



traction contactor, AC-3e/AC-3, 12 A, 5.5 kW / 400 V, 3-pole, 24 V DC, 0.7-1.25\*  
Uc, with integrated suppressor diode, auxiliary contacts: 1 NC, spring-loaded  
terminal, frame size: S00, with plugged on series resistor

|                                                                                                              |                               |
|--------------------------------------------------------------------------------------------------------------|-------------------------------|
| product brand name                                                                                           | SIRIUS                        |
| product designation                                                                                          | Power contactor               |
| design of the product                                                                                        | With extended operating range |
| product type designation                                                                                     | 3RT2                          |
| <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                                                                               | 3.6 W                         |
| • at AC in hot operating state per pole                                                                      | 1.2 W                         |
| • without load current share typical                                                                         | 4 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 DC                                                                                                      | 7.3 g / 5 ms, 4.7 g / 10 ms   |
| shock resistance with sine pulse                                                                             |                               |
| • at DC                                                                                                      | 11.4 g / 5 ms, 7.3g / 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                    |
| SVHC substance name                                                                                          | Lead CAS-No. 7439-92-1        |
| Net Weight                                                                                                   | 0.347 g                       |
| <b>Ambient conditions</b>                                                                                    |                               |
| installation altitude at height above sea level maximum                                                      | 2 000 m                       |
| ambient temperature                                                                                          |                               |
| • during operation                                                                                           | -40 ... +70 °C                |
| • during storage                                                                                             | -55 ... +80 °C                |

|                                                                 |                   |
|-----------------------------------------------------------------|-------------------|
| relative humidity minimum                                       | 10 %              |
| relative humidity at 55 °C according to IEC 60068-2-30 maximum  | 95 %              |
| <b>Main circuit</b>                                             |                   |
| number of poles for main current circuit                        | 3                 |
| number of NO contacts for main contacts                         | 3                 |
| operating voltage                                               |                   |
| • at AC-3 rated value maximum                                   | 690 V             |
| • at AC-3e rated value maximum                                  | 690 V             |
| operational current                                             |                   |
| • at AC-1 at 400 V at ambient temperature 40 °C rated value     | 22 A              |
| • at AC-1                                                       |                   |
| — up to 690 V at ambient temperature 40 °C rated value          | 22 A              |
| — up to 690 V at ambient temperature 60 °C rated value          | 20 A              |
| • at AC-2 at 400 V rated value                                  | 12 A              |
| • at AC-3                                                       |                   |
| — at 400 V rated value                                          | 12 A              |
| — at 500 V rated value                                          | 9.2 A             |
| — at 690 V rated value                                          | 6.7 A             |
| • at AC-3e                                                      |                   |
| — at 400 V rated value                                          | 12 A              |
| — at 500 V rated value                                          | 9.2 A             |
| — at 690 V rated value                                          | 6.7 A             |
| • at AC-4 at 400 V rated value                                  | 8.5 A             |
| minimum cross-section in main circuit                           |                   |
| • at maximum AC-1 rated value                                   | 4 mm <sup>2</sup> |
| operational current for approx. 200000 operating cycles at AC-4 |                   |
| • at 400 V rated value                                          | 4.1 A             |
| • at 690 V rated value                                          | 3.3 A             |
| operational current                                             |                   |
| • at 1 current path at DC-1                                     |                   |
| — at 24 V rated value                                           | 20 A              |
| — at 110 V rated value                                          | 2.1 A             |
| — at 220 V rated value                                          | 0.8 A             |
| — at 440 V rated value                                          | 0.6 A             |
| — at 600 V rated value                                          | 0.6 A             |
| • with 2 current paths in series at DC-1                        |                   |
| — at 24 V rated value                                           | 20 A              |
| — at 110 V rated value                                          | 12 A              |
| — at 220 V rated value                                          | 1.6 A             |
| — at 440 V rated value                                          | 0.8 A             |
| — at 600 V rated value                                          | 0.7 A             |
| • with 3 current paths in series at DC-1                        |                   |
| — at 24 V rated value                                           | 20 A              |
| — at 110 V rated value                                          | 20 A              |
| — at 220 V rated value                                          | 20 A              |
| — at 440 V rated value                                          | 1.3 A             |
| — at 600 V rated value                                          | 1 A               |
| • 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-2 at 400 V rated value                                                        | 5.5 kW                                                    |
| • at AC-3                                                                             |                                                           |
| — at 230 V rated value                                                                | 3 kW                                                      |
| — at 400 V rated value                                                                | 5.5 kW                                                    |
| — at 500 V rated value                                                                | 5.5 kW                                                    |
| — at 690 V rated value                                                                | 5.5 kW                                                    |
| • at AC-3e                                                                            |                                                           |
| — at 230 V rated value                                                                | 3 kW                                                      |
| — at 400 V rated value                                                                | 5.5 kW                                                    |
| — at 500 V rated value                                                                | 5.5 kW                                                    |
| — at 690 V rated value                                                                | 5.5 kW                                                    |
| <b>operating power for approx. 200000 operating cycles at AC-4</b>                    |                                                           |
| • at 400 V rated value                                                                | 2 kW                                                      |
| • at 690 V rated value                                                                | 2.5 kW                                                    |
| <b>short-time withstand current in cold operating state up to 40 °C</b>               |                                                           |
| • limited to 1 s switching at zero current maximum                                    | 200 A; Use minimum cross-section acc. to AC-1 rated value |
| • limited to 5 s switching at zero current maximum                                    | 123 A; Use minimum cross-section acc. to AC-1 rated value |
| • limited to 10 s switching at zero current maximum                                   | 96 A; Use minimum cross-section acc. to AC-1 rated value  |
| • limited to 30 s switching at zero current maximum                                   | 74 A; Use minimum cross-section acc. to AC-1 rated value  |
| • limited to 60 s switching at zero current maximum                                   | 61 A; Use minimum cross-section acc. to AC-1 rated value  |
| <b>no-load switching frequency</b>                                                    |                                                           |
| • at DC                                                                               | 1 500 1/h                                                 |
| <b>operating frequency</b>                                                            |                                                           |
| • at AC-2 at AC-3e maximum                                                            | 750 1/h                                                   |
| • at AC-4 maximum                                                                     | 250 1/h                                                   |
| <b>Control circuit/ Control</b>                                                       |                                                           |
| <b>type of voltage</b>                                                                | DC                                                        |
| <b>type of voltage of the control supply voltage</b>                                  | DC                                                        |
| <b>control supply voltage at DC rated value</b>                                       | 24 V                                                      |
| <b>operating range factor control supply voltage rated value of magnet coil at DC</b> |                                                           |
| • initial value                                                                       | 0.7                                                       |
| • full-scale value                                                                    | 1.25                                                      |
| <b>design of the surge suppressor</b>                                                 | suppressor diode                                          |
| <b>closing power of magnet coil at DC</b>                                             | 13 W                                                      |
| <b>holding power of magnet coil at DC</b>                                             | 4 W                                                       |
| <b>closing delay</b>                                                                  |                                                           |
| • at DC                                                                               | 25 ... 130 ms                                             |
| <b>opening delay</b>                                                                  |                                                           |
| • at DC                                                                               | 7 ... 20 ms                                               |
| <b>arcing time</b>                                                                    | 10 ... 15 ms                                              |
| <b>control version of the switch operating mechanism</b>                              | E1 - A2                                                   |
| <b>Auxiliary circuit</b>                                                              |                                                           |
| <b>number of NC contacts for auxiliary contacts</b>                                   | 1                                                         |
| <b>operational current at AC-12 maximum</b>                                           | 10 A                                                      |
| <b>operational current at AC-15</b>                                                   |                                                           |
| • at 230 V rated value                                                                | 10 A                                                      |
| • at 400 V rated value                                                                | 3 A                                                       |
| • at 500 V rated value                                                                | 2 A                                                       |
| • at 690 V rated value                                                                | 1 A                                                       |
| <b>operational current at DC-12</b>                                                   |                                                           |
| • at 24 V rated value                                                                 | 10 A                                                      |
| • at 48 V rated value                                                                 | 6 A                                                       |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                          |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <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>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 125 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>0.9 A<br>0.3 A<br>0.1 A                                                                                                                                     |
| <b>UL/CSA ratings</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                          |
| <b>full-load current (FLA) for 3-phase AC motor</b> <ul style="list-style-type: none"> <li>• at 480 V rated value</li> <li>• at 600 V rated value</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                          | 11 A<br>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> <li>• for 3-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> <li>— at 575/600 V rated value</li> </ul> </li> </ul>                                                                                      | 0.5 hp<br>2 hp<br>3 hp<br>3 hp<br>7.5 hp<br>10 hp                                                                                                                                        |
| <b>contact rating of auxiliary contacts according to UL</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | A600 / Q600                                                                                                                                                                              |
| <b>Short-circuit protection</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                          |
| design of the miniature circuit breaker for short-circuit protection of the auxiliary circuit up to 230 V                                                                                                                                                                                                                                                                                                                                                                                                                                             | C characteristic: 10 A; 0.4 kA                                                                                                                                                           |
| <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> <li>• for short-circuit protection of the auxiliary switch required</li> </ul>                                                                                                                                                                                                | gG: 50 A (690 V, 100 kA), aM: 20 A (690 V, 100 kA), BS88: 35 A (415 V, 80 kA)<br>gG: 20 A (690 V, 100 kA), aM: 16 A (690 V, 100 kA), BS88: 20 A (415 V, 80 kA)<br>gG: 10 A (690 V, 1 kA) |
| <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                                                     |
| 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 60715                                                                                                                 |
| <b>height</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 70 mm                                                                                                                                                                                    |
| <b>width</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 45 mm                                                                                                                                                                                    |
| <b>depth</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 121 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>— 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>— 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>— upwards</li> <li>— downwards</li> <li>— at the side</li> </ul> </li> </ul> | 10 mm<br>10 mm<br>10 mm<br>0 mm<br>10 mm<br>10 mm<br>6 mm<br>10 mm<br>10 mm<br>10 mm<br>6 mm<br>10 mm<br>10 mm<br>10 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>                                                                                                                                  | spring-loaded terminals<br>spring-loaded terminals<br>Spring-type terminals<br>Spring-loaded 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> <li>— finely stranded without core end processing</li> </ul> </li> <li>• for AWG cables for main contacts</li> </ul> | 2x (0.5 ... 1.5 mm <sup>2</sup> ), 2x (0.75 ... 2.5 mm <sup>2</sup> ), 2x 4 mm <sup>2</sup><br>2x (0,5 ... 4 mm <sup>2</sup> )<br>2x (0.5 ... 2.5 mm <sup>2</sup> )<br>2x (0.5 ... 2.5 mm <sup>2</sup> )<br>2x (20 ... 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 or stranded</li> <li>— finely stranded with core end processing</li> <li>— finely stranded without core end processing</li> </ul> </li> <li>• for AWG cables for auxiliary contacts</li> </ul>        | 2x (0,5 ... 4 mm <sup>2</sup> )<br>2x (0.5 ... 2.5 mm <sup>2</sup> )<br>2x (0.5 ... 2.5 mm <sup>2</sup> )<br>2x (20 ... 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> <li>• suitable for safety function</li> </ul>                                                                                                                                          | Yes<br>No<br>Yes                                                                                                                                                                                                           |
| suitability for use safety-related switching OFF                                                                                                                                                                                                                                                                                                                         | Yes                                                                                                                                                                                                                        |
| <b>service life maximum</b>                                                                                                                                                                                                                                                                                                                                              | 20 a                                                                                                                                                                                                                       |
| <b>test wear-related service life necessary</b>                                                                                                                                                                                                                                                                                                                          | Yes                                                                                                                                                                                                                        |
| <b>proportion of dangerous failures</b> <ul style="list-style-type: none"> <li>• with low demand rate according to SN 31920</li> <li>• with high demand rate according to SN 31920</li> </ul>                                                                                                                                                                            | 40 %<br>73 %                                                                                                                                                                                                               |
| <b>B10 value with high demand rate according to SN 31920</b>                                                                                                                                                                                                                                                                                                             | 1 000 000                                                                                                                                                                                                                  |
| <b>failure rate [FIT] with low demand rate according to SN 31920</b>                                                                                                                                                                                                                                                                                                     | 100 FIT                                                                                                                                                                                                                    |
| ISO 13849                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                            |
| <b>device type according to ISO 13849-1</b>                                                                                                                                                                                                                                                                                                                              | 3                                                                                                                                                                                                                          |
| <b>overdimensioning according to ISO 13849-2 necessary</b>                                                                                                                                                                                                                                                                                                               | Yes                                                                                                                                                                                                                        |
| IEC 61508                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                            |
| <b>safety device type according to IEC 61508-2</b>                                                                                                                                                                                                                                                                                                                       | Type A                                                                                                                                                                                                                     |
| 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                                                                                                                                                                           |
| Communication/ Protocol                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                            |
| <b>product function bus communication</b>                                                                                                                                                                                                                                                                                                                                | No                                                                                                                                                                                                                         |
| Approvals Certificates                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                            |
| Environmental Product Declaration                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                            |
| <ul style="list-style-type: none"> <li>• global warming potential [CO<sub>2</sub> eq] / during manufacturing</li> <li>• global warming potential [CO<sub>2</sub> eq] / during operation</li> <li>• global warming potential [CO<sub>2</sub> eq] / after end of life</li> <li>• global warming potential [CO<sub>2</sub> eq] / total</li> </ul>                           | 1.42 kg<br>152 kg<br>-0.305 kg<br>153 kg                                                                                                                                                                                   |
| <b>Environment</b>                                                                                                                                                                                                                                                                                                                                                       | <b>General Product Approval</b>                                                                                                                                                                                            |

[Environmental Con-  
firmations](#)



|                          |     |                   |
|--------------------------|-----|-------------------|
| General Product Approval | EMV | Test Certificates |
|--------------------------|-----|-------------------|



EG-Konf.



RCM

[Type Test Certificates/Test Report](#)

|                   |                      |
|-------------------|----------------------|
| Test Certificates | Maritime application |
|-------------------|----------------------|

[Special Test Certificate](#)



ABS



BUREAU  
VERITAS



DNV



LRS



PRS

|                      |       |
|----------------------|-------|
| Maritime application | other |
|----------------------|-------|



RINA



RMRS

[Miscellaneous](#)

[Confirmation](#)



[Miscellaneous](#)

|         |                 |
|---------|-----------------|
| Railway | Dangerous goods |
|---------|-----------------|

[Special Test Certificate](#)

[Transport Information](#)

#### 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=3RT2017-2KB42-0LA0>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2017-2KB42-0LA0>

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

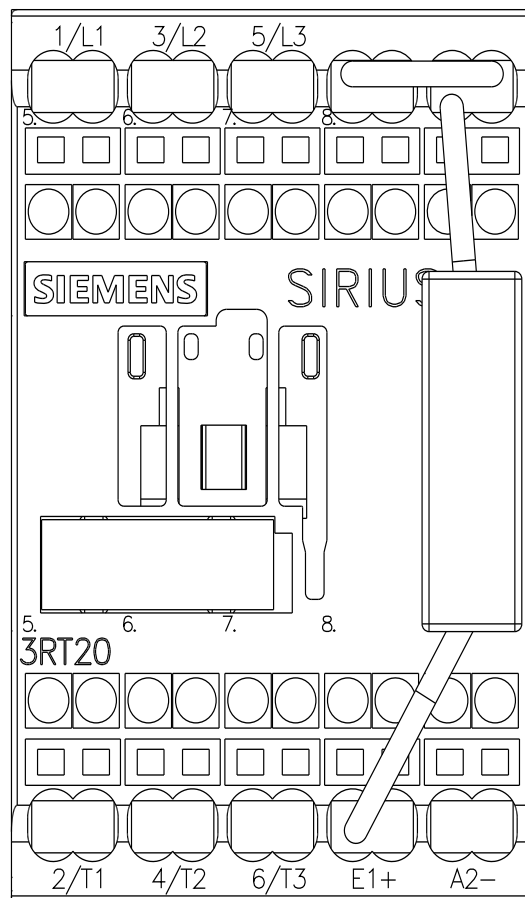
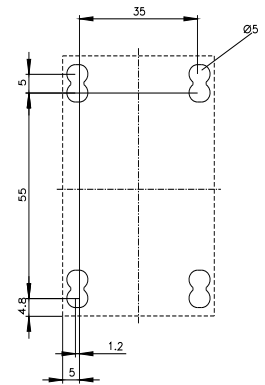
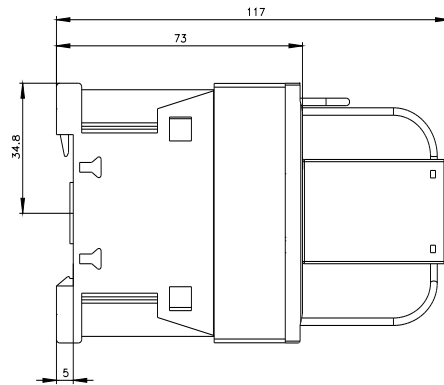
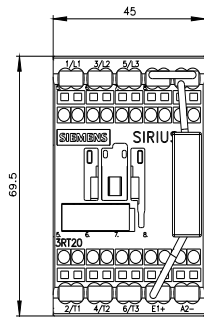
[https://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RT2017-2KB42-0LA0&lang=en](https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2017-2KB42-0LA0&lang=en)

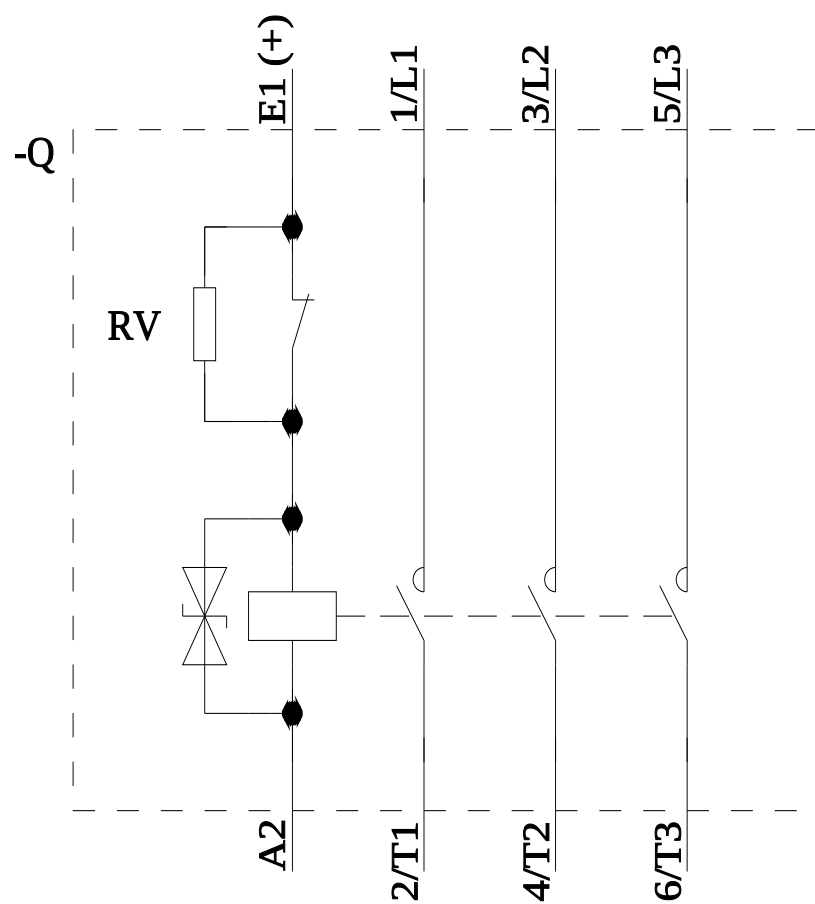
Cax online generator

<https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2017-2KB42-0LA0>

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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