



power contactor, AC-3 9 A, 4 kW / 400 V 1 NO + 1 NC, 24 V AC, 50 Hz 3-pole, Size S0 screw terminal

|  |                            |
|--|----------------------------|
| product brand name   | SIRIUS                     |
| product designation  | Power contactor            |
| product type designation   | 3RT2                       |
| <b>General technical data</b>  |                            |
| size of contactor  | S0                         |
| 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                       | 1.2 W                      |
| • per pole   | 0.4 W                      |
| power loss [W] for rated value of the current without load current share typical                 | 7.6 W                      |
| insulation voltage   |                            |
| • of main circuit with degree of pollution 3 rated value   | 690 V                      |
| • of auxiliary circuit with degree of pollution 3 rated value                                    | 690 V                      |
| 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                      |
| shock resistance at rectangular impulse  |                            |
| • at AC  | 7,5g / 5 ms, 4,7g / 10 ms  |
| shock resistance with sine pulse   |                            |
| • at AC  | 11,8g / 5 ms, 7,4g / 10 ms |
| mechanical service life (switching 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 acc. to IEC 81346-2   | Q                          |
| Substance Prohibitance (Date)  | 01.10.2009                 |
| <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 %                       |
| relative humidity at 55 °C acc. to IEC 60068-2-30  | 95 %                       |

|   |                    |
|---|--------------------|
| <b>maximum</b>  |                    |
| <b>Main circuit</b>   |                    |
| <b>number of poles for main current circuit</b>   | 3                  |
| <b>number of NO contacts for main contacts</b>  | 3                  |
| <b>operating voltage at AC-3 rated value maximum</b>  | 690 V              |
| <b>operational current</b>  |                    |
| <ul style="list-style-type: none"> <li>• at AC-1 at 400 V at ambient temperature 40 °C rated value</li> </ul>   | 40 A               |
| <ul style="list-style-type: none"> <li>• at AC-1 <ul style="list-style-type: none"> <li>— up to 690 V at ambient temperature 40 °C rated value</li> </ul> </li> </ul> | 40 A               |
| <ul style="list-style-type: none"> <li>— up to 690 V at ambient temperature 60 °C rated value</li> </ul>  | 35 A               |
| <ul style="list-style-type: none"> <li>• at AC-3 <ul style="list-style-type: none"> <li>— at 400 V rated value</li> </ul> </li> </ul>                                 | 9 A                |
| <ul style="list-style-type: none"> <li>— at 500 V rated value</li> </ul>  | 9 A                |
| <ul style="list-style-type: none"> <li>— at 690 V rated value</li> </ul>  | 9 A                |
| <ul style="list-style-type: none"> <li>• at AC-4 at 400 V rated value</li> </ul>  | 8.5 A              |
| <ul style="list-style-type: none"> <li>• at AC-5a up to 690 V rated value</li> </ul>  | 35.2 A             |
| <ul style="list-style-type: none"> <li>• at AC-5b up to 400 V rated value</li> </ul>  | 7.4 A              |
| <ul style="list-style-type: none"> <li>• at AC-6a <ul style="list-style-type: none"> <li>— up to 230 V for current peak value n=20 rated value</li> </ul> </li> </ul> | 11.4 A             |
| <ul style="list-style-type: none"> <li>— up to 400 V for current peak value n=20 rated value</li> </ul>   | 11.4 A             |
| <ul style="list-style-type: none"> <li>— up to 500 V for current peak value n=20 rated value</li> </ul>   | 9.1 A              |
| <ul style="list-style-type: none"> <li>— up to 690 V for current peak value n=20 rated value</li> </ul>   | 9 A                |
| <ul style="list-style-type: none"> <li>• at AC-6a <ul style="list-style-type: none"> <li>— up to 230 V for current peak value n=30 rated value</li> </ul> </li> </ul> | 7.6 A              |
| <ul style="list-style-type: none"> <li>— up to 400 V for current peak value n=30 rated value</li> </ul>   | 7.6 A              |
| <ul style="list-style-type: none"> <li>— up to 500 V for current peak value n=30 rated value</li> </ul>   | 6.1 A              |
| <ul style="list-style-type: none"> <li>— up to 690 V for current peak value n=30 rated value</li> </ul>   | 6.1 A              |
| <b>minimum cross-section in main circuit at maximum AC-1 rated value</b>  | 10 mm <sup>2</sup> |
| <b>operational current for approx. 200000 operating cycles at AC-4</b>  |                    |
| <ul style="list-style-type: none"> <li>• at 400 V rated value</li> </ul>  | 4.1 A              |
| <ul style="list-style-type: none"> <li>• at 690 V rated value</li> </ul>  | 3.3 A              |
| <b>operational current</b>  |                    |
| <ul style="list-style-type: none"> <li>• at 1 current path at DC-1 <ul style="list-style-type: none"> <li>— at 24 V rated value</li> </ul> </li> </ul>                | 35 A               |
| <ul style="list-style-type: none"> <li>— at 110 V rated value</li> </ul>  | 4.5 A              |
| <ul style="list-style-type: none"> <li>— at 220 V rated value</li> </ul>  | 1 A                |
| <ul style="list-style-type: none"> <li>— at 440 V rated value</li> </ul>  | 0.4 A              |
| <ul style="list-style-type: none"> <li>— at 600 V rated value</li> </ul>  | 0.25 A             |
| <ul style="list-style-type: none"> <li>• with 2 current paths in series at DC-1 <ul style="list-style-type: none"> <li>— at 24 V rated value</li> </ul> </li> </ul>   | 35 A               |
| <ul style="list-style-type: none"> <li>— at 110 V rated value</li> </ul>  | 35 A               |
| <ul style="list-style-type: none"> <li>— at 220 V rated value</li> </ul>  | 5 A                |
| <ul style="list-style-type: none"> <li>— at 440 V rated value</li> </ul>  | 1 A                |
| <ul style="list-style-type: none"> <li>— at 600 V rated value</li> </ul>  | 0.8 A              |
| <ul style="list-style-type: none"> <li>• with 3 current paths in series at DC-1 <ul style="list-style-type: none"> <li>— at 24 V rated value</li> </ul> </li> </ul>   | 35 A               |
| <ul style="list-style-type: none"> <li>— at 110 V rated value</li> </ul>  | 35 A               |
| <ul style="list-style-type: none"> <li>— at 220 V rated value</li> </ul>  | 35 A               |
| <ul style="list-style-type: none"> <li>— at 440 V rated value</li> </ul>  | 2.9 A              |
| <ul style="list-style-type: none"> <li>— at 600 V rated value</li> </ul>  | 1.4 A              |

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|---|---|
| <ul style="list-style-type: none"> <li>• <b>at 1 current path at DC-3 at DC-5</b> <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>• <b>with 2 current paths in series at DC-3 at DC-5</b> <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>• <b>with 3 current paths in series at DC-3 at DC-5</b> <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> | 20 A<br>2.5 A<br>1 A<br>0.09 A<br>0.06 A<br><br>35 A<br>15 A<br>3 A<br>0.27 A<br>0.16 A<br><br>35 A<br>35 A<br>10 A<br>0.6 A<br>0.6 A   |
| <b>operating power</b> <ul style="list-style-type: none"> <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>  | 2.2 kW<br>4 kW<br>4 kW<br>7.5 kW  |
| <b>operating power for approx. 200000 operating cycles at AC-4</b> <ul style="list-style-type: none"> <li>• at 400 V rated value</li> <li>• at 690 V rated value</li> </ul>   | 2 kW<br>2.5 kW  |
| <b>operating apparent power at AC-6a</b> <ul style="list-style-type: none"> <li>• up to 230 V for current peak value n=20 rated value</li> <li>• up to 400 V for current peak value n=20 rated value</li> <li>• up to 500 V for current peak value n=20 rated value</li> <li>• up to 690 V for current peak value n=20 rated value</li> </ul>   | 4.5 kV·A<br>7.8 kV·A<br>7.8 kV·A<br>10.7 kV·A   |
| <b>operating apparent power at AC-6a</b> <ul style="list-style-type: none"> <li>• up to 230 V for current peak value n=30 rated value</li> <li>• up to 400 V for current peak value n=30 rated value</li> <li>• up to 500 V for current peak value n=30 rated value</li> <li>• up to 690 V for current peak value n=30 rated value</li> </ul>   | 3 kV·A<br>5.2 kV·A<br>5.2 kV·A<br>7.2 kV·A  |
| <b>short-time withstand current in cold operating state up to 40 °C</b> <ul style="list-style-type: none"> <li>• limited to 1 s switching at zero current maximum</li> <li>• limited to 5 s switching at zero current maximum</li> <li>• limited to 10 s switching at zero current maximum</li> <li>• limited to 30 s switching at zero current maximum</li> <li>• limited to 60 s switching at zero current maximum</li> </ul>   | 170 A; Use minimum cross-section acc. to AC-1 rated value<br>170 A; Use minimum cross-section acc. to AC-1 rated value<br>122 A; Use minimum cross-section acc. to AC-1 rated value<br>78 A; Use minimum cross-section acc. to AC-1 rated value<br>68 A; Use minimum cross-section acc. to AC-1 rated value |
| <b>no-load switching frequency</b> <ul style="list-style-type: none"> <li>• at AC</li> </ul>  | 5 000 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>   | 1 000 1/h<br>1 000 1/h<br>1 000 1/h<br>300 1/h  |
| <b>Control circuit/ Control</b>   |   |
| <b>type of voltage of the control supply voltage</b>  | AC  |
| <b>control supply voltage at AC</b> <ul style="list-style-type: none"> <li>• at 50 Hz rated value</li> </ul>  | 24 V  |
| <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   |
| <b>apparent pick-up power of magnet coil at AC</b> <ul style="list-style-type: none"> <li>• at 50 Hz</li> </ul>   | 65 V·A  |

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| <b>inductive power factor with closing power of the coil</b><br>• at 50 Hz  | 0.82   |
| <b>apparent holding power of magnet coil at AC</b><br>• at 50 Hz  | 7.6 V·A  |
| <b>inductive power factor with the holding power of the coil</b><br>• at 50 Hz  | 0.25   |
| <b>closing delay</b><br>• at AC   | 8 ... 40 ms  |
| <b>opening delay</b><br>• at AC   | 4 ... 16 ms  |
| <b>arcing time</b>  | 10 ... 10 ms   |
| <b>control version of the switch operating mechanism</b>  | Standard A1 - A2   |
| <b>Auxiliary circuit</b>  |  |
| number of NC contacts for auxiliary contacts<br>instantaneous contact   | 1  |
| number of NO contacts for auxiliary contacts<br>instantaneous contact   | 1  |
| operational current at AC-12 maximum  | 10 A   |
| <b>operational current at AC-15</b><br>• at 230 V rated value<br>• at 400 V rated value<br>• at 500 V rated value<br>• at 690 V rated value   | 10 A<br>3 A<br>2 A<br>1 A  |
| <b>operational current at DC-12</b><br>• at 24 V rated value<br>• at 48 V rated value<br>• at 60 V rated value<br>• at 110 V rated value<br>• at 125 V rated value<br>• at 220 V rated value<br>• at 600 V rated value  | 10 A<br>6 A<br>6 A<br>3 A<br>2 A<br>1 A<br>0.15 A  |
| <b>operational current at DC-13</b><br>• at 24 V rated value<br>• at 48 V rated value<br>• at 60 V rated value<br>• at 110 V rated value<br>• at 125 V rated value<br>• at 220 V rated value<br>• at 600 V rated value  | 10 A<br>2 A<br>2 A<br>1 A<br>0.9 A<br>0.3 A<br>0.1 A   |
| <b>contact reliability of auxiliary contacts</b>  | 1 faulty switching per 100 million (17 V, 1 mA)  |
| <b>UL/CSA ratings</b>   |  |
| <b>full-load current (FLA) for 3-phase AC motor</b><br>• at 480 V rated value<br>• at 600 V rated value   | 7.6 A<br>9 A   |
| <b>yielded mechanical performance [hp]</b><br>• for single-phase AC motor<br>— at 110/120 V rated value<br>— at 230 V rated value<br>• for 3-phase AC motor<br>— at 200/208 V rated value<br>— at 220/230 V rated value<br>— at 460/480 V rated value<br>— at 575/600 V rated value | 1 hp<br>1 hp<br>2 hp<br>3 hp<br>5 hp<br>7.5 hp   |
| <b>contact rating of auxiliary contacts according to UL</b>   | A600 / P600  |
| <b>Short-circuit protection</b>   |  |
| <b>design of the fuse link</b><br>• for short-circuit protection of the main circuit<br>— with type of coordination 1 required<br>— with type of assignment 2 required  | gG: 63A (690V,100kA), aM: 32A (690V,100kA), BS88: 63A (415V,80kA)<br>gG: 25A (690V,100kA), aM: 20A (690V,100kA), BS88: 25A (415V,80kA) |

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| <ul style="list-style-type: none"> <li>• for short-circuit protection of the auxiliary switch required</li> </ul>   | gG: 10 A (500 V, 1 kA)   |
| <b>Installation/ mounting/ dimensions</b>   |  |
| <b>mounting position</b>  | +/-180° rotation possible on vertical mounting surface; can be tilted forward and backward by +/- 22.5° on vertical mounting surface                                     |
| <b>fastening method</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>   | 85 mm  |
| <b>width</b>  | 45 mm  |
| <b>depth</b>  | 97 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> | 10 mm<br>10 mm<br>10 mm<br>0 mm<br><br>10 mm<br>10 mm<br>6 mm<br>10 mm<br><br>10 mm<br>10 mm<br>10 mm<br>6 mm  |
| <b>Connections/ Terminals</b>   |  |
| <b>type of electrical connection</b>  |  |
| <ul style="list-style-type: none"> <li>• for main current circuit</li> <li>• for auxiliary and control circuit</li> <li>• at contactor for auxiliary contacts</li> <li>• of magnet coil</li> </ul>  | screw-type terminals<br>screw-type terminals<br>Screw-type terminals<br>Screw-type terminals   |
| <b>type of connectable conductor cross-sections</b>   |  |
| <ul style="list-style-type: none"> <li>• for main contacts <ul style="list-style-type: none"> <li>— solid</li> <li>— solid or stranded</li> <li>— finely stranded with core end processing</li> </ul> </li> <li>• at AWG cables for main contacts</li> </ul>  | 2x (1 ... 2.5 mm²), 2x (2.5 ... 10 mm²)<br>2x (1 ... 2.5 mm²), 2x (2.5 ... 10 mm²)<br>2x (1 ... 2.5 mm²), 2x (2.5 ... 6 mm²), 1x 10 mm²<br>2x (16 ... 12), 2x (14 ... 8) |
| <b>connectable conductor cross-section for main contacts</b>  |  |
| <ul style="list-style-type: none"> <li>• solid</li> <li>• stranded</li> <li>• finely stranded with core end processing</li> </ul>   | 1 ... 10 mm²<br>1 ... 10 mm²<br>1 ... 10 mm²   |
| <b>connectable conductor cross-section for auxiliary contacts</b>   |  |
| <ul style="list-style-type: none"> <li>• solid or stranded</li> <li>• finely stranded with core end processing</li> </ul>   | 0.5 ... 2.5 mm²<br>0.5 ... 2.5 mm²   |
| <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 or stranded</li> <li>— finely stranded with core end processing</li> </ul> </li> <li>• at AWG cables for auxiliary contacts</li> </ul>   | 2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²)<br>2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²)<br>2x (20 ... 16), 2x (18 ... 14)   |
| <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>   | 16 ... 8<br>20 ... 14  |
| <b>Safety related data</b>  |  |
| B10 value with high demand rate acc. to SN 31920  | 450 000  |
| <b>proportion of dangerous failures</b>   |  |
| <ul style="list-style-type: none"> <li>• with low demand rate acc. to SN 31920</li> </ul>   | 40 %   |

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|--|--|
| • with high demand rate acc. to SN 31920                           | 73 %   |
| failure rate [FIT] with low demand rate acc. to SN 31920           | 100 FIT  |
| T1 value for proof test interval or service life acc. to IEC 61508 | 20 y   |
| protection class IP on the front acc. to IEC 60529                 | IP20   |
| touch protection on the front acc. to IEC 60529                    | finger-safe, for vertical contact from the front |
| suitability for use  |  |
| • safety-related switching OFF                                     | Yes  |

#### Certificates/ approvals

##### General Product Approval



[Confirmation](#)



[KC](#)



| EMC | Functional Safety/Safety of Machinery | Declaration of Conformity | Test Certificates |
|-----|---------------------------------------|---------------------------|-------------------|
|-----|---------------------------------------|---------------------------|-------------------|



[Type Examination Certificate](#)

[UK Declaration of Conformity](#)



EG-Konf.

[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)

#### Marine / Shipping



#### other

[Confirmation](#)



[Confirmation](#)

#### Further information

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=3RT2023-1AB00>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2023-1AB00>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2023-1AB00>

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

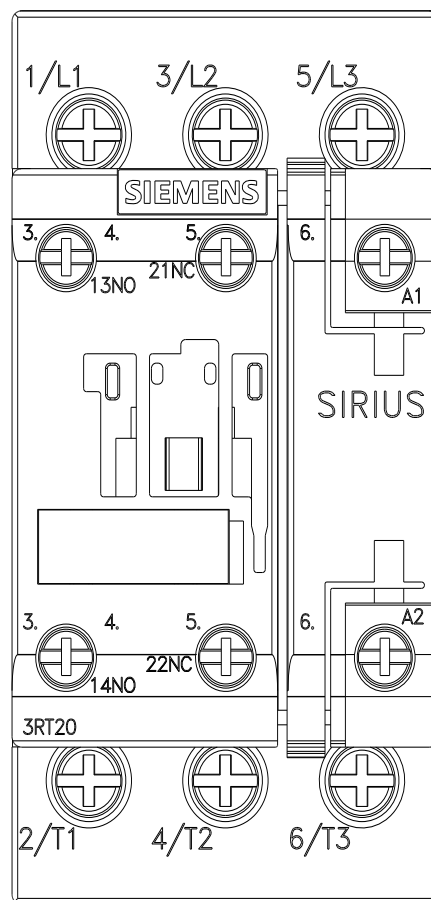
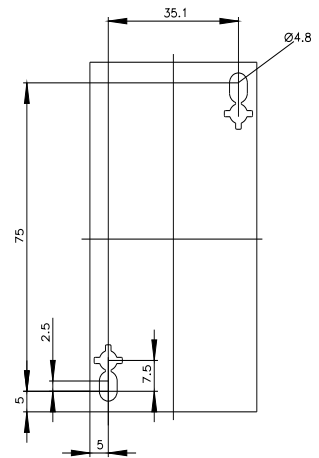
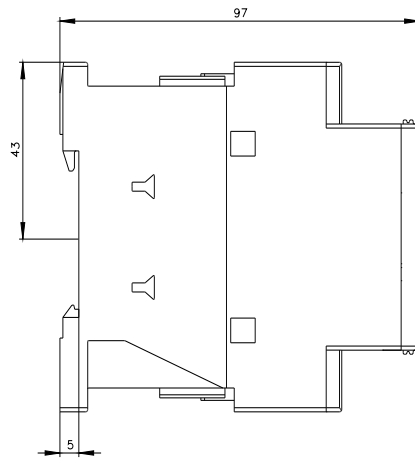
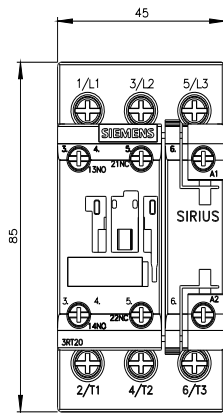
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RT2023-1AB00&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2023-1AB00&lang=en)

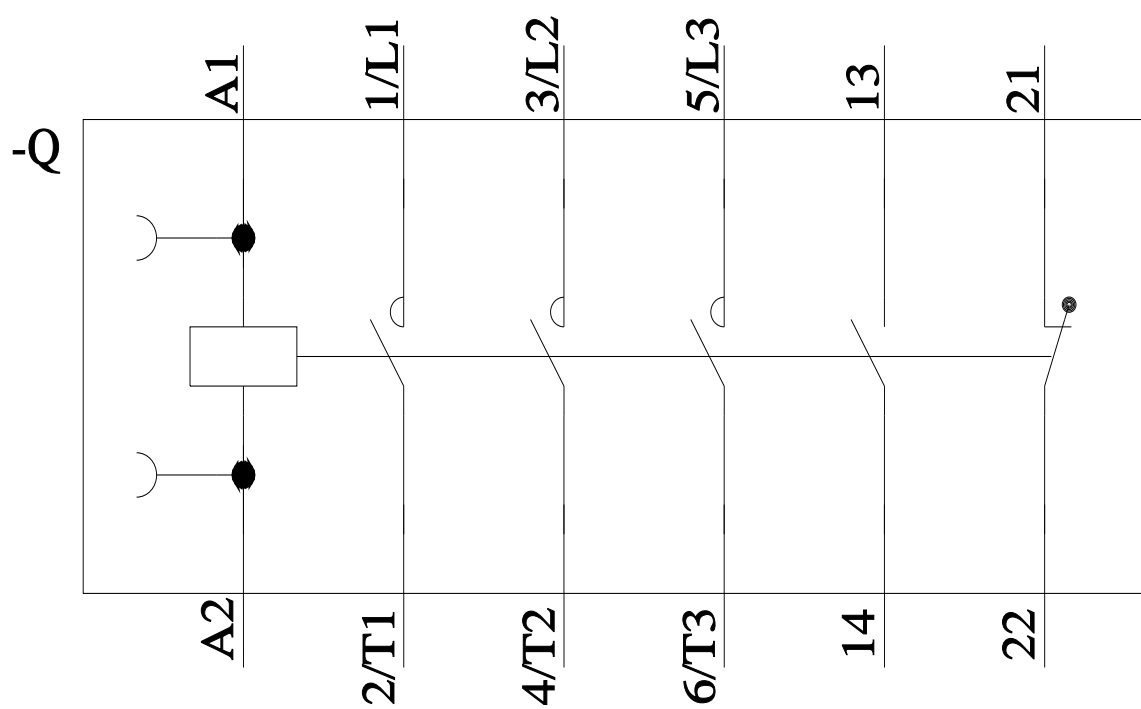
Characteristic: Tripping characteristics, I<sup>2</sup>t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2023-1AB00/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2023-1AB00&objecttype=14&gridview=view1>





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