

Siemens  
EcoTech



Circuit breaker size S0 for motor protection, CLASS 10 A-release 2.2...3.2 A N release 42 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                 |
| General technical data                                          |                      |
| 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                                  | 7.25 W               |
| • at AC in hot operating state per pole                         | 2.4 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           |
| SVHC substance name                                             | Lead - 7439-92-1     |
| Weight                                                          | 0.355 kg             |
| Ambient conditions                                              |                      |
| 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 %          |
| Environmental footprint                                         |                      |
| 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      |

| Main circuit                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|
| number of poles for main current circuit                                                                                                                                                                                                                                                                                                                                                                                                            | 3                                                                                |
| adjustable current response value current of the current-dependent overload release                                                                                                                                                                                                                                                                                                                                                                 | 2.2 ... 3.2 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                                                                                                                                                                                                                                                                                                                                                                                                                     | 3.2 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>                                                                                                                                                                                                                                                                                                       | 3.2 A<br>3.2 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> | 0.6 kW<br>1.1 kW<br>1.5 kW<br>2.2 kW<br><br>0.6 kW<br>1.1 kW<br>1.5 kW<br>2.2 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                                                                 |
| Auxiliary circuit                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                  |
| 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                                                                                |
| Protective and monitoring functions                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                  |
| 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 (I <sub>cu</sub> ) <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>100 kA<br>10 kA                                              |
| operating short-circuit current breaking capacity (I <sub>cs</sub> ) 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>100 kA<br>10 kA                                              |
| response value current of instantaneous short-circuit trip unit                                                                                                                                                                                                                                                                                                                                                                                     | 42 A                                                                             |
| UL/CSA ratings                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                  |
| 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>                                                                                                                                                                                                                                                                                               | 3.2 A<br>3.2 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> </ul> </li> </ul>                                                                   | 0.1 hp<br>0.25 hp<br><br>0.5 hp<br>0.75 hp                                       |

|                                                                      |                                                                                         |
|----------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| — at 460/480 V rated value                                           | 2 hp                                                                                    |
| — at 575/600 V rated value                                           | 2 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>                                              |                                                                                         |
| • with side-by-side mounting at the side                             | 0 mm                                                                                    |
| • for grounded parts at 400 V                                        |                                                                                         |
| — downwards                                                          | 30 mm                                                                                   |
| — upwards                                                            | 30 mm                                                                                   |
| — at the side                                                        | 9 mm                                                                                    |
| • for live parts at 400 V                                            |                                                                                         |
| — downwards                                                          | 30 mm                                                                                   |
| — upwards                                                            | 30 mm                                                                                   |
| — at the side                                                        | 9 mm                                                                                    |
| • for grounded parts at 500 V                                        |                                                                                         |
| — downwards                                                          | 30 mm                                                                                   |
| — upwards                                                            | 30 mm                                                                                   |
| — at the side                                                        | 9 mm                                                                                    |
| • for live parts at 500 V                                            |                                                                                         |
| — downwards                                                          | 30 mm                                                                                   |
| — upwards                                                            | 30 mm                                                                                   |
| — at the side                                                        | 9 mm                                                                                    |
| • for grounded parts at 690 V                                        |                                                                                         |
| — downwards                                                          | 50 mm                                                                                   |
| — upwards                                                            | 50 mm                                                                                   |
| — backwards                                                          | 0 mm                                                                                    |
| — at the side                                                        | 30 mm                                                                                   |
| — forwards                                                           | 0 mm                                                                                    |
| • for live parts at 690 V                                            |                                                                                         |
| — downwards                                                          | 50 mm                                                                                   |
| — upwards                                                            | 50 mm                                                                                   |
| — backwards                                                          | 0 mm                                                                                    |
| — at the side                                                        | 30 mm                                                                                   |
| — forwards                                                           | 0 mm                                                                                    |
| <b>Connections/ Terminals</b>                                        |                                                                                         |
| <b>type of electrical connection</b>                                 |                                                                                         |
| • for main current circuit                                           | screw-type terminals                                                                    |
| <b>arrangement of electrical connectors for main current circuit</b> | Top and bottom                                                                          |
| <b>type of connectable conductor cross-sections</b>                  |                                                                                         |
| • for main contacts                                                  |                                                                                         |
| — solid or stranded                                                  | 2x (1 ... 2.5 mm <sup>2</sup> ), 2x (2.5 ... 10 mm <sup>2</sup> )                       |
| — finely stranded with core end processing                           | 2x (1 ... 2.5 mm <sup>2</sup> ), 2x (2.5 ... 6 mm <sup>2</sup> ), 1x 10 mm <sup>2</sup> |
| • for AWG cables for main contacts                                   | 2x (16 ... 12), 2x (14 ... 8)                                                           |
| <b>tightening torque</b>                                             |                                                                                         |
| • for main contacts with screw-type terminals                        | 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>                  |                                                                                         |
| • for main contacts                                                  | M4                                                                                      |
| <b>Safety related data</b>                                           |                                                                                         |
| <b>product function suitable for safety function</b>                 | Yes                                                                                     |
| <b>suitability for use</b>                                           |                                                                                         |
| • safety-related switching on                                        | No                                                                                      |

|                                                                  |                                                  |
|------------------------------------------------------------------|--------------------------------------------------|
| • safety-related switching OFF                                   | Yes                                              |
| service life maximum                                             | 10 a                                             |
| test wear-related service life necessary                         | Yes                                              |
| proportion of dangerous failures                                 |                                                  |
| • with low demand rate according to SN 31920                     | 40 %                                             |
| • with high demand rate according to SN 31920                    | 50 %                                             |
| B10 value with high demand rate according to SN 31920            | 5 000                                            |
| failure rate [FIT] with low demand rate according to SN 31920    | 50 FIT                                           |
| ISO 13849                                                        |                                                  |
| device type according to ISO 13849-1                             | 3                                                |
| overdimensioning according to ISO 13849-2 necessary              | Yes                                              |
| IEC 61508                                                        |                                                  |
| safety device type according to IEC 61508-2                      | Type A                                           |
| T1 value                                                         |                                                  |
| • for proof test interval or service life according to IEC 61508 | 10 a                                             |
| Electrical Safety                                                |                                                  |
| protection class IP on the front according to IEC 60529          | IP20                                             |
| touch protection on the front according to IEC 60529             | finger-safe, for vertical contact from the front |
| Display                                                          |                                                  |
| display version for switching status                             | Handle                                           |
| Approvals Certificates                                           |                                                  |
| General Product Approval                                         |                                                  |



[KC](#)



|                          |                                |                   |                      |
|--------------------------|--------------------------------|-------------------|----------------------|
| General Product Approval | For use in hazardous locations | Test Certificates | Maritime application |
|--------------------------|--------------------------------|-------------------|----------------------|



[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)



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



[Miscellaneous](#)

|       |         |             |
|-------|---------|-------------|
| other | Railway | Environment |
|-------|---------|-------------|



[Confirmation](#)



[Special Test Certificate](#)

[Confirmation](#)



|             |
|-------------|
| Environment |
|-------------|

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[Environmental Confirmations](#)

#### Further information

Information on the packaging

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

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=3RV2021-1DA10>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2021-1DA10>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2021-1DA10>

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

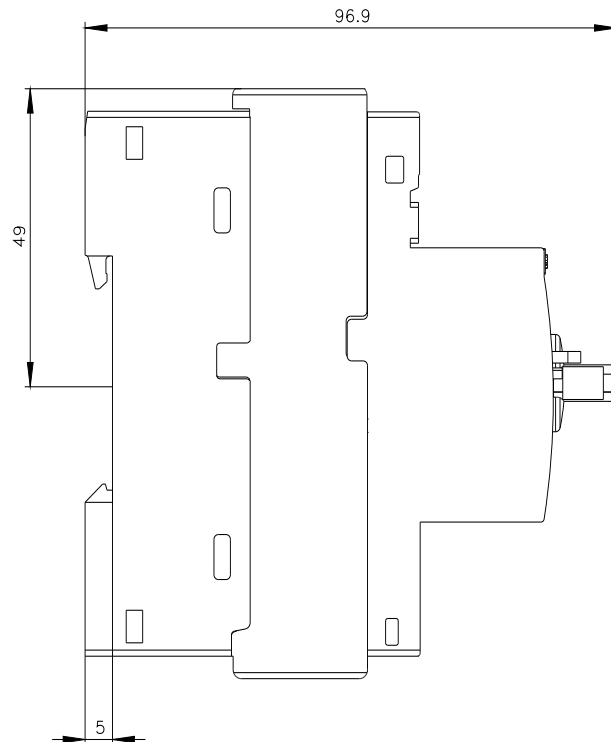
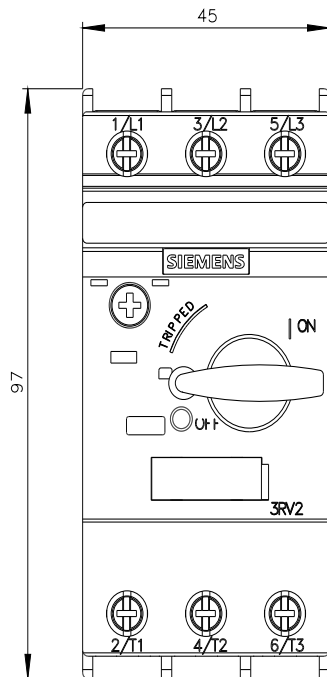
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RV2021-1DA10&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2021-1DA10&lang=en)

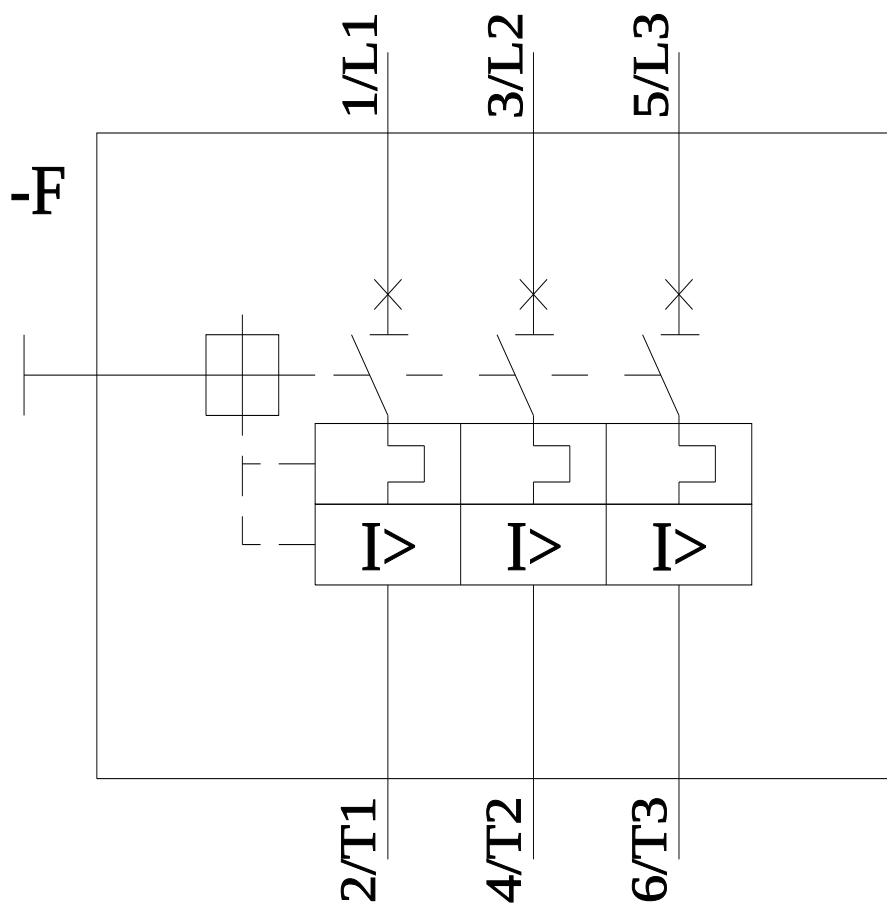
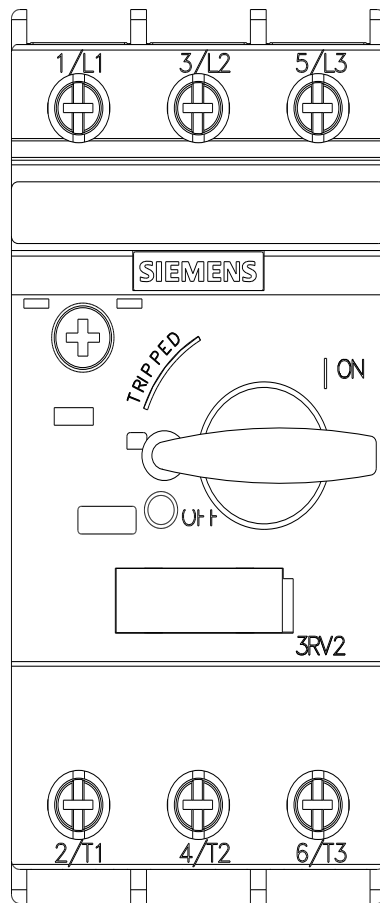
Characteristic: Tripping characteristics,  $I^2t$ , Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2021-1DA10/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2021-1DA10&objecttype=14&gridview=view1>





last modified:

5/16/2025