

power contactor, AC-3 12 A, 5.5 kW / 400 V 2 NO + 2 NC, 400 V AC, 50 Hz  
3-pole, Size S0 Spring-type terminal Removable auxiliary switch

|   |                            |
|---|----------------------------|
| <b>product brand name</b>   | SIRIUS                     |
| <b>product designation</b>  | Power contactor            |
| <b>product type designation</b>   | 3RT2                       |
| <b>General technical data</b>   |                            |
| <b>size of contactor</b>  | S0                         |
| <b>product extension</b>  |                            |
| • function module for communication   | No                         |
| • auxiliary switch  | No                         |
| <b>power loss [W] for rated value of the current at AC in hot operating state</b>                       | 1.5 W                      |
| • per pole  | 0.5 W                      |
| <b>power loss [W] for rated value of the current without load current share typical</b>                 | 7.6 W                      |
| <b>surge voltage resistance</b>   |                            |
| • of main circuit rated value   | 6 kV                       |
| • of auxiliary circuit rated value  | 6 kV                       |
| <b>maximum permissible voltage for safe isolation between coil and main contacts acc. to EN 60947-1</b> | 400 V                      |
| <b>shock resistance at rectangular impulse</b>  |                            |
| • at AC   | 7,5g / 5 ms, 4,7g / 10 ms  |
| <b>shock resistance with sine pulse</b>   |                            |
| • at AC   | 11,8g / 5 ms, 7,4g / 10 ms |
| <b>mechanical service life (switching cycles)</b>   |                            |
| • 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                 |
| <b>reference code acc. to IEC 81346-2</b>   | Q                          |
| <b>Substance Prohibitance (Date)</b>  | 01.10.2009 00:00:00        |
| <b>Ambient conditions</b>   |                            |
| <b>installation altitude at height above sea level maximum</b>  | 2 000 m                    |
| • ambient temperature during operation  | -25 ... +60 °C             |
| • ambient temperature during storage  | -55 ... +80 °C             |
| <b>Main circuit</b>   |                            |
| <b>number of poles for main current circuit</b>   | 3                          |
| <b>number of NO contacts for main contacts</b>  | 3                          |
| • operating voltage at AC-3 rated value maximum   | 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> <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>  | 12 A<br>12 A<br>9 A  |
| ● at AC-4 at 400 V rated value   | 12.5 A   |
| ● at AC-5a up to 690 V rated value   | 35.2 A   |
| ● at AC-5b up to 400 V rated value   | 9.9 A  |
| ● 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>  | 11.4 A<br>11.4 A<br>11.3 A<br>9 A  |
| ● 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>  | 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>   | 5.5 A<br>5.5 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> <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> <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>4.5 A<br>1 A<br>0.4 A<br>0.25 A<br><br>35 A<br>35 A<br>5 A<br>1 A<br>0.8 A<br><br>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> </ul> </li> </ul>   | 20 A   |

|  |  |
|--|--|
| <ul style="list-style-type: none"> <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> <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> | 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-2 at 400 V rated value</li> <li>● at AC-3 <ul style="list-style-type: none"> <li>— at 230 V rated value</li> <li>— at 400 V rated value</li> <li>— at 500 V rated value</li> <li>— at 690 V rated value</li> </ul> </li> </ul>   | 5.5 kW<br><br>3 kW<br>5.5 kW<br>5.5 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>  | 2.6 kW<br>4.6 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>9.8 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>6.5 kV·A<br>9 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>  | 210 A; Use minimum cross-section acc. to AC-1 rated value<br>210 A; Use minimum cross-section acc. to AC-1 rated value<br>162 A; Use minimum cross-section acc. to AC-1 rated value<br>103 A; Use minimum cross-section acc. to AC-1 rated value<br>88 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>   | 400 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  |
| <b>inductive power factor with closing power of the coil</b>  |   |
| <ul style="list-style-type: none"> <li>• at 50 Hz</li> </ul>  | 0.82  |
| <b>apparent holding power of magnet coil at AC</b>  |   |
| <ul style="list-style-type: none"> <li>• at 50 Hz</li> </ul>  | 7.6 V·A   |
| <b>inductive power factor with the holding power of the coil</b>  |   |
| <ul style="list-style-type: none"> <li>• at 50 Hz</li> </ul>  | 0.25  |
| <b>closing delay</b>  |   |
| <ul style="list-style-type: none"> <li>• at AC</li> </ul>   | 9 ... 38 ms   |
| <b>opening delay</b>  |   |
| <ul style="list-style-type: none"> <li>• at AC</li> </ul>   | 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   | 2   |
| number of NO contacts for auxiliary contacts<br>instantaneous contact   | 2   |
| operational current at AC-12 maximum  | 10 A  |
| <b>operational current at AC-15</b>   |   |
| <ul style="list-style-type: none"> <li>• at 230 V rated value</li> <li>• at 400 V rated value</li> <li>• at 500 V rated value</li> <li>• at 690 V rated value</li> </ul>  | 6 A<br>3 A<br>2 A<br>1 A                            |
| <b>operational current at DC-12</b>   |   |
| <ul style="list-style-type: none"> <li>• at 24 V rated value</li> <li>• at 48 V rated value</li> <li>• at 60 V rated value</li> <li>• at 110 V rated value</li> <li>• at 125 V rated value</li> <li>• at 220 V rated value</li> <li>• at 600 V rated value</li> </ul>   | 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>   |   |
| <ul style="list-style-type: none"> <li>• at 24 V rated value</li> <li>• at 48 V rated value</li> <li>• at 60 V rated value</li> <li>• at 110 V rated value</li> <li>• at 125 V rated value</li> <li>• at 220 V rated value</li> <li>• at 600 V rated value</li> </ul>   | 6 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>   |   |
| <ul style="list-style-type: none"> <li>• at 480 V rated value</li> <li>• at 600 V rated value</li> </ul>  | 11 A<br>11 A  |
| <b>yielded mechanical performance [hp]</b>  |   |
| <ul style="list-style-type: none"> <li>• for single-phase AC motor <ul style="list-style-type: none"> <li>— at 110/120 V rated value</li> <li>— at 230 V rated value</li> </ul> </li> <li>• for 3-phase AC motor <ul style="list-style-type: none"> <li>— at 200/208 V rated value</li> <li>— at 220/230 V rated value</li> <li>— at 460/480 V rated value</li> <li>— at 575/600 V rated value</li> </ul> </li> </ul> | 1 hp<br>2 hp<br>3 hp<br>3 hp<br>7.5 hp<br>10 hp     |
| <b>contact rating of auxiliary contacts according to UL</b>   | A600 / Q600   |
| <b>Short-circuit protection</b>   |   |
| <b>design of the fuse link</b>  |   |
| <ul style="list-style-type: none"> <li>• for short-circuit protection of the main circuit</li> </ul>  |   |

- with type of coordination 1 required
- with type of assignment 2 required
- for short-circuit protection of the auxiliary switch required

gG: 63A (690V,100kA), aM: 32A (690V,100kA), BS88: 63A (415V,80kA)  
 gG: 25A (690V,100kA), aM: 20A (690V,100kA), BS88: 25A (415V,80kA)  
 gG: 10 A (500 V, 1 kA)

### Installation/ mounting/ dimensions

|                              |  |
|------------------------------|--|
| <b>mounting position</b>     | +/-180° rotation possible on vertical mounting surface; can be tilted forward and backward by +/- 22.5° on vertical mounting surface |
| <b>fastening method</b>      | screw and snap-on mounting onto 35 mm standard mounting rail according to DIN EN 60715   |
| ● side-by-side mounting      | Yes  |
| <b>height</b>                | 102 mm   |
| <b>width</b>                 | 45 mm  |
| <b>depth</b>                 | 144 mm   |
| <b>required spacing</b>      |  |
| ● 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   |

### Connections/ Terminals

|   |                                   |
|---|-----------------------------------|
| <b>type of electrical connection</b>                              |                                   |
| ● for main current circuit  | spring-loaded terminals           |
| ● for auxiliary and control circuit                               | spring-loaded terminals           |
| ● at contactor for auxiliary contacts                             | Spring-type terminals             |
| ● of magnet coil  | Spring-type terminals             |
| <b>type of connectable conductor cross-sections</b>               |                                   |
| ● for main contacts   |                                   |
| — solid   | 2x (1 ... 10 mm <sup>2</sup> )    |
| — solid or stranded   | 2x (1 ... 10 mm <sup>2</sup> )    |
| — finely stranded with core end processing                        | 2x (1 ... 6 mm <sup>2</sup> )     |
| — finely stranded without core end processing                     | 2x (1 ... 6 mm <sup>2</sup> )     |
| ● at AWG cables for main contacts                                 | 2x (18 ... 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 ... 6 mm <sup>2</sup>           |
| ● finely stranded without core end processing                     | 1 ... 6 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 ... 1.5 mm <sup>2</sup>       |
| ● finely stranded without 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 ... 2.5 mm <sup>2</sup> ) |
| — finely stranded with core end processing                        | 2x (0.5 ... 1.5 mm <sup>2</sup> ) |
| — finely stranded without core end processing                     | 2x (0.5 ... 2.5 mm <sup>2</sup> ) |
| ● at AWG cables for auxiliary contacts                            | 2x (20 ... 14)                    |

- AWG number as coded connectable conductor cross section for main contacts 18 ... 8
- AWG number as coded connectable conductor cross section for auxiliary contacts 20 ... 14

#### Safety related data

|   |  |
|---|--|
| 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  |
| • positively driven operation acc. to IEC 60947-5-1                       | No   |
| <b>T1 value for proof test interval or service life acc. to IEC 61508</b> | 20 y   |
| <b>protection class IP on the front acc. to IEC 60529</b>                 | IP20   |
| <b>touch protection on the front acc. to IEC 60529</b>                    | 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](#)



EG-Konf.

[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)



ABS



BUREAU VERITAS

Marine / Shipping

other



LRS



PRS



RINA



RMRS



DNV-GL

[Confirmation](#)

other



VDE

[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=3RT2024-2AV04>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2024-2AV04>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2024-2AV04>

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

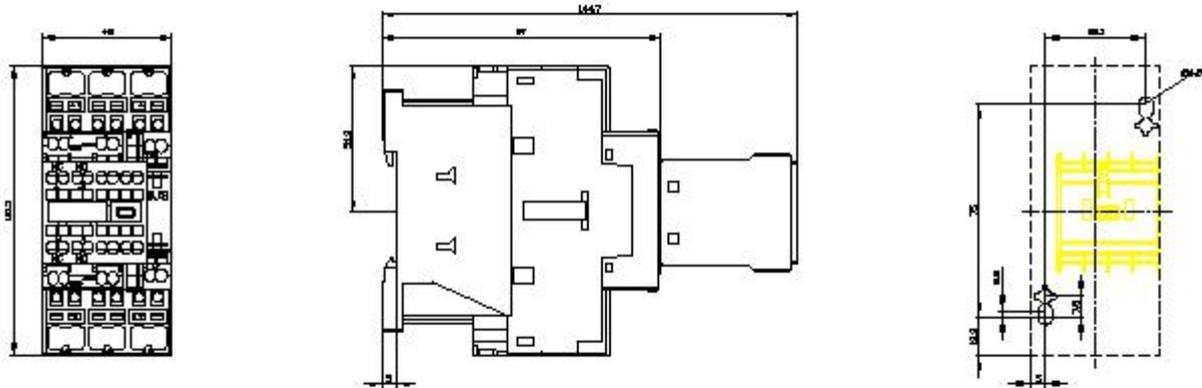
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RT2024-2AV04&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2024-2AV04&lang=en)

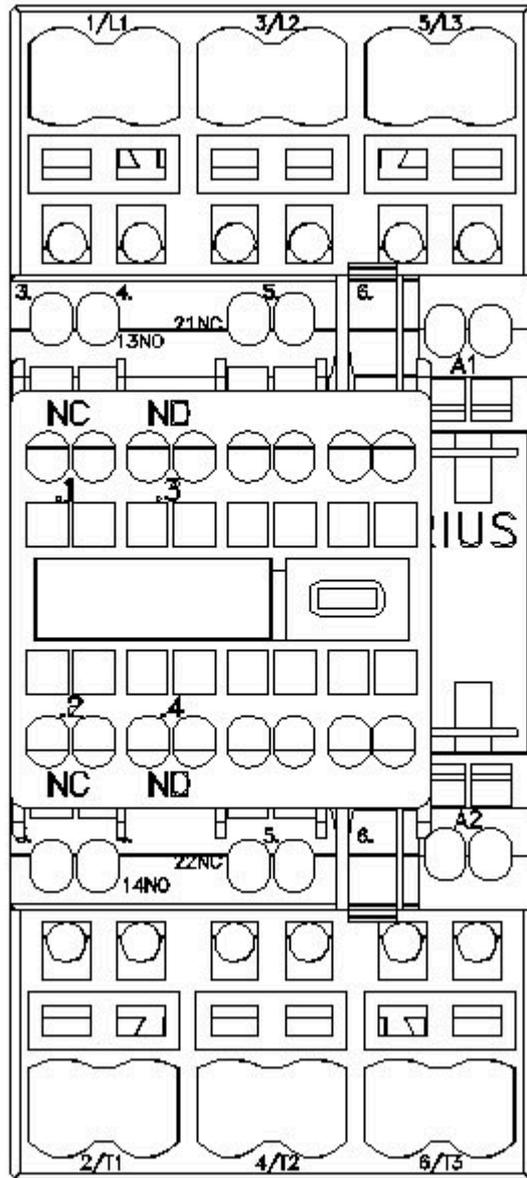
Characteristic: Tripping characteristics, I<sup>2</sup>t, Let-through current

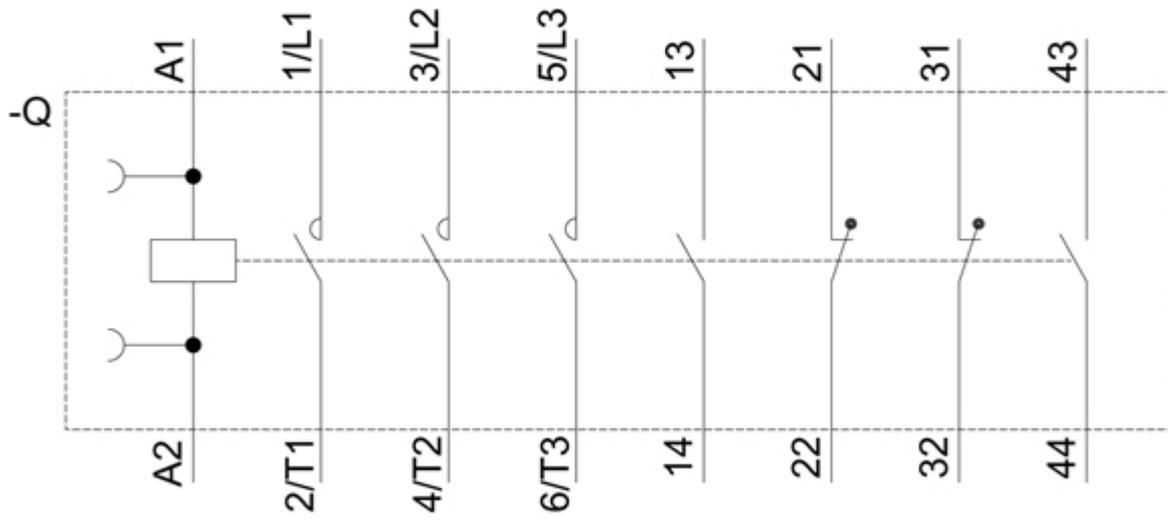
<https://support.industry.siemens.com/cs/ww/en/ps/3RT2024-2AV04/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2024-2AV04&objecttype=14&gridview=view1>







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