



Circuit breaker size S0 for motor protection, CLASS 10 A-release 27...32 A N-release 400 A screw terminal Standard switching capacity with transverse auxiliary switches 1 NO+1 NC

|                                                                                     |                                                                |
|-------------------------------------------------------------------------------------|----------------------------------------------------------------|
| product brand name                                                                  | SIRIUS                                                         |
| product designation                                                                 | Circuit breaker                                                |
| design of the product                                                               | For motor protection                                           |
| product type designation                                                            | 3RV2                                                           |
| <b>General technical data</b>                                                       |                                                                |
| size of the circuit-breaker                                                         | S0                                                             |
| size of contactor can be combined company-specific                                  | S00, S0                                                        |
| product extension auxiliary switch                                                  | Yes                                                            |
| power loss [W] for rated value of the current                                       |                                                                |
| • at AC in hot operating state                                                      | 13.25 W                                                        |
| • at AC in hot operating state per pole                                             | 4.4 W                                                          |
| insulation voltage with degree of pollution 3 at AC rated value                     | 690 V                                                          |
| surge voltage resistance rated value                                                | 6 kV                                                           |
| shock resistance according to IEC 60068-2-27                                        | 25g / 11 ms                                                    |
| mechanical service life (operating cycles)                                          |                                                                |
| • of the main contacts typical                                                      | 100 000                                                        |
| • of auxiliary contacts typical                                                     | 100 000                                                        |
| electrical endurance (operating cycles) typical                                     | 100 000                                                        |
| reference code according to IEC 81346-2                                             | Q                                                              |
| Substance Prohibitance (Date)                                                       | 10/01/2009                                                     |
| SVHC substance name                                                                 | Lead - 7439-92-1<br>Lead titanium zirconium oxide - 12626-81-2 |
| Net Weight                                                                          | 393 g                                                          |
| <b>Ambient conditions</b>                                                           |                                                                |
| installation altitude at height above sea level maximum                             | 2 000 m                                                        |
| ambient temperature                                                                 |                                                                |
| • during operation                                                                  | -20 ... +60 °C                                                 |
| • during storage                                                                    | -50 ... +80 °C                                                 |
| • during transport                                                                  | -50 ... +80 °C                                                 |
| relative humidity during operation                                                  | 10 ... 95 %                                                    |
| <b>Main circuit</b>                                                                 |                                                                |
| number of poles for main current circuit                                            | 3                                                              |
| adjustable current response value current of the current-dependent overload release | 27 ... 32 A                                                    |
| type of voltage for main current circuit                                            | AC                                                             |
| operating voltage                                                                   |                                                                |

|                                                                                                                                                                                                                                        |                                     |
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| <ul style="list-style-type: none"> <li>• rated value</li> </ul>                                                                                                                                                                        | 20 ... 690 V                        |
| <ul style="list-style-type: none"> <li>• at AC-3 rated value maximum</li> </ul>                                                                                                                                                        | 690 V                               |
| <ul style="list-style-type: none"> <li>• at AC-3e rated value maximum</li> </ul>                                                                                                                                                       | 690 V                               |
| <b>operating frequency rated value</b>                                                                                                                                                                                                 | 50 ... 60 Hz                        |
| <b>operational current rated value</b>                                                                                                                                                                                                 | 32 A                                |
| <b>operational current</b>                                                                                                                                                                                                             |                                     |
| <ul style="list-style-type: none"> <li>• at AC-3 at 400 V rated value</li> </ul>                                                                                                                                                       | 32 A                                |
| <ul style="list-style-type: none"> <li>• at AC-3e at 400 V rated value</li> </ul>                                                                                                                                                      | 32 A                                |
| <b>operating power</b>                                                                                                                                                                                                                 |                                     |
| <ul style="list-style-type: none"> <li>• at AC-3 <ul style="list-style-type: none"> <li>— at 230 V rated value</li> <li>— at 400 V rated value</li> <li>— at 500 V rated value</li> <li>— at 690 V rated value</li> </ul> </li> </ul>  | 7.5 kW<br>15 kW<br>18.5 kW<br>30 kW |
| <ul style="list-style-type: none"> <li>• at AC-3e <ul style="list-style-type: none"> <li>— at 230 V rated value</li> <li>— at 400 V rated value</li> <li>— at 500 V rated value</li> <li>— at 690 V rated value</li> </ul> </li> </ul> | 7.5 kW<br>15 kW<br>18.5 kW<br>30 kW |
| <b>operating frequency</b>                                                                                                                                                                                                             |                                     |
| <ul style="list-style-type: none"> <li>• at AC-3 maximum</li> </ul>                                                                                                                                                                    | 15 1/h                              |
| <ul style="list-style-type: none"> <li>• at AC-3e maximum</li> </ul>                                                                                                                                                                   | 15 1/h                              |
| <b>Auxiliary circuit</b>                                                                                                                                                                                                               |                                     |
| <b>design of the auxiliary switch</b>                                                                                                                                                                                                  | transverse                          |
| <b>type of voltage for auxiliary and control circuit</b>                                                                                                                                                                               | AC/DC                               |
| <b>number of NC contacts for auxiliary contacts</b>                                                                                                                                                                                    | 1                                   |
| <b>number of NO contacts for auxiliary contacts</b>                                                                                                                                                                                    | 1                                   |
| number of CO contacts for auxiliary contacts                                                                                                                                                                                           | 0                                   |
| <b>operational current of auxiliary contacts at AC-15</b>                                                                                                                                                                              |                                     |
| <ul style="list-style-type: none"> <li>• at 24 V</li> </ul>                                                                                                                                                                            | 2 A                                 |
| <ul style="list-style-type: none"> <li>• at 120 V</li> </ul>                                                                                                                                                                           | 0.5 A                               |
| <ul style="list-style-type: none"> <li>• at 125 V</li> </ul>                                                                                                                                                                           | 0.5 A                               |
| <ul style="list-style-type: none"> <li>• at 230 V</li> </ul>                                                                                                                                                                           | 0.5 A                               |
| <b>operational current of auxiliary contacts at DC-13</b>                                                                                                                                                                              |                                     |
| <ul style="list-style-type: none"> <li>• at 24 V</li> </ul>                                                                                                                                                                            | 1 A                                 |
| <ul style="list-style-type: none"> <li>• at 60 V</li> </ul>                                                                                                                                                                            | 0.15 A                              |
| <b>Protective and monitoring functions</b>                                                                                                                                                                                             |                                     |
| <b>product function</b>                                                                                                                                                                                                                |                                     |
| <ul style="list-style-type: none"> <li>• ground fault detection</li> </ul>                                                                                                                                                             | No                                  |
| <ul style="list-style-type: none"> <li>• phase failure detection</li> </ul>                                                                                                                                                            | Yes                                 |
| <b>trip class</b>                                                                                                                                                                                                                      | CLASS 10                            |
| <b>design of the overload release</b>                                                                                                                                                                                                  | thermal                             |
| <b>maximum short-circuit current breaking capacity (Icu)</b>                                                                                                                                                                           |                                     |
| <ul style="list-style-type: none"> <li>• at AC at 240 V rated value</li> </ul>                                                                                                                                                         | 100 kA                              |
| <ul style="list-style-type: none"> <li>• at AC at 400 V rated value</li> </ul>                                                                                                                                                         | 55 kA                               |
| <ul style="list-style-type: none"> <li>• at AC at 500 V rated value</li> </ul>                                                                                                                                                         | 10 kA                               |
| <ul style="list-style-type: none"> <li>• at AC at 690 V rated value</li> </ul>                                                                                                                                                         | 4 kA                                |
| <b>operating short-circuit current breaking capacity (Ics) at AC</b>                                                                                                                                                                   |                                     |
| <ul style="list-style-type: none"> <li>• at 240 V rated value</li> </ul>                                                                                                                                                               | 100 kA                              |
| <ul style="list-style-type: none"> <li>• at 400 V rated value</li> </ul>                                                                                                                                                               | 25 kA                               |
| <ul style="list-style-type: none"> <li>• at 500 V rated value</li> </ul>                                                                                                                                                               | 5 kA                                |
| <ul style="list-style-type: none"> <li>• at 690 V rated value</li> </ul>                                                                                                                                                               | 2 kA                                |
| response value current of instantaneous short-circuit trip unit                                                                                                                                                                        | 400 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> </ul>                                                                                                                                                               | 32 A                                |
| <ul style="list-style-type: none"> <li>• at 600 V rated value</li> </ul>                                                                                                                                                               | 32 A                                |
| <b>yielded mechanical performance [hp]</b>                                                                                                                                                                                             |                                     |
| <ul style="list-style-type: none"> <li>• for single-phase AC motor</li> </ul>                                                                                                                                                          |                                     |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                              |
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| <ul style="list-style-type: none"> <li>— at 110/120 V rated value</li> <li>— at 230 V rated value</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> </ul> </li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 2 hp<br>5 hp<br><br>7.5 hp<br>10 hp<br>20 hp                                                                                                                                                 |
| <b>contact rating of auxiliary contacts according to UL</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | C300 / R300                                                                                                                                                                                  |
| <b>Category Control Number (CCN)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | E156943 (NKJH, NKJH7)                                                                                                                                                                        |
| <b>Short-circuit protection</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                              |
| <b>product function short circuit protection</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Yes                                                                                                                                                                                          |
| <b>design of the short-circuit trip</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | magnetic                                                                                                                                                                                     |
| <b>design of the fuse link</b> <ul style="list-style-type: none"> <li>• for short-circuit protection of the auxiliary switch required</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Fuse gL/gG: 10 A, miniature circuit breaker C 6 A (short-circuit current I <sub>k</sub> < 400 A)                                                                                             |
| <b>design of the fuse link for IT network for short-circuit protection of the main circuit</b> <ul style="list-style-type: none"> <li>• at 400 V</li> <li>• at 500 V</li> <li>• at 690 V</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | gL/gG 63 A<br>gL/gG 63 A<br>gL/gG 63 A                                                                                                                                                       |
| <b>Installation/ mounting/ dimensions</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                              |
| <b>mounting position</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | any                                                                                                                                                                                          |
| <b>fastening method</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715                                                                                                                     |
| <b>height</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 97 mm                                                                                                                                                                                        |
| <b>width</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 45 mm                                                                                                                                                                                        |
| <b>depth</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 97 mm                                                                                                                                                                                        |
| <b>required spacing</b> <ul style="list-style-type: none"> <li>• with side-by-side mounting at the side</li> <li>• for grounded parts at 400 V <ul style="list-style-type: none"> <li>— downwards</li> <li>— upwards</li> <li>— at the side</li> </ul> </li> <li>• for live parts at 400 V <ul style="list-style-type: none"> <li>— downwards</li> <li>— upwards</li> <li>— at the side</li> </ul> </li> <li>• for grounded parts at 500 V <ul style="list-style-type: none"> <li>— downwards</li> <li>— upwards</li> <li>— at the side</li> </ul> </li> <li>• for live parts at 500 V <ul style="list-style-type: none"> <li>— downwards</li> <li>— upwards</li> <li>— at the side</li> </ul> </li> <li>• for grounded parts at 690 V <ul style="list-style-type: none"> <li>— downwards</li> <li>— upwards</li> <li>— backwards</li> <li>— at the side</li> <li>— forwards</li> </ul> </li> <li>• for live parts at 690 V <ul style="list-style-type: none"> <li>— downwards</li> <li>— upwards</li> <li>— backwards</li> <li>— at the side</li> <li>— forwards</li> </ul> </li> </ul> | 0 mm<br><br>30 mm<br>30 mm<br>9 mm<br><br>30 mm<br>30 mm<br>9 mm<br><br>30 mm<br>30 mm<br>9 mm<br><br>50 mm<br>50 mm<br>0 mm<br>30 mm<br>0 mm<br><br>50 mm<br>50 mm<br>0 mm<br>30 mm<br>0 mm |
| <b>Connections/ Terminals</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                              |
| <b>type of electrical connection</b> <ul style="list-style-type: none"> <li>• for main current circuit</li> <li>• for auxiliary and control circuit</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | screw-type terminals<br>screw-type terminals                                                                                                                                                 |

|                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                               |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>arrangement of electrical connectors for main current circuit</b>                                                                                                                                                                                                                                                                                           | Top and bottom                                                                                                                                                                                |
| <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 or stranded</li> <li>— finely stranded with core end processing</li> </ul> </li> <li>• for AWG cables for main contacts</li> </ul>                                                               | 2x (1 ... 2.5 mm <sup>2</sup> ), 2x (2.5 ... 10 mm <sup>2</sup> )<br>2x (1 ... 2.5 mm <sup>2</sup> ), 2x (2.5 ... 6 mm <sup>2</sup> ), 1x 10 mm <sup>2</sup><br>2x (16 ... 12), 2x (14 ... 8) |
| <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> </ul> </li> <li>• for AWG cables for auxiliary contacts</li> </ul>                                                     | 2x (0.5 ... 1.5 mm <sup>2</sup> ), 2x (0.75 ... 2.5 mm <sup>2</sup> )<br>2x (0.5 ... 1.5 mm <sup>2</sup> ), 2x (0.75 ... 2.5 mm <sup>2</sup> )<br>2x (20 ... 16), 2x (18 ... 14)              |
| <b>tightening torque</b> <ul style="list-style-type: none"> <li>• for main contacts with screw-type terminals</li> <li>• for auxiliary contacts with screw-type terminals</li> </ul>                                                                                                                                                                           | 2 ... 2.5 N·m<br>0.8 ... 1.2 N·m                                                                                                                                                              |
| <b>design of screwdriver shaft</b>                                                                                                                                                                                                                                                                                                                             | Diameter 5 to 6 mm                                                                                                                                                                            |
| <b>size of the screwdriver tip</b>                                                                                                                                                                                                                                                                                                                             | Pozidriv size 2                                                                                                                                                                               |
| <b>design of the thread of the connection screw</b> <ul style="list-style-type: none"> <li>• for main contacts</li> <li>• of the auxiliary and control contacts</li> </ul>                                                                                                                                                                                     | M4<br>M3                                                                                                                                                                                      |
| <b>Safety related data</b>                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                               |
| product function suitable for safety function                                                                                                                                                                                                                                                                                                                  | Yes                                                                                                                                                                                           |
| <b>suitability for use</b> <ul style="list-style-type: none"> <li>• safety-related switching on</li> <li>• safety-related switching OFF</li> </ul>                                                                                                                                                                                                             | No<br>Yes                                                                                                                                                                                     |
| <b>service life maximum</b>                                                                                                                                                                                                                                                                                                                                    | 10 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>50 %                                                                                                                                                                                  |
| <b>B10 value with high demand rate according to SN 31920</b>                                                                                                                                                                                                                                                                                                   | 5 000                                                                                                                                                                                         |
| <b>failure rate [FIT] with low demand rate according to SN 31920</b>                                                                                                                                                                                                                                                                                           | 50 FIT                                                                                                                                                                                        |
| <b>ISO 13849</b>                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                               |
| <b>device type according to ISO 13849-1</b>                                                                                                                                                                                                                                                                                                                    | 3                                                                                                                                                                                             |
| <b>overdimensioning according to ISO 13849-2 necessary</b>                                                                                                                                                                                                                                                                                                     | Yes                                                                                                                                                                                           |
| <b>IEC 61508</b>                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                               |
| <b>safety device type according to IEC 61508-2</b>                                                                                                                                                                                                                                                                                                             | Type A                                                                                                                                                                                        |
| <b>T1 value</b> <ul style="list-style-type: none"> <li>• for proof test interval or service life according to IEC 61508</li> </ul>                                                                                                                                                                                                                             | 10 a                                                                                                                                                                                          |
| <b>Electrical Safety</b>                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                               |
| <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                                                                                                                                              |
| <b>Display</b>                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                               |
| display version for switching status                                                                                                                                                                                                                                                                                                                           | Handle                                                                                                                                                                                        |
| <b>Approvals Certificates</b>                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                               |
| <b>Environmental Product Declaration</b>                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                               |
| <ul style="list-style-type: none"> <li>• global warming potential [CO2 eq] / during manufacturing</li> <li>• global warming potential [CO2 eq] / during sales</li> <li>• global warming potential [CO2 eq] / during operation</li> <li>• global warming potential [CO2 eq] / after end of life</li> <li>• global warming potential [CO2 eq] / total</li> </ul> | 2.68 kg<br>0.143 kg<br>72.7 kg<br>-0.445 kg<br>75.078 kg                                                                                                                                      |
| <b>Environment</b>                                                                                                                                                                                                                                                                                                                                             | <b>General Product Approval</b>                                                                                                                                                               |



Environmental Con-  
firmations



|                          |                                |
|--------------------------|--------------------------------|
| General Product Approval | For use in hazardous locations |
|--------------------------|--------------------------------|



|                                |                   |                      |
|--------------------------------|-------------------|----------------------|
| For use in hazardous locations | Test Certificates | Maritime application |
|--------------------------------|-------------------|----------------------|



[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)



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



[Confirmation](#)

[Miscellaneous](#)



|       |         |
|-------|---------|
| other | Railway |
|-------|---------|



[Special Test Certificate](#)

[Confirmation](#)

#### 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=3RV2021-4EA15>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2021-4EA15>

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

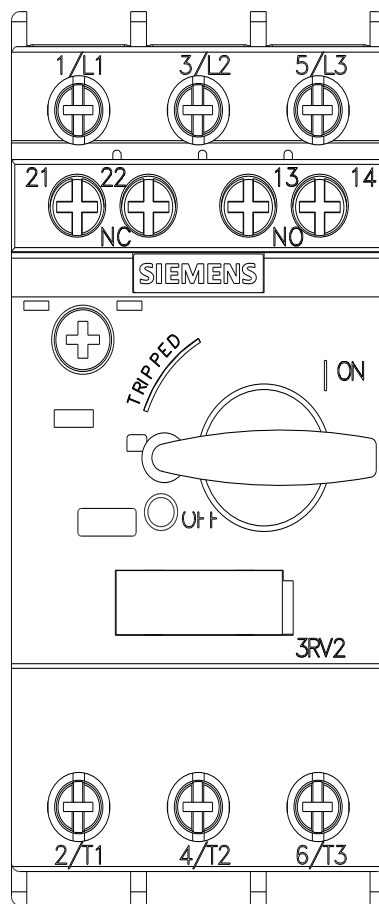
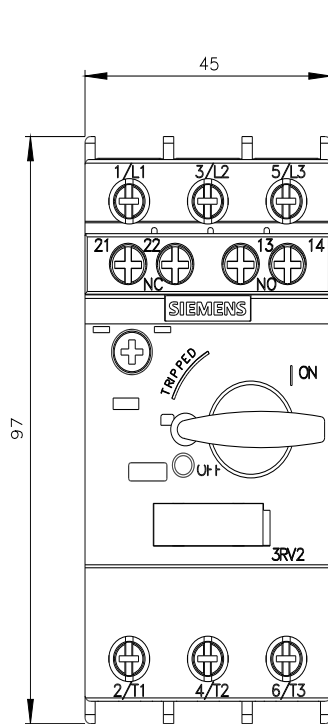
[https://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RV2021-4EA15&lang=en](https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2021-4EA15&lang=en)

Cax online generator

<https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2021-4EA15>

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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