

Siemens  
EcoTech



Circuit breaker size S0 for motor protection, CLASS 10 A-release 7...10 A N release 130 A screw terminal 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>                                   |                      |
| size of the circuit-breaker                                     | S0                   |
| size of contactor can be combined company-specific              | S00, S0              |
| product extension auxiliary switch                              | Yes                  |
| power loss [W] for rated value of the current                   |                      |
| • at AC in hot operating state                                  | 9.25 W               |
| • at AC in hot operating state per pole                         | 3.1 W                |
| insulation voltage with degree of pollution 3 at AC rated value | 690 V                |
| surge voltage resistance rated value                            | 6 kV                 |
| shock resistance according to IEC 60068-2-27                    | 25g / 11 ms          |
| mechanical service life (operating cycles)                      |                      |
| • of the main contacts typical                                  | 100 000              |
| • of auxiliary contacts typical                                 | 100 000              |
| electrical endurance (operating cycles) typical                 | 100 000              |
| reference code according to IEC 81346-2                         | Q                    |
| Substance Prohibitance (Date)                                   | 10/01/2009           |
| Weight                                                          | 0.36 kg              |
| <b>Ambient conditions</b>                                       |                      |
| installation altitude at height above sea level maximum         | 2 000 m              |
| ambient temperature                                             |                      |
| • during operation                                              | -20 ... +60 °C       |
| • during storage                                                | -50 ... +80 °C       |
| • during transport                                              | -50 ... +80 °C       |
| relative humidity during operation                              | 10 ... 95 %          |
| <b>Environmental footprint</b>                                  |                      |
| Environmental Product Declaration (EPD)                         | Yes                  |
| global warming potential [CO2 eq] total                         | 75.078 kg            |
| global warming potential [CO2 eq] during manufacturing          | 2.68 kg              |
| global warming potential [CO2 eq] during sales                  | 0.143 kg             |
| global warming potential [CO2 eq] during operation              | 72.7 kg              |
| global warming potential [CO2 eq] after end of life             | -0.445 kg            |
| Siemens Eco Profile (SEP)                                       | Siemens EcoTech      |
| <b>Main circuit</b>                                             |                      |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                              |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|
| number of poles for main current circuit                                                                                                                                                                                                                                                                                                                                                                                                            | 3                                                                            |
| adjustable current response value current of the current-dependent overload release                                                                                                                                                                                                                                                                                                                                                                 | 7 ... 10 A                                                                   |
| type of voltage for main current circuit                                                                                                                                                                                                                                                                                                                                                                                                            | AC                                                                           |
| operating voltage <ul style="list-style-type: none"> <li>• rated value</li> <li>• at AC-3 rated value maximum</li> <li>• at AC-3e rated value maximum</li> </ul>                                                                                                                                                                                                                                                                                    | 20 ... 690 V<br>690 V<br>690 V                                               |
| operating frequency rated value                                                                                                                                                                                                                                                                                                                                                                                                                     | 50 ... 60 Hz                                                                 |
| operational current rated value                                                                                                                                                                                                                                                                                                                                                                                                                     | 10 A                                                                         |
| operational current <ul style="list-style-type: none"> <li>• at AC-3 at 400 V rated value</li> <li>• at AC-3e at 400 V rated value</li> </ul>                                                                                                                                                                                                                                                                                                       | 10 A<br>10 A                                                                 |
| operating power <ul style="list-style-type: none"> <li>• at AC-3 <ul style="list-style-type: none"> <li>— at 230 V rated value</li> <li>— at 400 V rated value</li> <li>— at 500 V rated value</li> <li>— at 690 V rated value</li> </ul> </li> <li>• at AC-3e <ul style="list-style-type: none"> <li>— at 230 V rated value</li> <li>— at 400 V rated value</li> <li>— at 500 V rated value</li> <li>— at 690 V rated value</li> </ul> </li> </ul> | 2.2 kW<br>4 kW<br>5.5 kW<br>7.5 kW<br><br>2.2 kW<br>4 kW<br>5.5 kW<br>7.5 kW |
| operating frequency <ul style="list-style-type: none"> <li>• at AC-3 maximum</li> <li>• at AC-3e maximum</li> </ul>                                                                                                                                                                                                                                                                                                                                 | 15 1/h<br>15 1/h                                                             |
| <b>Auxiliary circuit</b>                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                              |
| type of voltage for auxiliary and control circuit                                                                                                                                                                                                                                                                                                                                                                                                   | AC/DC                                                                        |
| number of NC contacts for auxiliary contacts                                                                                                                                                                                                                                                                                                                                                                                                        | 0                                                                            |
| number of NO contacts for auxiliary contacts                                                                                                                                                                                                                                                                                                                                                                                                        | 0                                                                            |
| number of CO contacts for auxiliary contacts                                                                                                                                                                                                                                                                                                                                                                                                        | 0                                                                            |
| <b>Protective and monitoring functions</b>                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                              |
| product function <ul style="list-style-type: none"> <li>• ground fault detection</li> <li>• phase failure detection</li> </ul>                                                                                                                                                                                                                                                                                                                      | No<br>Yes                                                                    |
| trip class                                                                                                                                                                                                                                                                                                                                                                                                                                          | CLASS 10                                                                     |
| design of the overload release                                                                                                                                                                                                                                                                                                                                                                                                                      | thermal                                                                      |
| maximum short-circuit current breaking capacity (Icu) <ul style="list-style-type: none"> <li>• at AC at 240 V rated value</li> <li>• at AC at 400 V rated value</li> <li>• at AC at 500 V rated value</li> <li>• at AC at 690 V rated value</li> </ul>                                                                                                                                                                                              | 100 kA<br>100 kA<br>42 kA<br>6 kA                                            |
| operating short-circuit current breaking capacity (Ics) at AC <ul style="list-style-type: none"> <li>• at 240 V rated value</li> <li>• at 400 V rated value</li> <li>• at 500 V rated value</li> <li>• at 690 V rated value</li> </ul>                                                                                                                                                                                                              | 100 kA<br>100 kA<br>42 kA<br>4 kA                                            |
| response value current of instantaneous short-circuit trip unit                                                                                                                                                                                                                                                                                                                                                                                     | 130 A                                                                        |
| <b>UL/CSA ratings</b>                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                              |
| full-load current (FLA) for 3-phase AC motor <ul style="list-style-type: none"> <li>• at 480 V rated value</li> <li>• at 600 V rated value</li> </ul>                                                                                                                                                                                                                                                                                               | 10 A<br>10 A                                                                 |
| yielded mechanical performance [hp] <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> </ul> </li> </ul>                               | 0.5 hp<br>1.5 hp<br><br>2 hp<br>3 hp<br>5 hp                                 |

|                                                                                                                                                  |                                                                                         |
|--------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| — at 575/600 V rated value                                                                                                                       | 10 hp                                                                                   |
| <b>Short-circuit protection</b>                                                                                                                  |                                                                                         |
| <b>product function short circuit protection</b>                                                                                                 | Yes                                                                                     |
| <b>design of the short-circuit trip</b>                                                                                                          | magnetic                                                                                |
| <b>Installation/ mounting/ dimensions</b>                                                                                                        |                                                                                         |
| <b>mounting position</b>                                                                                                                         | any                                                                                     |
| <b>fastening method</b>                                                                                                                          | screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715                |
| <b>height</b>                                                                                                                                    | 97 mm                                                                                   |
| <b>width</b>                                                                                                                                     | 45 mm                                                                                   |
| <b>depth</b>                                                                                                                                     | 97 mm                                                                                   |
| <b>required spacing</b>                                                                                                                          |                                                                                         |
| <ul style="list-style-type: none"> <li>• with side-by-side mounting at the side</li> </ul>                                                       | 0 mm                                                                                    |
| <ul style="list-style-type: none"> <li>• for grounded parts at 400 V <ul style="list-style-type: none"> <li>— downwards</li> </ul> </li> </ul>   | 30 mm                                                                                   |
| <ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>— upwards</li> </ul> </li> </ul>                                  | 30 mm                                                                                   |
| <ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>— at the side</li> </ul> </li> </ul>                              | 9 mm                                                                                    |
| <ul style="list-style-type: none"> <li>• for live parts at 400 V <ul style="list-style-type: none"> <li>— downwards</li> </ul> </li> </ul>       | 30 mm                                                                                   |
| <ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>— upwards</li> </ul> </li> </ul>                                  | 30 mm                                                                                   |
| <ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>— at the side</li> </ul> </li> </ul>                              | 9 mm                                                                                    |
| <ul style="list-style-type: none"> <li>• for grounded parts at 500 V <ul style="list-style-type: none"> <li>— downwards</li> </ul> </li> </ul>   | 30 mm                                                                                   |
| <ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>— upwards</li> </ul> </li> </ul>                                  | 30 mm                                                                                   |
| <ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>— at the side</li> </ul> </li> </ul>                              | 9 mm                                                                                    |
| <ul style="list-style-type: none"> <li>• for live parts at 500 V <ul style="list-style-type: none"> <li>— downwards</li> </ul> </li> </ul>       | 30 mm                                                                                   |
| <ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>— upwards</li> </ul> </li> </ul>                                  | 30 mm                                                                                   |
| <ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>— at the side</li> </ul> </li> </ul>                              | 9 mm                                                                                    |
| <ul style="list-style-type: none"> <li>• for grounded parts at 690 V <ul style="list-style-type: none"> <li>— downwards</li> </ul> </li> </ul>   | 50 mm                                                                                   |
| <ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>— upwards</li> </ul> </li> </ul>                                  | 50 mm                                                                                   |
| <ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>— backwards</li> </ul> </li> </ul>                                | 0 mm                                                                                    |
| <ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>— at the side</li> </ul> </li> </ul>                              | 30 mm                                                                                   |
| <ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>— forwards</li> </ul> </li> </ul>                                 | 0 mm                                                                                    |
| <ul style="list-style-type: none"> <li>• for live parts at 690 V <ul style="list-style-type: none"> <li>— downwards</li> </ul> </li> </ul>       | 50 mm                                                                                   |
| <ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>— upwards</li> </ul> </li> </ul>                                  | 50 mm                                                                                   |
| <ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>— backwards</li> </ul> </li> </ul>                                | 0 mm                                                                                    |
| <ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>— at the side</li> </ul> </li> </ul>                              | 30 mm                                                                                   |
| <ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>— forwards</li> </ul> </li> </ul>                                 | 0 mm                                                                                    |
| <b>Connections/ Terminals</b>                                                                                                                    |                                                                                         |
| <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> </ul> </li> </ul>     | 2x (1 ... 2.5 mm <sup>2</sup> ), 2x (2.5 ... 10 mm <sup>2</sup> )                       |
| <ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>— finely stranded with core end processing</li> </ul> </li> </ul> | 2x (1 ... 2.5 mm <sup>2</sup> ), 2x (2.5 ... 6 mm <sup>2</sup> ), 1x 10 mm <sup>2</sup> |
| <ul style="list-style-type: none"> <li>• for AWG cables for main contacts</li> </ul>                                                             | 2x (16 ... 12), 2x (14 ... 8)                                                           |
| <b>tightening torque</b>                                                                                                                         |                                                                                         |
| <ul style="list-style-type: none"> <li>• for main contacts with screw-type terminals</li> </ul>                                                  | 2 ... 2.5 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>                                                                            | M4                                                                                      |
| <b>Safety related data</b>                                                                                                                       |                                                                                         |
| <b>product function suitable for safety function</b>                                                                                             | Yes                                                                                     |
| <b>suitability for use</b>                                                                                                                       |                                                                                         |
| <ul style="list-style-type: none"> <li>• safety-related switching on</li> </ul>                                                                  | No                                                                                      |
| <ul style="list-style-type: none"> <li>• safety-related switching OFF</li> </ul>                                                                 | Yes                                                                                     |

|                                                                                                                                                                                        |                                                  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|
| service life maximum                                                                                                                                                                   | 10 a                                             |
| test wear-related service life necessary                                                                                                                                               | Yes                                              |
| proportion of dangerous failures <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 %                                     |
| B10 value with high demand rate according to SN 31920                                                                                                                                  | 5 000                                            |
| failure rate [FIT] with low demand rate according to SN 31920                                                                                                                          | 50 FIT                                           |
| ISO 13849                                                                                                                                                                              |                                                  |
| device type according to ISO 13849-1                                                                                                                                                   | 3                                                |
| overdimensioning according to ISO 13849-2 necessary                                                                                                                                    | Yes                                              |
| IEC 61508                                                                                                                                                                              |                                                  |
| safety device type according to IEC 61508-2                                                                                                                                            | Type A                                           |
| T1 value <ul style="list-style-type: none"> <li>• for proof test interval or service life according to IEC 61508</li> </ul>                                                            | 10 a                                             |
| Electrical Safety                                                                                                                                                                      |                                                  |
| protection class IP on the front according to IEC 60529                                                                                                                                | IP20                                             |
| touch protection on the front according to IEC 60529                                                                                                                                   | finger-safe, for vertical contact from the front |
| Display                                                                                                                                                                                |                                                  |
| display version for switching status                                                                                                                                                   | Handle                                           |
| Approvals Certificates                                                                                                                                                                 |                                                  |
| General Product Approval                                                                                                                                                               |                                                  |



[KC](#)



| General Product Approval | For use in hazardous locations | Test Certificates |                                                    | Maritime application                     |
|--------------------------|--------------------------------|-------------------|----------------------------------------------------|------------------------------------------|
|                          |                                |                   | <a href="#">Type Test Certificates/Test Report</a> | <a href="#">Special Test Certificate</a> |
|                          | IECEX                          | ATEX              |                                                    |                                          |

| Maritime application | other |     |     |      |                               |
|----------------------|-------|-----|-----|------|-------------------------------|
|                      |       |     |     |      | <a href="#">Miscellaneous</a> |
| BUREAU VERITAS       | DNV   | LRS | PRS | RINA |                               |

| other           | Railway                      |     | Environment                              |                              |
|-----------------|------------------------------|-----|------------------------------------------|------------------------------|
|                 | <a href="#">Confirmation</a> |     | <a href="#">Special Test Certificate</a> | <a href="#">Confirmation</a> |
| 产品合格<br>QC PASS |                              | VDE |                                          |                              |

| Environment     |  |                                             |  |  |
|-----------------|--|---------------------------------------------|--|--|
|                 |  | <a href="#">Environmental Confirmations</a> |  |  |
| Siemens EcoTech |  |                                             |  |  |

| Further information                                                                                                                                                     |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Information on the packaging<br><a href="https://support.industry.siemens.com/cs/ww/en/view/109813875">https://support.industry.siemens.com/cs/ww/en/view/109813875</a> |

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

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

Industry Mall (Online ordering system)

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RV2021-1JA10>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2021-1JA10>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2021-1JA10>

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

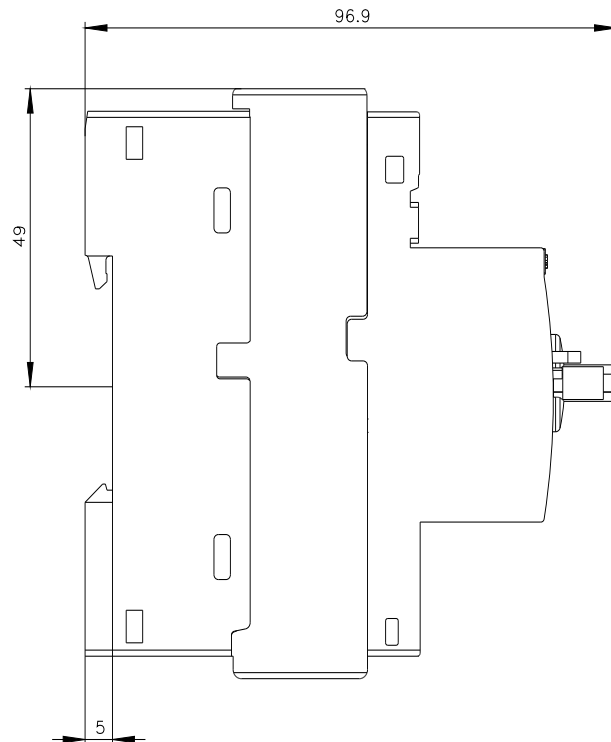
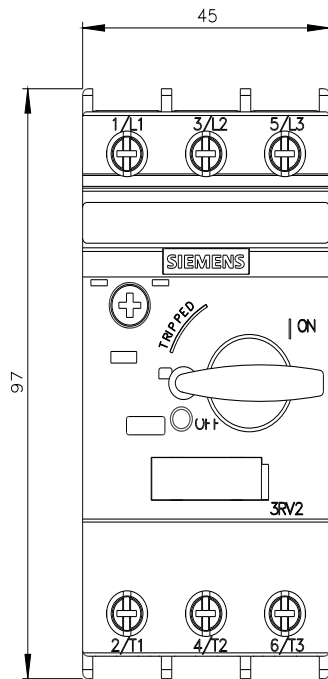
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RV2021-1JA10&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2021-1JA10&lang=en)

Characteristic: Tripping characteristics,  $I^2t$ , Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2021-1JA10/char>

Further characteristics (e.g. electrical endurance, switching frequency)

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2021-1JA10&objecttype=14&gridview=view1>





last modified:

5/16/2025