



Circuit breaker size S00 for motor protection, CLASS 10 A-release 5.5...8 A N-release 104 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                                                                 | 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                                                                              | 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                                                                 | 8 A                  |
| Substance Prohibitance (day/month/year)                                                        | 01/01/2013           |
| Net Weight                                                                                     | 278 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> | 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>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                                                               | 50 kA          |
| • at AC at 500 V rated value                                                               | 3 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                                                                     | 12.5 kA        |
| • at 500 V rated value                                                                     | 3 kA           |
| • at 690 V rated value                                                                     | 2 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>                                        |                |
| • at 480 V rated value                                                                     | 8 A            |
| • at 600 V rated value                                                                     | 8 A            |
| <b>yielded mechanical performance [hp]</b>                                                 |                |

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| <ul style="list-style-type: none"> <li>• for single-phase AC motor <ul style="list-style-type: none"> <li>— at 110/120 V rated value</li> <li>— at 230 V rated value</li> </ul> </li> <li>• for 3-phase AC motor <ul style="list-style-type: none"> <li>— at 200/208 V rated value</li> <li>— at 220/230 V rated value</li> <li>— at 460/480 V rated value</li> <li>— at 575/600 V rated value</li> </ul> </li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 0.33 hp<br>1 hp<br><br>2 hp<br>2 hp<br>5 hp<br>5 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>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | gG 80 A<br>gG 63 A<br>gG 40 A<br>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>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 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                                                                                                       |                          |                             |
| ISO 13849                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                              |                          |                             |
| <b>device type according to ISO 13849-1</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 3                                                                                                            |                          |                             |
| <b>overdimensioning according to ISO 13849-2 necessary</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Yes                                                                                                          |                          |                             |
| IEC 61508                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                              |                          |                             |
| <b>safety device type according to IEC 61508-2</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Type A                                                                                                       |                          |                             |
| Electrical Safety                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                              |                          |                             |
| <b>protection class IP on the front according to IEC 60529</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | IP20                                                                                                         |                          |                             |
| <b>touch protection on the front according to IEC 60529</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | finger-safe, for vertical contact from the front                                                             |                          |                             |
| <b>Display</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                              |                          |                             |
| display version for switching status                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Rocker switch                                                                                                |                          |                             |
| <b>Approvals Certificates</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                              |                          |                             |
| <b>Environment</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <b>General Product Approval</b>                                                                              |                          |                             |
| <div><div><a href="#">Environmental Conformations</a></div><div></div><div></div><div></div><div></div><div></div></div> |                                                                                                              |                          |                             |
| <b>General Product Approval</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <b>For use in hazardous locations</b>                                                                        | <b>Test Certificates</b> | <b>Maritime application</b> |



[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)



#### Maritime application

other



[Miscellaneous](#)

#### other

#### Railway

[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=3RV1011-1HA10>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RV1011-1HA10>

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

[https://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RV1011-1HA10&lang=en](https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV1011-1HA10&lang=en)

Cax online generator

<https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV1011-1HA10>

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>)



