



power contactor, AC-3 17 A, 7.5 kW / 400 V 1 NO + 1 NC, 24 V DC 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                       | 2.7 W                    |
| • per pole   | 0.9 W                    |
| power loss [W] for rated value of the current without load current share typical                 | 5.9 W                    |
| 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 DC  | 10g / 5 ms, 7,5g / 10 ms |
| shock resistance with sine pulse   |                          |
| • at DC  | 15g / 5 ms, 10g / 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                        |
| <b>Ambient conditions</b>  |                          |
| installation altitude at height above sea level maximum  | 2 000 m                  |
| • ambient temperature during operation   | -25 ... +60 °C           |
| • ambient temperature during storage   | -55 ... +80 °C           |
| <b>Main circuit</b>  |                          |
| number of poles for main current circuit   | 3                        |
| number of NO contacts for main contacts  | 3                        |
| • operating voltage at AC-3 rated value maximum  | 690 V                    |
| operational current  |                          |

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|--|---|
| <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> <li>— up to 690 V at ambient temperature 60 °C rated value</li> </ul> </li> </ul>  | 40 A<br>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> <li>— at 500 V rated value</li> <li>— at 690 V rated value</li> </ul> </li> </ul>  | 17 A<br>17 A<br>13 A                    |
| • at AC-4 at 400 V rated value   | 15.5 A                                  |
| • at AC-5a up to 690 V rated value   | 35.2 A                                  |
| • at AC-5b up to 400 V rated value   | 14.1 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> <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> </li> </ul> | 11.4 A<br>11.4 A<br>11.4 A<br>11.3 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> <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> </li> </ul> | 7.6 A<br>7.6 A<br>7.6 A<br>7.6 A        |
| minimum cross-section in main circuit at maximum AC-1 rated value  | 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> <li>• at 690 V rated value</li> </ul>   | 7.7 A<br>7.7 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> <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>4.5 A<br>1 A<br>0.4 A<br>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> <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>35 A<br>5 A<br>1 A<br>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> <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>35 A<br>35 A<br>2.9 A<br>1.4 A  |
| <b>operational 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> </ul> </li> </ul>   | 20 A<br>2.5 A                           |

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| <ul style="list-style-type: none"> <li>— at 220 V rated value</li> <li>— at 440 V rated value</li> <li>— at 600 V rated value</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> | 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>   | 4 kW<br>7.5 kW<br>7.5 kW<br>11 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>  | 3.5 kW<br>6 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>9.9 kV·A<br>13.6 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>6.6 kV·A<br>9.1 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>  | 225 A; Use minimum cross-section acc. to AC-1 rated value<br>225 A; Use minimum cross-section acc. to AC-1 rated value<br>180 A; Use minimum cross-section acc. to AC-1 rated value<br>115 A; Use minimum cross-section acc. to AC-1 rated value<br>96 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 DC</li> </ul>   | 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>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>   | DC   |
| <b>control supply voltage at DC</b> <ul style="list-style-type: none"> <li>• rated value</li> </ul>  | 24 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>closing power of magnet coil at DC</b>  | 5.9 W  |
| <b>holding power of magnet coil at DC</b>  | 5.9 W  |

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| <b>closing delay</b><br>• at DC   | 50 ... 170 ms  |
| <b>opening delay</b><br>• at DC   | 15 ... 17.5 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 instantaneous contact  | 1  |
| number of NO contacts for auxiliary contacts 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   | 14 A<br>17 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>3 hp<br>3 hp<br>5 hp<br>10 hp<br>15 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<br>• for short-circuit protection of the auxiliary switch 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)<br>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   |

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| • side-by-side mounting  | according to DIN EN 60715   |
| <b>height</b>  | Yes   |
| <b>width</b>   | 85 mm   |
| <b>depth</b>   | 45 mm   |
| <b>required spacing</b>  | 107 mm  |
| • with side-by-side mounting   |   |
| — forwards   | 10 mm   |
| — upwards  | 10 mm   |
| — downwards  | 10 mm   |
| — at the side  | 0 mm  |
| • for grounded parts   |   |
| — forwards   | 10 mm   |
| — upwards  | 10 mm   |
| — at the side  | 6 mm  |
| — downwards  | 10 mm   |
| • for live parts   |   |
| — forwards   | 10 mm   |
| — upwards  | 10 mm   |
| — downwards  | 10 mm   |
| — at the side  | 6 mm  |
| <b>Connections/ Terminals</b>  |   |
| <b>type of electrical connection</b>   |   |
| • for main current circuit   | screw-type terminals  |
| • for auxiliary and control circuit  | screw-type terminals  |
| • at contactor for auxiliary contacts  | Screw-type terminals  |
| • of magnet coil   | Screw-type terminals  |
| <b>type of connectable conductor cross-sections</b>                              |   |
| • for main contacts  |   |
| — solid  | 2x (1 ... 2.5 mm <sup>2</sup> ), 2x (2.5 ... 10 mm <sup>2</sup> )                       |
| — solid or stranded  | 2x (1 ... 2.5 mm <sup>2</sup> ), 2x (2.5 ... 10 mm <sup>2</sup> )                       |
| — finely stranded with core end processing                                       | 2x (1 ... 2.5 mm <sup>2</sup> ), 2x (2.5 ... 6 mm <sup>2</sup> ), 1x 10 mm <sup>2</sup> |
| • at AWG cables for main contacts  | 2x (16 ... 12), 2x (14 ... 8)   |
| <b>connectable conductor cross-section for main contacts</b>                     |   |
| • solid  | 1 ... 10 mm <sup>2</sup>  |
| • stranded   | 1 ... 10 mm <sup>2</sup>  |
| • finely stranded with core end processing                                       | 1 ... 10 mm <sup>2</sup>  |
| <b>connectable conductor cross-section for auxiliary contacts</b>                |   |
| • solid or stranded  | 0.5 ... 2.5 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 or stranded  | 2x (0.5 ... 1.5 mm <sup>2</sup> ), 2x (0.75 ... 2.5 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> )                   |
| • at AWG cables for auxiliary contacts   | 2x (20 ... 16), 2x (18 ... 14)  |
| • AWG number as coded connectable conductor cross section for main contacts      | 16 ... 8  |
| • AWG number as coded connectable conductor cross section for auxiliary contacts | 20 ... 14   |
| <b>Safety related data</b>   |   |
| B10 value with high demand rate acc. to SN 31920                                 | 1 000 000   |
| <b>proportion of dangerous failures</b>  |   |
| • with low demand rate acc. to SN 31920  | 40 %  |
| • with high demand rate acc. to SN 31920   | 73 %  |
| failure rate [FIT] with low demand rate acc. to SN 31920                         | 100 FIT   |
| <b>product function</b>  |   |
| • mirror contact acc. to IEC 60947-4-1   | Yes   |

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| 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 | EMC |
|--------------------------|-----|



[KC](#)



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

[Miscellaneous](#)



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Report](#)

[Special Test  
Certificate](#)

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ABS

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



LRS



RINA



RMRS



DNV-GL

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| other |
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VDE

#### 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=3RT2025-1BB40>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2025-1BB40>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2025-1BB40>

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

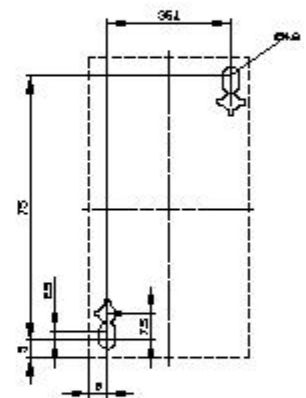
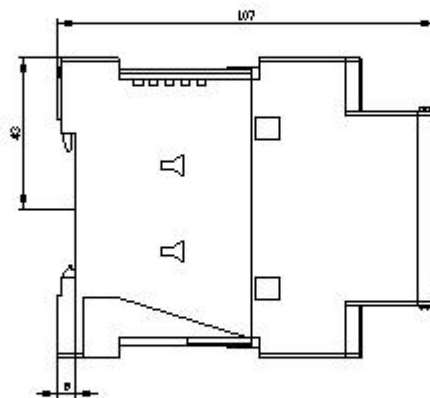
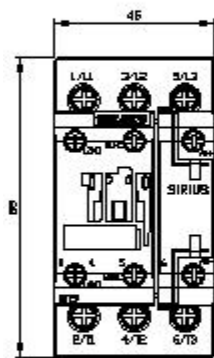
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RT2025-1BB40&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2025-1BB40&lang=en)

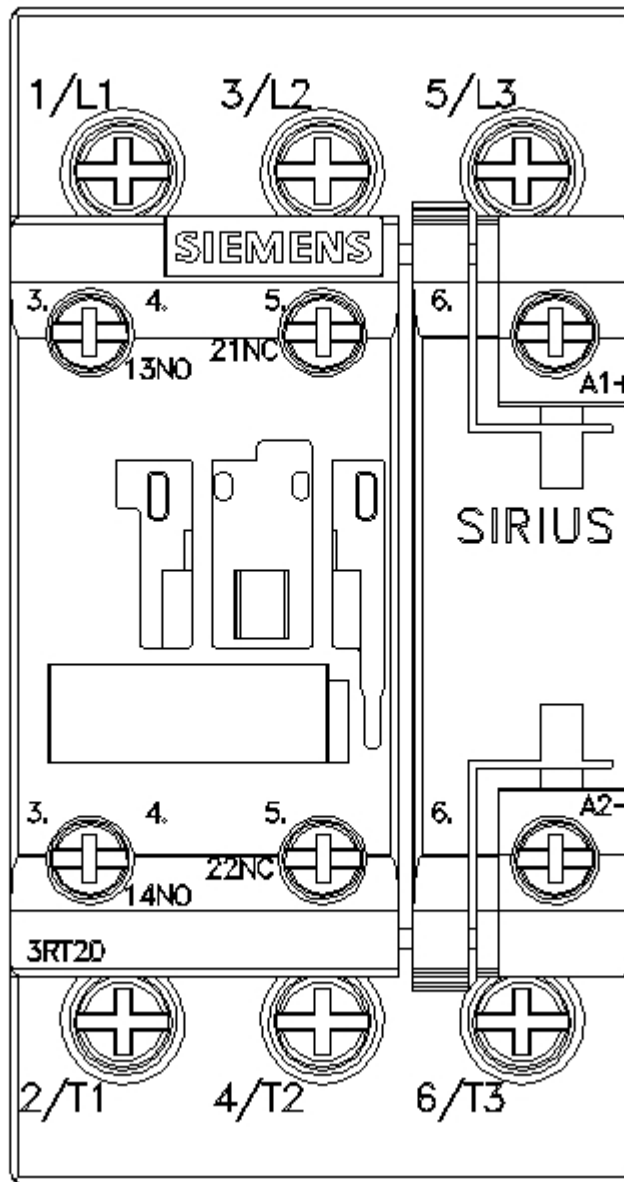
Characteristic: Tripping characteristics, I<sup>2</sup>t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2025-1BB40/char>

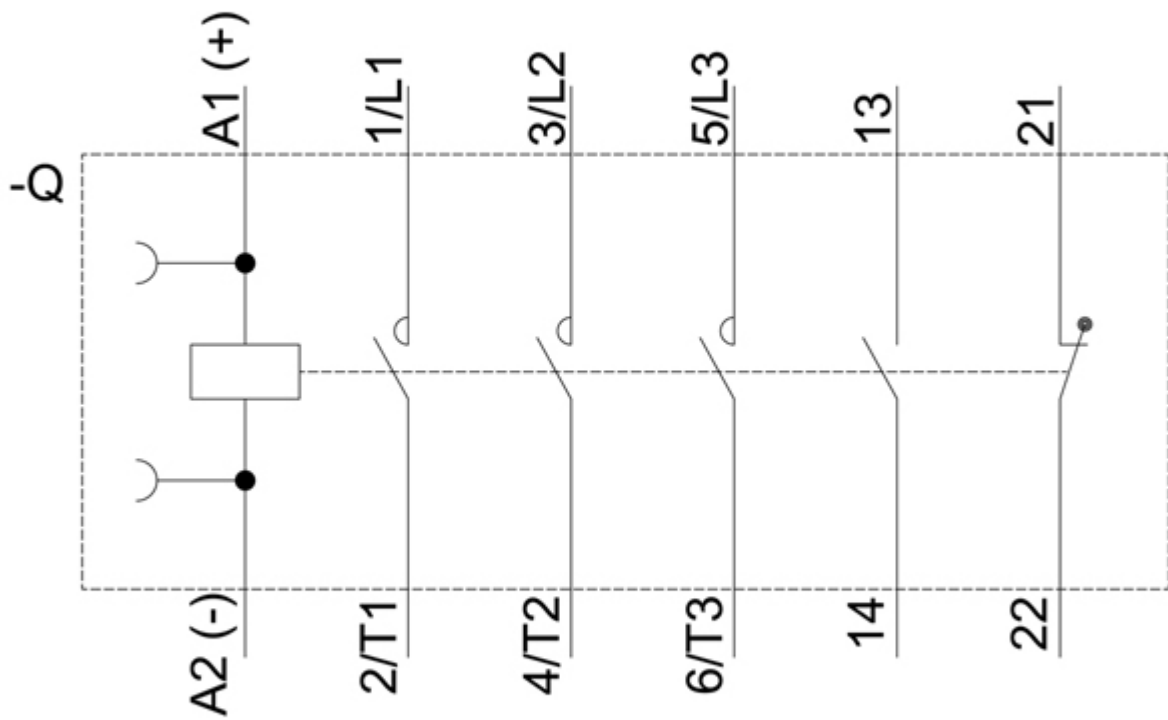
Further characteristics (e.g. electrical endurance, switching frequency)

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2025-1BB40&objecttype=14&gridview=view1>









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