

power contactor, AC-3 12 A, 5.5 kW / 400 V 1 NO, 24 V DC with diode integrated, 3-pole Size S00, screw terminal



| | |
|---|---------------------------|
| 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 |
| Insulation voltage | |
| • rated value | 690 V |
| Surge voltage resistance rated value | 6 kV |
| maximum permissible voltage for safe isolation | |
| • between coil and main contacts acc. to EN 60947-1 | 400 V |
| Protection class IP | |
| • on the front | IP20 |
| • of the terminal | IP20 |
| Shock resistance at rectangular impulse | |
| • at DC | 7.3g / 5 ms, 4.7g / 10 ms |

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| Shock resistance with sine pulse | |
| <ul style="list-style-type: none"> • at DC | 11,4g / 5 ms, 7,3g / 10 ms |
| Mechanical service life (switching cycles) | |
| <ul style="list-style-type: none"> • of contactor typical | 30 000 000 |
| <ul style="list-style-type: none"> • of the contactor with added electronics-compatible auxiliary switch block typical | 5 000 000 |
| <ul style="list-style-type: none"> • of the contactor with added auxiliary switch block typical | 10 000 000 |
| Reference identifier acc. to DIN 40719 extended according to IEC 204-2 acc. to IEC 750 | K |

Ambient conditions

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| Installation altitude at height above sea level | |
| <ul style="list-style-type: none"> • maximum | 2 000 m |
| Ambient temperature | |
| <ul style="list-style-type: none"> • during operation | -25 ... +60 °C |
| <ul style="list-style-type: none"> • during storage | -55 ... +80 °C |

Main circuit

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| Number of poles for main current circuit | 3 |
| Number of NO contacts for main contacts | 3 |
| Operating voltage | |
| <ul style="list-style-type: none"> • at AC-3 rated value maximum | 690 V |
| Operating current | |
| <ul style="list-style-type: none"> • at AC-1 at 400 V <ul style="list-style-type: none"> — at ambient temperature 40 °C rated value | 22 A |
| <ul style="list-style-type: none"> • at AC-1 <ul style="list-style-type: none"> — up to 690 V at ambient temperature 40 °C rated value | 22 A |
| <ul style="list-style-type: none"> — up to 690 V at ambient temperature 60 °C rated value | 20 A |
| <ul style="list-style-type: none"> • at AC-2 at 400 V rated value | 12 A |
| <ul style="list-style-type: none"> • at AC-3 <ul style="list-style-type: none"> — at 400 V rated value | 12 A |
| <ul style="list-style-type: none"> — at 500 V rated value | 9.2 A |
| <ul style="list-style-type: none"> — at 690 V rated value | 6.7 A |
| Connectable conductor cross-section in main circuit at AC-1 | |
| <ul style="list-style-type: none"> • at 60 °C minimum permissible | 2.5 mm ² |
| <ul style="list-style-type: none"> • at 40 °C minimum permissible | 4 mm ² |
| Operating current for approx. 200000 operating cycles at AC-4 | |
| <ul style="list-style-type: none"> • at 400 V rated value | 4.1 A |
| <ul style="list-style-type: none"> • at 690 V rated value | 3.3 A |

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| Operating current | |
| <ul style="list-style-type: none"> • at 1 current path at DC-1 <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 • with 2 current paths in series at DC-1 <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 • with 3 current paths in series at DC-1 <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 2.1 A 0.8 A 0.6 A 0.6 A 20 A 12 A 1.6 A 0.8 A 0.7 A 20 A 20 A 20 A 1.3 A 1 A |
| Operating current | |
| <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-1 <ul style="list-style-type: none"> — at 230 V rated value — at 230 V at 60 °C rated value — at 400 V rated value — at 400 V at 60 °C rated value — at 690 V rated value — at 690 V at 60 °C rated value • at AC-2 at 400 V rated value | 7.5 kW 7.5 kW 13 kW 13 kW 22 kW 22 kW 5.5 kW |

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| <ul style="list-style-type: none"> • 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 | <p>3 kW</p> <p>5.5 kW</p> <p>5.5 kW</p> <p>5.5 kW</p> |
| 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 | <p>2 kW</p> <p>2.5 kW</p> |
| Thermal short-time current limited to 10 s | 90 A |
| Power loss [W] at AC-3 at 400 V for rated value of the operating current per conductor | 1.2 W |
| No-load switching frequency | |
| <ul style="list-style-type: none"> • at DC | 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 | <p>1 000 1/h</p> <p>750 1/h</p> <p>750 1/h</p> <p>250 1/h</p> |

| Control circuit/ Control | |
|---|--------------------------|
| Type of voltage of the control supply voltage | DC |
| Control supply voltage at DC | |
| <ul style="list-style-type: none"> • rated value | 24 V |
| Operating range factor control supply voltage rated value of magnet coil at DC | |
| <ul style="list-style-type: none"> • initial value • Full-scale value | <p>0.8</p> <p>1.1</p> |
| Design of the surge suppressor | with diode |
| Closing power of magnet coil at DC | 4 W |
| Holding power of magnet coil at DC | 4 W |
| Closing delay | |
| <ul style="list-style-type: none"> • at DC | 30 ... 100 ms |
| Opening delay | |
| <ul style="list-style-type: none"> • at DC | 7 ... 13 ms |
| Arcing time | 10 ... 15 ms |
| Control version of the switch operating mechanism | Standard A1 - A2 |
| Residual current of the electronics for control with signal <0> | |
| <ul style="list-style-type: none"> • at AC at 230 V maximum permissible • at DC at 24 V maximum permissible | <p>4 mA</p> <p>10 mA</p> |

| Auxiliary circuit | |
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| Number of NO contacts | |

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| <ul style="list-style-type: none"> • for auxiliary contacts <ul style="list-style-type: none"> — instantaneous contact | 1 |
| Operating current at AC-12 maximum | 10 A |
| Operating current at AC-15 | |
| <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 | 10 A 3 A 2 A 1 A |
| Operating current at DC-12 | |
| <ul style="list-style-type: none"> • at 24 V rated value • at 48 V rated value • at 60 V rated value • at 110 V rated value • at 125 V rated value • at 220 V rated value • at 600 V rated value | 10 A 6 A 6 A 3 A 2 A 1 A 0.15 A |
| Operating current at DC-13 | |
| <ul style="list-style-type: none"> • at 24 V rated value • at 48 V rated value • at 60 V rated value • at 110 V rated value • at 125 V rated value • at 220 V rated value • at 600 V rated value | 10 A 2 A 2 A 1 A 0.9 A 0.3 A 0.1 A |
| Contact reliability of auxiliary contacts | 1 faulty switching per 100 million (17 V, 1 mA) |

UL/CSA ratings

| | |
|---|---|
| Full-load current (FLA) for three-phase AC motor | |
| <ul style="list-style-type: none"> • at 480 V rated value • at 600 V rated value | 11 A 11 A |
| Yielded mechanical performance [hp] | |
| <ul style="list-style-type: none"> • for single-phase AC motor <ul style="list-style-type: none"> — at 110/120 V rated value — at 230 V rated value • for three-phase AC motor <ul style="list-style-type: none"> — at 200/208 V rated value — at 220/230 V rated value — at 460/480 V rated value — at 575/600 V rated value | 0.5 hp 2 hp 3 hp 3 hp 7.5 hp 10 hp |
| Contact rating of auxiliary contacts according to UL | A600 / Q600 |

Short-circuit protection

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| Design of the fuse link | |
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- for short-circuit protection of the main circuit
 - with type of coordination 1 required
 - with type of assignment 2 required
- for short-circuit protection of the auxiliary switch required

gG NH 3NA, DIAZED 5SB, NEOZED 5SE: 50 A
 gG NH 3NA, DIAZED 5SB, NEOZED 5SE: 25 A
 fuse gG: 10 A

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 | 58 mm |
| Width | 45 mm |
| Depth | 73 mm |
| Required spacing | |
| <ul style="list-style-type: none"> • for grounded parts <ul style="list-style-type: none"> — at the side | 6 mm |
| <ul style="list-style-type: none"> • for live parts <ul style="list-style-type: none"> — at the side | 6 mm |

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 | <p>screw-type terminals</p> <p>screw-type terminals</p> |
| 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 • at AWG conductors for main contacts | <p>2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²), 2x 4 mm²</p> <p>2x (0,5 ... 1,5 mm²), 2x (0,75 ... 2,5 mm²), 2x 4 mm²</p> <p>2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²)</p> <p>2x (20 ... 16), 2x (18 ... 14), 2x 12</p> |
| Connectable conductor cross-section for main contacts | |
| <ul style="list-style-type: none"> • solid • stranded | <p>0.5 ... 4 mm²</p> <p>0.5 ... 4 mm²</p> |
| Type of connectable conductor cross-sections | |
| <ul style="list-style-type: none"> • for auxiliary contacts <ul style="list-style-type: none"> — single or multi-stranded — finely stranded with core end processing • at AWG conductors for auxiliary contacts | <p>2x (0,5 ... 1,5 mm²), 2x (0,75 ... 2,5 mm²), 2x 4 mm²</p> <p>2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²)</p> <p>2x (20 ... 16), 2x (18 ... 14), 2x 12</p> |

Safety related data

B10 value

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|---|-----------------|
| • with high demand rate acc. to SN 31920 | 1 000 000 |
| Proportion of dangerous failures | |
| • 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 |
| Product function | |
| • 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 |
| Protection against electrical shock | finger-safe |

Certificates/approvals

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|---------------------------------|--|
| General Product Approval | Functional Safety/Safety of Machinery |
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[Type Examination](#)

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



[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)



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|--------------------------|--------------|
| Marine / Shipping | other |
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[Confirmation](#)

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Further information

Information- and Downloadcenter (Catalogs, Brochures,...)
<http://www.siemens.com/industrial-controls/catalogs>

Industry Mall (Online ordering system)

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RT2017-1FB41>

Cax online generator

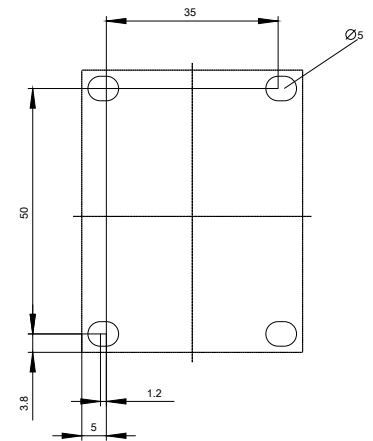
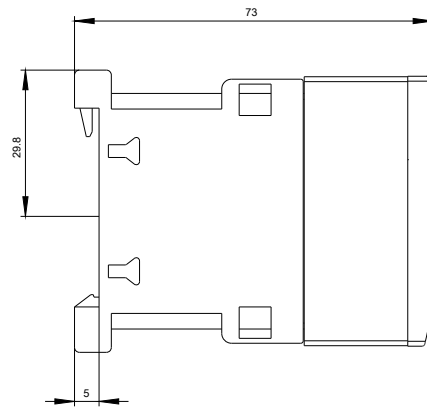
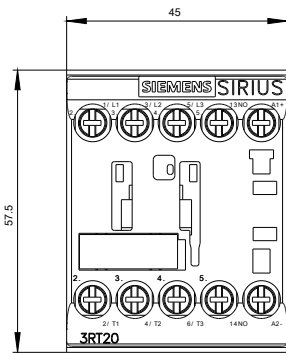
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2017-1FB41>

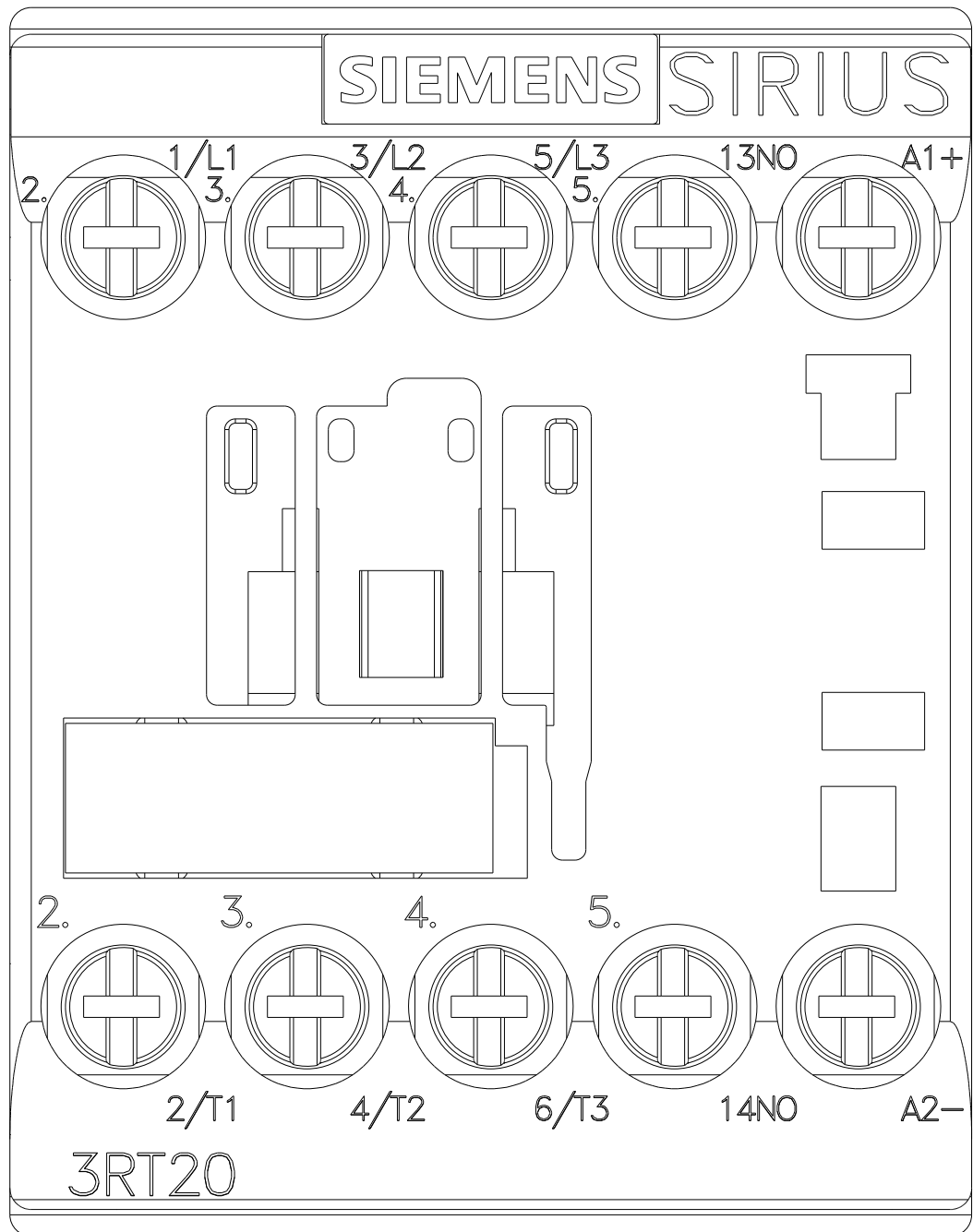
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

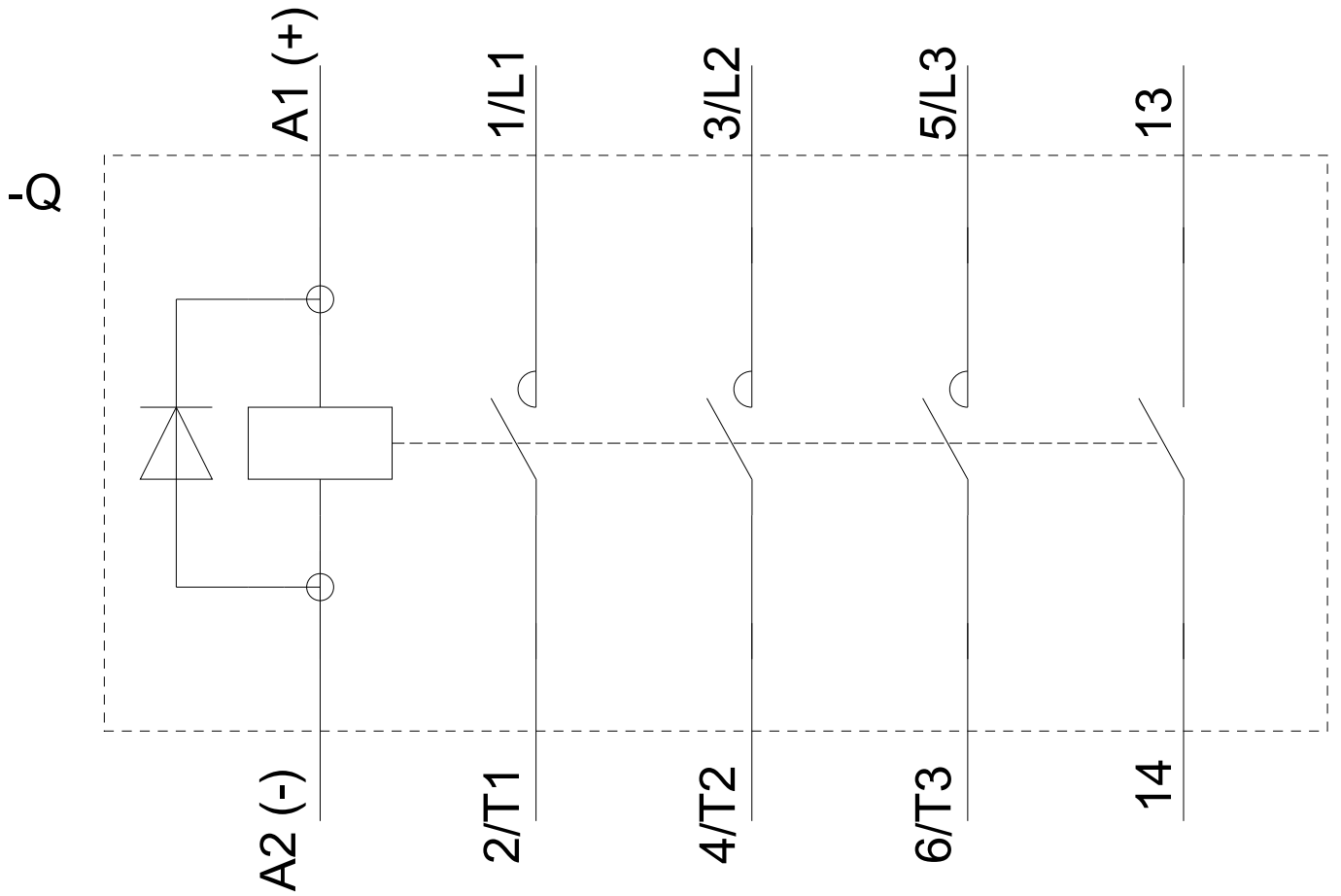
<https://support.industry.siemens.com/cs/ww/en/ps/3RT2017-1FB41>

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2017-1FB41&lang=en







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