



power contactor, AC-3 9 A, 4 kW / 400 V 1 NO + 1 NC, 125 V DC 3-pole, Size S0 screw terminal

|   |                          |
|---|--------------------------|
| <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  | Yes                      |
| <b>power loss [W] for rated value of the current at AC in hot operating state</b>                       | 1.2 W                    |
| • per pole  | 0.4 W                    |
| <b>power loss [W] for rated value of the current without load current share typical</b>                 | 5.9 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 DC   | 10g / 5 ms, 7,5g / 10 ms |
| <b>shock resistance with sine pulse</b>   |                          |
| • at DC   | 15g / 5 ms, 10g / 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 Prohibition (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                    |

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| <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>  | 9 A<br>9 A<br>9 A  |
| ● at AC-4 at 400 V rated value   | 8.5 A  |
| ● at AC-5a up to 690 V rated value   | 35.2 A   |
| ● at AC-5b up to 400 V rated value   | 7.4 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>9.1 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>6.1 A<br>6.1 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>   | 4.1 A<br>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> <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   |

|  |   |
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| <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>   | 4 kW<br><br>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 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>  | 125 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  |

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| <b>closing power of magnet coil at DC</b>                             | 5.9 W   |
| <b>holding power of magnet coil at DC</b>                             | 5.9 W   |
| <b>closing delay</b>  |   |
| • at DC   | 50 ... 170 ms   |
| <b>opening delay</b>  |   |
| • 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<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>                                   |   |
| • at 230 V rated value  | 10 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-12</b>                                   |   |
| • at 24 V rated value   | 10 A  |
| • at 48 V rated value   | 6 A   |
| • at 60 V rated value   | 6 A   |
| • at 110 V rated value  | 3 A   |
| • at 125 V rated value  | 2 A   |
| • at 220 V rated value  | 1 A   |
| • at 600 V rated value  | 0.15 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>UL/CSA ratings</b>   |   |
| <b>full-load current (FLA) for 3-phase AC motor</b>                   |   |
| • at 480 V rated value  | 7.6 A   |
| • at 600 V rated value  | 9 A   |
| <b>yielded mechanical performance [hp]</b>                            |   |
| • for single-phase AC motor   |   |
| — at 110/120 V rated value  | 1 hp  |
| — at 230 V rated value  | 1 hp  |
| • for 3-phase AC motor  |   |
| — at 200/208 V rated value  | 2 hp  |
| — at 220/230 V rated value  | 3 hp  |
| — at 460/480 V rated value  | 5 hp  |
| — at 575/600 V rated value  | 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>  |   |
| • for short-circuit protection of the main circuit                    |   |
| — with type of coordination 1 required                                | gG: 63A (690V,100kA), aM: 32A (690V,100kA), BS88: 63A (415V,80kA) |
| — with type of assignment 2 required                                  | gG: 25A (690V,100kA), aM: 20A (690V,100kA), BS88: 25A (415V,80kA) |
| • for short-circuit protection of the auxiliary switch<br>required    | gG: 10 A (500 V, 1 kA)  |
| <b>Installation/ mounting/ dimensions</b>                             |   |

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| <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>  | 107 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 mm <sup>2</sup> ), 2x (2.5 ... 10 mm <sup>2</sup> )<br>2x (1 ... 2.5 mm <sup>2</sup> ), 2x (2,5 ... 10 mm <sup>2</sup> )<br>2x (1 ... 2.5 mm <sup>2</sup> ), 2x (2.5 ... 6 mm <sup>2</sup> ), 1x 10 mm <sup>2</sup><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 mm <sup>2</sup><br>1 ... 10 mm <sup>2</sup><br>1 ... 10 mm <sup>2</sup>   |
| <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 mm <sup>2</sup><br>0.5 ... 2.5 mm <sup>2</sup>   |
| <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 mm <sup>2</sup> ), 2x (0,75 ... 2,5 mm <sup>2</sup> )<br>2x (0.5 ... 1.5 mm <sup>2</sup> ), 2x (0.75 ... 2.5 mm <sup>2</sup> )<br>2x (20 ... 16), 2x (18 ... 14)   |
| <ul style="list-style-type: none"> <li>● AWG number as coded connectable conductor cross section for main contacts</li> <li>● AWG number as coded connectable conductor cross section 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  | 1 000 000  |
| <b>proportion of dangerous failures</b>   |  |
| <ul style="list-style-type: none"> <li>● with low demand rate acc. to SN 31920</li> <li>● with high demand rate acc. to SN 31920</li> </ul>   | 40 %<br>73 %   |

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| failure rate [FIT] with low demand rate acc. to SN 31920                  | 100 FIT  |
| <b>product function</b><br>• mirror contact acc. to IEC 60947-4-1         | Yes  |
| <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**

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



[KC](#)



|                                  |                          |                          |
|----------------------------------|--------------------------|--------------------------|
| <b>Declaration of Conformity</b> | <b>Test Certificates</b> | <b>Marine / Shipping</b> |
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[Miscellaneous](#)



EG-Konf.

[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)



ABS



BUREAU VERITAS

|                          |              |
|--------------------------|--------------|
| <b>Marine / Shipping</b> | <b>other</b> |
|--------------------------|--------------|



LRS



RINA



RMRS



DNV-GL

[Confirmation](#)



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=3RT2023-1BG40>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2023-1BG40>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2023-1BG40>

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

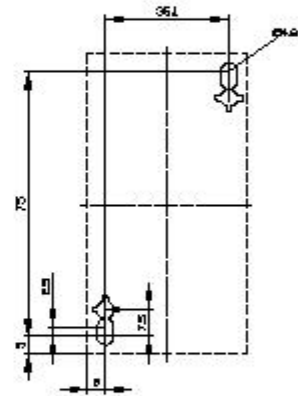
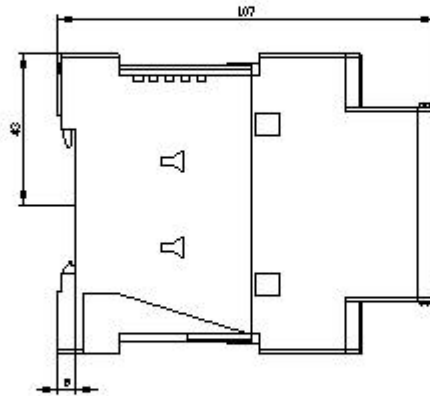
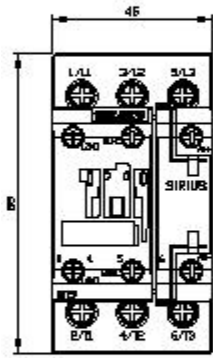
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RT2023-1BG40&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2023-1BG40&lang=en)

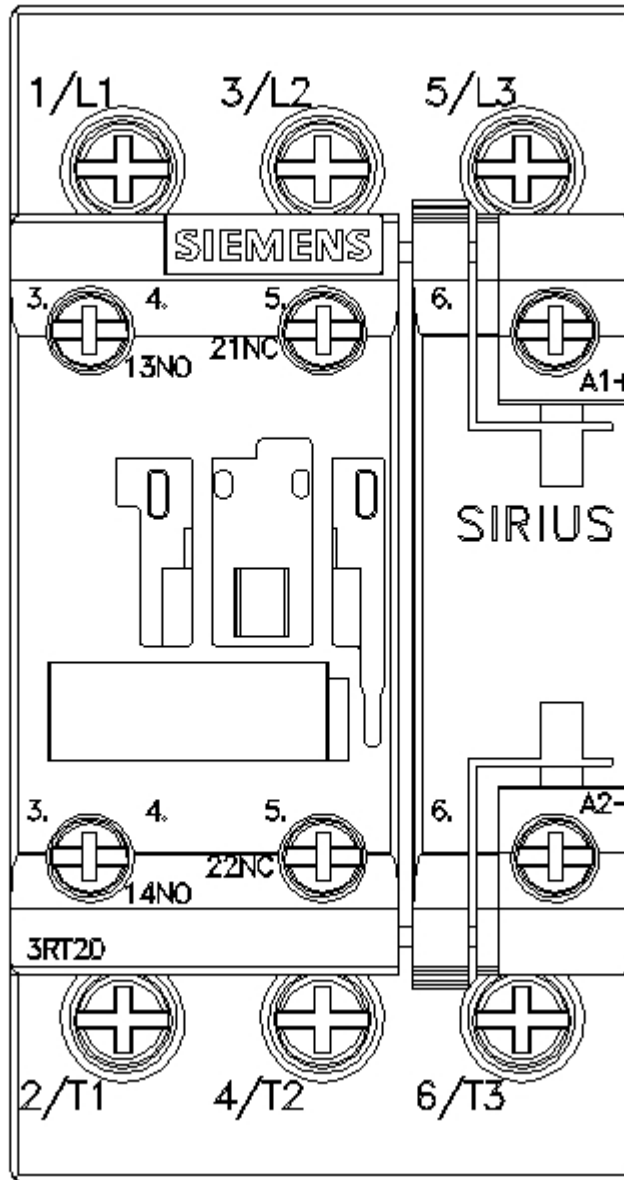
Characteristic: Tripping characteristics, I<sup>t</sup>, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2023-1BG40/char>

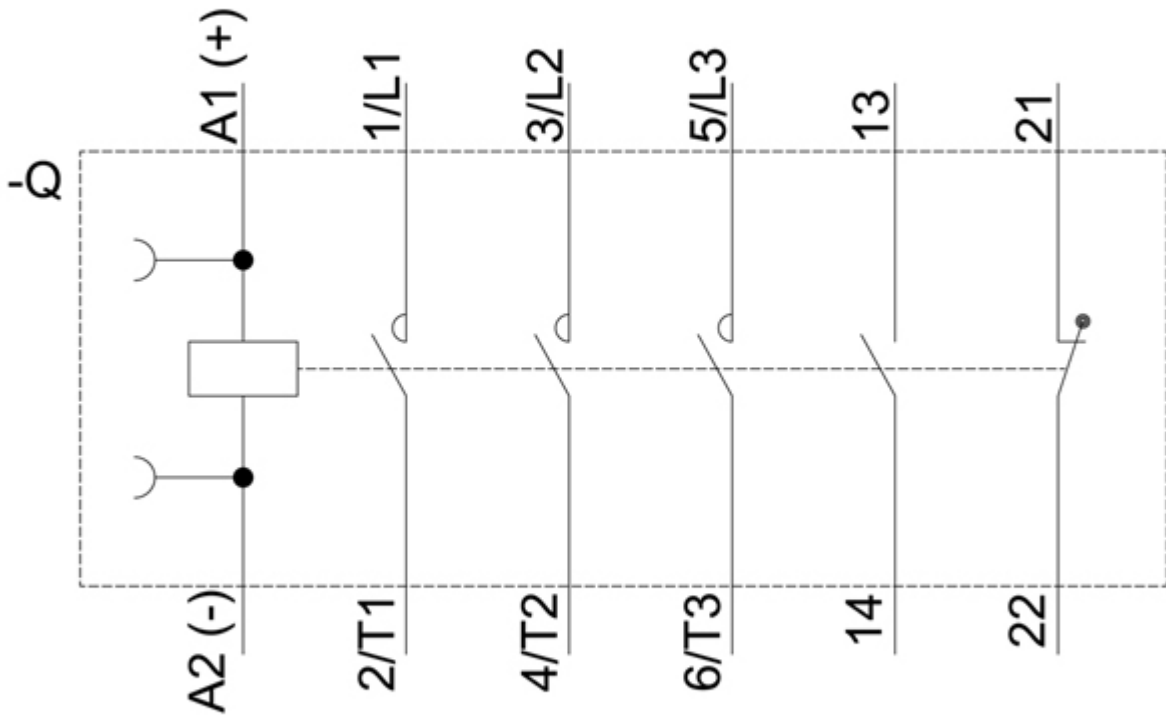
Further characteristics (e.g. electrical endurance, switching frequency)

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2023-1BG40&objecttype=14&gridview=view1>









last modified:

1/6/2021 