



power contactor AC-1 690 A / 690 V / 40 °C 3-pole, U<sub>c</sub>: 42-48 V AC(50-60 Hz) / DC drive: conventional auxiliary contacts 2 NO + 2 NC main circuit: busbar control and auxiliary circuit: screw terminal

|                                                                                       |                            |
|---------------------------------------------------------------------------------------|----------------------------|
| product brand name                                                                    | SIRIUS                     |
| product designation                                                                   | Contacteur                 |
| product type designation                                                              | 3RT14                      |
| <b>General technical data</b>                                                         |                            |
| size of contactor                                                                     | S12                        |
| product extension                                                                     |                            |
| • function module for communication                                                   | No                         |
| • auxiliary switch                                                                    | Yes                        |
| power loss [W] for rated value of the current                                         |                            |
| • at AC in hot operating state                                                        | 185.7 W                    |
| • at AC in hot operating state per pole                                               | 61.9 W                     |
| • without load current share typical                                                  | 10 W                       |
| type of calculation of power loss depending on pole                                   | quadratic                  |
| insulation voltage                                                                    |                            |
| • of main circuit with degree of pollution 3 rated value                              | 1 000 V                    |
| • of auxiliary circuit with degree of pollution 3 rated value                         | 500 V                      |
| surge voltage resistance                                                              |                            |
| • of main circuit rated value                                                         | 8 kV                       |
| • of auxiliary circuit rated value                                                    | 6 kV                       |
| shock resistance at rectangular impulse                                               |                            |
| • at AC                                                                               | 8,5g / 5 ms, 4,2g / 10 ms  |
| • at DC                                                                               | 8,5g / 5 ms, 4,2g / 10 ms  |
| shock resistance with sine pulse                                                      |                            |
| • at AC                                                                               | 13,4g / 5 ms, 6,5g / 10 ms |
| • at DC                                                                               | 13,4g / 5 ms, 6,5g / 10 ms |
| mechanical service life (operating cycles)                                            |                            |
| • of contactor typical                                                                | 10 000 000                 |
| • of the contactor with added electronically optimized auxiliary switch block typical | 5 000 000                  |
| • of the contactor with added auxiliary switch block typical                          | 10 000 000                 |
| reference code according to IEC 81346-2                                               | Q                          |
| Substance Prohibitance (Date)                                                         | 05/01/2012                 |
| SVHC substance name                                                                   | Lead - 7439-92-1           |
| Weight                                                                                | 10.345 kg                  |
| <b>Ambient conditions</b>                                                             |                            |
| installation altitude at height above sea level maximum                               | 2 000 m                    |
| ambient temperature                                                                   |                            |
| • during operation                                                                    | -25 ... +60 °C             |
| • during storage                                                                      | -55 ... +80 °C             |
| relative humidity minimum                                                             | 10 %                       |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                     |
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| relative humidity at 55 °C according to IEC 60068-2-30 maximum                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 95 %                                                                                                                                                                                                                                                                                                                |
| <b>Main circuit</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                     |
| number of poles for main current circuit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 3                                                                                                                                                                                                                                                                                                                   |
| number of NO contacts for main contacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 3                                                                                                                                                                                                                                                                                                                   |
| number of NC contacts for main contacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 0                                                                                                                                                                                                                                                                                                                   |
| type of voltage for main current circuit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | AC                                                                                                                                                                                                                                                                                                                  |
| operational current                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                     |
| <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 55 °C rated value</li> <li>up to 690 V at ambient temperature 60 °C rated value</li> </ul> </li> <li>at AC-3 <ul style="list-style-type: none"> <li>at 400 V rated value</li> <li>at 690 V rated value</li> </ul> </li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 690 A<br>650 A<br>650 A<br>170 A<br>170 A                                                                                                                                                                                                                                                                           |
| minimum cross-section in main circuit at maximum AC-1 rated value                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 480 mm²                                                                                                                                                                                                                                                                                                             |
| operational current                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                     |
| <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 60 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 60 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 60 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>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 60 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 60 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 60 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> </ul> </li> </ul> | 500 A<br>500 A<br>33 A<br>3.8 A<br>0.9 A<br>0.6 A<br>500 A<br>500 A<br>500 A<br>500 A<br>4 A<br>2 A<br>500 A<br>500 A<br>500 A<br>500 A<br>11 A<br>5.2 A<br>500 A<br>11 A<br>3 A<br>0.6 A<br>0.18 A<br>0.125 A<br>500 A<br>500 A<br>500 A<br>2.5 A<br>0.65 A<br>0.37 A<br>500 A<br>500 A<br>500 A<br>500 A<br>1.4 A |

|                                                                                       |                  |
|---------------------------------------------------------------------------------------|------------------|
| — at 600 V rated value                                                                | 0.75 A           |
| <b>no-load switching frequency</b>                                                    |                  |
| • at AC                                                                               | 2 000 1/h        |
| • at DC                                                                               | 2 000 1/h        |
| operating frequency at AC-1 maximum                                                   | 600 1/h          |
| <b>Control circuit/ Control</b>                                                       |                  |
| <b>type of voltage</b>                                                                | AC/DC            |
| <b>type of voltage of the control supply voltage</b>                                  | AC/DC            |
| <b>control supply voltage at AC</b>                                                   |                  |
| • at 50 Hz rated value                                                                | 42 ... 48 V      |
| • at 60 Hz rated value                                                                | 42 ... 48 V      |
| <b>control supply voltage at DC rated value</b>                                       | 42 ... 48 V      |
| <b>operating range factor control supply voltage rated value of magnet coil at DC</b> |                  |
| • initial value                                                                       | 0.8              |
| • full-scale value                                                                    | 1.1              |
| <b>operating range factor control supply voltage rated value of magnet coil at AC</b> |                  |
| • at 50 Hz                                                                            | 0.8 ... 1.1      |
| • at 60 Hz                                                                            | 0.8 ... 1.1      |
| <b>design of the surge suppressor</b>                                                 | with varistor    |
| <b>apparent pick-up power</b>                                                         |                  |
| • at minimum rated control supply voltage at AC                                       |                  |
| — at 50 Hz                                                                            | 700 VA           |
| — at 60 Hz                                                                            | 700 VA           |
| • at maximum rated control supply voltage at AC                                       |                  |
| — at 60 Hz                                                                            | 830 VA           |
| — at 50 Hz                                                                            | 830 VA           |
| <b>apparent pick-up power of magnet coil at AC</b>                                    |                  |
| • at 50 Hz                                                                            | 830 VA           |
| <b>inductive power factor with closing power of the coil</b>                          |                  |
| • at 50 Hz                                                                            | 0.9              |
| <b>apparent holding power</b>                                                         |                  |
| • at minimum rated control supply voltage at DC                                       | 8.5 VA           |
| • at maximum rated control supply voltage at DC                                       | 10 VA            |
| <b>apparent holding power</b>                                                         |                  |
| • at minimum rated control supply voltage at AC                                       |                  |
| — at 50 Hz                                                                            | 7.6 VA           |
| — at 60 Hz                                                                            | 7.6 VA           |
| • at maximum rated control supply voltage at AC                                       |                  |
| — at 50 Hz                                                                            | 9.2 VA           |
| — at 60 Hz                                                                            | 9.2 VA           |
| <b>apparent holding power of magnet coil at AC</b>                                    |                  |
| • at 50 Hz                                                                            | 9.2 VA           |
| <b>inductive power factor with the holding power of the coil</b>                      |                  |
| • at 50 Hz                                                                            | 0.9              |
| <b>closing power of magnet coil at DC</b>                                             | 920 W            |
| <b>holding power of magnet coil at DC</b>                                             | 10 W             |
| <b>closing delay</b>                                                                  |                  |
| • at AC                                                                               | 45 ... 100 ms    |
| • at DC                                                                               | 45 ... 100 ms    |
| <b>opening delay</b>                                                                  |                  |
| • at AC                                                                               | 60 ... 100 ms    |
| • at DC                                                                               | 60 ... 100 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>                                   | 2                |
| • attachable                                                                          | 4                |
| • instantaneous contact                                                               | 2                |
| <b>number of NO contacts for auxiliary contacts</b>                                   | 2                |

|                                                                                                           |                                                                                                                          |
|-----------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| • attachable                                                                                              | 4                                                                                                                        |
| • instantaneous contact                                                                                   | 2                                                                                                                        |
| operational current at AC-12 maximum                                                                      | 10 A                                                                                                                     |
| <b>operational current at AC-15</b>                                                                       |                                                                                                                          |
| • at 230 V rated value                                                                                    | 6 A                                                                                                                      |
| • at 400 V rated value                                                                                    | 3 A                                                                                                                      |
| • at 500 V rated value                                                                                    | 2 A                                                                                                                      |
| • at 690 V rated value                                                                                    | 1 A                                                                                                                      |
| <b>operational current at DC-13</b>                                                                       |                                                                                                                          |
| • at 24 V rated value                                                                                     | 10 A                                                                                                                     |
| • at 48 V rated value                                                                                     | 2 A                                                                                                                      |
| • at 60 V rated value                                                                                     | 2 A                                                                                                                      |
| • at 110 V rated value                                                                                    | 1 A                                                                                                                      |
| • at 125 V rated value                                                                                    | 0.9 A                                                                                                                    |
| • at 220 V rated value                                                                                    | 0.3 A                                                                                                                    |
| • at 600 V rated value                                                                                    | 0.1 A                                                                                                                    |
| <b>contact reliability of auxiliary contacts</b>                                                          | 1 faulty switching per 100 million (17 V, 1 mA)                                                                          |
| <b>Short-circuit protection</b>                                                                           |                                                                                                                          |
| design of the miniature circuit breaker for short-circuit protection of the auxiliary circuit up to 230 V | C characteristic: 10 A; 0.4 kA                                                                                           |
| <b>design of the fuse link</b>                                                                            |                                                                                                                          |
| • for short-circuit protection of the main circuit                                                        |                                                                                                                          |
| — with type of coordination 1 required                                                                    | gG: 800 A (690 V, 50 kA)                                                                                                 |
| — with type of coordination 2 required                                                                    | gR: 710 A (690 V, 100 kA)                                                                                                |
| • for short-circuit protection of the auxiliary switch required                                           | gG: 10 A (500 V, 1 kA)                                                                                                   |
| <b>Installation/ mounting/ dimensions</b>                                                                 |                                                                                                                          |
| <b>mounting position</b>                                                                                  | with vertical mounting surface +/-90° rotatable, with vertical mounting surface +/- 22.5° tiltable to the front and back |
| fastening method side-by-side mounting                                                                    | Yes                                                                                                                      |
| <b>fastening method</b>                                                                                   | screw fixing                                                                                                             |
| <b>height</b>                                                                                             | 214 mm                                                                                                                   |
| <b>width</b>                                                                                              | 160 mm                                                                                                                   |
| <b>depth</b>                                                                                              | 225 mm                                                                                                                   |
| <b>required spacing</b>                                                                                   |                                                                                                                          |
| • with side-by-side mounting                                                                              |                                                                                                                          |
| — forwards                                                                                                | 20 mm                                                                                                                    |
| — upwards                                                                                                 | 10 mm                                                                                                                    |
| — downwards                                                                                               | 10 mm                                                                                                                    |
| — at the side                                                                                             | 0 mm                                                                                                                     |
| • for grounded parts                                                                                      |                                                                                                                          |
| — forwards                                                                                                | 20 mm                                                                                                                    |
| — upwards                                                                                                 | 10 mm                                                                                                                    |
| — at the side                                                                                             | 10 mm                                                                                                                    |
| — downwards                                                                                               | 10 mm                                                                                                                    |
| • for live parts                                                                                          |                                                                                                                          |
| — forwards                                                                                                | 20 mm                                                                                                                    |
| — upwards                                                                                                 | 10 mm                                                                                                                    |
| — downwards                                                                                               | 10 mm                                                                                                                    |
| — at the side                                                                                             | 10 mm                                                                                                                    |
| <b>Connections/ Terminals</b>                                                                             |                                                                                                                          |
| <b>type of electrical connection</b>                                                                      |                                                                                                                          |
| • for main current circuit                                                                                | Connection bar                                                                                                           |
| • for auxiliary and control circuit                                                                       | screw-type terminals                                                                                                     |
| • at contactor for auxiliary contacts                                                                     | Screw-type terminals                                                                                                     |
| • of magnet coil                                                                                          | Screw-type terminals                                                                                                     |
| <b>width of connection bar</b>                                                                            | 25 mm                                                                                                                    |
| <b>thickness of connection bar</b>                                                                        | 6 mm                                                                                                                     |
| <b>diameter of holes</b>                                                                                  | 11 mm                                                                                                                    |
| <b>number of holes</b>                                                                                    | 1                                                                                                                        |
| <b>type of connectable conductor cross-sections</b>                                                       |                                                                                                                          |
| • for AWG cables for main contacts                                                                        | 2/0 ... 500 kcmil                                                                                                        |

|                                                                                       |                                                                                                              |
|---------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| <b>connectable conductor cross-section for main contacts</b>                          |                                                                                                              |
| • solid or stranded                                                                   | 70 ... 240 mm <sup>2</sup>                                                                                   |
| • stranded                                                                            | 70 ... 240 mm <sup>2</sup>                                                                                   |
| <b>connectable conductor cross-section for auxiliary contacts</b>                     |                                                                                                              |
| • solid or stranded                                                                   | 0.5 ... 4 mm <sup>2</sup>                                                                                    |
| • finely stranded with core end processing                                            | 0.5 ... 2.5 mm <sup>2</sup>                                                                                  |
| <b>type of connectable conductor cross-sections</b>                                   |                                                                                                              |
| • for auxiliary contacts                                                              |                                                                                                              |
| — solid                                                                               | 2x (0.5 ... 1.5 mm <sup>2</sup> ), 2x (0.75 ... 2.5 mm <sup>2</sup> ), max. 2x (0.75 ... 4 mm <sup>2</sup> ) |
| — solid or stranded                                                                   | 2x (0.5 ... 1.5 mm <sup>2</sup> ), 2x (0.75 ... 2.5 mm <sup>2</sup> ), max. 2x (0.75 ... 4 mm <sup>2</sup> ) |
| — finely stranded with core end processing                                            | 2x (0.5 ... 1.5 mm <sup>2</sup> ), 2x (0.75 ... 2.5 mm <sup>2</sup> )                                        |
| • for AWG cables for auxiliary contacts                                               | 2x (20 ... 16), 2x (18 ... 14), 1x 12                                                                        |
| <b>AWG number as coded connectable conductor cross section for auxiliary contacts</b> | 18 ... 14                                                                                                    |

#### Safety related data

|                                                          |      |
|----------------------------------------------------------|------|
| <b>product function</b>                                  |      |
| • mirror contact according to IEC 60947-4-1              | Yes  |
| • positively driven operation according to IEC 60947-5-1 | No   |
| suitability for use safety-related switching OFF         | No   |
| <b>service life maximum</b>                              | 20 a |

#### Electrical Safety

|                                                                |                                                                          |
|----------------------------------------------------------------|--------------------------------------------------------------------------|
| <b>protection class IP on the front according to IEC 60529</b> | IP00; IP20 with box terminal/cover                                       |
| <b>touch protection on the front according to IEC 60529</b>    | finger-safe, for vertical contact from the front with box terminal/cover |

#### Approvals Certificates

|                                 |     |
|---------------------------------|-----|
| <b>General Product Approval</b> | EMV |
|---------------------------------|-----|



|                          |                          |                             |
|--------------------------|--------------------------|-----------------------------|
| <b>Functional Safety</b> | <b>Test Certificates</b> | <b>Maritime application</b> |
|--------------------------|--------------------------|-----------------------------|

[Type Examination Certificate](#)

[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)



|                             |              |
|-----------------------------|--------------|
| <b>Maritime application</b> | <b>other</b> |
|-----------------------------|--------------|



[Confirmation](#)

[Confirmation](#)

[Miscellaneous](#)

|                |                    |
|----------------|--------------------|
| <b>Railway</b> | <b>Environment</b> |
|----------------|--------------------|

[Special Test Certificate](#)

[Environmental Conformations](#)

#### Further information

Information on the packaging

<https://support.industry.siemens.com/cs/ww/en/view/109813875>

Information for data generation and storage

<https://support.industry.siemens.com/cs/ww/en/view/109995012>

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

<https://www.siemens.com/ic10>

Industry Mall (Online ordering system)

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RT1476-6AD36>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT1476-6AD36>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1476-6AD36>

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

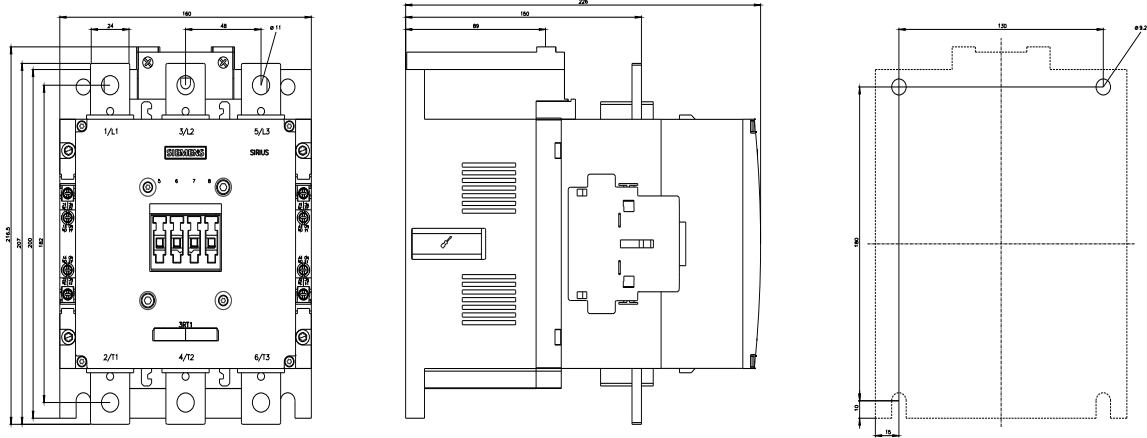
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RT1476-6AD36&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT1476-6AD36&lang=en)

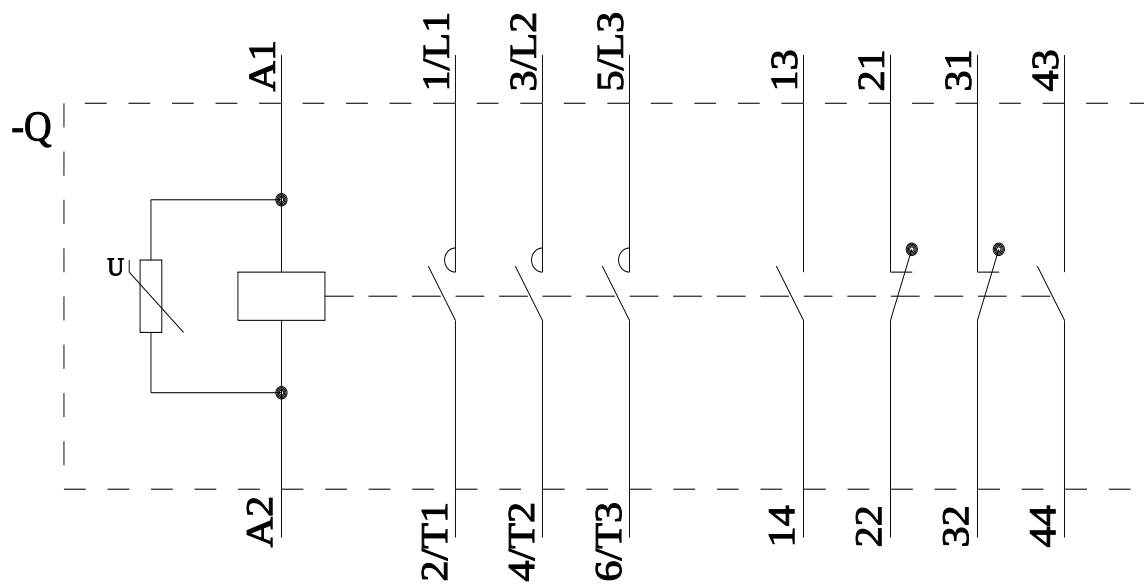
Characteristic: Tripping characteristics,  $I^2t$ , Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1476-6AD36/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT1476-6AD36&objecttype=14&gridview=view1>





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