

Siemens  
EcoTech



circuit breaker frame size S00 for motor protection, Class 10 thermal release 5.5...8 A short-circuit release 104 A spring-loaded terminal standard switching capacity with transverse auxiliary switch 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>                                                                  |                      |
| Product equipment of circuit breaker for motor protection complete unit with protection device | Yes                  |
| size of the circuit-breaker                                                                    | S00                  |
| size of contactor can be combined company-specific                                             | S00, S0              |
| product function disconnecter functionality                                                    | Yes                  |
| product extension auxiliary switch                                                             | Yes                  |
| power loss [W] for rated value of the current                                                  |                      |
| • at AC in hot operating state                                                                 | 9.25 W               |
| • at AC in hot operating state per pole                                                        | 3.1 W                |
| type of calculation of power loss current-dependent                                            | quadratic            |
| insulation voltage with degree of pollution 3 at AC rated value                                | 690 V                |
| surge voltage resistance rated value                                                           | 6 kV                 |
| maximum permissible voltage for protective separation                                          |                      |
| • in networks with ungrounded star point between main and auxiliary circuit                    | 400 V                |
| • in networks with grounded star point between main and auxiliary circuit                      | 400 V                |
| protection class IP                                                                            |                      |
| • on the front according to IEC 60529                                                          | IP20                 |
| • on the front                                                                                 | IP20                 |
| • of the terminal                                                                              | IP20                 |
| 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                    |
| continuous current rated value                                                                 | 8 A                  |
| Substance Prohibitance (day/month/year)                                                        | 10/01/2009           |
| Net Weight                                                                                     | 387 g                |
| <b>Ambient conditions</b>                                                                      |                      |
| installation altitude at height above sea level maximum                                        | 2 000 m              |

|                                                                                            |                |
|--------------------------------------------------------------------------------------------|----------------|
| <b>ambient temperature</b>                                                                 |                |
| • during operation                                                                         | -20 ... +60 °C |
| • during storage                                                                           | -50 ... +80 °C |
| • during transport                                                                         | -50 ... +80 °C |
| <b>temperature compensation</b>                                                            | -20 ... +60 °C |
| relative humidity during operation                                                         | 10 ... 95 %    |
| <b>Main circuit</b>                                                                        |                |
| <b>number of poles for main current circuit</b>                                            | 3              |
| <b>adjustable current response value current of the current-dependent overload release</b> | 5.5 ... 8 A    |
| <b>type of voltage for main current circuit</b>                                            | AC             |
| <b>operating voltage</b>                                                                   |                |
| • rated value                                                                              | 690 V          |
| • rated value                                                                              | 20 ... 690 V   |
| • at AC-3 rated value maximum                                                              | 690 V          |
| • at AC-3e rated value maximum                                                             | 690 V          |
| <b>operating frequency rated value</b>                                                     | 50 ... 60 Hz   |
| <b>operational current rated value</b>                                                     | 8 A            |
| <b>operational current</b>                                                                 |                |
| • at AC-3 at 400 V rated value                                                             | 8 A            |
| • at AC-3e at 400 V rated value                                                            | 8 A            |
| <b>operating power</b>                                                                     |                |
| • at AC-3                                                                                  |                |
| — at 230 V rated value                                                                     | 1.5 kW         |
| — at 400 V rated value                                                                     | 3 kW           |
| — at 500 V rated value                                                                     | 4 kW           |
| — at 690 V rated value                                                                     | 5.5 kW         |
| • at AC-3e                                                                                 |                |
| — at 230 V rated value                                                                     | 1.5 kW         |
| — at 400 V rated value                                                                     | 3 kW           |
| — at 500 V rated value                                                                     | 4 kW           |
| — at 690 V rated value                                                                     | 5.5 kW         |
| <b>operating frequency</b>                                                                 |                |
| • at AC-3 maximum                                                                          | 15 1/h         |
| • at AC-3e maximum                                                                         | 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>                                  |                |
| • at 24 V                                                                                  | 2 A            |
| • at 120 V                                                                                 | 0.5 A          |
| • at 125 V                                                                                 | 0.5 A          |
| • at 230 V                                                                                 | 0.5 A          |
| <b>operational current of auxiliary contacts at DC-13</b>                                  |                |
| • at 24 V                                                                                  | 1 A            |
| • at 60 V                                                                                  | 0.15 A         |
| <b>Protective and monitoring functions</b>                                                 |                |
| <b>product function</b>                                                                    |                |
| • ground fault detection                                                                   | No             |
| • phase failure detection                                                                  | Yes            |
| <b>trip class</b>                                                                          | CLASS 10       |
| <b>design of the overload release</b>                                                      | thermal        |
| <b>protection function thermal overload protection (ANSI 49)</b>                           | Yes            |
| <b>maximum short-circuit current breaking capacity (Icu)</b>                               |                |
| • at AC at 240 V rated value                                                               | 100 kA         |
| • at AC at 400 V rated value                                                               | 100 kA         |

|                                                                                                                                                             |                                                                                                  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• at AC at 500 V rated value</li> </ul>                                                                              | 42 kA                                                                                            |
| <ul style="list-style-type: none"> <li>• at AC at 690 V rated value</li> </ul>                                                                              | 6 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>                                                                                    | 100 kA                                                                                           |
| <ul style="list-style-type: none"> <li>• at 500 V rated value</li> </ul>                                                                                    | 42 kA                                                                                            |
| <ul style="list-style-type: none"> <li>• at 690 V rated value</li> </ul>                                                                                    | 4 kA                                                                                             |
| response value current of instantaneous short-circuit trip unit                                                                                             | 104 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>                                                                                    | 8 A                                                                                              |
| <ul style="list-style-type: none"> <li>• at 600 V rated value</li> </ul>                                                                                    | 8 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> </ul> </li> </ul> | 0.33 hp                                                                                          |
| <ul style="list-style-type: none"> <li>— at 230 V rated value</li> </ul>                                                                                    | 1 hp                                                                                             |
| <ul style="list-style-type: none"> <li>• for 3-phase AC motor <ul style="list-style-type: none"> <li>— at 200/208 V rated value</li> </ul> </li> </ul>      | 2 hp                                                                                             |
| <ul style="list-style-type: none"> <li>— at 220/230 V rated value</li> </ul>                                                                                | 2 hp                                                                                             |
| <ul style="list-style-type: none"> <li>— at 460/480 V rated value</li> </ul>                                                                                | 5 hp                                                                                             |
| <ul style="list-style-type: none"> <li>— at 575/600 V rated value</li> </ul>                                                                                | 5 hp                                                                                             |
| <b>contact rating of auxiliary contacts according to UL</b>                                                                                                 | C300 / R300                                                                                      |
| <b>UL File Number (CCN)</b>                                                                                                                                 | E47705 (NLRV, NLRV7), 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> </ul>                                                                                                | gL/gG 50 A                                                                                       |
| <ul style="list-style-type: none"> <li>• at 500 V</li> </ul>                                                                                                | gL/gG 40 A                                                                                       |
| <ul style="list-style-type: none"> <li>• at 690 V</li> </ul>                                                                                                | gL/gG 35 A                                                                                       |
| certificate of suitability according to ATEX directive 2014/34/EU                                                                                           | DMT 02 ATEX F 001                                                                                |
| <b>type of protection according to ATEX directive 2014/34/EU</b>                                                                                            | Ex II (2) GD                                                                                     |
| <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>Mounting method of circuit breaker for Transformer protection, Generator protection and system protection optional standard bar mounting</b>             | Yes                                                                                              |
| <b>height</b>                                                                                                                                               | 106 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 <ul style="list-style-type: none"> <li>— forwards</li> </ul> </li> </ul>                | 0 mm                                                                                             |
| <ul style="list-style-type: none"> <li>— backwards</li> </ul>                                                                                               | 0 mm                                                                                             |
| <ul style="list-style-type: none"> <li>— upwards</li> </ul>                                                                                                 | 50 mm                                                                                            |
| <ul style="list-style-type: none"> <li>— downwards</li> </ul>                                                                                               | 50 mm                                                                                            |
| <ul style="list-style-type: none"> <li>— at the side</li> </ul>                                                                                             | 0 mm                                                                                             |
| <ul style="list-style-type: none"> <li>• for grounded parts <ul style="list-style-type: none"> <li>— forwards</li> </ul> </li> </ul>                        | 0 mm                                                                                             |
| <ul style="list-style-type: none"> <li>— backwards</li> </ul>                                                                                               | 0 mm                                                                                             |
| <ul style="list-style-type: none"> <li>— upwards</li> </ul>                                                                                                 | 50 mm                                                                                            |
| <ul style="list-style-type: none"> <li>— at the side</li> </ul>                                                                                             | 30 mm                                                                                            |
| <ul style="list-style-type: none"> <li>— downwards</li> </ul>                                                                                               | 50 mm                                                                                            |
| <ul style="list-style-type: none"> <li>• for live parts <ul style="list-style-type: none"> <li>— forwards</li> </ul> </li> </ul>                            | 0 mm                                                                                             |

|                               |       |
|-------------------------------|-------|
| — backwards                   | 0 mm  |
| — upwards                     | 50 mm |
| — downwards                   | 50 mm |
| — at the side                 | 30 mm |
| • for grounded parts at 400 V |       |
| — downwards                   | 30 mm |
| — upwards                     | 30 mm |
| — at the side                 | 9 mm  |
| • for live parts at 400 V     |       |
| — downwards                   | 30 mm |
| — upwards                     | 30 mm |
| — at the side                 | 9 mm  |
| • for grounded parts at 500 V |       |
| — downwards                   | 30 mm |
| — upwards                     | 30 mm |
| — at the side                 | 9 mm  |
| • for live parts at 500 V     |       |
| — downwards                   | 30 mm |
| — upwards                     | 30 mm |
| — at the side                 | 9 mm  |
| • for grounded parts at 690 V |       |
| — downwards                   | 50 mm |
| — upwards                     | 50 mm |
| — backwards                   | 0 mm  |
| — at the side                 | 30 mm |
| — forwards                    | 0 mm  |
| • for live parts at 690 V     |       |
| — downwards                   | 50 mm |
| — upwards                     | 50 mm |
| — backwards                   | 0 mm  |
| — at the side                 | 30 mm |
| — forwards                    | 0 mm  |

#### Connections/ Terminals

|                                                                               |                                   |
|-------------------------------------------------------------------------------|-----------------------------------|
| <b>product component removable terminal for auxiliary and control circuit</b> | No                                |
| <b>type of electrical connection</b>                                          |                                   |
| • for main current circuit                                                    | spring-loaded terminals           |
| • for auxiliary and control circuit                                           | spring-loaded terminals           |
| <b>arrangement of electrical connectors for main current circuit</b>          | Top and bottom                    |
| <b>type of connectable conductor cross-sections</b>                           |                                   |
| • for main contacts                                                           |                                   |
| — solid or stranded                                                           | 2x (0.5 ... 4 mm <sup>2</sup> )   |
| — finely stranded with core end processing                                    | 2x (0.5 ... 2.5 mm <sup>2</sup> ) |
| — finely stranded without core end processing                                 | 2x (0.5 ... 2.5 mm <sup>2</sup> ) |
| • for AWG cables for main contacts                                            | 2x (20 ... 12)                    |
| <b>connectable conductor cross-section for main contacts</b>                  |                                   |
| • solid or stranded                                                           | 0.5 ... 4 mm <sup>2</sup>         |
| • finely stranded with core end processing                                    | 0.5 ... 2.5 mm <sup>2</sup>       |
| • finely stranded without core end processing                                 | 0.5 ... 2.5 mm <sup>2</sup>       |
| <b>connectable conductor cross-section for auxiliary contacts</b>             |                                   |
| • solid or stranded                                                           | 0.5 ... 2.5 mm <sup>2</sup>       |
| • finely stranded with core end processing                                    | 0.5 ... 1.5 mm <sup>2</sup>       |
| • finely stranded without core end processing                                 | 0.5 ... 1.5 mm <sup>2</sup>       |
| <b>type of connectable conductor cross-sections</b>                           |                                   |
| • for auxiliary contacts                                                      |                                   |
| — solid or stranded                                                           | 2x (0.5 ... 2.5 mm <sup>2</sup> ) |
| — finely stranded with core end processing                                    | 2x (0.5 ... 1.5 mm <sup>2</sup> ) |
| — finely stranded without core end processing                                 | 2x (0.5 ... 1.5 mm <sup>2</sup> ) |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                  |                      |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|----------------------|
| • for AWG cables for auxiliary contacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 2x (20 ... 14)                                   |                      |
| AWG number as coded connectable conductor cross section for main contacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 20 ... 12                                        |                      |
| AWG number as coded connectable conductor cross section for auxiliary contacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 20 ... 14                                        |                      |
| design of screwdriver shaft                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Diameter 3 mm                                    |                      |
| size of the screwdriver tip                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 3,0 x 0,5 mm                                     |                      |
| Safety related data                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                  |                      |
| product function suitable for safety function                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Yes                                              |                      |
| suitability for use                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                  |                      |
| • safety-related switching on                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | No                                               |                      |
| • safety-related switching OFF                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Yes                                              |                      |
| service life maximum                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 10 a                                             |                      |
| test wear-related service life necessary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Yes                                              |                      |
| proportion of dangerous failures                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                  |                      |
| • with low demand rate according to SN 31920                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 40 %                                             |                      |
| • with high demand rate according to SN 31920                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 50 %                                             |                      |
| B10 value with high demand rate according to SN 31920                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 5 000                                            |                      |
| failure rate [FIT] with low demand rate according to SN 31920                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 50 FIT                                           |                      |
| ISO 13849                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                  |                      |
| device type according to ISO 13849-1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 3                                                |                      |
| overdimensioning according to ISO 13849-2 necessary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Yes                                              |                      |
| IEC 61508                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                  |                      |
| safety device type according to IEC 61508-2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Type A                                           |                      |
| T1 value                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                  |                      |
| • for proof test interval or service life according to IEC 61508                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 10 a                                             |                      |
| Electrical Safety                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                  |                      |
| protection class IP on the front according to IEC 60529                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | IP20                                             |                      |
| touch protection on the front according to IEC 60529                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | finger-safe, for vertical contact from the front |                      |
| Display                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                  |                      |
| display version for switching status                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Handle                                           |                      |
| Approvals Certificates                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                  |                      |
| Environmental Product Declaration                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                  |                      |
| • global warming potential [CO2 eq] / during manufacturing                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 1.98 kg                                          |                      |
| • global warming potential [CO2 eq] / during sales                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 0.134 kg                                         |                      |
| • global warming potential [CO2 eq] / during operation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 72.7 kg                                          |                      |
| • global warming potential [CO2 eq] / after end of life                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | -0.116 kg                                        |                      |
| • global warming potential [CO2 eq] / total                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 74.698 kg                                        |                      |
| Environment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                  |                      |
| General Product Approval                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                  |                      |
| <div>Environmental Confirmations</div> <div><div>Siemens EcoTech</div><div></div><div></div><div></div><div></div><div></div></div>                              |                                                  |                      |
| General Product Approval                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                  |                      |
| For use in hazardous locations                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                  |                      |
| <div><div></div><div></div><div></div><div></div><div></div><div></div></div> |                                                  |                      |
| For use in hazardous locations                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Test Certificates                                | Maritime application |



[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)



#### Maritime application

#### other



[Miscellaneous](#)

[Confirmation](#)

#### other

#### Railway

[Miscellaneous](#)



[Confirmation](#)

[Special Test Certificate](#)

#### Further information

##### Information on the packaging

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

##### Information for data generation and storage

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

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

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

##### Industry Mall (Online ordering system)

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RV2011-1HA25>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2011-1HA25>

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

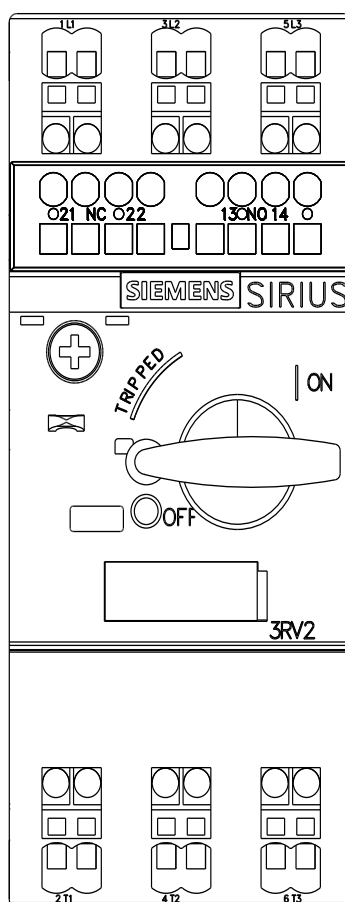
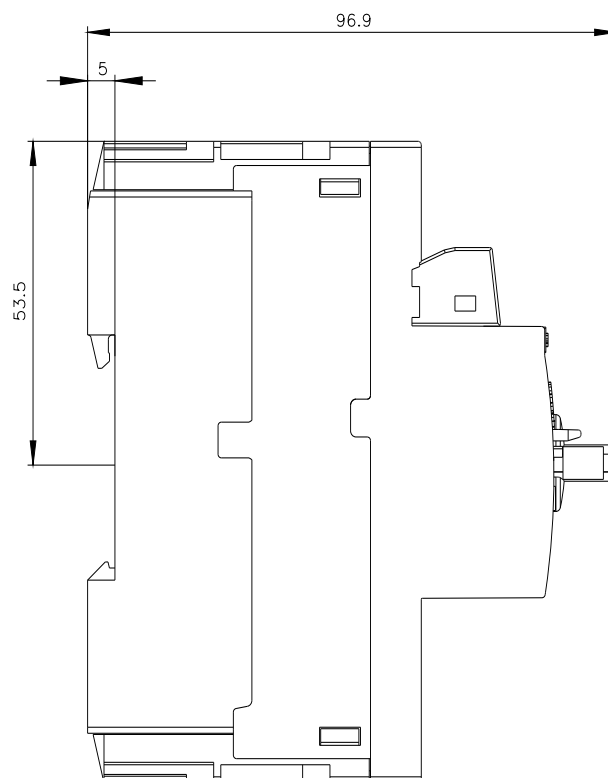
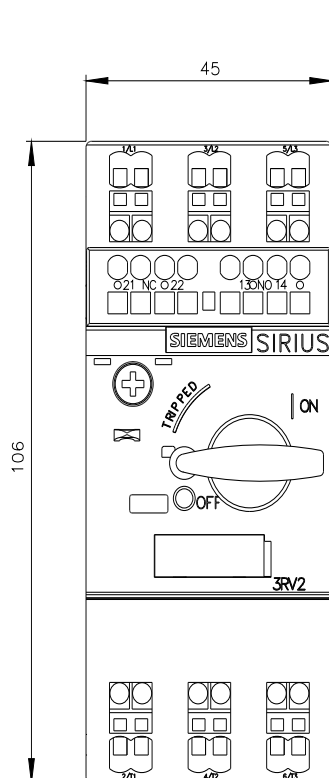
[https://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RV2011-1HA25&lang=en](https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2011-1HA25&lang=en)

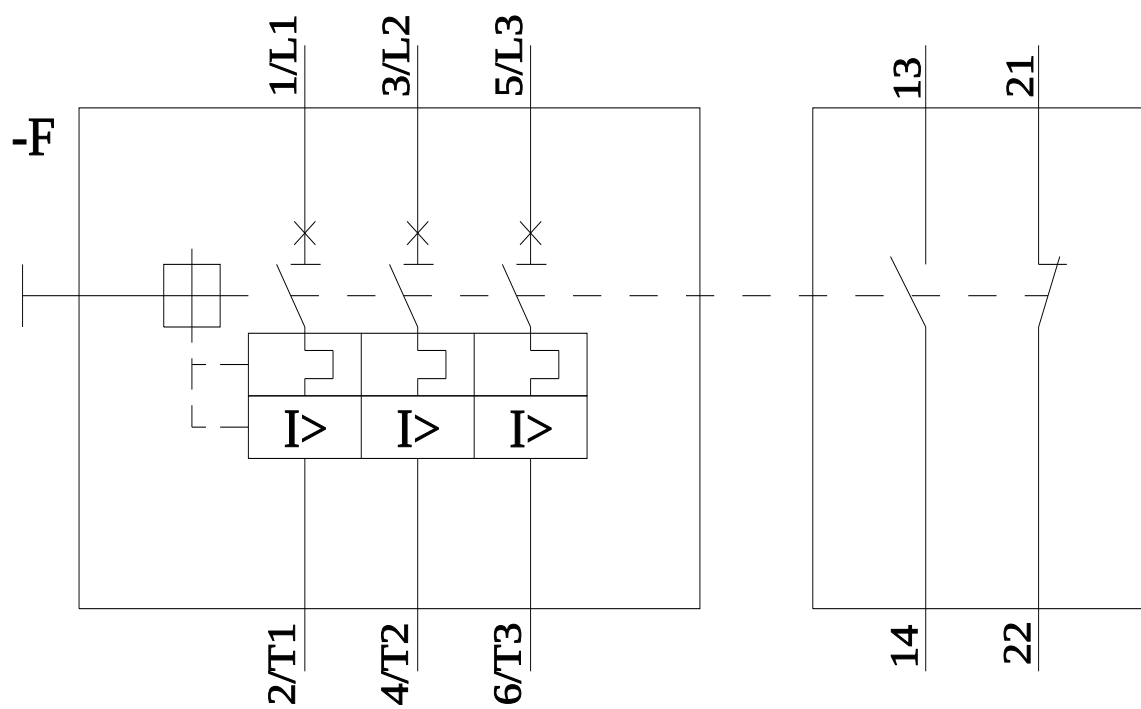
##### Cax online generator

<https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2011-1HA25>

##### 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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