     |
| <b>Arcing time</b>  | 10 ... 15 ms     |
| <b>Control version of the switch operating mechanism</b>                              | Standard A1 - A2 |
| <b>Auxiliary circuit</b>  |                  |
| <b>Number of NC contacts for auxiliary contacts</b>                                   |                  |
| <ul style="list-style-type: none"> <li>• instantaneous contact</li> </ul>             | 2                |
| <b>Number of NO contacts for auxiliary contacts</b>                                   |                  |
| <ul style="list-style-type: none"> <li>• instantaneous contact</li> </ul>             | 2                |
| <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> </ul>              | 6 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> <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> | <p>10 A</p> <p>6 A</p> <p>6 A</p> <p>3 A</p> <p>2 A</p> <p>1 A</p> <p>0.15 A</p>    |
| <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> | <p>10 A</p> <p>2 A</p> <p>2 A</p> <p>1 A</p> <p>0.9 A</p> <p>0.3 A</p> <p>0.1 A</p> |
| <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>   | <p>302 A</p> <p>289 A</p>                               |
| <b>Yielded mechanical performance [hp]</b>   |   |
| <ul style="list-style-type: none"> <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> | <p>100 hp</p> <p>125 hp</p> <p>250 hp</p> <p>300 hp</p> |
| <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> | <p>gG: 500 A (690 V, 100 kA)</p> <p>gG: 400 A (690 V, 100 kA), aM: 315 A (690 V, 50 kA), BS88: 400 A (415 V, 50 kA)</p> <p>gG: 10 A (500 V, 1 kA)</p> |

### Installation/ mounting/ dimensions

|   |  |
|---|--|
| <b>Mounting position</b>  | with vertical mounting surface +/-90° rotatable, with vertical mounting surface +/- 22.5° tiltable to the front and back |
| <b>Mounting type</b>  | screw fixing   |
| <ul style="list-style-type: none"> <li>• Side-by-side mounting</li> </ul> | Yes  |

|  |        |
|--|--------|
| <b>Height</b>  | 210 mm |
| <b>Width</b>   | 145 mm |
| <b>Depth</b>   | 202 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 20 mm</li> <li>— upwards 10 mm</li> <li>— downwards 10 mm</li> <li>— at the side 0 mm</li> </ul> </li> <li>• for grounded parts <ul style="list-style-type: none"> <li>— forwards 20 mm</li> <li>— upwards 10 mm</li> <li>— at the side 10 mm</li> <li>— downwards 10 mm</li> </ul> </li> <li>• for live parts <ul style="list-style-type: none"> <li>— forwards 20 mm</li> <li>— upwards 10 mm</li> <li>— downwards 10 mm</li> <li>— at the side 10 mm</li> </ul> </li> </ul> |        |

### 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>Connection bar</p> <p>spring-loaded terminals</p>  |
| <b>Type of connectable conductor cross-sections</b>  |   |
| <ul style="list-style-type: none"> <li>• at AWG conductors for main contacts</li> </ul>  | 2/0 ... 500 kcmil   |
| <b>Connectable conductor cross-section for main contacts</b>   |   |
| <ul style="list-style-type: none"> <li>• stranded</li> </ul>   | 70 ... 240 mm <sup>2</sup>  |
| <b>Connectable conductor cross-section for auxiliary contacts</b>  |   |
| <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>  | <p>0.25 ... 2.5 mm<sup>2</sup></p> <p>0.25 ... 1.5 mm<sup>2</sup></p> <p>0.25 ... 2.5 mm<sup>2</sup></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>— solid</li> <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 (0.25 ... 2.5 mm<sup>2</sup>)</p> <p>2x (0,25 ... 2,5 mm<sup>2</sup>)</p> <p>2x (0.25 ... 1.5 mm<sup>2</sup>)</p> <p>2x (0.25 ... 2.5 mm<sup>2</sup>)</p> <p>2x (24 ... 14)</p> |

|  |           |
|--|-----------|
| <b>AWG number as coded connectable conductor cross section</b>           |           |
| <ul style="list-style-type: none"> <li>for auxiliary contacts</li> </ul> | 24 ... 14 |

|   |  |
|---|--|
| <b>Safety related data</b>  |  |
| <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>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> | Yes<br>No  |
| <b>Protection against electrical shock</b>  | finger-safe when touched vertically from front acc. to IEC 60529 |

**Certificates/approvals**

|   |  |  |
|---|--|--|
| <b>General Product Approval</b>   | <b>Functional Safety/Safety of Machinery</b> | <b>Declaration of Conformity</b>   |
|  CCC<br> CSA<br> UL<br> EAC | <a href="#">Type Examination Certificate</a> |  EG-Konf. |

|  |  |                              |
|--|--|------------------------------|
| <b>Test Certificates</b>   | <b>Marine / Shipping</b>   | <b>other</b>                 |
| <a href="#">Special Test Certificate</a><br><a href="#">Type Test Certificates/Test Report</a> |  ABS<br> RMRS<br> DNV-GL<br><small>TYPE APPROVED PRODUCT<br/>DNVGL.COM/AF</small> | <a href="#">Confirmation</a> |

|                               |
|-------------------------------|
| <b>other</b>                  |
| <a href="#">Miscellaneous</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=3RT1066-2AD36>
- Cax online generator**  
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT1066-2AD36>
- Service&Support (Manuals, Certificates, Characteristics, FAQs,...)**  
<https://support.industry.siemens.com/cs/ww/en/ps/3RT1066-2AD36>
- Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)**  
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RT1066-2AD36&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT1066-2AD36&lang=en)

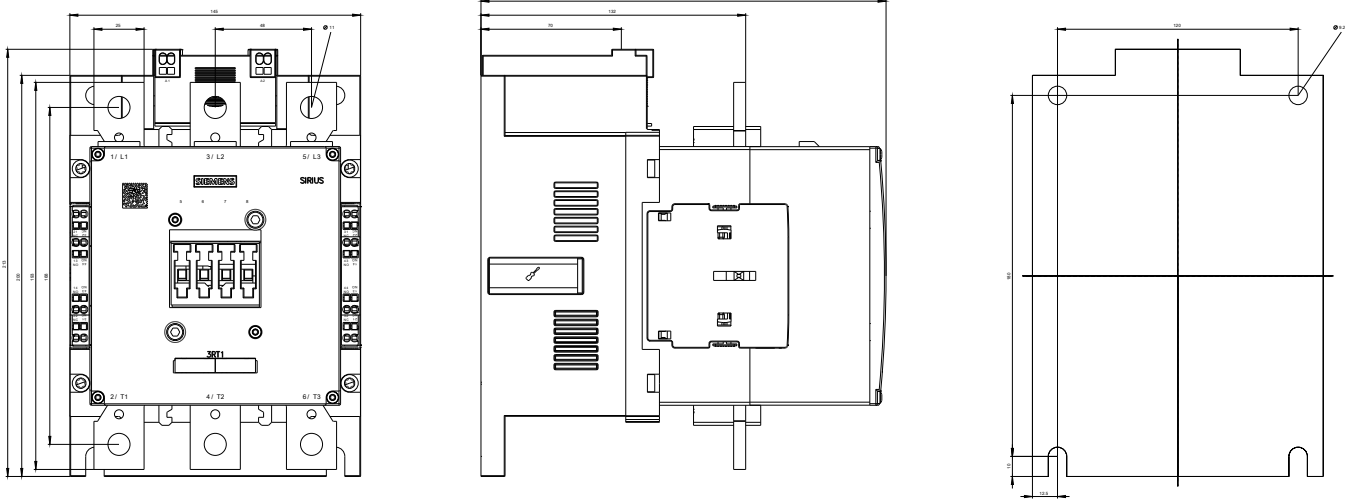


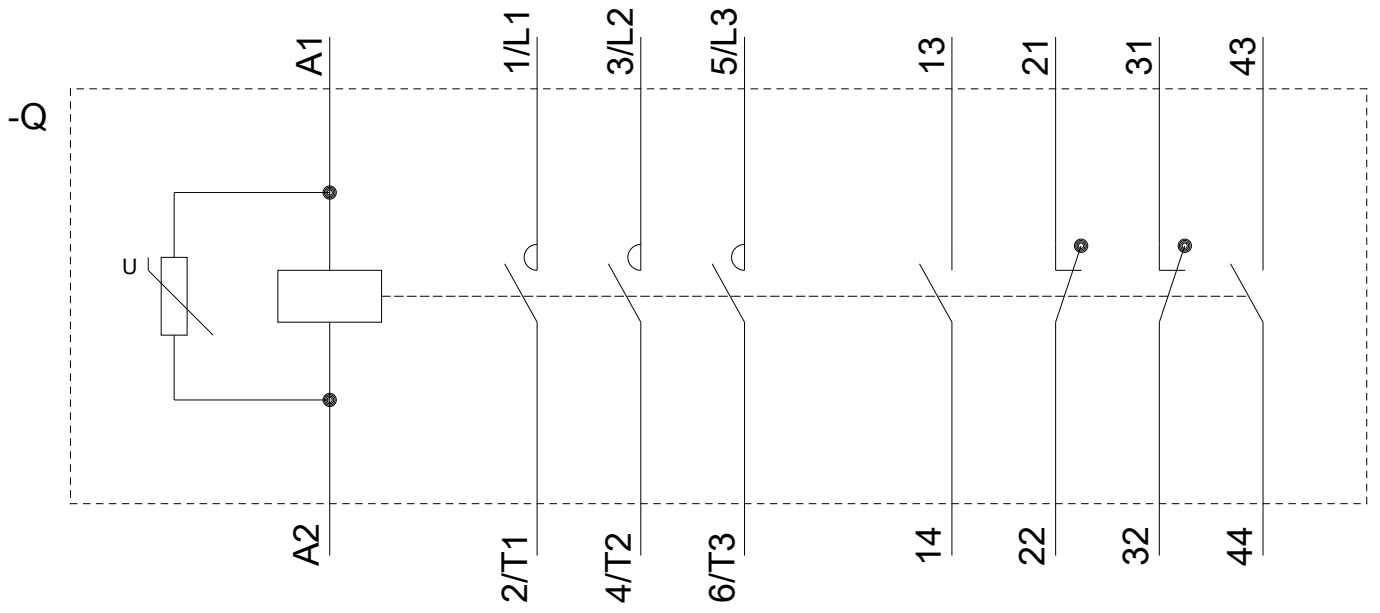
**Characteristic: Tripping characteristics, I<sup>2</sup>t, Let-through current**

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1066-2AD36/char>

**Further characteristics (e.g. electrical endurance, switching frequency)**

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT1066-2AD36&objecttype=14&gridview=view1>





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