



power contactor, AC-3, 16 A, 7.5 kW / 400 V, 4-pole, 110 V AC, 50/60 Hz, main contacts: 2 NO + 2 NC, screw terminal, size: S00

|                                                                                                              |                              |
|--------------------------------------------------------------------------------------------------------------|------------------------------|
| product brand name                                                                                           | SIRIUS                       |
| product designation                                                                                          | contactor                    |
| product type designation                                                                                     | 3RT25                        |
| <b>General technical data</b>                                                                                |                              |
| size of contactor                                                                                            | S00                          |
| product extension                                                                                            |                              |
| • function module for communication                                                                          | No                           |
| • auxiliary switch                                                                                           | Yes                          |
| power loss [W] for rated value of the current                                                                |                              |
| • at AC in hot operating state per pole                                                                      | 1 W                          |
| • without load current share typical                                                                         | 1.5 W                        |
| type of calculation of power loss current-dependent                                                          | quadratic                    |
| insulation voltage                                                                                           |                              |
| • of main circuit with degree of pollution 3 rated value                                                     | 690 V                        |
| • of auxiliary circuit with degree of pollution 3 rated value                                                | 690 V                        |
| surge voltage resistance                                                                                     |                              |
| • of main circuit rated value                                                                                | 6 kV                         |
| • of auxiliary circuit rated value                                                                           | 6 kV                         |
| maximum permissible voltage for protective separation between coil and main contacts according to EN 60947-1 | 400 V                        |
| shock resistance at rectangular impulse                                                                      |                              |
| • at AC                                                                                                      | 7,3 g / 5 ms, 4,7 g / 10 ms  |
| shock resistance with sine pulse                                                                             |                              |
| • at AC                                                                                                      | 11,4 g / 5 ms, 7,3 g / 10 ms |
| mechanical service life (operating cycles)                                                                   |                              |
| • of contactor typical                                                                                       | 30 000 000                   |
| • of the contactor with added electronically optimized auxiliary switch block typical                        | 5 000 000                    |
| • of the contactor with added auxiliary switch block typical                                                 | 10 000 000                   |
| reference code according to IEC 81346-2                                                                      | Q                            |
| Substance Prohibitance (day/month/year)                                                                      | 10/01/2009                   |
| Net Weight                                                                                                   | 0.236 kg                     |
| <b>Ambient conditions</b>                                                                                    |                              |
| installation altitude at height above sea level maximum                                                      | 2 000 m                      |
| ambient temperature                                                                                          |                              |
| • during operation                                                                                           | -25 ... +60 °C               |
| • during storage                                                                                             | -55 ... +80 °C               |
| relative humidity minimum                                                                                    | 10 %                         |
| relative humidity at 55 °C according to IEC 60068-2-30 maximum                                               | 95 %                         |

| Main circuit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                             |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| number of poles for main current circuit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 4                                                                                                                                                                                                                                                                                                           |
| number of NO contacts for main contacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 2                                                                                                                                                                                                                                                                                                           |
| number of NC contacts for main contacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 2                                                                                                                                                                                                                                                                                                           |
| operational current <ul style="list-style-type: none"> <li>at AC-1 up to 690 V <ul style="list-style-type: none"> <li>at ambient temperature 40 °C rated value</li> <li>at ambient temperature 60 °C rated value</li> </ul> </li> <li>at AC-2 at AC-3 at 400 V <ul style="list-style-type: none"> <li>per NO contact rated value</li> <li>per NC contact rated value</li> </ul> </li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 22 A<br>20 A<br>16 A<br>9 A                                                                                                                                                                                                                                                                                 |
| minimum cross-section in main circuit at maximum AC-1 rated value                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 4 mm <sup>2</sup>                                                                                                                                                                                                                                                                                           |
| operational current <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> </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> </ul> </li> <li>at 1 current path at DC-3 at DC-5 <ul style="list-style-type: none"> <li>at 24 V per NC contact rated value</li> <li>at 24 V per NO contact rated value</li> <li>at 110 V per NC contact rated value</li> <li>at 110 V per NO contact rated value</li> <li>at 220 V per NC contact rated value</li> <li>at 220 V per NO contact 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 per NC contact rated value</li> <li>at 24 V per NO contact rated value</li> <li>at 110 V per NC contact rated value</li> <li>at 110 V per NO contact rated value</li> </ul> </li> </ul> | 20 A<br>2.1 A<br>0.8 A<br>0.6 A<br>20 A<br>12 A<br>1.6 A<br>0.8 A<br>20 A<br>20 A<br>0.075 A<br>0.15 A<br>0.375 A<br>0.75 A<br>20 A<br>20 A<br>0.175 A<br>0.35 A                                                                                                                                            |
| operating power at AC-2 at AC-3 <ul style="list-style-type: none"> <li>at 230 V per NC contact rated value</li> <li>at 230 V per NO contact rated value</li> <li>at 400 V per NC contact rated value</li> <li>at 400 V per NO contact rated value</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 2.2 kW<br>4 kW<br>4 kW<br>7.5 kW                                                                                                                                                                                                                                                                            |
| short-time withstand current in cold operating state up to 40 °C <ul style="list-style-type: none"> <li>limited to 1 s switching at zero current maximum</li> <li>limited to 5 s switching at zero current maximum</li> <li>limited to 10 s switching at zero current maximum</li> <li>limited to 30 s switching at zero current maximum</li> <li>limited to 60 s switching at zero current maximum</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 165 A; Use minimum cross-section acc. to AC-1 rated value<br>165 A; Use minimum cross-section acc. to AC-1 rated value<br>128 A; Use minimum cross-section acc. to AC-1 rated value<br>92 A; Use minimum cross-section acc. to AC-1 rated value<br>74 A; Use minimum cross-section acc. to AC-1 rated value |
| power loss [W] at AC-3 at 400 V for rated value of the operational current per conductor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 1 W                                                                                                                                                                                                                                                                                                         |
| power loss [W] at AC-3e at 400 V for rated value of the operational current per conductor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 1 W                                                                                                                                                                                                                                                                                                         |
| no-load switching frequency <ul style="list-style-type: none"> <li>at AC</li> <li>at DC</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 10 000 1/h<br>10 000 1/h                                                                                                                                                                                                                                                                                    |
| operating frequency <ul style="list-style-type: none"> <li>at AC-1 maximum</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1 000 1/h                                                                                                                                                                                                                                                                                                   |
| Control circuit/ Control                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                             |
| type of voltage of the control supply voltage                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | AC                                                                                                                                                                                                                                                                                                          |
| control supply voltage at AC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                             |

|                                                                                                                                                                                                                                                |                                                      |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• at 50 Hz rated value</li> <li>• at 60 Hz rated value</li> </ul>                                                                                                                                       | 110 V<br>110 V                                       |
| <b>operating range factor control supply voltage rated value of magnet coil at AC</b>                                                                                                                                                          |                                                      |
| <ul style="list-style-type: none"> <li>• at 50 Hz</li> <li>• at 60 Hz</li> </ul>                                                                                                                                                               | 0.8 ... 1.1<br>0.85 ... 1.1                          |
| <b>apparent pick-up power of magnet coil at AC</b>                                                                                                                                                                                             | 37 VA                                                |
| <ul style="list-style-type: none"> <li>• at 50 Hz</li> <li>• at 60 Hz</li> </ul>                                                                                                                                                               | 37 VA<br>33 VA                                       |
| <b>inductive power factor with closing power of the coil</b>                                                                                                                                                                                   | 0.8                                                  |
| <ul style="list-style-type: none"> <li>• at 50 Hz</li> <li>• at 60 Hz</li> </ul>                                                                                                                                                               | 0.8<br>0.75                                          |
| <b>apparent holding power of magnet coil at AC</b>                                                                                                                                                                                             | 5.7 VA                                               |
| <ul style="list-style-type: none"> <li>• at 50 Hz</li> <li>• at 60 Hz</li> </ul>                                                                                                                                                               | 5.7 VA<br>4.4 VA                                     |
| <b>inductive power factor with the holding power of the coil</b>                                                                                                                                                                               | 0.25                                                 |
| <ul style="list-style-type: none"> <li>• at 50 Hz</li> <li>• at 60 Hz</li> </ul>                                                                                                                                                               | 0.25<br>0.25                                         |
| <b>closing delay</b>                                                                                                                                                                                                                           |                                                      |
| <ul style="list-style-type: none"> <li>• at AC</li> </ul>                                                                                                                                                                                      | 9 ... 35 ms                                          |
| <b>opening delay</b>                                                                                                                                                                                                                           |                                                      |
| <ul style="list-style-type: none"> <li>• at AC</li> </ul>                                                                                                                                                                                      | 4 ... 15 ms                                          |
| <b>arcing time</b>                                                                                                                                                                                                                             | 10 ... 15 ms                                         |
| <b>residual current of the electronics for control with signal &lt;0&gt;</b>                                                                                                                                                                   |                                                      |
| <ul style="list-style-type: none"> <li>• at AC at 230 V maximum permissible</li> </ul>                                                                                                                                                         | 0.004 A                                              |
| <b>Auxiliary circuit</b>                                                                                                                                                                                                                       |                                                      |
| number of NC contacts for auxiliary contacts instantaneous contact                                                                                                                                                                             | 0                                                    |
| number of NO contacts for auxiliary contacts instantaneous contact                                                                                                                                                                             | 0                                                    |
| operational current at AC-12 maximum                                                                                                                                                                                                           | 10 A                                                 |
| <b>operational current at AC-15</b>                                                                                                                                                                                                            |                                                      |
| <ul style="list-style-type: none"> <li>• at 230 V rated value</li> <li>• at 400 V rated value</li> </ul>                                                                                                                                       | 10 A<br>3 A                                          |
| <b>operational current at DC-12</b>                                                                                                                                                                                                            |                                                      |
| <ul style="list-style-type: none"> <li>• at 48 V rated value</li> <li>• at 60 V rated value</li> <li>• at 110 V rated value</li> <li>• at 125 V rated value</li> <li>• at 220 V rated value</li> <li>• at 600 V rated value</li> </ul>         | 6 A<br>6 A<br>3 A<br>2 A<br>1 A<br>0.15 A            |
| <b>operational current at DC-13</b>                                                                                                                                                                                                            |                                                      |
| <ul style="list-style-type: none"> <li>• at 24 V rated value</li> <li>• at 48 V rated value</li> <li>• at 60 V rated value</li> <li>• at 110 V rated value</li> <li>• at 220 V rated value</li> <li>• at 600 V rated value</li> </ul>          | 10 A<br>2 A<br>2 A<br>1 A<br>0.3 A<br>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>yielded mechanical performance [hp]</b>                                                                                                                                                                                                     |                                                      |
| <ul style="list-style-type: none"> <li>• for single-phase AC motor at 230 V rated value</li> <li>• for 3-phase AC motor at 460/480 V rated value</li> </ul>                                                                                    | 2 hp<br>5 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 coordination 2 required</li> </ul> </li> </ul> | gG: 35 A (690 V, 100 kA)<br>gG: 20 A (690 V, 100 kA) |

| Installation/ mounting/ dimensions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                        |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>mounting position</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | +/-180° rotation possible on vertical mounting surface; can be tilted forward and backward by +/- 22.5° on vertical mounting surface                                                                   |
| fastening method side-by-side mounting                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Yes                                                                                                                                                                                                    |
| <b>fastening method</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 50022                                                                                                                               |
| <b>height</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 57.5 mm                                                                                                                                                                                                |
| <b>width</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 45 mm                                                                                                                                                                                                  |
| <b>depth</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 73 mm                                                                                                                                                                                                  |
| <b>required spacing</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                        |
| <ul style="list-style-type: none"> <li>• with side-by-side mounting <ul style="list-style-type: none"> <li>— forwards</li> <li>— backwards</li> <li>— upwards</li> <li>— downwards</li> <li>— at the side</li> </ul> </li> <li>• for grounded parts <ul style="list-style-type: none"> <li>— forwards</li> <li>— backwards</li> <li>— upwards</li> <li>— at the side</li> <li>— downwards</li> </ul> </li> <li>• for live parts <ul style="list-style-type: none"> <li>— forwards</li> <li>— backwards</li> <li>— upwards</li> <li>— downwards</li> <li>— at the side</li> </ul> </li> </ul> | 0 mm<br>0 mm<br>0 mm<br>0 mm<br>0 mm<br><br>0 mm<br>0 mm<br>0 mm<br>6 mm<br>0 mm<br><br>0 mm<br>0 mm<br>0 mm<br>0 mm<br>6 mm                                                                           |
| Connections/ Terminals                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                        |
| <b>type of electrical connection</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                        |
| <ul style="list-style-type: none"> <li>• for main current circuit</li> <li>• for auxiliary and control circuit</li> <li>• at contactor for auxiliary contacts</li> <li>• of magnet coil</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                           | screw-type terminals<br>screw-type terminals<br>Screw-type terminals<br>screw terminal                                                                                                                 |
| <b>type of connectable conductor cross-sections</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                        |
| <ul style="list-style-type: none"> <li>• for main contacts <ul style="list-style-type: none"> <li>— solid</li> <li>— solid or stranded</li> <li>— finely stranded with core end processing</li> </ul> </li> <li>• for AWG cables 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>— solid</li> <li>— solid or stranded</li> <li>— finely stranded with core end processing</li> </ul> </li> <li>• for AWG cables 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), 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>AWG number as coded connectable conductor cross section for main contacts</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 20 ... 12                                                                                                                                                                                              |
| <b>AWG number as coded connectable conductor cross section for auxiliary contacts</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 20 ... 12                                                                                                                                                                                              |
| Safety related data                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                        |
| <b>product function</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                        |
| <ul style="list-style-type: none"> <li>• mirror contact according to IEC 60947-4-1</li> <li>• positively driven operation according to IEC 60947-5-1</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                              | Yes; with 3RH29<br>No                                                                                                                                                                                  |
| Electrical Safety                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                        |
| <b>protection class IP on the front according to IEC 60529</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | IP20                                                                                                                                                                                                   |
| <b>touch protection on the front according to IEC 60529</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | finger-safe, for vertical contact from the front                                                                                                                                                       |
| Approvals Certificates                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                        |
| Environmental Product Declaration                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                        |
| <ul style="list-style-type: none"> <li>• global warming potential [CO2 eq] / during manufacturing</li> <li>• global warming potential [CO2 eq] / during operation</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                 | 1.18 kg<br>38.5 kg                                                                                                                                                                                     |

- global warming potential [CO2 eq] / after end of life
- global warming potential [CO2 eq] / total

-0.155 kg  
39.6 kg

## Environment

[Environmental Confirmations](#)



## General Product Approval

### EMV

### Test Certificates

### Maritime application



[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)



## Maritime application



## other

## Railway

[Confirmation](#)



[Miscellaneous](#)

[Special Test Certificate](#)

## Further information

Information on the packaging

<https://support.industry.siemens.com/cs/ww/en/view/109813875>

Information for data generation and storage

<https://support.industry.siemens.com/cs/ww/en/view/109995012>

Information- and Downloadcenter (Catalogs, Brochures,...)

<https://www.siemens.com/ic10>

Industry Mall (Online ordering system)

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RT2518-1AF00>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2518-1AF00>

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

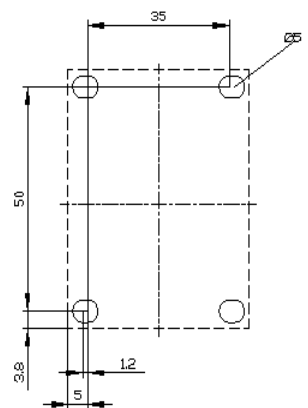
[https://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RT2518-1AF00&lang=en](https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2518-1AF00&lang=en)

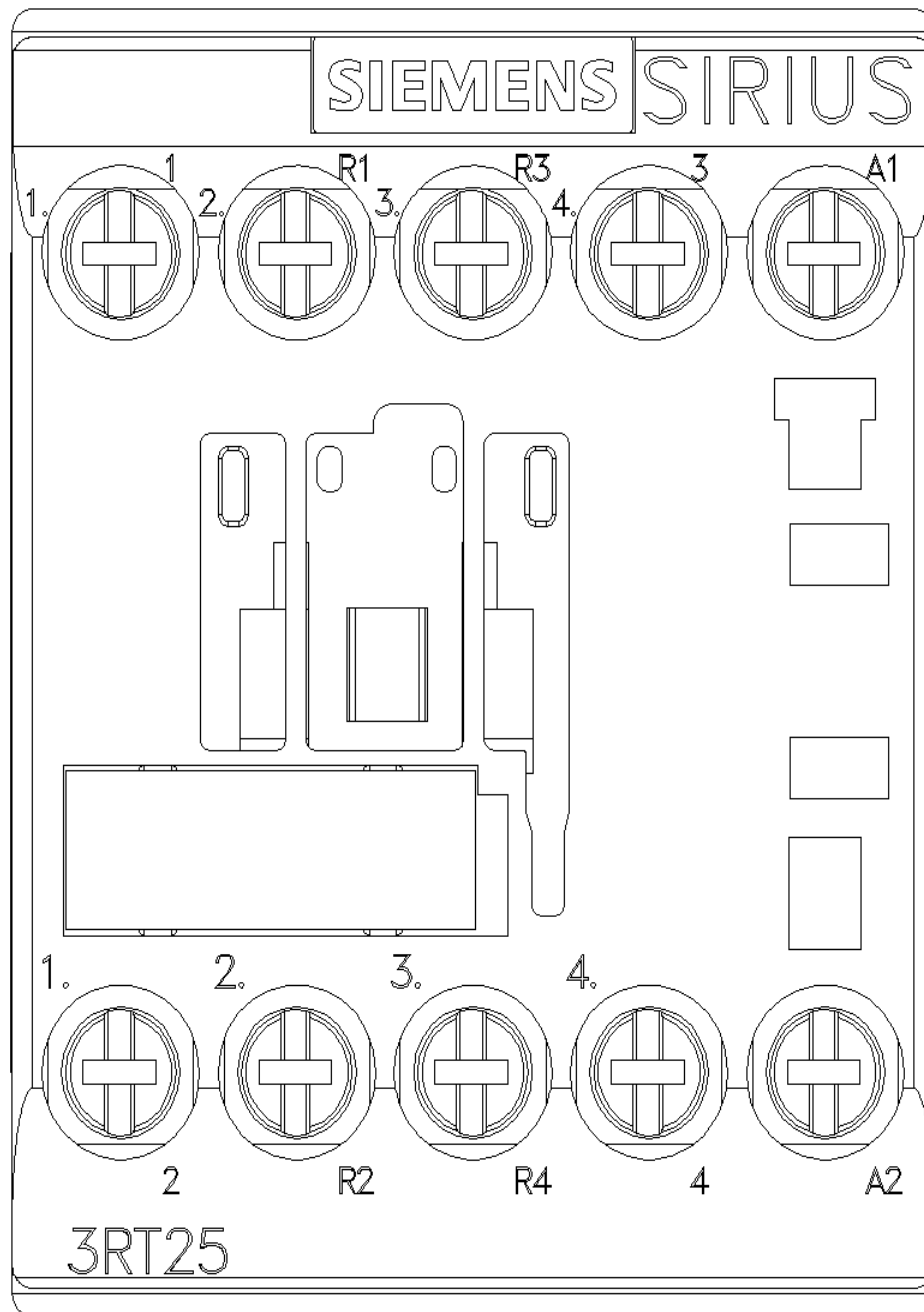
Cax online generator

<https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2518-1AF00>

Characteristic curves

[https://curves.simaris.siemens.com/curves/<mmp\\_prod\\_noCOMP='HAUPT'></mmp\\_prod\\_no>](https://curves.simaris.siemens.com/curves/<mmp_prod_noCOMP='HAUPT'></mmp_prod_no>)







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