

COUPLING CONTACTOR, AC-3, 15KW/400V, 1NO+1NC, 24 V DC, W. INTEGRATED VARISTOR 3-POLE, SIZE S0 SPRING-TYPE TERMINALS SUITABLE FOR PLC OUTPUTS



|                                                     |                |
|-----------------------------------------------------|----------------|
| product brandname                                   | SIRIUS         |
| Product designation                                 | Coupling relay |
| Product type designation                            | 3RT2           |
| General technical data                              |                |
| Size of contactor                                   | S0             |
| Product extension                                   |                |
| • function module for communication                 | No             |
| • Auxiliary switch                                  | No             |
| Insulation voltage                                  |                |
| • rated value                                       | 690 V          |
| Degree of pollution                                 | 3              |
| 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                                                                             | 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 electronics-compatible auxiliary switch block typical | 5 000 000                |
| • of the contactor with added auxiliary switch block typical                        | 10 000 000               |

## Ambient conditions

|                            |                                                                                                 |
|----------------------------|-------------------------------------------------------------------------------------------------|
| <b>Ambient temperature</b> |                                                                                                 |
| • during operation         | -25 ... +60 °C                                                                                  |
| • during operation         | Railway application: -40 ... 70 °C with 10 mm clearance. See catalog for other rated conditions |
| • during storage           | -55 ... +80 °C                                                                                  |

## Main circuit

|                                                                      |        |
|----------------------------------------------------------------------|--------|
| <b>Number of poles for main current circuit</b>                      | 3      |
| <b>Number of NO contacts for main contacts</b>                       | 3      |
| <b>Operating voltage</b>                                             |        |
| • at AC-3 rated value maximum                                        | 690 V  |
| <b>Operating current</b>                                             |        |
| • at AC-1 at 400 V<br>— at ambient temperature 40 °C rated value     | 50 A   |
| • at AC-1<br>— up to 690 V at ambient temperature 40 °C rated value  | 50 A   |
| — up to 690 V at ambient temperature 60 °C rated value               | 42 A   |
| • at AC-2 at 400 V rated value                                       | 32 A   |
| • at AC-3<br>— at 400 V rated value                                  | 32 A   |
| — at 500 V rated value                                               | 32 A   |
| — at 690 V rated value                                               | 21 A   |
| <b>Connectable conductor cross-section in main circuit at AC-1</b>   |        |
| • at 60 °C minimum permissible                                       | 10 mm² |
| • at 40 °C minimum permissible                                       | 10 mm² |
| <b>Operating current for approx. 200000 operating cycles at AC-4</b> |        |
| • at 400 V rated value                                               | 12 A   |
| • at 690 V rated value                                               | 12 A   |
| <b>Operating 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    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 4.5 A   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 1 A     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 0.4 A   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 0.25 A  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |         |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 35 A    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 35 A    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 5 A     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 1 A     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 0.8 A   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |         |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 35 A    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 35 A    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 35 A    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 2.9 A   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 1.4 A   |
| <b>Operating 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> <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-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> | 20 A    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 2.5 A   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 1 A     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 0.09 A  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 0.06 A  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |         |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 35 A    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 15 A    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 3 A     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 0.27 A  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 0.16 A  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |         |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 35 A    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 35 A    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 10 A    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 0.6 A   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 0.6 A   |
| <b>Operating power</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |         |
| <ul style="list-style-type: none"> <li>• at AC-1 <ul style="list-style-type: none"> <li>— at 230 V rated value</li> <li>— at 230 V at 60 °C rated value</li> </ul> </li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 16 kW   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 15.5 kW |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |         |

|                                                                                               |                |
|-----------------------------------------------------------------------------------------------|----------------|
| — at 400 V rated value                                                                        | 28 kW          |
| — at 400 V at 60 °C rated value                                                               | 27.5 kW        |
| — at 690 V rated value                                                                        | 48 kW          |
| — at 690 V at 60 °C rated value                                                               | 47.5 kW        |
| • at AC-2 at 400 V rated value                                                                | 15 kW          |
| • <b>at AC-3</b>                                                                              |                |
| — at 230 V rated value                                                                        | 7.5 kW         |
| — at 400 V rated value                                                                        | 15 kW          |
| — at 690 V rated value                                                                        | 18.5 kW        |
| <b>Operating power for approx. 200000 operating cycles at AC-4</b>                            |                |
| • at 400 V rated value                                                                        | 6 kW           |
| • at 690 V rated value                                                                        | 10.3 kW        |
| <b>Thermal short-time current limited to 10 s</b>                                             | 260 A          |
| <b>Power loss [W] at AC-3 at 400 V for rated value of the operating current per conductor</b> | 2.7 W          |
| <b>No-load switching frequency</b>                                                            |                |
| • at DC                                                                                       | 1 500 1/h      |
| <b>Operating frequency</b>                                                                    |                |
| • at AC-1 maximum                                                                             | 1 000 1/h      |
| • at AC-2 maximum                                                                             | 750 1/h        |
| • at AC-3 maximum                                                                             | 750 1/h        |
| • at AC-4 maximum                                                                             | 250 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>                                                           |                |
| • rated value                                                                                 | 24 V           |
| <b>Design of the surge suppressor</b>                                                         | with varistor  |
| <b>Closing power of magnet coil at DC</b>                                                     | 4.5 W          |
| <b>Holding power of magnet coil at DC</b>                                                     | 4.5 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>Residual current of the electronics for control with signal &lt;0&gt;</b>                  |                |
| • at AC at 230 V maximum permissible                                                          | 7 mA           |
| • at DC at 24 V maximum permissible                                                           | 16 mA          |
| <b>Auxiliary circuit</b>                                                                      |                |
| <b>Number of NC contacts</b>                                                                  |                |
| • for auxiliary contacts                                                                      |                |

|                                                             |                                                 |
|-------------------------------------------------------------|-------------------------------------------------|
| — instantaneous contact                                     | 1                                               |
| <b>Number of NO contacts</b>                                |                                                 |
| • for auxiliary contacts                                    |                                                 |
| — instantaneous contact                                     | 1                                               |
| Operating current at AC-12 maximum                          | 10 A                                            |
| <b>Operating 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>Operating 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>Operating 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 three-phase AC motor</b>     |                                                 |
| • at 480 V rated value                                      | 27 A                                            |
| • at 600 V rated value                                      | 27 A                                            |
| <b>Yielded mechanical performance [hp]</b>                  |                                                 |
| • for single-phase AC motor                                 |                                                 |
| — at 110/120 V rated value                                  | 2 hp                                            |
| — at 230 V rated value                                      | 5 hp                                            |
| • for three-phase AC motor                                  |                                                 |
| — at 200/208 V rated value                                  | 10 hp                                           |
| — at 220/230 V rated value                                  | 10 hp                                           |
| — at 460/480 V rated value                                  | 20 hp                                           |
| — at 575/600 V rated value                                  | 25 hp                                           |
| <b>Contact rating of auxiliary contacts according to UL</b> | A600 / Q600                                     |

## Short-circuit protection

### Design of the fuse link

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

## Installation/ mounting/ dimensions

### 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

- Side-by-side mounting

Yes

### Height

102 mm

### Width

45 mm

### Depth

107 mm

### Required spacing

- for grounded parts
  - at the side
- for live parts
  - at the side

6 mm

6 mm

## Connections/Terminals

### Type of electrical connection

- for main current circuit
- for auxiliary and control current circuit

spring-loaded terminals

spring-loaded terminals

### Type of connectable conductor cross-sections

- for main contacts
  - solid
  - single or multi-stranded
  - finely stranded with core end processing
  - finely stranded without core end processing
- at AWG conductors for main contacts

2x (1 ... 10 mm<sup>2</sup>)

2x (1 ... 10 mm<sup>2</sup>)

2x (1 ... 6 mm<sup>2</sup>)

2x (1 ... 6 mm<sup>2</sup>)

2x (18 ... 8)

### Type of connectable conductor cross-sections

- for auxiliary contacts
  - single or multi-stranded
  - finely stranded with core end processing
  - finely stranded without core end processing
- at AWG conductors for auxiliary contacts

2x (0,5 ... 2,5 mm<sup>2</sup>)

2x (0.5 ... 1.5 mm<sup>2</sup>)

2x (0.5 ... 2.5 mm<sup>2</sup>)

2x (20 ... 14)

## Safety related data

|                                                                           |             |
|---------------------------------------------------------------------------|-------------|
| <b>B10 value</b>                                                          |             |
| • 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 %        |
| <b>Failure rate [FIT]</b>                                                 |             |
| • with low demand rate acc. to SN 31920                                   | 100 FIT     |
| <b>Product function</b>                                                   |             |
| • 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 against electrical shock</b>                                | finger-safe |

## Certificates/approvals

| General Product Approval                                                                 | EMC                                                                                                                                                                                                                                                                       |
|------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <br>CCC | <br><br><br>C-Tick |

| Functional Safety/Safety of Machinery | Declaration of Conformity                                                                       | Test Certificates                                  | Shipping Approval                                                                            |
|---------------------------------------|-------------------------------------------------------------------------------------------------|----------------------------------------------------|----------------------------------------------------------------------------------------------|
| <a href="#">Type Examination</a>      | <br>EG-Konf. | <a href="#">Type Test Certificates/Test Report</a> | <a href="#">Special Test Certificate</a>                                                     |
|                                       |                                                                                                 | <a href="#">Miscellaneous</a>                      | <br>ABS |

| Shipping Approval                                                                                        |                                                                                           |                                                                                            |                                                                                            |                                                                                               |                                                                                               |
|----------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|
| <br>BUREAU<br>VERITAS | <br>GL | <br>LRS | <br>PRS | <br>RINA | <br>RMRS |

| other                                       |                              |                                                                                            |
|---------------------------------------------|------------------------------|--------------------------------------------------------------------------------------------|
| <a href="#">Environmental Confirmations</a> | <a href="#">Confirmation</a> | <br>VDE |

## 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=3RT2027-2KB40>

**Cax online generator**

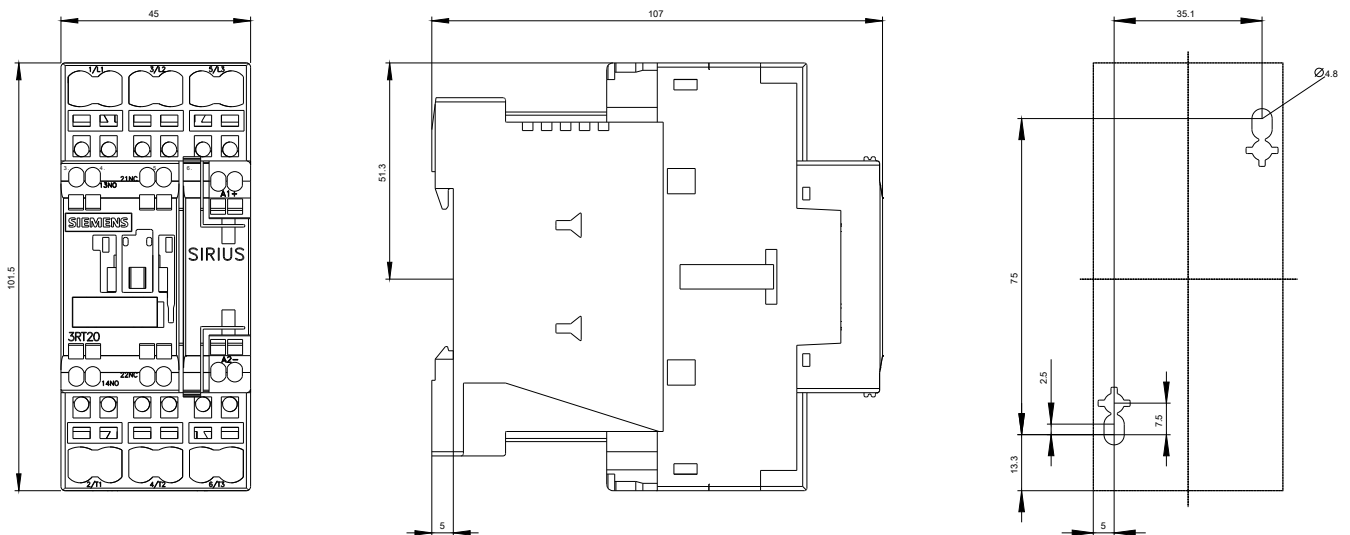
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2027-2KB40>

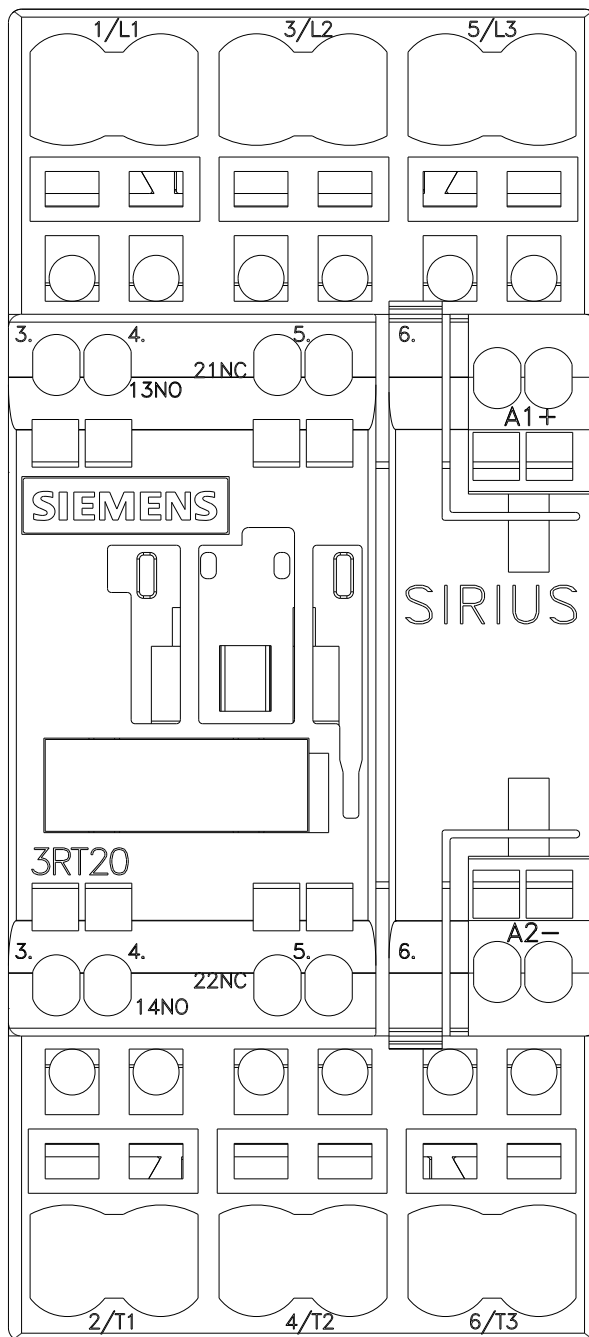
**Service&Support (Manuals, Certificates, Characteristics, FAQs,...)**

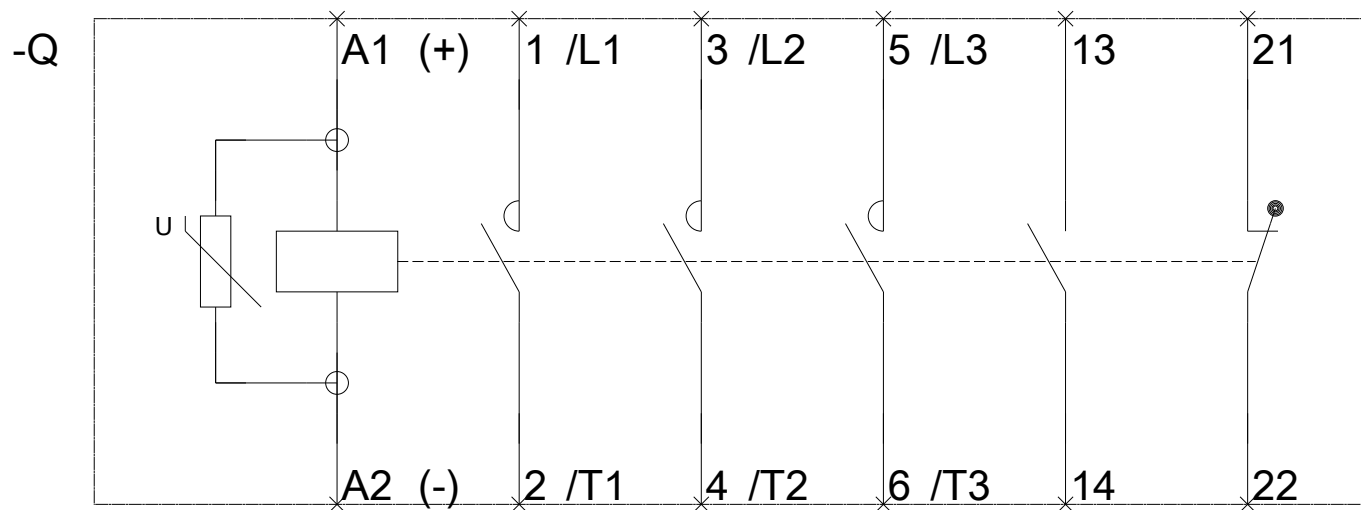
<https://support.industry.siemens.com/cs/ww/en/ps/3RT2027-2KB40>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RT2027-2KB40&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2027-2KB40&lang=en)







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