

Siemens  
EcoTech



Circuit breaker size S0 for motor protection, CLASS 10 A-release 0.45...0.63 A N-release 8.2 A Spring-type terminal Standard switching capacity with transverse auxiliary switches 1 NO+1 NC



|   |                      |
|---|----------------------|
| 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  | 0.351 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      |

| Main circuit  |  |
|---|--|
| number of poles for main current circuit  | 3  |
| adjustable current response value current of the current-dependent overload release   | 0.45 ... 0.63 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   | 0.63 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>   | 0.63 A<br>0.63 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> | 0.1 kW<br>0.2 kW<br>0.2 kW<br>0.3 kW<br>0.1 kW<br>0.2 kW<br>0.2 kW<br>0.3 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   |  |
| design of the auxiliary switch  | transverse   |
| type of voltage for auxiliary and control circuit   | AC/DC  |
| number of NC contacts for auxiliary contacts  | 1  |
| number of NO contacts for auxiliary contacts  | 1  |
| number of CO contacts for auxiliary contacts  | 0  |
| operational current of auxiliary contacts at AC-15 <ul style="list-style-type: none"> <li>• at 24 V</li> <li>• at 120 V</li> <li>• at 125 V</li> <li>• at 230 V</li> </ul>  | 2 A<br>0.5 A<br>0.5 A<br>0.5 A   |
| operational current of auxiliary contacts at DC-13 <ul style="list-style-type: none"> <li>• at 24 V</li> <li>• at 60 V</li> </ul>   | 1 A<br>0.15 A  |
| 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 (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>100 kA<br>100 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>100 kA<br>100 kA   |
| response value current of instantaneous short-circuit trip unit   | 8.2 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>  | 0.63 A<br>0.63 A   |   |
| <b>contact rating of auxiliary contacts according to UL</b>   | C300 / R300  |   |
| <b>Category Control Number (CCN)</b>  | E156943 (NKJH, NKJH7)  |   |
| <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</b>  | Fuse gL/gG: 10 A, miniature circuit breaker C 6 A (short-circuit current I <sub>k</sub> < 400 A)   |   |
| <ul style="list-style-type: none"> <li>• for short-circuit protection of the auxiliary switch required</li> </ul>   |  |   |
| <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>   | 119 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 30 mm</li> <li>— upwards 30 mm</li> <li>— at the side 9 mm</li> </ul> </li> <li>• for live parts at 400 V <ul style="list-style-type: none"> <li>— downwards 30 mm</li> <li>— upwards 30 mm</li> <li>— at the side 9 mm</li> </ul> </li> <li>• for grounded parts at 500 V <ul style="list-style-type: none"> <li>— downwards 30 mm</li> <li>— upwards 30 mm</li> <li>— at the side 9 mm</li> </ul> </li> <li>• for live parts at 500 V <ul style="list-style-type: none"> <li>— downwards 30 mm</li> <li>— upwards 30 mm</li> <li>— at the side 9 mm</li> </ul> </li> <li>• for grounded parts at 690 V <ul style="list-style-type: none"> <li>— downwards 50 mm</li> <li>— upwards 50 mm</li> <li>— backwards 0 mm</li> <li>— at the side 30 mm</li> <li>— forwards 0 mm</li> </ul> </li> <li>• for live parts at 690 V <ul style="list-style-type: none"> <li>— downwards 50 mm</li> <li>— upwards 50 mm</li> <li>— backwards 0 mm</li> <li>— at the side 30 mm</li> <li>— forwards 0 mm</li> </ul> </li> </ul> |   |
| <ul style="list-style-type: none"> <li>• with side-by-side mounting at the side</li> </ul>  |  |   |
| <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> </ul>  |  |   |
| <ul style="list-style-type: none"> <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> </ul>  |  |   |
| <ul style="list-style-type: none"> <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> </ul>  |  |   |
| <ul style="list-style-type: none"> <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> </ul>  |  |   |
| <ul style="list-style-type: none"> <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> </ul>                       |  |   |
| <ul style="list-style-type: none"> <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>                           |  |   |
| <b>Connections/ Terminals</b>   |  |   |
| <b>type of electrical connection</b>  |  | spring-loaded terminals<br>spring-loaded terminals  |
| <ul style="list-style-type: none"> <li>• for main current circuit</li> <li>• for auxiliary and control circuit</li> </ul>   |  |   |
| <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>2x (1 ... 10 mm<sup>2</sup>)</li> <li>2x (1 ... 6 mm<sup>2</sup>)</li> <li>2x (1 ... 6 mm<sup>2</sup>)</li> <li>2x (18 ... 8)</li> </ul> |
| <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> <li>— finely stranded without core end processing</li> </ul> </li> </ul> |  |   |
| <ul style="list-style-type: none"> <li>• for AWG cables for main contacts</li> </ul>  |  |   |
| <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 ... 2.5 mm <sup>2</sup> )   |

|   |                                   |
|---|-----------------------------------|
| — finely stranded with core end processing    | 2x (0.5 ... 1.5 mm <sup>2</sup> ) |
| — finely stranded without core end processing | 2x (0.5 ... 1.5 mm <sup>2</sup> ) |
| • for AWG cables for auxiliary contacts       | 2x (20 ... 14)                    |
| <b>design of screwdriver shaft</b>            | Diameter 3 mm                     |
| <b>size of the screwdriver tip</b>            | 3,0 x 0,5 mm                      |

### Safety related data

|  |        |
|--|--------|
| product function suitable for safety function                        | Yes    |
| <b>suitability for use</b>   |        |
| • safety-related switching on  | No     |
| • safety-related switching OFF                                       | Yes    |
| <b>service life maximum</b>  | 10 a   |
| <b>test wear-related service life necessary</b>                      | Yes    |
| <b>proportion of dangerous failures</b>                              |        |
| • with low demand rate according to SN 31920                         | 40 %   |
| • with high demand rate according to SN 31920                        | 50 %   |
| <b>B10 value with high demand rate according to SN 31920</b>         | 5 000  |
| <b>failure rate [FIT] with low demand rate according to SN 31920</b> | 50 FIT |

### 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 |
| <b>T1 value</b>  |        |
| • for proof test interval or service life according to IEC 61508 | 10 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 |

### Display

|                                      |        |
|--------------------------------------|--------|
| display version for switching status | Handle |
|--------------------------------------|--------|

### Approvals Certificates

#### General Product Approval



[KC](#)



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



[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)

### Maritime application



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

[Miscellaneous](#)



[Confirmation](#)



[Special Test Certificate](#)

[Confirmation](#)



[Environmental Confirmations](#)

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=3RV2021-0GA25>

Cax online generator

<https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2021-0GA25>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2021-0GA25>

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

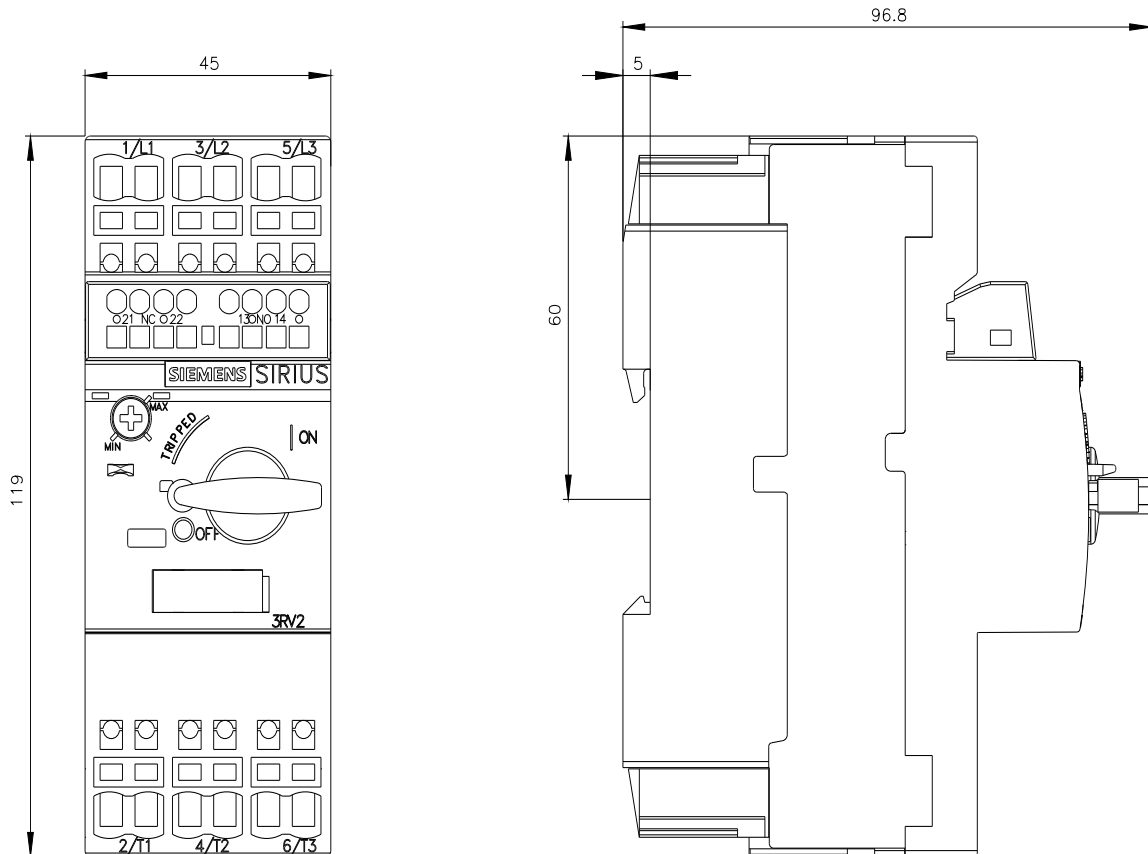
[https://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RV2021-0GA25&lang=en](https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2021-0GA25&lang=en)

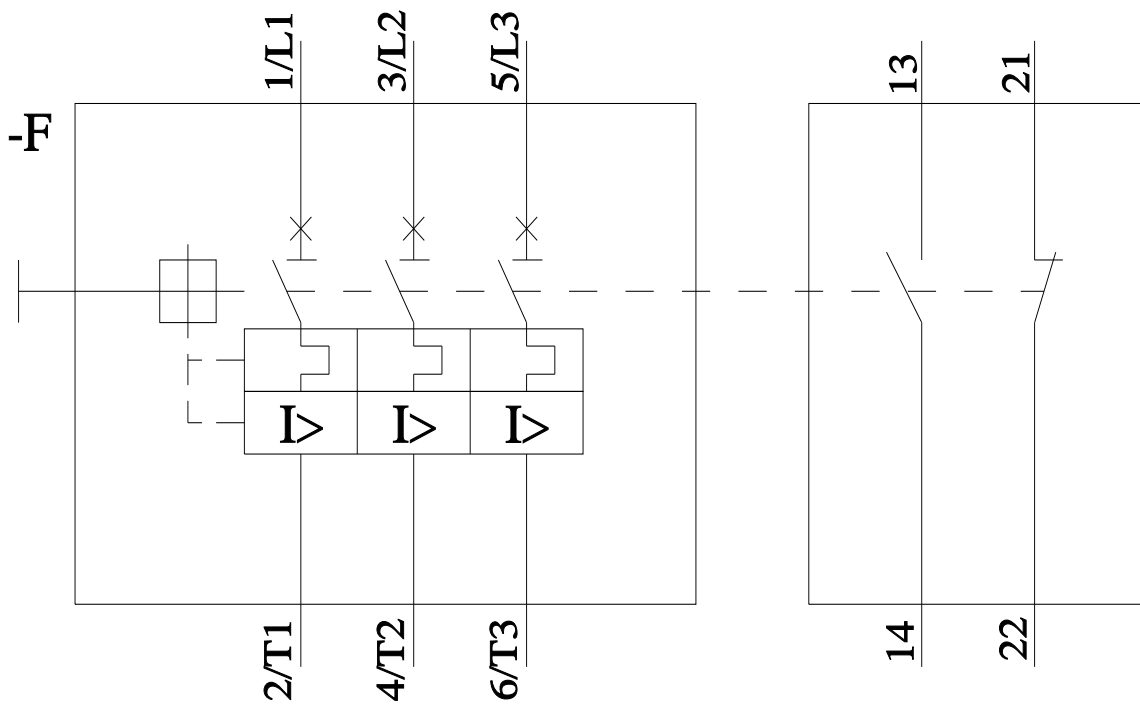
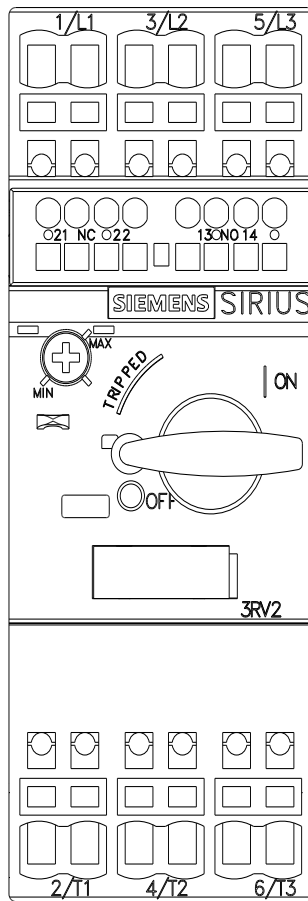
Characteristic: Tripping characteristics, I<sub>t</sub>, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2021-0GA25/char>

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

<https://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2021-0GA25&objecttype=14&gridview=view1>





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