

Siemens  
EcoTech



Circuit breaker size S00 for motor protection, CLASS 10 A-release 1.1...1.6 A N-release 21 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                                     | S00                  |
| 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  | 0.383 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                         | 74.698 kg            |
| global warming potential [CO2 eq] during manufacturing          | 1.98 kg              |
| global warming potential [CO2 eq] during sales                  | 0.134 kg             |
| global warming potential [CO2 eq] during operation              | 72.7 kg              |
| global warming potential [CO2 eq] after end of life             | -0.116 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   | 1.1 ... 1.6 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   | 1.6 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>   | 1.6 A<br>1.6 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> | 0.3 kW<br>0.55 kW<br>0.8 kW<br>1.1 kW<br><br>0.3 kW<br>0.55 kW<br>0.8 kW<br>1.1 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   | 21 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>   | 1.6 A<br>1.6 A   |
| <b>yielded mechanical performance [hp]</b>   |  |
| <ul style="list-style-type: none"> <li>• for single-phase AC motor <ul style="list-style-type: none"> <li>— at 230 V rated value</li> </ul> </li> <li>• for 3-phase AC motor <ul style="list-style-type: none"> <li>— at 460/480 V rated value</li> <li>— at 575/600 V rated value</li> </ul> </li> </ul>  | 0.1 hp<br><br>1 hp<br>0.8 hp   |
| <b>contact rating of auxiliary contacts according to UL</b>  | C300 / R300  |
| <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> <ul style="list-style-type: none"> <li>• for short-circuit protection of the auxiliary switch required</li> </ul>   | Fuse gL/gG: 10 A, miniature circuit breaker C 6 A (short-circuit current I <sub>k</sub> < 400 A)   |
| <b>design of the fuse link for IT network for short-circuit protection of the main circuit</b> <ul style="list-style-type: none"> <li>• at 500 V</li> <li>• at 690 V</li> </ul>  | gL/gG 20 A<br>gL/gG 16 A   |
| <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>  | 106 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> | 0 mm<br><br>30 mm<br>30 mm<br>9 mm<br><br>30 mm<br>30 mm<br>9 mm<br><br>30 mm<br>30 mm<br>9 mm<br><br>50 mm<br>50 mm<br>0 mm<br>30 mm<br>0 mm<br><br>50 mm<br>50 mm<br>0 mm<br>30 mm<br>0 mm |
| <b>Connections/ Terminals</b>  |  |
| <b>type of electrical connection</b> <ul style="list-style-type: none"> <li>• for main current circuit</li> <li>• for auxiliary and control circuit</li> </ul>   | spring-loaded terminals<br>spring-loaded 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> <li>— finely stranded without core end processing</li> </ul> </li> <li>for AWG cables for main contacts</li> </ul>           | 2x (0,5 ... 4 mm <sup>2</sup> )<br>2x (0.5 ... 2.5 mm <sup>2</sup> )<br>2x (0.5 ... 2.5 mm <sup>2</sup> )<br>2x (20 ... 12)   |
| <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> <li>— finely stranded with core end processing</li> <li>— finely stranded without core end processing</li> </ul> </li> <li>for AWG cables for auxiliary contacts</li> </ul> | 2x (0.5 ... 2.5 mm <sup>2</sup> )<br>2x (0.5 ... 1.5 mm <sup>2</sup> )<br>2x (0.5 ... 1.5 mm <sup>2</sup> )<br>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>  |              |
| <ul style="list-style-type: none"> <li>safety-related switching on</li> <li>safety-related switching OFF</li> </ul>                               | No<br>Yes    |
| <b>service life maximum</b>   | 10 a         |
| <b>test wear-related service life necessary</b>   | Yes          |
| <b>proportion of dangerous failures</b>   |              |
| <ul style="list-style-type: none"> <li>with low demand rate according to SN 31920</li> <li>with high demand rate according to SN 31920</li> </ul> | 40 %<br>50 % |
| <b>B10 value with high demand rate according to SN 31920</b>  | 5 000        |
| <b>failure rate [FIT] with low demand rate according to SN 31920</b>  | 50 FIT       |

#### ISO 13849

|  |     |
|--|-----|
| <b>device type according to ISO 13849-1</b>                | 3   |
| <b>overdimensioning according to ISO 13849-2 necessary</b> | Yes |

#### IEC 61508

|  |        |
|--|--------|
| <b>safety device type according to IEC 61508-2</b>   | Type A |
| <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   |

#### 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 | Maritime application |
|--------------------------|--------------------------------|-------------------|----------------------|



[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)



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



[Miscellaneous](#)

other



[Confirmation](#)



Railway

[Special Test Certificate](#)

[Confirmation](#)

Environment



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=3RV2011-1AA25>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2011-1AA25>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2011-1AA25>

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

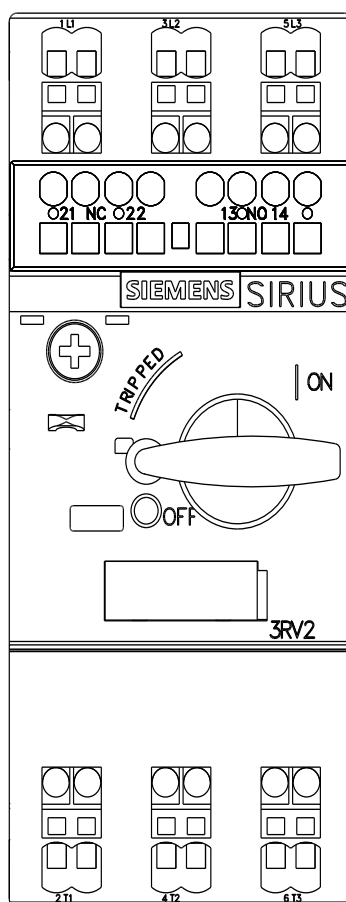
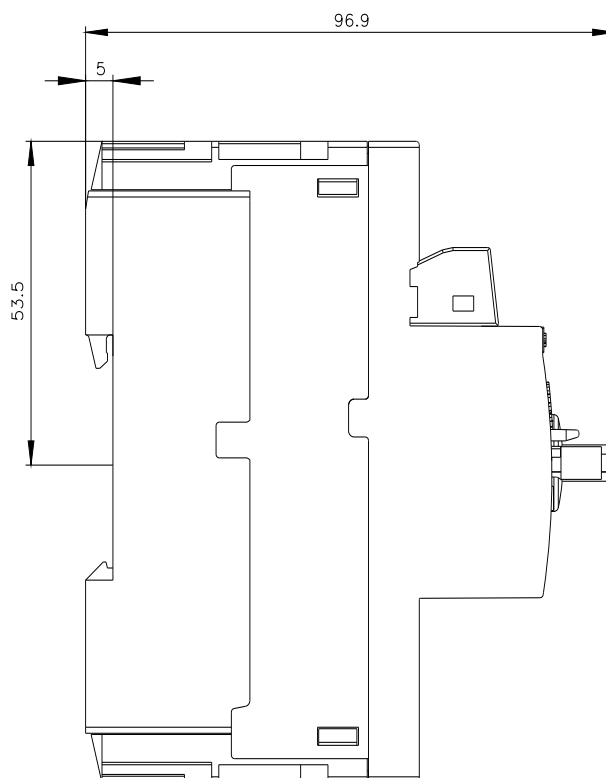
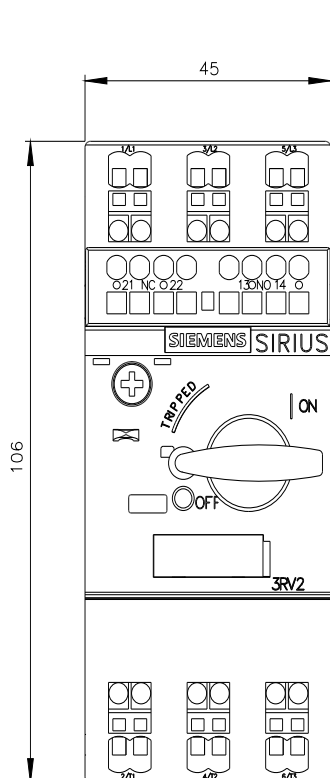
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RV2011-1AA25&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2011-1AA25&lang=en)

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2011-1AA25/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2011-1AA25&objecttype=14&gridview=view1>





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