



Circuit breaker size S00 for motor protection, CLASS 10 A-release 1.1...1.6 A N-release 21 A Screw terminal Standard switching capacity

|                                                                                                |                        |
|------------------------------------------------------------------------------------------------|------------------------|
| product brand name                                                                             | SIRIUS                 |
| product designation                                                                            | Circuit breaker        |
| design of the product                                                                          | For motor protection   |
| product type designation                                                                       | 3RV1                   |
| <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                    |
| 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                                                                 | 7.25 W                 |
| • at AC in hot operating state per pole                                                        | 2.4 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                                                                              | IP00                   |
| 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                                                                 | 1.6 A                  |
| Substance Prohibitance (day/month/year)                                                        | 01/01/2013             |
| SVHC substance name                                                                            | Lead CAS-No. 7439-92-1 |
| Net Weight                                                                                     | 270 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 |
| <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> | 1.1 ... 1.6 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>                                                     | 1.6 A          |
| <b>operational current</b>                                                                 |                |
| • at AC-3 at 400 V rated value                                                             | 1.6 A          |
| • at AC-3e at 400 V rated value                                                            | 1.6 A          |
| <b>operating power</b>                                                                     |                |
| • at AC-3                                                                                  |                |
| — at 230 V rated value                                                                     | 0.25 kW        |
| — at 400 V rated value                                                                     | 0.55 kW        |
| — at 500 V rated value                                                                     | 0.75 kW        |
| — at 690 V rated value                                                                     | 1.1 kW         |
| • at AC-3e                                                                                 |                |
| — at 230 V rated value                                                                     | 0.25 kW        |
| — at 400 V rated value                                                                     | 0.55 kW        |
| — at 500 V rated value                                                                     | 0.75 kW        |
| — at 690 V rated value                                                                     | 1.1 kW         |
| <b>operating frequency</b>                                                                 |                |
| • at AC-3 maximum                                                                          | 15 1/h         |
| • at AC-3e maximum                                                                         | 15 1/h         |
| <b>Auxiliary circuit</b>                                                                   |                |
| <b>type of voltage for auxiliary and control circuit</b>                                   | AC/DC          |
| <b>number of NC contacts for auxiliary contacts</b>                                        | 0              |
| <b>number of NO contacts for auxiliary contacts</b>                                        | 0              |
| number of CO contacts for auxiliary contacts                                               | 0              |
| <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         |
| • at AC at 500 V rated value                                                               | 100 kA         |
| • at AC at 690 V rated value                                                               | 2 kA           |
| <b>operating short-circuit current breaking capacity (Ics) at AC</b>                       |                |
| • at 240 V rated value                                                                     | 100 kA         |
| • at 400 V rated value                                                                     | 100 kA         |
| • at 500 V rated value                                                                     | 100 kA         |
| • at 690 V rated value                                                                     | 2 kA           |
| response value current of instantaneous short-circuit trip unit                            | 21 A           |
| <b>UL/CSA ratings</b>                                                                      |                |
| <b>full-load current (FLA) for 3-phase AC motor</b>                                        |                |
| • at 480 V rated value                                                                     | 1.6 A          |
| • at 600 V rated value                                                                     | 1.6 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 230 V rated value</li> </ul> </li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 0.1 hp                                                                                                                                                                         |
| <ul style="list-style-type: none"> <li>for 3-phase AC motor <ul style="list-style-type: none"> <li>at 460/480 V rated value</li> <li>at 575/600 V rated value</li> </ul> </li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 1 hp<br>0.8 hp                                                                                                                                                                 |
| <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 for IT network for short-circuit protection of the main circuit</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                |
| <ul style="list-style-type: none"> <li>at 240 V</li> <li>at 400 V</li> <li>at 500 V</li> <li>at 690 V</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | none required<br>gG 20 A<br>gG 20 A<br>gG 16 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>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 90 mm                                                                                                                                                                          |
| <b>width</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 45 mm                                                                                                                                                                          |
| <b>depth</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 75 mm                                                                                                                                                                          |
| <b>required spacing</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                |
| <ul style="list-style-type: none"> <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> | 20 mm<br>20 mm<br>9 mm<br><br>20 mm<br>20 mm<br>9 mm<br><br>20 mm<br>20 mm<br>9 mm<br><br>20 mm<br>20 mm<br>0 mm<br>9 mm<br>0 mm<br><br>20 mm<br>20 mm<br>0 mm<br>9 mm<br>0 mm |
| <b>Connections/ Terminals</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                |
| <b>product component removable terminal for auxiliary and control circuit</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | No                                                                                                                                                                             |
| <b>type of electrical connection</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                |
| <ul style="list-style-type: none"> <li>for main current circuit</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 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> </ul> | 2x (0,5 ... 1,5 mm²), 2x (0,75 ... 2,5 mm²), 2x (1 ... 4 mm²)<br>2x (0,5 ... 1,5 mm²), 2x (0,75 ... 2,5 mm²) |
| <b>connectable conductor cross-section for main contacts</b> <ul style="list-style-type: none"> <li>• solid or stranded</li> <li>• finely stranded with core end processing</li> </ul>                                                               | 0,5 ... 4 mm²<br>0,5 ... 2,5 mm²                                                                             |
| <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> </ul> </li> </ul>                                                | 2x (0,5 ... 1,5 mm²), 2x (0,75 ... 2,5 mm²)                                                                  |
| <b>AWG number as coded connectable conductor cross section for main contacts</b>                                                                                                                                                                     | 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>                                                                 | 0,8 ... 1,2 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> </ul>                                                                                                                            | 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>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                                                                                                                                                                                                                 | Rocker switch                                                                                                |
| <b>Approvals Certificates</b>                                                                                                                                                                                                                        |                                                                                                              |
| <b>Environment</b>                                                                                                                                                                                                                                   | <b>General Product Approval</b>                                                                              |

[Environmental Con-  
firmations](#)



**General Product Ap-  
proval**

**For use in hazardous locations**

**Test Certificates**

**Maritime application**



[Special Test Certific-  
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ates/Test Report](#)




[Miscellaneous](#)
[Confirmation](#)
[Miscellaneous](#)

[Special Test Certificate](#)

## Further information

## Information on the packaging

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

## Information for data generation and storage

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

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

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

## Industry Mall (Online ordering system)

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RV1011-1AA10>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RV1011-1AA10>

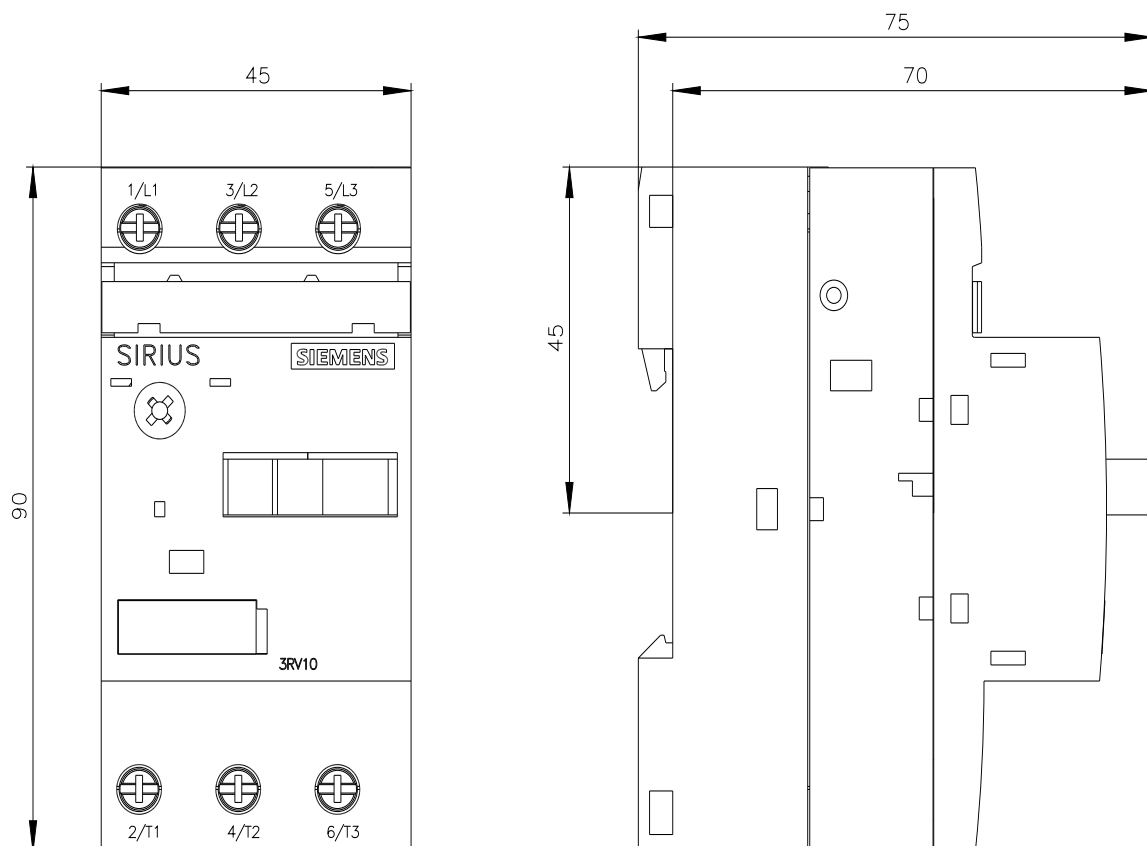
## Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)

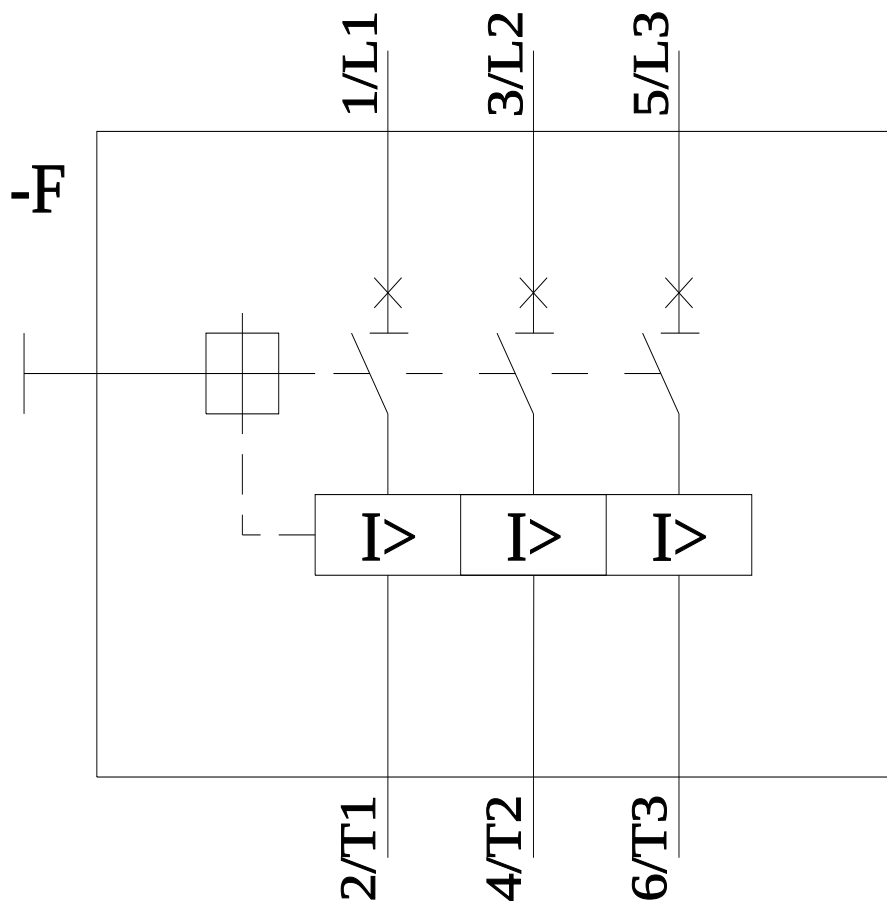
[https://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RV1011-1AA10&lang=en](https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV1011-1AA10&lang=en)

## Cax online generator

<https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV1011-1AA10>

## 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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