

Contactor, 25 hp, 460 / 575 V 1 NO + 1 NC, AC / DC 20 ... 33 V, 3-pole, Size S2 screw terminal NEMA size 2



|   |                           |
|---|---------------------------|
| Product brand name                                  | SIRIUS                    |
| Product designation                                 | Power contactor           |
| Product type designation                            | 3RT2                      |
| <b>General technical data</b>                       |                           |
| Size of contactor                                   | S2                        |
| Product extension                                   |                           |
| • function module for communication                 | No                        |
| • Auxiliary switch                                  | Yes                       |
| Surge voltage resistance                            |                           |
| • of main circuit rated value                       | 6 kV                      |
| • of auxiliary circuit 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                                   | IP00                      |
| Shock resistance at rectangular impulse             |                           |
| • at AC   | 7.7g / 5 ms, 4.5g / 10 ms |

|   |                           |
|---|---------------------------|
| <ul style="list-style-type: none"> <li>• at DC</li> </ul>   | 7.7g / 5 ms, 4.5g / 10 ms |
| <b>Shock resistance with sine pulse</b>   |                           |
| <ul style="list-style-type: none"> <li>• at AC</li> </ul>   | 12g / 5 ms, 7g / 10 ms    |
| <ul style="list-style-type: none"> <li>• at DC</li> </ul>   | 12g / 5 ms, 7g / 10 ms    |
| <b>Mechanical service life (switching cycles)</b>   |                           |
| <ul style="list-style-type: none"> <li>• of contactor typical</li> </ul>  | 10 000 000                |
| <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>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> </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>  | 70 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> <li>— up to 690 V at ambient temperature 60 °C rated value</li> </ul> </li> </ul> | 70 A<br>60 A         |
| <ul style="list-style-type: none"> <li>• at AC-2 at 400 V rated value</li> </ul>  | 50 A                 |
| <ul style="list-style-type: none"> <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>                                 | 51 A<br>51 A<br>24 A |
| <ul style="list-style-type: none"> <li>• at AC-4 at 400 V rated value</li> </ul>  | 41 A                 |
| <ul style="list-style-type: none"> <li>• at AC-5a up to 690 V rated value</li> </ul>  | 61.6 A               |
| <ul style="list-style-type: none"> <li>• at AC-5b up to 400 V rated value</li> </ul>  | 41.5 A               |
| <ul style="list-style-type: none"> <li>• at AC-6a</li> </ul>  |                      |

|  |                    |
|--|--------------------|
| — up to 230 V for current peak value n=20 rated value                | 43.2 A             |
| — up to 400 V for current peak value n=20 rated value                | 43.2 A             |
| — up to 500 V for current peak value n=20 rated value                | 43.2 A             |
| — up to 690 V for current peak value n=20 rated value                | 24 A               |
| • at AC-6a   |                    |
| — up to 230 V for current peak value n=30 rated value                | 28.8 A             |
| — up to 400 V for current peak value n=30 rated value                | 28.8 A             |
| — up to 500 V for current peak value n=30 rated value                | 28.8 A             |
| — up to 690 V for current peak value n=30 rated value                | 24 A               |
| <b>Minimum cross-section in main circuit</b>                         |                    |
| • at maximum AC-1 rated value  | 25 mm <sup>2</sup> |
| <b>Operating current for approx. 200000 operating cycles at AC-4</b> |                    |
| • at 400 V rated value   | 24 A               |
| • at 690 V rated value   | 20 A               |
| <b>Operating current</b>   |                    |
| • at 1 current path at DC-1  |                    |
| — at 24 V rated value  | 55 A               |
| — at 110 V rated value   | 4.5 A              |
| — at 220 V rated value   | 1 A                |
| — at 440 V rated value   | 0.4 A              |
| — at 600 V rated value   | 0.25 A             |
| • with 2 current paths in series at DC-1                             |                    |
| — at 24 V rated value  | 55 A               |
| — at 110 V rated value   | 45 A               |
| — at 220 V rated value   | 5 A                |
| — at 440 V rated value   | 1 A                |
| — at 600 V rated value   | 0.8 A              |
| • with 3 current paths in series at DC-1                             |                    |
| — at 24 V rated value  | 55 A               |
| — at 110 V rated value   | 55 A               |
| — at 220 V rated value   | 45 A               |
| — at 440 V rated value   | 2.9 A              |
| — at 600 V rated value   | 1.4 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> | 35 A<br>2.5 A<br>1 A<br>0.1 A<br>0.06 A<br><br>55 A<br>25 A<br>5 A<br>0.27 A<br>0.16 A<br><br>55 A<br>55 A<br>25 A<br>0.6 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> <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> </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> </ul> </li> </ul>  | 26 kW<br>23 kW<br>46 kW<br>39 kW<br>79 kW<br>68 kW<br><br>22 kW<br><br>15 kW<br>22 kW<br>30 kW<br>22 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>   | 12.6 kW<br>18.2 kW  |
| <b>Thermal short-time current limited to 10 s</b>  | 420 A   |
| <b>Power loss [W] at AC-3 at 400 V for rated value of the operating current per conductor</b>  | 4 W   |
| <b>No-load switching frequency</b>   |   |
| <ul style="list-style-type: none"> <li>• at AC</li> <li>• at DC</li> </ul>   | 1 500 1/h<br>1 500 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> | 1 000 1/h<br>600 1/h<br>800 1/h<br>250 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> <li>• at 60 Hz rated value</li> </ul>   | 20 ... 33 V<br>20 ... 33 V                 |
| <b>Control supply voltage at DC</b>  |  |
| <ul style="list-style-type: none"> <li>• rated value</li> </ul>  | 20 ... 33 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> <li>• Full-scale value</li> </ul>  | 0.8<br>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> <li>• at 60 Hz</li> </ul>   | 0.8 ... 1.1<br>0.8 ... 1.1                 |
| <b>Design of the surge suppressor</b>  | with varistor                              |
| <b>Inrush current peak</b>   |  |
| <ul style="list-style-type: none"> <li>• at 24 V</li> </ul>  | 2.8 A                                      |
| <b>Duration of inrush current peak</b>   |  |
| <ul style="list-style-type: none"> <li>• at 24 V</li> </ul>  | 15 µs                                      |
| <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>   | 40 V·A<br>40 V·A                           |
| <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>   | 2 V·A<br>2 V·A                             |
| <b>Closing power of magnet coil at DC</b>  | 23 W                                       |
| <b>Holding power of magnet coil at DC</b>  | 1 W  |
| <b>Closing delay</b>   |  |
| <ul style="list-style-type: none"> <li>• at AC</li> <li>• at DC</li> </ul>   | 45 ... 70 ms<br>45 ... 60 ms               |
| <b>Opening delay</b>   |  |
| <ul style="list-style-type: none"> <li>• at AC</li> <li>• at DC</li> </ul>   | 35 ... 55 ms<br>35 ... 55 ms               |
| <b>Arcing time</b>   | 10 ... 20 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> <li>• at DC at 24 V maximum permissible</li> </ul> | <p>20 mA</p> <p>20 mA</p> |

### Auxiliary circuit

|   |   |
|---|---|
| <b>Number of NC contacts for auxiliary contacts</b>   |   |
| <ul style="list-style-type: none"> <li>• instantaneous contact</li> </ul>   | 1   |
| <b>Number of NO contacts for auxiliary contacts</b>   |   |
| <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> <li>• at 400 V rated value</li> <li>• at 500 V rated value</li> <li>• at 690 V rated value</li> </ul>  | <p>10 A</p> <p>3 A</p> <p>2 A</p> <p>1 A</p>  |
| <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>52 A</p> <p>52 A</p>  |
| <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</li> </ul> | <p>3 hp</p> <p>10 hp</p> |

|                            |       |
|----------------------------|-------|
| — at 200/208 V rated value | 15 hp |
| — at 220/230 V rated value | 15 hp |
| — at 460/480 V rated value | 40 hp |
| — at 575/600 V rated value | 50 hp |

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

### Short-circuit protection

#### Design of the fuse link

|   |   |
|---|---|
| <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: 160 A (690 V, 100 kA), aM: 80 A (690 V, 100 kA), BS88: 125 A (415 V, 80 kA)</p> <p>gG: 80A (690V,100kA), aM: 50A (690V,100kA), BS88: 63A (415V,80kA)</p> <p>gG: 10 A (500 V, 1 kA)</p> |
|---|---|

### 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>   | 114 mm  |
| <b>Width</b>  | 55 mm   |
| <b>Depth</b>  | 130 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>— 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>— upwards</li> <li>— at the side</li> <li>— downwards</li> </ul> </li> <li>• for live parts           <ul style="list-style-type: none"> <li>— forwards</li> <li>— upwards</li> <li>— downwards</li> <li>— at the side</li> </ul> </li> </ul> | <p>10 mm</p> <p>10 mm</p> <p>10 mm</p> <p>0 mm</p> <p>10 mm</p> <p>10 mm</p> <p>6 mm</p> <p>10 mm</p> <p>10 mm</p> <p>10 mm</p> <p>10 mm</p> <p>10 mm</p> <p>6 mm</p> |

### Connections/ Terminals

#### Type of electrical connection

|  |   |
|--|---|
| <ul style="list-style-type: none"> <li>• for main current circuit</li> <li>• for auxiliary and control current circuit</li> <li>• at contactor for auxiliary contacts</li> <li>• of magnet coil</li> </ul>   | <p>screw-type terminals</p> <p>screw-type terminals</p> <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>— single or multi-stranded</li> <li>— finely stranded with core end processing</li> </ul> </li> <li>• at AWG conductors for main contacts</li> </ul>           | <p>2x (1 ... 35 mm<sup>2</sup>), 1x (1 ... 50 mm<sup>2</sup>)</p> <p>2x (1 ... 25 mm<sup>2</sup>), 1x (1 ... 35 mm<sup>2</sup>)</p> <p>2x (18 ... 2), 1x (18 ... 1)</p>                 |
| <b>Connectable conductor cross-section for main contacts</b> <ul style="list-style-type: none"> <li>• finely stranded with core end processing</li> </ul>  | <p>1 ... 35 mm<sup>2</sup></p>  |
| <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> </ul>   | <p>0.5 ... 2.5 mm<sup>2</sup></p> <p>0.5 ... 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>— 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> |
| <b>AWG number as coded connectable conductor cross section</b> <ul style="list-style-type: none"> <li>• for main contacts</li> <li>• for auxiliary contacts</li> </ul>   | <p>18 ... 1</p> <p>20 ... 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>   | <p>1 000 000</p>  |
| <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>Failure rate [FIT]</b> <ul style="list-style-type: none"> <li>• with low demand rate acc. to SN 31920</li> </ul>   | <p>100 FIT</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>   | <p>20 y</p>   |
| <b>Protection against electrical shock</b>  | <p>finger-safe when touched vertically from front acc. to IEC 60529</p> |

### Certificates/ approvals

|                          |     |                                       |                           |
|--------------------------|-----|---------------------------------------|---------------------------|
| General Product Approval | EMC | Functional Safety/Safety of Machinery | Declaration of Conformity |
|--------------------------|-----|---------------------------------------|---------------------------|



[Type Examination Certificate](#)



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

[Miscellaneous](#)

[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)



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



[Confirmation](#)

#### Further information

**Information- and Downloadcenter (Catalogs, Brochures,...)**

[www.siemens.com/sirius/catalogs](http://www.siemens.com/sirius/catalogs)

**Industry Mall (Online ordering system)**

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RT2036-1NB30-0UA0>

**Cax online generator**

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2036-1NB30-0UA0>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2036-1NB30-0UA0>

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

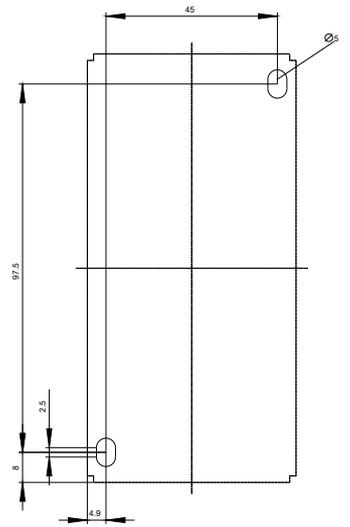
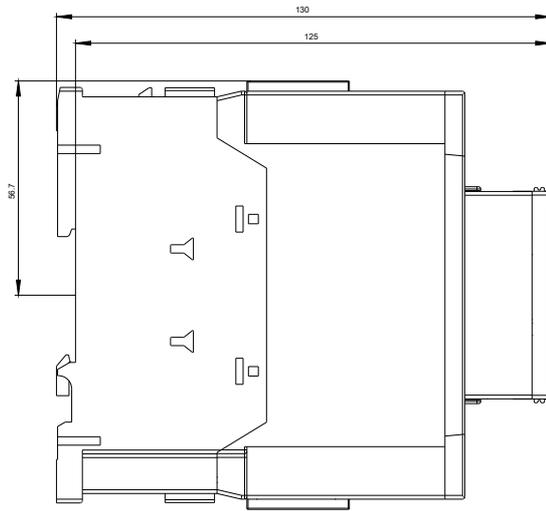
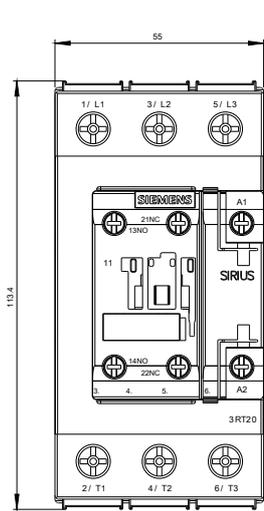
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RT2036-1NB30-0UA0&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2036-1NB30-0UA0&lang=en)

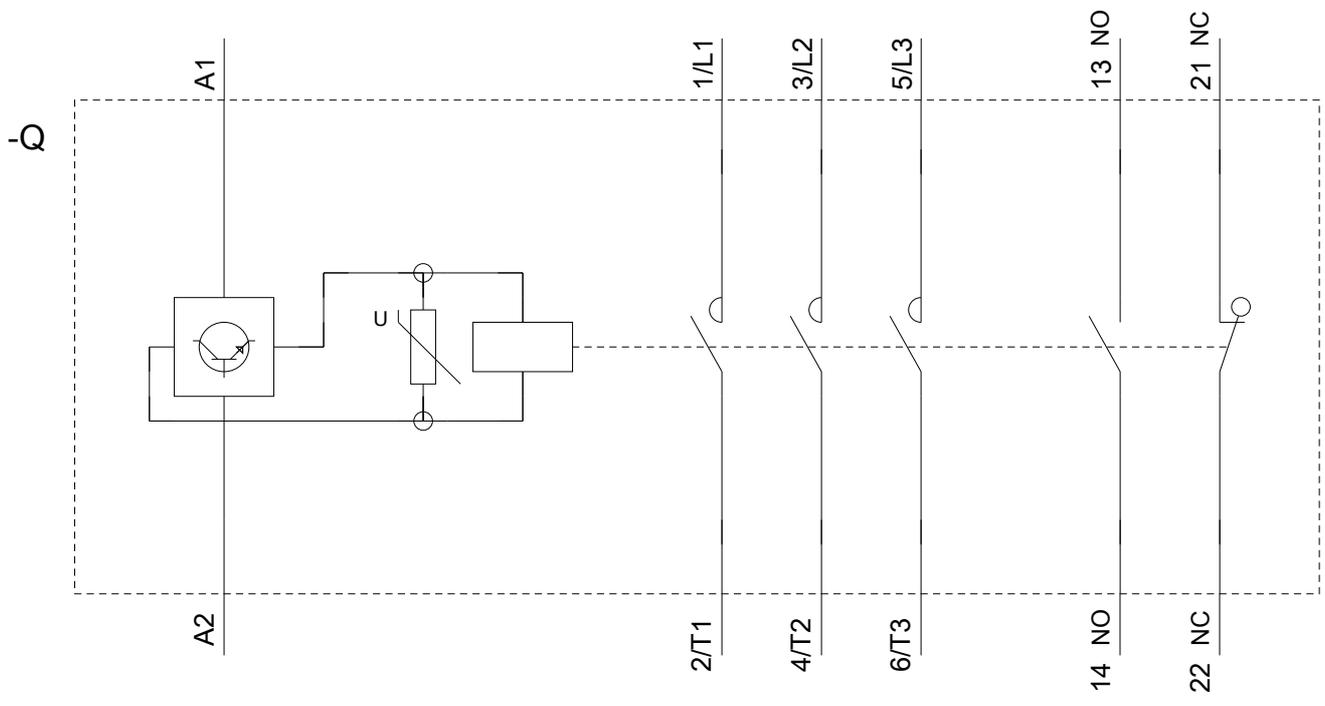
**Characteristic: Tripping characteristics, I<sup>t</sup>, Let-through current**

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2036-1NB30-0UA0/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2036-1NB30-0UA0&objecttype=14&gridview=view1>





last modified:

08/09/2019