

Siemens  
EcoTech



Circuit breaker size S0 for motor protection, CLASS 10 A-release 3.5...5 A N release 65 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                                  | 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  | 0.358 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>                                  |                      |
| 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>   |                      |

|  |              |
|--|--------------|
| <b>number of poles for main current circuit</b>  | 3            |
| <b>adjustable current response value current of the current-dependent overload release</b> | 3.5 ... 5 A  |
| <b>operating voltage</b>   |              |
| • 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>   | 5 A          |
| <b>operational current</b>   |              |
| • at AC-3 at 400 V rated value   | 5 A          |
| • at AC-3e at 400 V rated value  | 5 A          |
| <b>operating power</b>   |              |
| • at AC-3  |              |
| — at 230 V rated value   | 1.1 kW       |
| — at 400 V rated value   | 1.5 kW       |
| — at 500 V rated value   | 2.2 kW       |
| — at 690 V rated value   | 4 kW         |
| • at AC-3e   |              |
| — at 230 V rated value   | 1.1 kW       |
| — at 400 V rated value   | 1.5 kW       |
| — at 500 V rated value   | 2.2 kW       |
| — at 690 V rated value   | 4 kW         |
| <b>operating frequency</b>   |              |
| • at AC-3 maximum  | 15 1/h       |
| • at AC-3e maximum   | 15 1/h       |
| <b>Auxiliary circuit</b>   |              |
| <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>maximum short-circuit current breaking capacity (I<sub>cu</sub>)</b>                    |              |
| • at AC at 240 V rated value   | 100 kA       |
| • at AC at 400 V rated value   | 100 kA       |
| • at AC at 500 V rated value   | 100 kA       |
| • at AC at 690 V rated value   | 6 kA         |
| <b>operating short-circuit current breaking capacity (I<sub>cs</sub>) at AC</b>            |              |
| • at 240 V rated value   | 100 kA       |
| • at 400 V rated value   | 100 kA       |
| • at 500 V rated value   | 100 kA       |
| • at 690 V rated value   | 4 kA         |
| response value current of instantaneous short-circuit trip unit                            | 65 A         |
| <b>UL/CSA ratings</b>  |              |
| <b>full-load current (FLA) for 3-phase AC motor</b>  |              |
| • at 480 V rated value   | 5 A          |
| • at 600 V rated value   | 5 A          |
| <b>yielded mechanical performance [hp]</b>   |              |
| • for single-phase AC motor  |              |
| — at 110/120 V rated value   | 0.17 hp      |
| — at 230 V rated value   | 0.5 hp       |
| • for 3-phase AC motor   |              |
| — at 200/208 V rated value   | 1 hp         |
| — at 220/230 V rated value   | 1 hp         |
| — at 460/480 V rated value   | 3 hp         |
| — at 575/600 V rated value   | 3 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> <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> | <ul style="list-style-type: none"> <li>0 mm</li> <li>30 mm</li> <li>30 mm</li> <li>9 mm</li> <li>30 mm</li> <li>30 mm</li> <li>9 mm</li> <li>30 mm</li> <li>30 mm</li> <li>9 mm</li> <li>50 mm</li> <li>50 mm</li> <li>0 mm</li> <li>30 mm</li> <li>0 mm</li> <li>50 mm</li> <li>50 mm</li> <li>0 mm</li> <li>30 mm</li> <li>0 mm</li> </ul> |
| <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> <li>— finely stranded with core end processing</li> </ul> </li> <li>● for AWG cables for main contacts</li> </ul>   | <ul style="list-style-type: none"> <li>2x (1 ... 2.5 mm<sup>2</sup>), 2x (2.5 ... 10 mm<sup>2</sup>)</li> <li>2x (1 ... 2.5 mm<sup>2</sup>), 2x (2.5 ... 6 mm<sup>2</sup>), 1x 10 mm<sup>2</sup></li> <li>2x (16 ... 12), 2x (14 ... 8)</li> </ul>   |
| <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> <li>● safety-related switching OFF</li> </ul>  | <ul style="list-style-type: none"> <li>No</li> <li>Yes</li> </ul>  |
| <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> | <p>40 %</p> <p>50 %</p>                          |
| <b>B10 value with high demand rate according to SN 31920</b>  | 5 000  |
| <b>failure rate [FIT] with low demand rate according to SN 31920</b>  | 50 FIT   |
| <b>ISO 13849</b>  |  |
| <b>device type according to ISO 13849-1</b>   | 3  |
| <b>overdimensioning according to ISO 13849-2 necessary</b>  | Yes  |
| <b>IEC 61508</b>  |  |
| <b>safety device type according to IEC 61508-2</b>  | Type A   |
| <b>T1 value</b>   |  |
| <ul style="list-style-type: none"> <li>for proof test interval or service life according to IEC 61508</li> </ul>                                  | 10 a   |
| <b>Electrical Safety</b>  |  |
| <b>protection class IP on the front according to IEC 60529</b>  | IP20   |
| <b>touch protection on the front according to IEC 60529</b>   | finger-safe, for vertical contact from the front |
| <b>Display</b>  |  |
| display version for switching status  | Handle   |
| <b>Approvals Certificates</b>   |  |

**General Product Approval**



[Confirmation](#)



[KC](#)

|                                 |                                       |                          |                          |
|---------------------------------|---------------------------------------|--------------------------|--------------------------|
| <b>General Product Approval</b> | <b>For use in hazardous locations</b> | <b>Test Certificates</b> | <b>Marine / Shipping</b> |
|---------------------------------|---------------------------------------|--------------------------|--------------------------|



[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)



|                          |              |
|--------------------------|--------------|
| <b>Marine / Shipping</b> | <b>other</b> |
|--------------------------|--------------|



[Miscellaneous](#)

|              |                |                    |
|--------------|----------------|--------------------|
| <b>other</b> | <b>Railway</b> | <b>Environment</b> |
|--------------|----------------|--------------------|

[Confirmation](#)



[Special Test Certificate](#)

[Confirmation](#)



**Environment**

[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=3RV2021-1FA10>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2021-1FA10>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2021-1FA10>

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

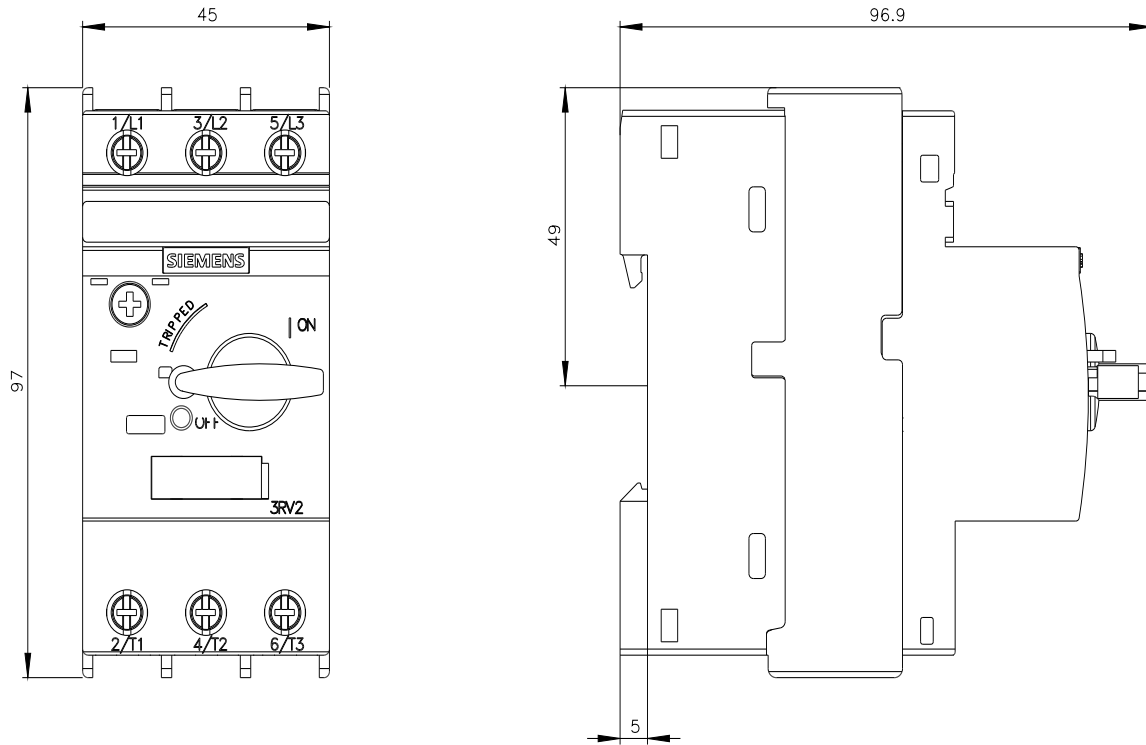
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RV2021-1FA10&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2021-1FA10&lang=en)

Characteristic: Tripping characteristics, I<sup>2</sup>t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2021-1FA10/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2021-1FA10&objecttype=14&gridview=view1>





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