

power contactor, AC-3 12 A, 5.5 kW / 400 V 1 NO, 220 V AC, 50 Hz
240 V, 60 Hz, 3-pole Size S00, Spring-type terminal



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| product brand name | SIRIUS |
| product designation | Power contactor |
| product type designation | 3RT2 |
| General technical data | |
| size of contactor | S00 |
| 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 | 3.6 W |
| • at AC in hot operating state per pole | 1.2 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 |

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| protection class IP | |
| • on the front | IP20 |
| • of the terminal | IP20 |
| shock resistance at rectangular impulse | |
| • at AC | 7,3g / 5 ms, 4,7g / 10 ms |
| shock resistance with sine pulse | |
| • at AC | 11,4g / 5 ms, 7,3g / 10 ms |
| mechanical service life (switching cycles) | |
| • of contactor typical | 30 000 000 |
| • of the contactor with added electronics-compatible auxiliary switch block typical | 5 000 000 |
| • of the contactor with added auxiliary switch block typical | 10 000 000 |
| reference code acc. to DIN EN 81346-2 | Q |

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| Ambient conditions | |
| • installation altitude at height above sea level maximum | 2 000 m |
| ambient temperature | |
| • during operation | -25 ... +60 °C |
| • during storage | -55 ... +80 °C |

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| Main circuit | |
| 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 |
| operating current | |
| • at AC-1 at 400 V — at ambient temperature 40 °C rated value | 22 A |
| • at AC-1 — up to 690 V at ambient temperature 40 °C rated value | 22 A |
| — up to 690 V at ambient temperature 60 °C rated value | 20 A |
| • at AC-3 — at 400 V rated value | 12 A |
| — at 500 V rated value | 9.2 A |
| — at 690 V rated value | 6.7 A |
| • at AC-4 at 400 V rated value | 8.5 A |
| • at AC-5a up to 690 V rated value | 19.4 A |
| • at AC-5b up to 400 V rated value | 9.9 A |
| • at AC-6a | |

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| — up to 230 V for current peak value n=20 rated value | 7.2 A |
| — up to 400 V for current peak value n=20 rated value | 7.2 A |
| — up to 500 V for current peak value n=20 rated value | 7.2 A |
| — up to 690 V for current peak value n=20 rated value | 6.7 A |
| • at AC-6a | |
| — up to 230 V for current peak value n=30 rated value | 4.8 A |
| — up to 400 V for current peak value n=30 rated value | 4.8 A |
| — up to 500 V for current peak value n=30 rated value | 4.8 A |
| — up to 690 V for current peak value n=30 rated value | 4.8 A |
| minimum cross-section in main circuit | |
| • at maximum AC-1 rated value | 4 mm ² |
| operating current for approx. 200000 operating cycles at AC-4 | |
| • at 400 V rated value | 4.1 A |
| • at 690 V rated value | 3.3 A |
| operating current | |
| • at 1 current path at DC-1 | |
| — at 24 V rated value | 20 A |
| — at 110 V rated value | 2.1 A |
| — at 220 V rated value | 0.8 A |
| — at 440 V rated value | 0.6 A |
| — at 600 V rated value | 0.6 A |
| • with 2 current paths in series at DC-1 | |
| — at 24 V rated value | 20 A |
| — at 110 V rated value | 12 A |
| — at 220 V rated value | 1.6 A |
| — at 440 V rated value | 0.8 A |
| — at 600 V rated value | 0.7 A |
| • with 3 current paths in series at DC-1 | |
| — at 24 V rated value | 20 A |
| — at 110 V rated value | 20 A |
| — at 220 V rated value | 20 A |
| — at 440 V rated value | 1.3 A |
| — at 600 V rated value | 1 A |
| operating current | |

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| <ul style="list-style-type: none"> • at 1 current path at DC-3 at DC-5 <ul style="list-style-type: none"> — at 24 V rated value — at 110 V rated value • with 2 current paths in series at DC-3 at DC-5 <ul style="list-style-type: none"> — at 24 V rated value — at 110 V rated value • with 3 current paths in series at DC-3 at DC-5 <ul style="list-style-type: none"> — at 24 V rated value — at 110 V rated value — at 220 V rated value — at 440 V rated value — at 600 V rated value | 20 A 0.1 A 20 A 0.35 A 20 A 20 A 1.5 A 0.2 A 0.2 A |
| operating power <ul style="list-style-type: none"> • at AC-2 at 400 V rated value • at AC-3 <ul style="list-style-type: none"> — at 230 V rated value — at 400 V rated value — at 500 V rated value — at 690 V rated value | 5.5 kW 3 kW 5.5 kW 5.5 kW 5.5 kW |
| operating power for approx. 200000 operating cycles at AC-4 <ul style="list-style-type: none"> • at 400 V rated value • at 690 V rated value | 2 kW 2.5 kW |
| operating apparent output at AC-6a <ul style="list-style-type: none"> • up to 230 V for current peak value n=20 rated value • up to 400 V for current peak value n=20 rated value • up to 500 V for current peak value n=20 rated value • up to 690 V for current peak value n=20 rated value | 2.8 kV·A 4.9 kV·A 6.2 kV·A 8 kV·A |
| operating apparent output at AC-6a <ul style="list-style-type: none"> • up to 230 V for current peak value n=30 rated value • up to 400 V for current peak value n=30 rated value • up to 500 V for current peak value n=30 rated value • up to 690 V for current peak value n=30 rated value | 1.9 kV·A 3.3 kV·A 4.1 kV·A 5.7 kV·A |
| short-time withstand current in cold operating state up to 40 °C | |

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| <ul style="list-style-type: none"> • limited to 1 s switching at zero current maximum • limited to 5 s switching at zero current maximum • limited to 10 s switching at zero current maximum • limited to 30 s switching at zero current maximum • limited to 60 s switching at zero current maximum | 200 A; Use minimum cross-section acc. to AC-1 rated value 123 A; Use minimum cross-section acc. to AC-1 rated value 96 A; Use minimum cross-section acc. to AC-1 rated value 74 A; Use minimum cross-section acc. to AC-1 rated value 61 A; Use minimum cross-section acc. to AC-1 rated value |
| no-load switching frequency | |
| <ul style="list-style-type: none"> • at AC | 10 000 1/h |
| operating frequency | |
| <ul style="list-style-type: none"> • at AC-1 maximum • at AC-2 maximum • at AC-3 maximum • at AC-4 maximum | 1 000 1/h 750 1/h 750 1/h 250 1/h |
| Control circuit/ Control | |
| type of voltage of the control supply voltage | AC |
| control supply voltage at AC | |
| <ul style="list-style-type: none"> • at 50 Hz rated value • at 60 Hz rated value | 220 V 240 V |
| operating range factor control supply voltage rated value of magnet coil at AC | |
| <ul style="list-style-type: none"> • at 50 Hz • at 60 Hz | 0.8 ... 1.1 0.8 ... 1.1 |
| apparent pick-up power of magnet coil at AC | |
| <ul style="list-style-type: none"> • at 50 Hz • at 60 Hz | 36 V·A 36 V·A |
| inductive power factor with closing power of the coil | |
| <ul style="list-style-type: none"> • at 50 Hz • at 60 Hz | 0.8 0.8 |
| apparent holding power of magnet coil at AC | |
| <ul style="list-style-type: none"> • at 50 Hz • at 60 Hz | 5.9 V·A 5.9 V·A |
| inductive power factor with the holding power of the coil | |
| <ul style="list-style-type: none"> • at 50 Hz • at 60 Hz | 0.24 0.24 |
| closing delay | |
| <ul style="list-style-type: none"> • at AC | 8 ... 33 ms |
| opening delay | |
| <ul style="list-style-type: none"> • at AC | 4 ... 15 ms |

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| arcing time | 10 ... 15 ms |
| control version of the switch operating mechanism | Standard A1 - A2 |

Auxiliary circuit

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| number of NO contacts for auxiliary contacts | |
| • instantaneous contact | 1 |
| operating current at AC-12 maximum | 10 A |
| operating current at AC-15 | |
| • 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 |
| operating current at DC-12 | |
| • 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 |
| operating current at DC-13 | |
| • 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 |
| contact reliability of auxiliary contacts | 1 faulty switching per 100 million (17 V, 1 mA) |

UL/CSA ratings

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| full-load current (FLA) for three-phase AC motor | |
| • at 480 V rated value | 11 A |
| • at 600 V rated value | 11 A |
| yielded mechanical performance [hp] | |
| • for single-phase AC motor | |
| — at 110/120 V rated value | 0.5 hp |
| — at 230 V rated value | 2 hp |
| • for three-phase AC motor | |
| — at 200/208 V rated value | 3 hp |
| — at 220/230 V rated value | 3 hp |
| — at 460/480 V rated value | 7.5 hp |
| — at 575/600 V rated value | 10 hp |

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| contact rating of auxiliary contacts according to UL | A600 / Q600 |
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Short-circuit protection

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| design of the fuse link | |
| <ul style="list-style-type: none"> for short-circuit protection of the main circuit <ul style="list-style-type: none"> with type of coordination 1 required with type of assignment 2 required for short-circuit protection of the auxiliary switch required | <p>gG: 50A (690V,100kA), aM: 20A (690V,100kA), BS88: 35A (415V,80kA)</p> <p>gG: 20A (690V,100kA), aM: 16A (690V, 100kA), BS88: 20A (415V, 80kA)</p> <p>gG: 10 A (500 V, 1 kA)</p> |

Installation/ mounting/ dimensions

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| mounting position | +/-180° rotation possible on vertical mounting surface; can be tilted forward and backward by +/- 22.5° on vertical mounting surface |
| mounting type | screw and snap-on mounting onto 35 mm standard mounting rail according to DIN EN 60715 |
| <ul style="list-style-type: none"> side-by-side mounting | Yes |
| height | 70 mm |
| width | 45 mm |
| depth | 73 mm |
| required spacing | |
| <ul style="list-style-type: none"> with side-by-side mounting <ul style="list-style-type: none"> forwards upwards downwards at the side for grounded parts <ul style="list-style-type: none"> forwards upwards at the side downwards for live parts <ul style="list-style-type: none"> forwards upwards downwards at the side | <p>10 mm</p> <p>10 mm</p> <p>10 mm</p> <p>0 mm</p> <p>10 mm</p> <p>10 mm</p> <p>6 mm</p> <p>10 mm</p> <p>10 mm</p> <p>10 mm</p> <p>10 mm</p> <p>6 mm</p> |

Connections/ Terminals






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| type of electrical connection | |
| <ul style="list-style-type: none"> for main current circuit for auxiliary and control current circuit at contactor for auxiliary contacts of magnet coil | <p>spring-loaded terminals</p> <p>spring-loaded terminals</p> <p>Spring-type terminals</p> <p>Spring-type terminals</p> |



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| type of connectable conductor cross-sections <ul style="list-style-type: none"> • for main contacts <ul style="list-style-type: none"> — solid — single or multi-stranded — finely stranded with core end processing — finely stranded without core end processing • at AWG conductors for main contacts | 2x (0.5 ... 4 mm ²) 2x (0,5 ... 4 mm ²) 2x (0.5 ... 2.5 mm ²) 2x (0.5 ... 2.5 mm ²) 2x (20 ... 12) |
| connectable conductor cross-section for main contacts <ul style="list-style-type: none"> • solid • stranded • finely stranded with core end processing • finely stranded without core end processing | 0.5 ... 4 mm ² 0.5 ... 4 mm ² 0.5 ... 2.5 mm ² 0.5 ... 2.5 mm ² |
| connectable conductor cross-section for auxiliary contacts <ul style="list-style-type: none"> • single or multi-stranded • finely stranded with core end processing • finely stranded without core end processing | 0.5 ... 4 mm ² 0.5 ... 2.5 mm ² 0.5 ... 2.5 mm ² |
| <ul style="list-style-type: none"> • type of connectable conductor cross-sections for auxiliary contacts <ul style="list-style-type: none"> — single or multi-stranded — finely stranded with core end processing — finely stranded without core end processing • type of connectable conductor cross-sections at AWG conductors for auxiliary contacts | 2x (0,5 ... 4 mm ²) 2x (0.5 ... 2.5 mm ²) 2x (0.5 ... 2.5 mm ²) 2x (20 ... 12) |
| AWG number as coded connectable conductor cross section <ul style="list-style-type: none"> • for main contacts • for auxiliary contacts | 20 ... 12 20 ... 12 |

| Safety related data | |
|---|-----------------|
| B10 value <ul style="list-style-type: none"> • with high demand rate acc. to SN 31920 | 1 000 000 |
| proportion of dangerous failures <ul style="list-style-type: none"> • with low demand rate acc. to SN 31920 • with high demand rate acc. to SN 31920 | 40 % 73 % |
| failure rate [FIT] <ul style="list-style-type: none"> • with low demand rate acc. to SN 31920 | 100 FIT |
| product function <ul style="list-style-type: none"> • mirror contact acc. to IEC 60947-4-1 | Yes; with 3RH29 |
| T1 value for proof test interval or service life acc. to IEC 61508 | 20 y |


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| protection against electrical shock | finger-safe |
| suitability for use safety-related switching OFF | Yes |

Certificates/ approvals

| General Product Approval | | | | | EMC | |
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|  CCC |  CSA |  UL | KC |  EAC |  RCM | |

| Functional Safety/Safety of Machinery | Declaration of Conformity | Test Certificates | | | Marine / Shipping |
|--|---|-------------------------------|--|--|--|
| Type Examination Certificate |  EG-Konf. | Miscellaneous | Type Test Certificates/Test Report | Special Test Certificate |  ABS |

| Marine / Shipping | | | | | |
|--|---|---|--|--|--|
|  BUREAU VERITAS |  LRS |  PRS |  RINA |  RMRS |  DNV-GL DNVGL.COM/AF |

| other |
|--|
| 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=3RT2017-2AP61>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2017-2AP61>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2017-2AP61>

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

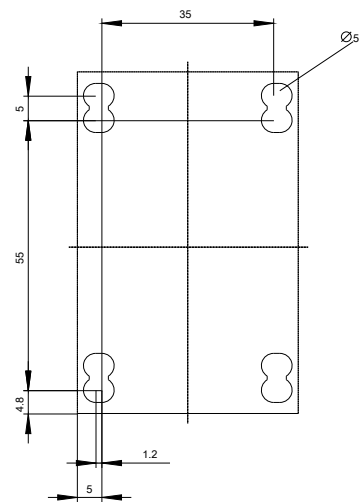
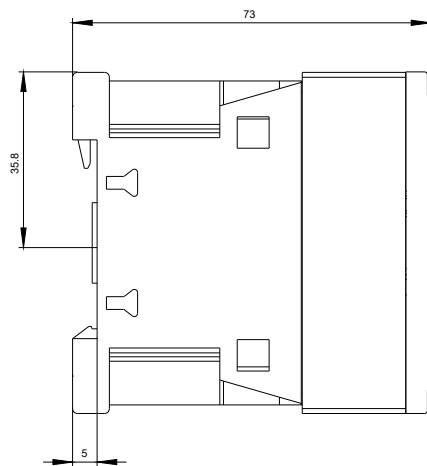
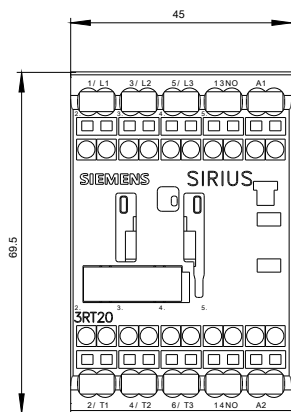
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2017-2AP61&lang=en

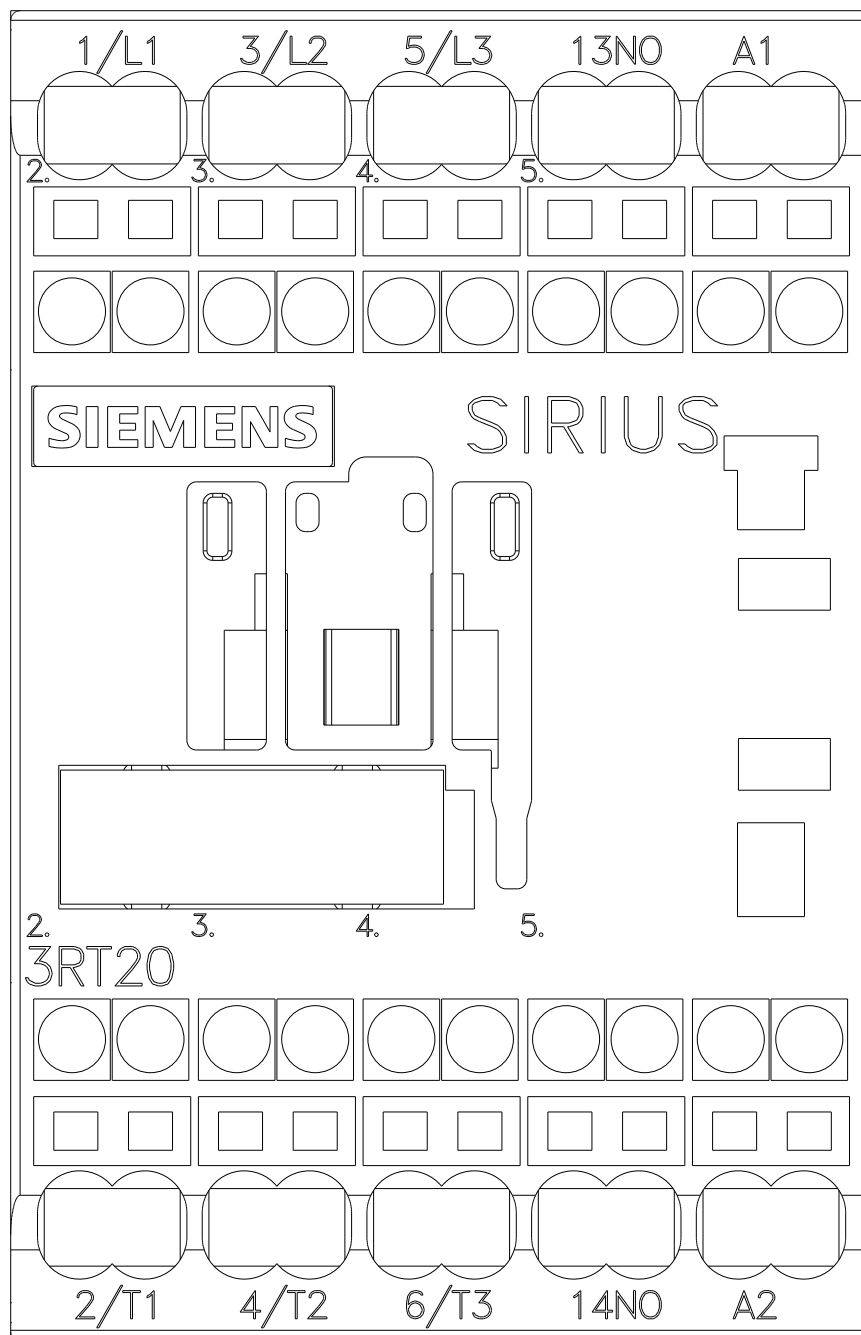
Characteristic: Tripping characteristics, I_t, Let-through current

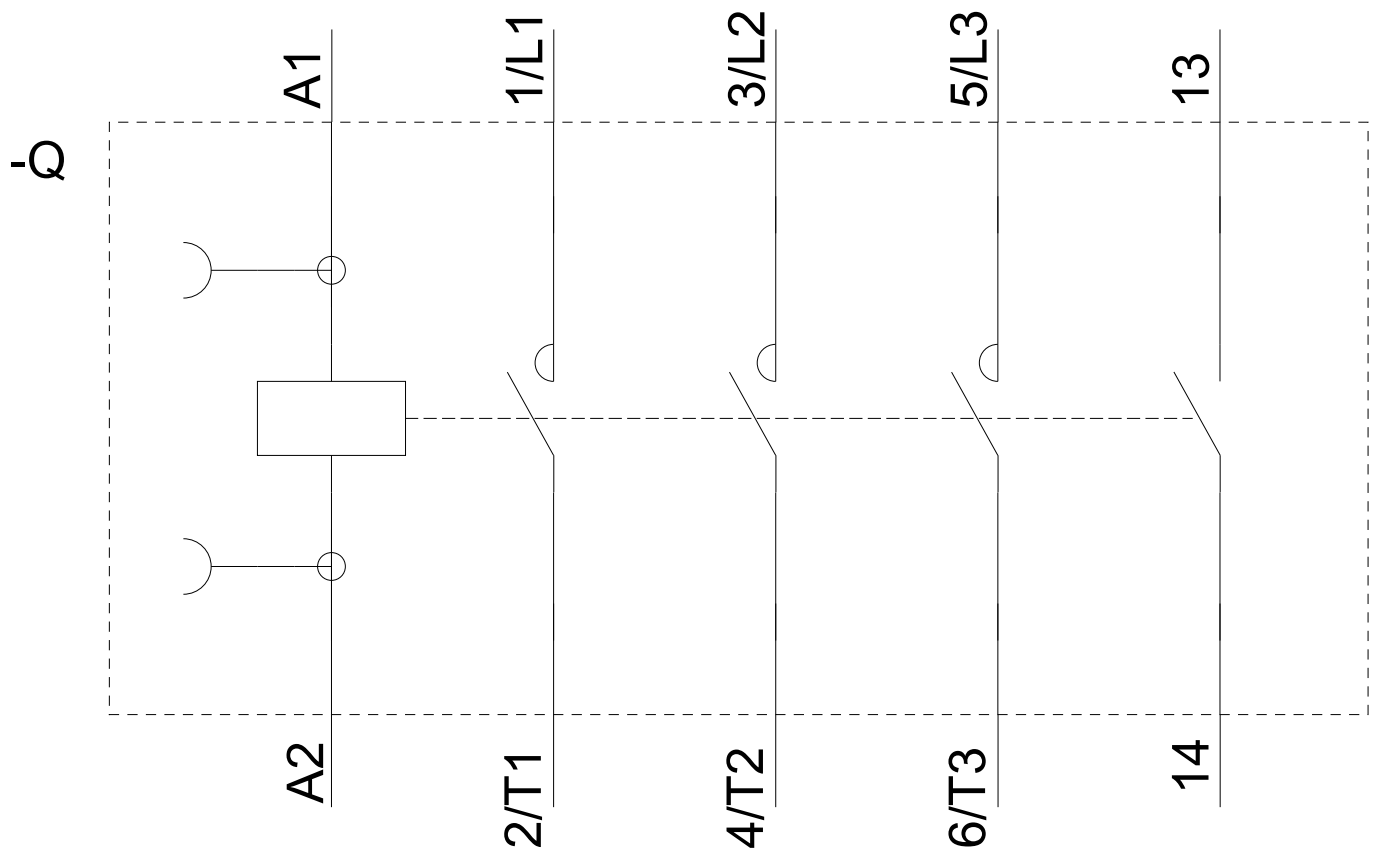
<https://support.industry.siemens.com/cs/ww/en/ps/3RT2017-2AP61/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2017-2AP61&objecttype=14&gridview=view1>







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