

Siemens  
EcoTech



Circuit breaker size S2 for motor protection, CLASS 10 A-release 70...80 A N-release 1040 A screw terminal increased 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                                     | S2                   |
| size of contactor can be combined company-specific              | S2                   |
| product extension auxiliary switch                              | Yes                  |
| power loss [W] for rated value of the current                   |                      |
| • at AC in hot operating state                                  | 29.5 W               |
| • at AC in hot operating state per pole                         | 9.8 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 Sinus    |
| mechanical service life (operating cycles)                      |                      |
| • of the main contacts typical                                  | 20 000               |
| • of auxiliary contacts typical                                 | 20 000               |
| electrical endurance (operating cycles) typical                 | 20 000               |
| reference code according to IEC 81346-2                         | Q                    |
| Substance Prohibitance (Date)                                   | 03/01/2017           |
| SVHC substance name   | Lead - 7439-92-1     |
| Weight  | 1.185 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                         | 239.877 kg           |
| global warming potential [CO2 eq] during manufacturing          | 12.8 kg              |
| global warming potential [CO2 eq] during sales                  | 0.477 kg             |
| global warming potential [CO2 eq] during operation              | 230 kg               |
| global warming potential [CO2 eq] after end of life             | -3.4 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>   | 70 ... 80 A  |
| <b>operating voltage</b> <ul style="list-style-type: none"> <li>• rated value</li> <li>• at AC-3 rated value maximum</li> </ul>  | 20 ... 690 V<br>690 V  |
| <b>operating frequency rated value</b>   | 50 ... 60 Hz   |
| <b>operational current rated value</b>   | 80 A   |
| <b>operational current</b> <ul style="list-style-type: none"> <li>• at AC-3 at 400 V rated value</li> </ul>  | 80 A   |
| <b>operating power</b> <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> </ul>   | 22 kW<br>37 kW<br>55 kW<br>75 kW   |
| <b>operating frequency</b> <ul style="list-style-type: none"> <li>• at AC-3 maximum</li> </ul>   | 15 1/h   |
| <b>Protective and monitoring functions</b>   |  |
| <b>product function</b> <ul style="list-style-type: none"> <li>• ground fault detection</li> <li>• phase failure detection</li> </ul>  | No<br>Yes  |
| <b>trip class</b>  | CLASS 10   |
| <b>design of the overload release</b>  | thermal  |
| <b>maximum short-circuit current breaking capacity (Icu)</b> <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>10 kA<br>6 kA  |
| <b>operating short-circuit current breaking capacity (Ics) at AC</b> <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>50 kA<br>8 kA<br>4 kA  |
| response value current of instantaneous short-circuit trip unit  | 1 040 A  |
| <b>UL/CSA ratings</b>  |  |
| <b>full-load current (FLA) for 3-phase AC motor</b> <ul style="list-style-type: none"> <li>• at 480 V rated value</li> <li>• at 600 V rated value</li> </ul>   | 77 A<br>77 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 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> <li>— at 575/600 V rated value</li> </ul> </li> </ul> | 7.5 hp<br>15 hp<br><br>25 hp<br>30 hp<br>60 hp<br>75 hp                  |
| <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 for IT network for short-circuit protection of the main circuit</b> <ul style="list-style-type: none"> <li>• at 240 V</li> <li>• at 400 V</li> <li>• at 500 V</li> <li>• at 690 V</li> </ul>  | none required<br>160<br>125<br>100                                       |
| <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>  | 140 mm   |

|  |  |
|--|--|
| <b>width</b>   | 55 mm  |
| <b>depth</b>   | 149 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>   | 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>— at the side</li> </ul> </li> </ul>                              | 10 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>       | 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>— at the side</li> </ul> </li> </ul>                              | 10 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>   | 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>— at the side</li> </ul> </li> </ul>                              | 10 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>       | 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>— at the side</li> </ul> </li> </ul>                              | 10 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>— at the side</li> </ul> </li> </ul>                              | 10 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>— at the side</li> </ul> </li> </ul>                              | 10 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 ... 35 mm <sup>2</sup> ), 1x (1 ... 50 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 ... 25 mm <sup>2</sup> ), 1x (1 ... 35 mm <sup>2</sup> ) |
| <ul style="list-style-type: none"> <li>• for AWG cables for main contacts</li> </ul>   | 2x (18 ... 2), 1x (18 ... 1)                                   |
| <b>tightening torque</b>   |  |
| <ul style="list-style-type: none"> <li>• for main contacts with screw-type terminals</li> </ul>  | 3 ... 4.5 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>  | M6   |
| <b>Safety related data</b>   |  |
| product function suitable for safety function  | 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  |
| <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> </ul>   | 40 %   |
| <ul style="list-style-type: none"> <li>• with high demand rate according to SN 31920</li> </ul>  | 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   |
| <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>   |  |

|   |  |
|---|--|
| 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  |  |



[Confirmation](#)



[KC](#)

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



[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)



|                   |       |
|-------------------|-------|
| Marine / Shipping | other |
|-------------------|-------|



[Miscellaneous](#)

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

[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=3RV2032-4RA10>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2032-4RA10>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2032-4RA10>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RV2032-4RA10&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2032-4RA10&lang=en)

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2032-4RA10/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2032-4RA10&objecttype=14&gridview=view1>



