

Siemens  
EcoTech



Circuit breaker size S3 for motor protection, CLASS 10 A-release 80...100 A N-release 1300 A screw terminal Increased switching capacity 100 kA



|                                                                                     |                      |
|-------------------------------------------------------------------------------------|----------------------|
| 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                                                         | S3                   |
| size of contactor can be combined company-specific                                  | S3                   |
| product extension auxiliary switch                                                  | Yes                  |
| power loss [W] for rated value of the current                                       |                      |
| • at AC in hot operating state                                                      | 44 W                 |
| • at AC in hot operating state per pole                                             | 14.7 W               |
| insulation voltage with degree of pollution 3 at AC rated value                     | 1 000 V              |
| surge voltage resistance rated value                                                | 8 kV                 |
| shock resistance according to IEC 60068-2-27                                        | 25g / 11 ms Sinus    |
| mechanical service life (operating cycles)                                          |                      |
| • of the main contacts typical                                                      | 25 000               |
| • of auxiliary contacts typical                                                     | 25 000               |
| electrical endurance (operating cycles) typical                                     | 25 000               |
| reference code according to IEC 81346-2                                             | Q                    |
| Substance Prohibitance (Date)                                                       | 03/01/2017           |
| 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 | 80 ... 100 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         |

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| <b>operational current rated value</b>                               | 100 A                                                                    |
| <b>operational current</b>                                           |                                                                          |
| • at AC-3 at 400 V rated value                                       | 100 A                                                                    |
| • at AC-3e at 400 V rated value                                      | 100 A                                                                    |
| <b>operating power</b>                                               |                                                                          |
| • at AC-3                                                            |                                                                          |
| — at 230 V rated value                                               | 30 kW                                                                    |
| — at 400 V rated value                                               | 45 kW                                                                    |
| — at 500 V rated value                                               | 55 kW                                                                    |
| — at 690 V rated value                                               | 90 kW                                                                    |
| • at AC-3e                                                           |                                                                          |
| — at 230 V rated value                                               | 30 kW                                                                    |
| — at 400 V rated value                                               | 45 kW                                                                    |
| — at 500 V rated value                                               | 55 kW                                                                    |
| — at 690 V rated value                                               | 90 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 10                                                                 |
| <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                                         | 100 kA                                                                   |
| • at AC at 500 V rated value                                         | 10 kA                                                                    |
| • at AC at 690 V rated value                                         | 6 kA                                                                     |
| <b>operating short-circuit current breaking capacity (Ics) at AC</b> |                                                                          |
| • at 240 V rated value                                               | 100 kA                                                                   |
| • at 400 V rated value                                               | 50 kA                                                                    |
| • at 500 V rated value                                               | 5 kA                                                                     |
| • at 690 V rated value                                               | 3 kA                                                                     |
| response value current of instantaneous short-circuit trip unit      | 1 300 A                                                                  |
| <b>UL/CSA ratings</b>                                                |                                                                          |
| <b>full-load current (FLA) for 3-phase AC motor</b>                  |                                                                          |
| • at 480 V rated value                                               | 100 A                                                                    |
| • at 600 V rated value                                               | 100 A                                                                    |
| <b>yielded mechanical performance [hp]</b>                           |                                                                          |
| • for single-phase AC motor                                          |                                                                          |
| — at 110/120 V rated value                                           | 7.5 hp                                                                   |
| — at 230 V rated value                                               | 20 hp                                                                    |
| • for 3-phase AC motor                                               |                                                                          |
| — at 200/208 V rated value                                           | 30 hp                                                                    |
| — at 220/230 V rated value                                           | 40 hp                                                                    |
| — at 460/480 V rated value                                           | 75 hp                                                                    |
| — at 575/600 V rated value                                           | 100 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>                                                        | 165 mm                                                                   |
| <b>width</b>                                                         | 70 mm                                                                    |
| <b>depth</b>                                                         | 176 mm                                                                   |
| <b>required spacing</b>                                              |                                                                          |
| • with side-by-side mounting at the side                             | 0 mm                                                                     |
| • for grounded parts at 400 V                                        |                                                                          |

|                                                                      |                                                                    |
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| — downwards                                                          | 70 mm                                                              |
| — upwards                                                            | 70 mm                                                              |
| — at the side                                                        | 10 mm                                                              |
| • for live parts at 400 V                                            |                                                                    |
| — downwards                                                          | 70 mm                                                              |
| — upwards                                                            | 70 mm                                                              |
| — at the side                                                        | 10 mm                                                              |
| • for grounded parts at 500 V                                        |                                                                    |
| — downwards                                                          | 110 mm                                                             |
| — upwards                                                            | 110 mm                                                             |
| — at the side                                                        | 10 mm                                                              |
| • for live parts at 500 V                                            |                                                                    |
| — downwards                                                          | 110 mm                                                             |
| — upwards                                                            | 110 mm                                                             |
| — at the side                                                        | 10 mm                                                              |
| • for grounded parts at 690 V                                        |                                                                    |
| — downwards                                                          | 150 mm                                                             |
| — upwards                                                            | 150 mm                                                             |
| — at the side                                                        | 30 mm                                                              |
| • for live parts at 690 V                                            |                                                                    |
| — downwards                                                          | 150 mm                                                             |
| — upwards                                                            | 150 mm                                                             |
| — at the side                                                        | 30 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                                                              | 2x (2.5 ... 16 mm <sup>2</sup> )                                   |
| — solid or stranded                                                  | 2x (2.5 ... 50 mm <sup>2</sup> ), 1x (10 ... 70 mm <sup>2</sup> )  |
| — finely stranded with core end processing                           | 2x (2.5 ... 35 mm <sup>2</sup> ), 1x (2.5 ... 50 mm <sup>2</sup> ) |
| — finely stranded without core end processing                        | 2x (10 ... 35 mm <sup>2</sup> ), 1x (10 ... 50 mm <sup>2</sup> )   |
| <b>tightening torque</b>                                             |                                                                    |
| • for main contacts for ring cable lug                               | 4.5 ... 6 N·m                                                      |
| <b>outer diameter of the usable ring cable lug maximum</b>           | 19 mm                                                              |
| <b>tightening torque</b>                                             |                                                                    |
| • for main contacts with screw-type terminals                        | 4.5 ... 6 N·m                                                      |
| <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>                                                     |                                                                    |
| <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                                                               |
| <b>Electrical Safety</b>                                             |                                                                    |

|                                                         |                                                  |
|---------------------------------------------------------|--------------------------------------------------|
| 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 |
| <b>Display</b>                                          |                                                  |
| display version for switching status                    | Handle                                           |
| <b>Approvals Certificates</b>                           |                                                  |
| <b>General Product Approval</b>                         |                                                  |



[Confirmation](#)



[KC](#)

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

[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)

|                                                                                                        |                                                                                          |                                                                                          |                                                                                          |                                                                                             |                               |
|--------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|-------------------------------|
| Marine / Shipping                                                                                      |                                                                                          |                                                                                          |                                                                                          |                                                                                             | other                         |
| <br>BUREAU<br>VERITAS | <br>DNV | <br>LRS | <br>PRS | <br>RINA | <a href="#">Miscellaneous</a> |

| other                        | Railway                                                                             |                                          |                              | Environment                                                                           |                                                                                       |
|------------------------------|-------------------------------------------------------------------------------------|------------------------------------------|------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| <a href="#">Confirmation</a> |  | <a href="#">Special Test Certificate</a> | <a href="#">Confirmation</a> |  |  |

|                                             |
|---------------------------------------------|
| Environment                                 |
| <a href="#">Environmental Confirmations</a> |

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| <b>Further information</b><br>Information on the packaging<br><a href="https://support.industry.siemens.com/cs/ww/en/view/109813875">https://support.industry.siemens.com/cs/ww/en/view/109813875</a><br>Information- and Downloadcenter (Catalogs, Brochures,...)<br><a href="https://www.siemens.com/ic10">https://www.siemens.com/ic10</a><br>Industry Mall (Online ordering system)<br><a href="https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RV2042-4MA10">https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RV2042-4MA10</a><br>Cax online generator<br><a href="http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&amp;mlfb=3RV2042-4MA10">http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&amp;mlfb=3RV2042-4MA10</a><br>Service&Support (Manuals, Certificates, Characteristics, FAQs,...)<br><a href="https://support.industry.siemens.com/cs/ww/en/ps/3RV2042-4MA10">https://support.industry.siemens.com/cs/ww/en/ps/3RV2042-4MA10</a><br>Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)<br><a href="http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2042-4MA10&amp;lang=en">http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2042-4MA10&amp;lang=en</a><br>Characteristic: Tripping characteristics, I <sub>t</sub> , Let-through current<br><a href="https://support.industry.siemens.com/cs/ww/en/ps/3RV2042-4MA10/char">https://support.industry.siemens.com/cs/ww/en/ps/3RV2042-4MA10/char</a><br>Further characteristics (e.g. electrical endurance, switching frequency)<br><a href="http://www.automation.siemens.com/bilddb/index.aspx?view=Search&amp;mlfb=3RV2042-4MA10&amp;objecttype=14&amp;gridview=view1">http://www.automation.siemens.com/bilddb/index.aspx?view=Search&amp;mlfb=3RV2042-4MA10&amp;objecttype=14&amp;gridview=view1</a> |
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