



circuit breaker frame size S00 for motor protection, Class 10 thermal overload release 9...12.5 A short-circuit release 163 A ring cable lug connection standard switching capacity

|                                                                                                |                      |
|------------------------------------------------------------------------------------------------|----------------------|
| 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                                                          | IP00                 |
| • on the front                                                                                 | IP00                 |
| • of the terminal                                                                              | IP00                 |
| 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                                                                 | 12.5 A               |
| Substance Prohibitance (day/month/year)                                                        | 10/01/2009           |
| Net Weight                                                                                     | 0.337 kg             |
| <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> | 9 ... 12.5 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>                                                     | 12.5 A         |
| <b>operational current</b>                                                                 |                |
| • at AC-3 at 400 V rated value                                                             | 12.5 A         |
| • at AC-3e at 400 V rated value                                                            | 12.5 A         |
| <b>operating power</b>                                                                     |                |
| • at AC-3                                                                                  |                |
| — at 230 V rated value                                                                     | 3 kW           |
| — at 400 V rated value                                                                     | 5.5 kW         |
| — at 500 V rated value                                                                     | 7.5 kW         |
| — at 690 V rated value                                                                     | 7.5 kW         |
| • at AC-3e                                                                                 |                |
| — at 230 V rated value                                                                     | 3 kW           |
| — at 400 V rated value                                                                     | 5.5 kW         |
| — at 500 V rated value                                                                     | 7.5 kW         |
| — at 690 V rated value                                                                     | 7.5 kW         |
| <b>operating frequency</b>                                                                 |                |
| • at AC-3 maximum                                                                          | 15 1/h         |
| • at AC-3e maximum                                                                         | 15 1/h         |
| <b>Auxiliary circuit</b>                                                                   |                |
| <b>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 (I<sub>cu</sub>)</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                                                               | 42 kA          |
| • at AC at 690 V rated value                                                               | 6 kA           |
| <b>operating short-circuit current breaking capacity (I<sub>cs</sub>) at AC</b>            |                |
| • at 240 V rated value                                                                     | 100 kA         |
| • at 400 V rated value                                                                     | 100 kA         |
| • at 500 V rated value                                                                     | 42 kA          |
| • at 690 V rated value                                                                     | 4 kA           |
| response value current of instantaneous short-circuit trip unit                            | 163 A          |
| <b>UL/CSA ratings</b>                                                                      |                |

|                                                                                                                                                 |                                                                          |
|-------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|
| <b>full-load current (FLA) for 3-phase AC motor</b>                                                                                             |                                                                          |
| • at 480 V rated value                                                                                                                          | 12.5 A                                                                   |
| • at 600 V rated value                                                                                                                          | 12.5 A                                                                   |
| <b>yielded mechanical performance [hp]</b>                                                                                                      |                                                                          |
| • for single-phase AC motor                                                                                                                     |                                                                          |
| — at 110/120 V rated value                                                                                                                      | 0.5 hp                                                                   |
| — at 230 V rated value                                                                                                                          | 2 hp                                                                     |
| • for 3-phase AC motor                                                                                                                          |                                                                          |
| — at 200/208 V rated value                                                                                                                      | 3 hp                                                                     |
| — at 220/230 V rated value                                                                                                                      | 3 hp                                                                     |
| — at 460/480 V rated value                                                                                                                      | 8 hp                                                                     |
| — at 575/600 V rated value                                                                                                                      | 10 hp                                                                    |
| <b>UL File Number (CCN)</b>                                                                                                                     | E47705 (NLRV, NLRV7)                                                     |
| <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>                                                  |                                                                          |
| • at 400 V                                                                                                                                      | gL/gG 63 A                                                               |
| • at 500 V                                                                                                                                      | gL/gG 50 A                                                               |
| • at 690 V                                                                                                                                      | gL/gG 40 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>                                                                                                                                   | 97 mm                                                                    |
| <b>width</b>                                                                                                                                    | 45 mm                                                                    |
| <b>depth</b>                                                                                                                                    | 97 mm                                                                    |
| <b>required spacing</b>                                                                                                                         |                                                                          |
| • with side-by-side mounting                                                                                                                    |                                                                          |
| — forwards                                                                                                                                      | 0 mm                                                                     |
| — backwards                                                                                                                                     | 0 mm                                                                     |
| — upwards                                                                                                                                       | 50 mm                                                                    |
| — downwards                                                                                                                                     | 50 mm                                                                    |
| — at the side                                                                                                                                   | 0 mm                                                                     |
| • for grounded parts                                                                                                                            |                                                                          |
| — forwards                                                                                                                                      | 0 mm                                                                     |
| — backwards                                                                                                                                     | 0 mm                                                                     |
| — upwards                                                                                                                                       | 50 mm                                                                    |
| — at the side                                                                                                                                   | 30 mm                                                                    |
| — downwards                                                                                                                                     | 50 mm                                                                    |
| • for live parts                                                                                                                                |                                                                          |
| — forwards                                                                                                                                      | 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                         |
| <b>Connections/ Terminals</b>                                                 |                              |
| <b>product component removable terminal for auxiliary and control circuit</b> | No                           |
| <b>type of electrical connection</b>                                          |                              |
| • for main current circuit                                                    | Ring cable lug connection    |
| • for auxiliary and control circuit                                           | ring terminal lug connection |
| <b>arrangement of electrical connectors for main current circuit</b>          | Top and bottom               |
| <b>tightening torque</b>                                                      |                              |
| • for main contacts for ring cable lug                                        | 0.8 ... 1.2 N·m              |
| • for auxiliary contacts for ring cable lug                                   | 1.2 ... 0.8 N·m              |
| <b>outer diameter of the usable ring cable lug maximum</b>                    | 7.5 mm                       |
| <b>design of screwdriver shaft</b>                                            | Diameter 5 to 6 mm           |
| <b>size of the screwdriver tip</b>                                            | size 2 and Pozidriv 2        |
| <b>design of the thread of the connection screw</b>                           |                              |
| • for main contacts                                                           | M3                           |
| • of the auxiliary and control contacts                                       | M3                           |
| <b>Safety related data</b>                                                    |                              |
| product function suitable for safety function                                 | Yes                          |
| <b>suitability for use</b>                                                    |                              |
| • safety-related switching on                                                 | No                           |
| • safety-related switching OFF                                                | Yes                          |
| <b>service life maximum</b>                                                   | 10 a                         |
| <b>test wear-related service life necessary</b>                               | Yes                          |
| <b>proportion of dangerous failures</b>                                       |                              |
| • with low demand rate according to SN 31920                                  | 40 %                         |
| • with high demand rate according to SN 31920                                 | 50 %                         |
| <b>B10 value with high demand rate according to SN 31920</b>                  | 5 000                        |
| <b>failure rate [FIT] with low demand rate according to SN 31920</b>          | 50 FIT                       |
| <b>ISO 13849</b>                                                              |                              |
| <b>device type according to ISO 13849-1</b>                                   | 3                            |
| <b>overdimensioning according to ISO 13849-2 necessary</b>                    | Yes                          |
| <b>IEC 61508</b>                                                              |                              |
| <b>safety device type according to IEC 61508-2</b>                            | Type A                       |
| <b>T1 value</b>                                                               |                              |
| • for proof test interval or service life according to IEC 61508              | 10 a                         |
| <b>Electrical Safety</b>                                                      |                              |
| <b>protection class IP on the front according to IEC 60529</b>                | IP00                         |
| <b>Display</b>                                                                |                              |

|                                      |        |
|--------------------------------------|--------|
| 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 |
|-------------|--------------------------|
|-------------|--------------------------|

[Environmental Confirmations](#)

Siemens  
EcoTech



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



EG-Konf.



IECEX

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



ATEX

[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)



ABS



BUREAU  
VERITAS



DNV

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



LRS



PRS



RINA

[Confirmation](#)

[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=3RV2011-1KA40>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2011-1KA40>

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

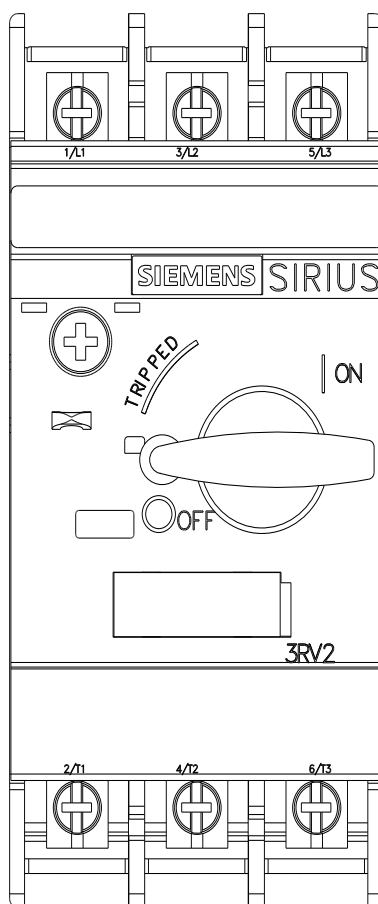
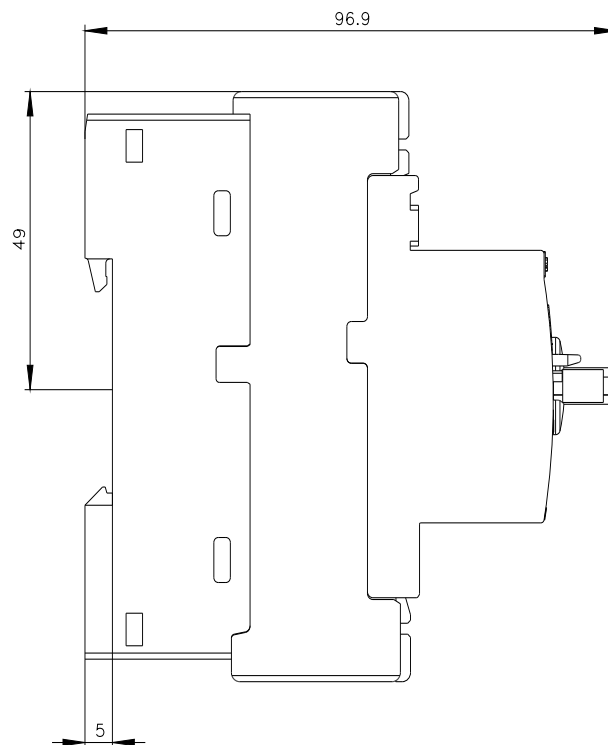
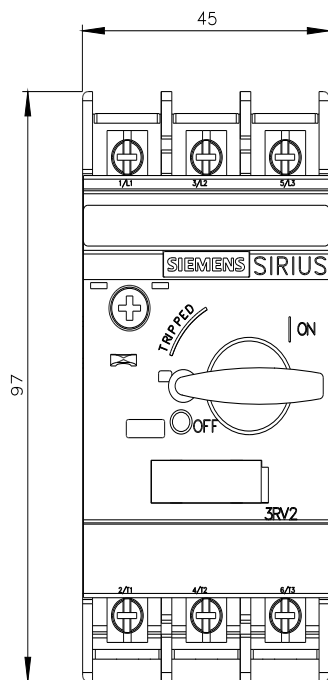
[https://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RV2011-1KA40&lang=en](https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2011-1KA40&lang=en)

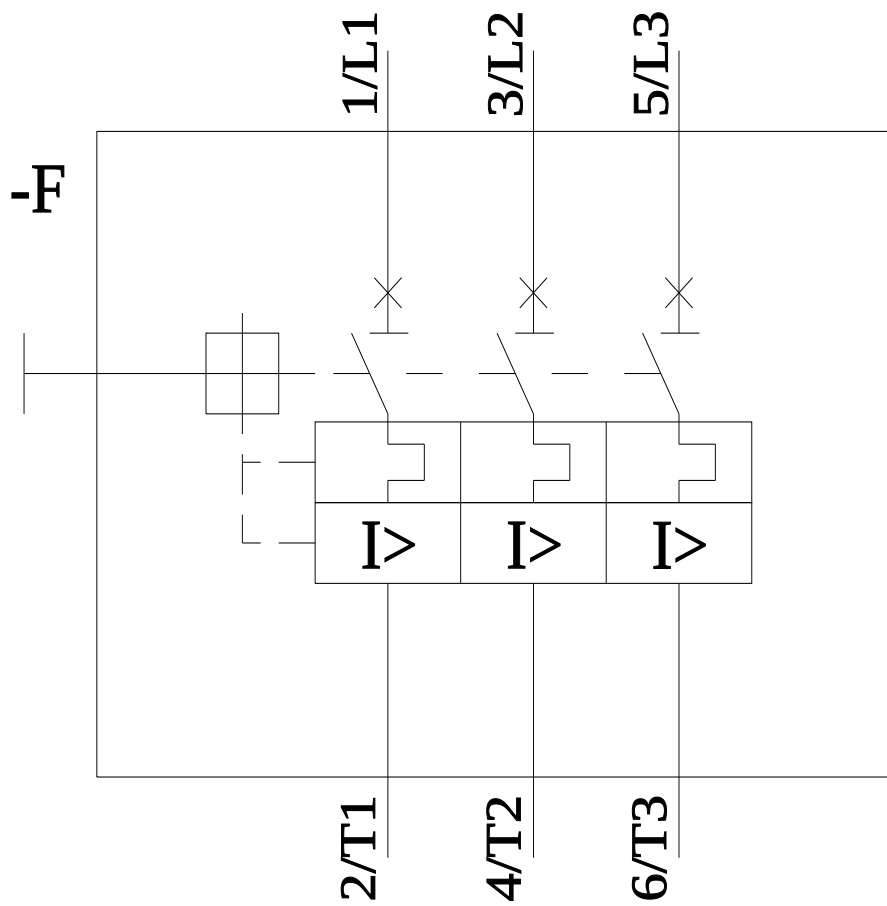
Cax online generator

<https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2011-1KA40>

Characteristic curves

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





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