

Siemens  
EcoTech



Circuit breaker size S2 for motor protection, Class 20 A-release 9.5...14 A N-release 208 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                                                         | 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                                                      | 12.5 W               |
| • at AC in hot operating state per pole                                             | 4.2 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                                                      | 50 000               |
| • of auxiliary contacts typical                                                     | 50 000               |
| electrical endurance (operating cycles) typical                                     | 50 000               |
| reference code according to IEC 81346-2                                             | Q                    |
| Substance Prohibitance (Date)                                                       | 10/15/2014           |
| SVHC substance name                                                                 | Lead - 7439-92-1     |
| 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 %          |
| Main circuit                                                                        |                      |
| number of poles for main current circuit                                            | 3                    |
| adjustable current response value current of the current-dependent overload release | 9.5 ... 14 A         |
| operating voltage                                                                   |                      |
| • rated value                                                                       | 20 ... 690 V         |
| • at AC-3 rated value maximum                                                       | 690 V                |
| • at AC-3e rated value maximum                                                      | 690 V                |
| operating frequency rated value                                                     | 50 ... 60 Hz         |

|                                                                                                |                                                                          |
|------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|
| <b>operational current rated value</b>                                                         | 14 A                                                                     |
| <b>operational current</b>                                                                     |                                                                          |
| • at AC-3 at 400 V rated value                                                                 | 14 A                                                                     |
| • at AC-3e at 400 V rated value                                                                | 14 A                                                                     |
| <b>operating power</b>                                                                         |                                                                          |
| • at AC-3                                                                                      |                                                                          |
| — at 230 V rated value                                                                         | 3 kW                                                                     |
| — at 400 V rated value                                                                         | 5.5 kW                                                                   |
| — at 500 V rated value                                                                         | 7.5 kW                                                                   |
| — at 690 V rated value                                                                         | 11 kW                                                                    |
| • at AC-3e                                                                                     |                                                                          |
| — at 230 V rated value                                                                         | 3 kW                                                                     |
| — at 400 V rated value                                                                         | 5.5 kW                                                                   |
| — at 500 V rated value                                                                         | 7.5 kW                                                                   |
| — at 690 V rated value                                                                         | 11 kW                                                                    |
| <b>operating frequency</b>                                                                     |                                                                          |
| • at AC-3 maximum                                                                              | 15 1/h                                                                   |
| • at AC-3e maximum                                                                             | 15 1/h                                                                   |
| <b>Protective and monitoring functions</b>                                                     |                                                                          |
| <b>product function</b>                                                                        |                                                                          |
| • ground fault detection                                                                       | No                                                                       |
| • phase failure detection                                                                      | Yes                                                                      |
| <b>trip class</b>                                                                              | CLASS 20                                                                 |
| <b>design of the overload release</b>                                                          | thermal                                                                  |
| <b>maximum short-circuit current breaking capacity (Icu)</b>                                   |                                                                          |
| • at AC at 240 V rated value                                                                   | 100 kA                                                                   |
| • at AC at 400 V rated value                                                                   | 65 kA                                                                    |
| • at AC at 500 V rated value                                                                   | 12 kA                                                                    |
| • at AC at 690 V rated value                                                                   | 5 kA                                                                     |
| <b>operating short-circuit current breaking capacity (Ics) at AC</b>                           |                                                                          |
| • at 240 V rated value                                                                         | 100 kA                                                                   |
| • at 400 V rated value                                                                         | 30 kA                                                                    |
| • at 500 V rated value                                                                         | 6 kA                                                                     |
| • at 690 V rated value                                                                         | 3 kA                                                                     |
| response value current of instantaneous short-circuit trip unit                                | 208 A                                                                    |
| <b>UL/CSA ratings</b>                                                                          |                                                                          |
| <b>full-load current (FLA) for 3-phase AC motor</b>                                            |                                                                          |
| • at 480 V rated value                                                                         | 14 A                                                                     |
| • at 600 V rated value                                                                         | 14 A                                                                     |
| <b>yielded mechanical performance [hp]</b>                                                     |                                                                          |
| • for single-phase AC motor                                                                    |                                                                          |
| — at 110/120 V rated value                                                                     | 1.5 hp                                                                   |
| — at 230 V rated value                                                                         | 3 hp                                                                     |
| • for 3-phase AC motor                                                                         |                                                                          |
| — at 200/208 V rated value                                                                     | 5 hp                                                                     |
| — at 220/230 V rated value                                                                     | 5 hp                                                                     |
| — at 460/480 V rated value                                                                     | 10 hp                                                                    |
| — at 575/600 V rated value                                                                     | 15 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> |                                                                          |
| • at 240 V                                                                                     | none required                                                            |
| • at 400 V                                                                                     | 100                                                                      |
| • at 500 V                                                                                     | 80                                                                       |
| • at 690 V                                                                                     | 63                                                                       |
| <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>                                              |                                                                |
| • with side-by-side mounting at the side                             | 0 mm                                                           |
| • for grounded parts at 400 V                                        |                                                                |
| — downwards                                                          | 50 mm                                                          |
| — upwards                                                            | 50 mm                                                          |
| — at the side                                                        | 10 mm                                                          |
| • for live parts at 400 V                                            |                                                                |
| — downwards                                                          | 50 mm                                                          |
| — upwards                                                            | 50 mm                                                          |
| — at the side                                                        | 10 mm                                                          |
| • for grounded parts at 500 V                                        |                                                                |
| — downwards                                                          | 50 mm                                                          |
| — upwards                                                            | 50 mm                                                          |
| — at the side                                                        | 10 mm                                                          |
| • for live parts at 500 V                                            |                                                                |
| — downwards                                                          | 50 mm                                                          |
| — upwards                                                            | 50 mm                                                          |
| — at the side                                                        | 10 mm                                                          |
| • for grounded parts at 690 V                                        |                                                                |
| — downwards                                                          | 50 mm                                                          |
| — upwards                                                            | 50 mm                                                          |
| — at the side                                                        | 10 mm                                                          |
| • for live parts at 690 V                                            |                                                                |
| — downwards                                                          | 50 mm                                                          |
| — upwards                                                            | 50 mm                                                          |
| — at the side                                                        | 10 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 ... 25 mm <sup>2</sup> ), 1x (1 ... 35 mm <sup>2</sup> ) |
| — finely stranded with core end processing                           | 2x (1 ... 16 mm <sup>2</sup> ), 1x (1 ... 25 mm <sup>2</sup> ) |
| • for AWG cables for main contacts                                   | 2x (18 ... 3), 1x (18 ... 2)                                   |
| <b>tightening torque</b>                                             |                                                                |
| • for main contacts with screw-type terminals                        | 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>                  |                                                                |
| • for main contacts                                                  | M6                                                             |
| <b>Safety related data</b>                                           |                                                                |
| 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                                                         |
| <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 | Test Certificates | Marine / Shipping |
|--------------------------|-------------------|-------------------|



[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)



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



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

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Siemens EcoTech



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## 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=3RV2031-4SB10>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2031-4SB10>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2031-4SB10>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RV2031-4SB10&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2031-4SB10&lang=en)

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2031-4SB10/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2031-4SB10&objecttype=14&gridview=view1>



