

CONTACTOR, AC-3, 7.5KW/400V, 1NO, AC110V, 50/60 HZ, 3-  
POLE, SZ S00 SCREW TERMINAL



|                                                     |                           |
|-----------------------------------------------------|---------------------------|
| product brandname                                   | 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 AC                                             | 7,3g / 5 ms, 4,7g / 10 ms |

|                                                                                     |                            |
|-------------------------------------------------------------------------------------|----------------------------|
| <b>Shock resistance with sine pulse</b>                                             |                            |
| • at AC                                                                             | 11,4g / 5 ms, 7,3g / 10 ms |
| <b>Mechanical service life (switching cycles)</b>                                   |                            |
| • 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                 |
| <b>Ambient conditions</b>                                                           |                            |
| <b>Ambient temperature</b>                                                          |                            |
| • during operation                                                                  | -25 ... +60 °C             |
| • 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                          |
| <b>Operating voltage</b>                                                            |                            |
| • at AC-3 rated value maximum                                                       | 690 V                      |
| <b>Operating current</b>                                                            |                            |
| • 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-2 at 400 V rated value                                                      | 16 A                       |
| • at AC-3                                                                           |                            |
| — at 400 V rated value                                                              | 16 A                       |
| — at 500 V rated value                                                              | 12.4 A                     |
| — at 690 V rated value                                                              | 8.9 A                      |
| <b>Connectable conductor cross-section in main circuit at AC-1</b>                  |                            |
| • at 60 °C minimum permissible                                                      | 2.5 mm <sup>2</sup>        |
| • at 40 °C minimum permissible                                                      | 4 mm <sup>2</sup>          |
| <b>Operating current for approx. 200000 operating cycles at AC-4</b>                |                            |
| • at 400 V rated value                                                              | 5.5 A                      |
| • at 690 V rated value                                                              | 4.4 A                      |
| <b>Operating current</b>                                                            |                            |
| • 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    |
| <b>Operating current</b>                         |        |
| • at 1 current path at DC-3 at DC-5              |        |
| — at 24 V rated value                            | 20 A   |
| — at 110 V rated value                           | 0.1 A  |
| • with 2 current paths in series at DC-3 at DC-5 |        |
| — at 24 V rated value                            | 20 A   |
| — at 110 V rated value                           | 0.35 A |
| • with 3 current paths in series at DC-3 at DC-5 |        |
| — at 24 V rated value                            | 20 A   |
| — at 110 V rated value                           | 20 A   |
| — at 220 V rated value                           | 1.5 A  |
| — at 440 V rated value                           | 0.2 A  |
| — at 600 V rated value                           | 0.2 A  |
| <b>Operating power</b>                           |        |
| • at AC-1                                        |        |
| — at 230 V rated value                           | 7.5 kW |
| — at 230 V at 60 °C rated value                  | 7.5 kW |
| — at 400 V rated value                           | 13 kW  |
| — at 400 V at 60 °C rated value                  | 13 kW  |
| — at 690 V rated value                           | 22 kW  |
| — at 690 V at 60 °C rated value                  | 22 kW  |
| • at AC-2 at 400 V rated value                   | 7.5 kW |
| • at AC-3                                        |        |
| — at 230 V rated value                           | 4 kW   |
| — at 400 V rated value                           | 7.5 kW |
| — at 690 V rated value                           | 7.5 kW |

|                                                                                               |            |
|-----------------------------------------------------------------------------------------------|------------|
| <b>Operating power for approx. 200000 operating cycles at AC-4</b>                            |            |
| • at 400 V rated value                                                                        | 2.5 kW     |
| • at 690 V rated value                                                                        | 3.5 kW     |
| <b>Thermal short-time current limited to 10 s</b>                                             | 128 A      |
| <b>Power loss [W] at AC-3 at 400 V for rated value of the operating current per conductor</b> | 2.2 W      |
| <b>No-load switching frequency</b>                                                            |            |
| • at AC                                                                                       | 10 000 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    |

| Control circuit/ Control                                                              |              |
|---------------------------------------------------------------------------------------|--------------|
| <b>Type of voltage of the control supply voltage</b>                                  | AC           |
| <b>Control supply voltage at AC</b>                                                   |              |
| • at 50 Hz rated value                                                                | 110 V        |
| • at 60 Hz rated value                                                                | 110 V        |
| <b>Operating range factor control supply voltage rated value of magnet coil at AC</b> |              |
| • at 50 Hz                                                                            | 0.8 ... 1.1  |
| • at 60 Hz                                                                            | 0.85 ... 1.1 |
| <b>Apparent pick-up power of magnet coil at AC</b>                                    |              |
| • at 50 Hz                                                                            | 37 V·A       |
| • at 60 Hz                                                                            | 43 V·A       |
| <b>Inductive power factor with closing power of the coil</b>                          |              |
| • at 50 Hz                                                                            | 0.8          |
| • at 60 Hz                                                                            | 0.8          |
| <b>Apparent holding power of magnet coil at AC</b>                                    |              |
| • at 50 Hz                                                                            | 5.7 V·A      |
| • at 60 Hz                                                                            | 6.5 V·A      |
| <b>Inductive power factor with the holding power of the coil</b>                      |              |
| • at 50 Hz                                                                            | 0.25         |
| • at 60 Hz                                                                            | 0.25         |
| <b>Closing delay</b>                                                                  |              |
| • at AC                                                                               | 8 ... 33 ms  |
| <b>Opening delay</b>                                                                  |              |
| • at AC                                                                               | 4 ... 15 ms  |
| <b>Arcing time</b>                                                                    | 10 ... 15 ms |
| <b>Residual current of the electronics for control with signal &lt;0&gt;</b>          |              |

- at AC at 230 V maximum permissible
- at DC at 24 V maximum permissible

4 mA  
10 mA

#### Auxiliary circuit

|                                                                                                                                                       |                                                 |
|-------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|
| <b>Number of NO contacts</b>                                                                                                                          |                                                 |
| <ul style="list-style-type: none"> <li>• for auxiliary contacts <ul style="list-style-type: none"> <li>— instantaneous contact</li> </ul> </li> </ul> | 1                                               |
| Operating current at AC-12 maximum                                                                                                                    | 10 A                                            |
| <b>Operating current at AC-15</b>                                                                                                                     |                                                 |
| <ul style="list-style-type: none"> <li>• at 230 V rated value</li> </ul>                                                                              | 10 A                                            |
| <ul style="list-style-type: none"> <li>• at 400 V rated value</li> </ul>                                                                              | 3 A                                             |
| <ul style="list-style-type: none"> <li>• at 500 V rated value</li> </ul>                                                                              | 2 A                                             |
| <ul style="list-style-type: none"> <li>• at 690 V rated value</li> </ul>                                                                              | 1 A                                             |
| <b>Operating current at DC-12</b>                                                                                                                     |                                                 |
| <ul style="list-style-type: none"> <li>• at 24 V rated value</li> </ul>                                                                               | 10 A                                            |
| <ul style="list-style-type: none"> <li>• at 48 V rated value</li> </ul>                                                                               | 6 A                                             |
| <ul style="list-style-type: none"> <li>• at 60 V rated value</li> </ul>                                                                               | 6 A                                             |
| <ul style="list-style-type: none"> <li>• at 110 V rated value</li> </ul>                                                                              | 3 A                                             |
| <ul style="list-style-type: none"> <li>• at 125 V rated value</li> </ul>                                                                              | 2 A                                             |
| <ul style="list-style-type: none"> <li>• at 220 V rated value</li> </ul>                                                                              | 1 A                                             |
| <ul style="list-style-type: none"> <li>• at 600 V rated value</li> </ul>                                                                              | 0.15 A                                          |
| <b>Operating current at DC-13</b>                                                                                                                     |                                                 |
| <ul style="list-style-type: none"> <li>• at 24 V rated value</li> </ul>                                                                               | 10 A                                            |
| <ul style="list-style-type: none"> <li>• at 48 V rated value</li> </ul>                                                                               | 2 A                                             |
| <ul style="list-style-type: none"> <li>• at 60 V rated value</li> </ul>                                                                               | 2 A                                             |
| <ul style="list-style-type: none"> <li>• at 110 V rated value</li> </ul>                                                                              | 1 A                                             |
| <ul style="list-style-type: none"> <li>• at 125 V rated value</li> </ul>                                                                              | 0.9 A                                           |
| <ul style="list-style-type: none"> <li>• at 220 V rated value</li> </ul>                                                                              | 0.3 A                                           |
| <ul style="list-style-type: none"> <li>• at 600 V rated value</li> </ul>                                                                              | 0.1 A                                           |
| <b>Contact reliability of auxiliary contacts</b>                                                                                                      | 1 faulty switching per 100 million (17 V, 1 mA) |

#### UL/CSA ratings

|                                                                                                                                                                                                                                    |                       |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| <b>Full-load current (FLA) for three-phase AC motor</b>                                                                                                                                                                            |                       |
| <ul style="list-style-type: none"> <li>• at 480 V rated value</li> </ul>                                                                                                                                                           | 14 A                  |
| <ul style="list-style-type: none"> <li>• at 600 V rated value</li> </ul>                                                                                                                                                           | 11 A                  |
| <b>Yielded mechanical performance [hp]</b>                                                                                                                                                                                         |                       |
| <ul style="list-style-type: none"> <li>• for single-phase AC motor <ul style="list-style-type: none"> <li>— at 110/120 V rated value</li> <li>— at 230 V rated value</li> </ul> </li> </ul>                                        | 1 hp<br>2 hp          |
| <ul style="list-style-type: none"> <li>• for three-phase AC motor <ul style="list-style-type: none"> <li>— at 200/208 V rated value</li> <li>— at 220/230 V rated value</li> <li>— at 460/480 V rated value</li> </ul> </li> </ul> | 3 hp<br>5 hp<br>10 hp |

|                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                        |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| — at 575/600 V rated value                                                                                                                                                                                                                                                                                                                   | 10 hp                                                                                                                                                                                                  |
| <b>Contact rating of auxiliary contacts according to UL</b>                                                                                                                                                                                                                                                                                  | A600 / Q600                                                                                                                                                                                            |
| <b>Short-circuit protection</b>                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                        |
| <b>Design of the fuse link</b> <ul style="list-style-type: none"> <li>for short-circuit protection of the main circuit <ul style="list-style-type: none"> <li>with type of coordination 1 required</li> <li>with type of assignment 2 required</li> </ul> </li> <li>for short-circuit protection of the auxiliary switch required</li> </ul> | gG NH 3NA, DIAZED 5SB, NEOZED 5SE: 50 A<br>gG NH 3NA, DIAZED 5SB, NEOZED 5SE: 25 A<br>fuse gG: 10 A                                                                                                    |
| <b>Installation/ mounting/ dimensions</b>                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                        |
| <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>Mounting type</b> <ul style="list-style-type: none"> <li>Side-by-side mounting</li> </ul>                                                                                                                                                                                                                                                 | screw and snap-on mounting onto 35 mm standard mounting rail according to DIN EN 60715<br>Yes                                                                                                          |
| <b>Height</b>                                                                                                                                                                                                                                                                                                                                | 58 mm                                                                                                                                                                                                  |
| <b>Width</b>                                                                                                                                                                                                                                                                                                                                 | 45 mm                                                                                                                                                                                                  |
| <b>Depth</b>                                                                                                                                                                                                                                                                                                                                 | 73 mm                                                                                                                                                                                                  |
| <b>Required spacing</b> <ul style="list-style-type: none"> <li>for grounded parts <ul style="list-style-type: none"> <li>at the side</li> </ul> </li> <li>for live parts <ul style="list-style-type: none"> <li>at the side</li> </ul> </li> </ul>                                                                                           | 6 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 current circuit</li> </ul>                                                                                                                                                                           | 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>single or multi-stranded</li> <li>finely stranded with core end processing</li> </ul> </li> <li>at AWG conductors for main contacts</li> </ul>                            | 2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²), 2x 4 mm²<br>2x (0,5 ... 1,5 mm²), 2x (0,75 ... 2,5 mm²), 2x 4 mm²<br>2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²)<br>2x (20 ... 16), 2x (18 ... 14), 2x 12 |
| <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>single or multi-stranded</li> <li>finely stranded with core end processing</li> </ul> </li> <li>at AWG conductors for auxiliary contacts</li> </ul>                                 | 2x (0,5 ... 1,5 mm²), 2x (0,75 ... 2,5 mm²), 2x 4 mm²<br>2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²)<br>2x (20 ... 16), 2x (18 ... 14), 2x 12                                                          |
| <b>Safety related data</b>                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                        |
| <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; with 3RH29 |
| <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

|                                 |                                              |
|---------------------------------|----------------------------------------------|
| <b>General Product Approval</b> | <b>Functional Safety/Safety of Machinery</b> |
|---------------------------------|----------------------------------------------|



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[Type Examination](#)

|                                  |                          |                          |
|----------------------------------|--------------------------|--------------------------|
| <b>Declaration of Conformity</b> | <b>Test Certificates</b> | <b>Shipping Approval</b> |
|----------------------------------|--------------------------|--------------------------|



[Special Test Certificate](#)

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



[Environmental Confirmations](#)

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|              |
|--------------|
| <b>other</b> |
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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=3RT2018-1AF01>

**Cax online generator**

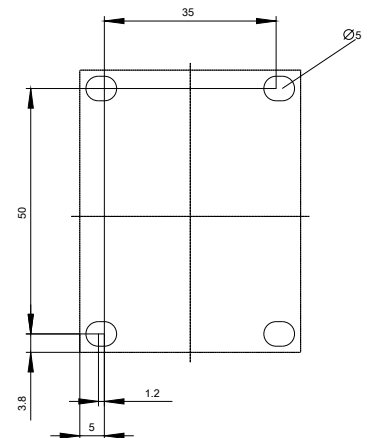
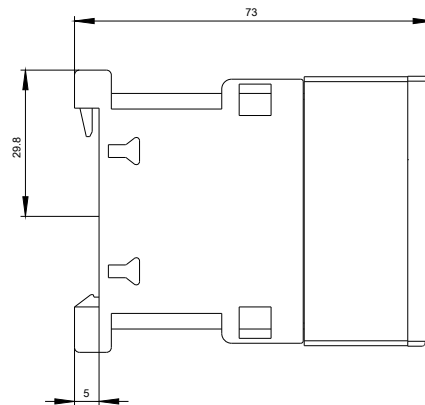
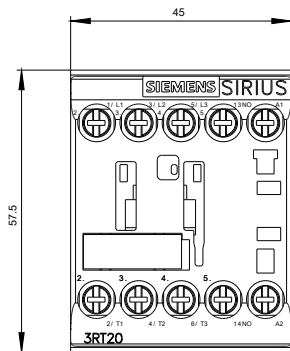
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2018-1AF01>

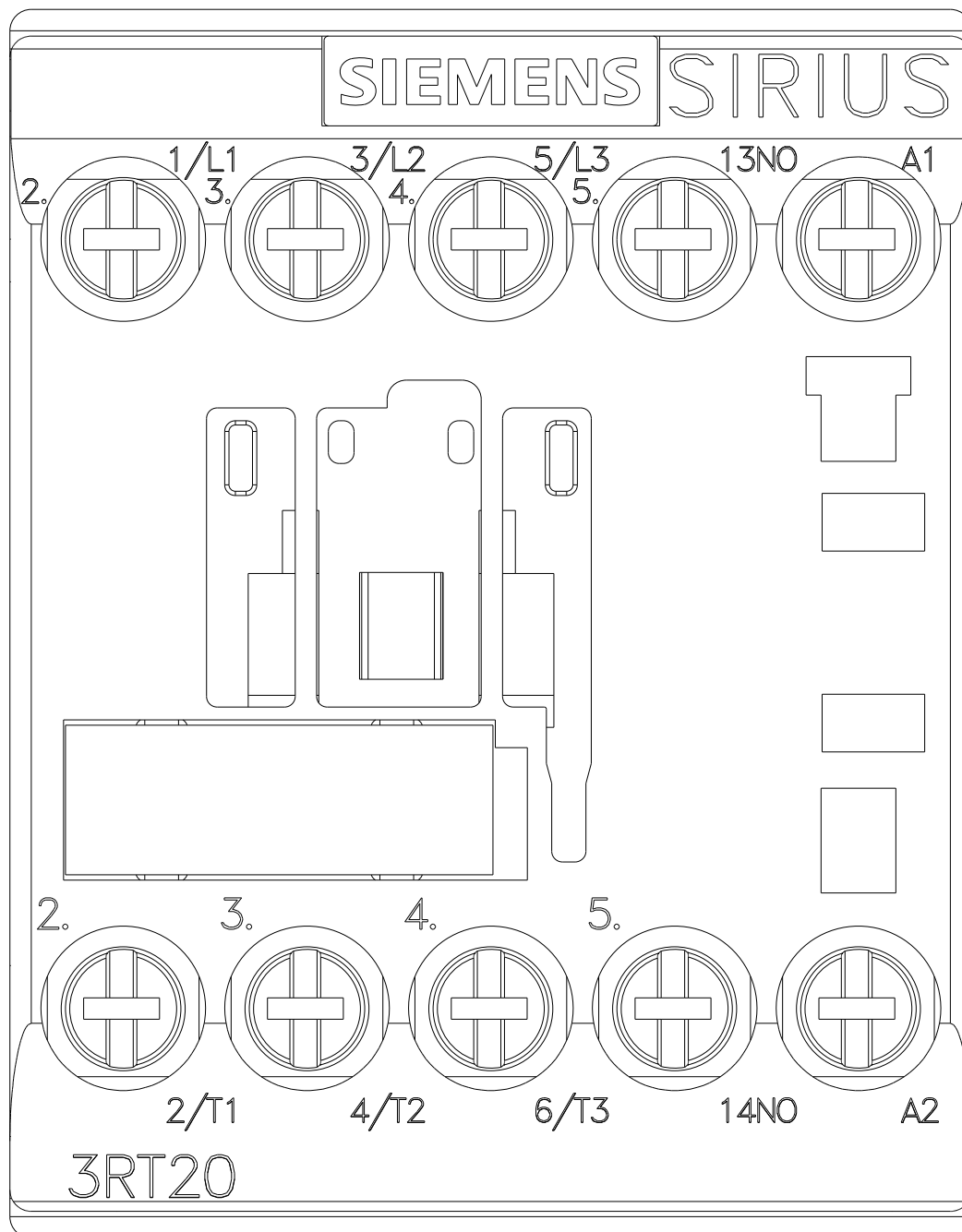
**Service&Support (Manuals, Certificates, Characteristics, FAQs,...)**

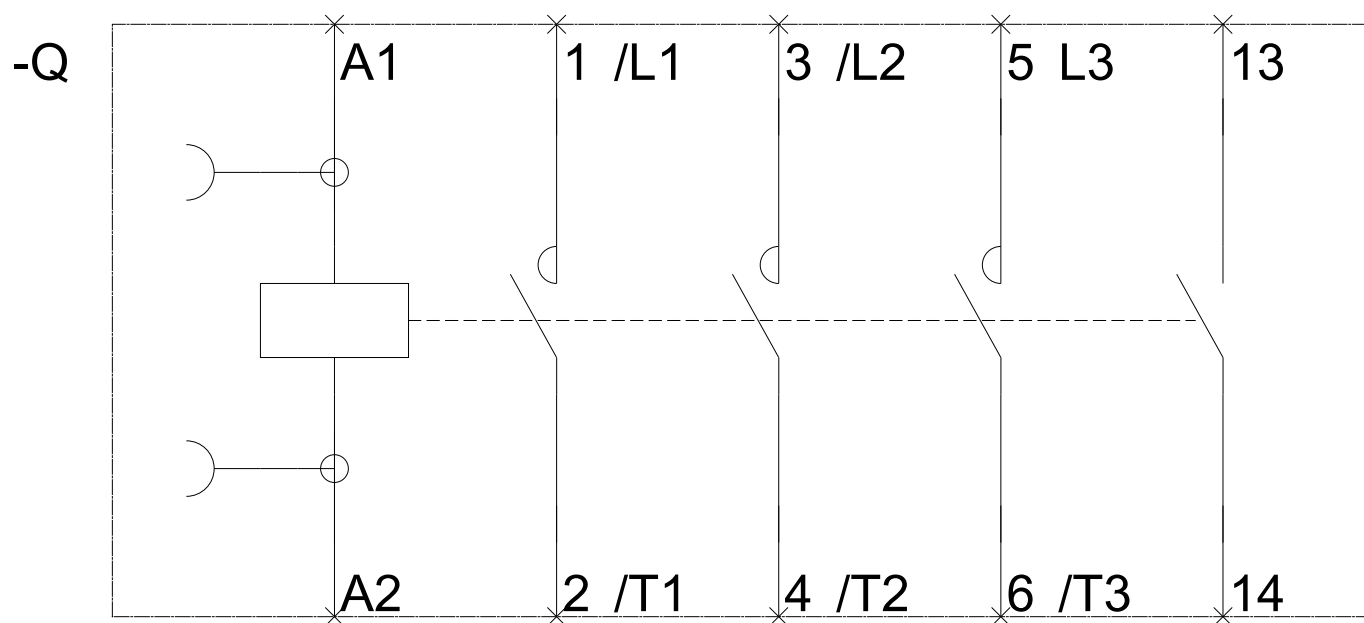
<https://support.industry.siemens.com/cs/ww/en/ps/3RT2018-1AF01>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RT2018-1AF01&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2018-1AF01&lang=en)







last modified:

06/20/2017