



Circuit breaker size S3 for motor protection, CLASS 10 A-release 45...63 A N-release 819 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                 |
| <b>General technical data</b>                                                       |                      |
| 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                                                      | 34 W                 |
| • at AC in hot operating state per pole                                             | 11.3 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 Prohibition (Date)                                                        | 03/01/2017           |
| SVHC substance name                                                                 | Lead - 7439-92-1     |
| Net Weight                                                                          | 2.243 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>Main circuit</b>                                                                 |                      |
| number of poles for main current circuit                                            | 3                    |
| adjustable current response value current of the current-dependent overload release | 45 ... 63 A          |
| type of voltage for main current circuit                                            | AC                   |
| operating voltage                                                                   |                      |
| • rated value                                                                       | 20 ... 690 V         |

|                                                                                                                                                                                                                                                                    |                                    |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|
| <ul style="list-style-type: none"> <li>• at AC-3 rated value maximum</li> </ul>                                                                                                                                                                                    | 690 V                              |
| <ul style="list-style-type: none"> <li>• at AC-3e rated value maximum</li> </ul>                                                                                                                                                                                   | 690 V                              |
| <b>operating frequency rated value</b>                                                                                                                                                                                                                             | 50 ... 60 Hz                       |
| <b>operational current rated value</b>                                                                                                                                                                                                                             | 63 A                               |
| <b>operational current</b>                                                                                                                                                                                                                                         |                                    |
| <ul style="list-style-type: none"> <li>• at AC-3 at 400 V rated value</li> </ul>                                                                                                                                                                                   | 63 A                               |
| <ul style="list-style-type: none"> <li>• at AC-3e at 400 V rated value</li> </ul>                                                                                                                                                                                  | 63 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>                              | 18.5 kW<br>30 kW<br>37 kW<br>55 kW |
| <ul style="list-style-type: none"> <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>                             | 18.5 kW<br>30 kW<br>37 kW<br>55 kW |
| <b>operating frequency</b>                                                                                                                                                                                                                                         |                                    |
| <ul style="list-style-type: none"> <li>• at AC-3 maximum</li> </ul>                                                                                                                                                                                                | 15 1/h                             |
| <ul style="list-style-type: none"> <li>• at AC-3e maximum</li> </ul>                                                                                                                                                                                               | 15 1/h                             |
| <b>Auxiliary circuit</b>                                                                                                                                                                                                                                           |                                    |
| <b>type of voltage for auxiliary and control circuit</b>                                                                                                                                                                                                           | AC/DC                              |
| <b>number of NC contacts for auxiliary contacts</b>                                                                                                                                                                                                                | 0                                  |
| <b>number of NO contacts for auxiliary contacts</b>                                                                                                                                                                                                                | 0                                  |
| number of CO contacts for auxiliary contacts                                                                                                                                                                                                                       | 0                                  |
| <b>Protective and monitoring functions</b>                                                                                                                                                                                                                         |                                    |
| <b>product function</b>                                                                                                                                                                                                                                            |                                    |
| <ul style="list-style-type: none"> <li>• ground fault detection</li> </ul>                                                                                                                                                                                         | No                                 |
| <ul style="list-style-type: none"> <li>• phase failure detection</li> </ul>                                                                                                                                                                                        | Yes                                |
| <b>trip class</b>                                                                                                                                                                                                                                                  | CLASS 10                           |
| <b>design of the overload release</b>                                                                                                                                                                                                                              | thermal                            |
| <b>maximum short-circuit current breaking capacity (I<sub>cu</sub>)</b>                                                                                                                                                                                            |                                    |
| <ul style="list-style-type: none"> <li>• at AC at 240 V rated value</li> </ul>                                                                                                                                                                                     | 100 kA                             |
| <ul style="list-style-type: none"> <li>• at AC at 400 V rated value</li> </ul>                                                                                                                                                                                     | 100 kA                             |
| <ul style="list-style-type: none"> <li>• at AC at 500 V rated value</li> </ul>                                                                                                                                                                                     | 15 kA                              |
| <ul style="list-style-type: none"> <li>• at AC at 690 V rated value</li> </ul>                                                                                                                                                                                     | 7.5 kA                             |
| <b>operating short-circuit current breaking capacity (I<sub>cs</sub>) at AC</b>                                                                                                                                                                                    |                                    |
| <ul style="list-style-type: none"> <li>• at 240 V rated value</li> </ul>                                                                                                                                                                                           | 100 kA                             |
| <ul style="list-style-type: none"> <li>• at 400 V rated value</li> </ul>                                                                                                                                                                                           | 50 kA                              |
| <ul style="list-style-type: none"> <li>• at 500 V rated value</li> </ul>                                                                                                                                                                                           | 7.5 kA                             |
| <ul style="list-style-type: none"> <li>• at 690 V rated value</li> </ul>                                                                                                                                                                                           | 4 kA                               |
| response value current of instantaneous short-circuit trip unit                                                                                                                                                                                                    | 819 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> </ul>                                                                                                                                                                                           | 63 A                               |
| <ul style="list-style-type: none"> <li>• at 600 V rated value</li> </ul>                                                                                                                                                                                           | 63 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> </ul>                                                                        | 5 hp<br>15 hp                      |
| <ul style="list-style-type: none"> <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> | 20 hp<br>25 hp<br>50 hp<br>60 hp   |
| <b>Short-circuit protection</b>                                                                                                                                                                                                                                    |                                    |
| <b>product function short circuit protection</b>                                                                                                                                                                                                                   | Yes                                |
| <b>design of the short-circuit trip</b>                                                                                                                                                                                                                            | magnetic                           |

| Installation/ mounting/ dimensions                                                                                                                  |                                                                          |
|-----------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|
| <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>                                                                                                                             |                                                                          |
| <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>      | 70 mm                                                                    |
| <ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>— upwards</li> </ul> </li> </ul>                                     | 70 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>          | 70 mm                                                                    |
| <ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>— upwards</li> </ul> </li> </ul>                                     | 70 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>      | 110 mm                                                                   |
| <ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>— upwards</li> </ul> </li> </ul>                                     | 110 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>          | 110 mm                                                                   |
| <ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>— upwards</li> </ul> </li> </ul>                                     | 110 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>      | 150 mm                                                                   |
| <ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>— upwards</li> </ul> </li> </ul>                                     | 150 mm                                                                   |
| <ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>— at the side</li> </ul> </li> </ul>                                 | 30 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>          | 150 mm                                                                   |
| <ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>— upwards</li> </ul> </li> </ul>                                     | 150 mm                                                                   |
| <ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>— at the side</li> </ul> </li> </ul>                                 | 30 mm                                                                    |
| Connections/ Terminals                                                                                                                              |                                                                          |
| <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</li> </ul> </li> </ul>                    | 2x (2.5 ... 16 mm <sup>2</sup> )                                         |
| <ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>— solid or stranded</li> </ul> </li> </ul>                           | 2x (2.5 ... 50 mm <sup>2</sup> ), 1x (10 ... 70 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 (2.5 ... 35 mm <sup>2</sup> ), 1x (2.5 ... 50 mm <sup>2</sup> )       |
| <ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>— finely stranded without core end processing</li> </ul> </li> </ul> | 2x (10 ... 35 mm <sup>2</sup> ), 1x (10 ... 50 mm <sup>2</sup> )         |
| <b>tightening torque</b>                                                                                                                            |                                                                          |
| <ul style="list-style-type: none"> <li>• for main contacts for ring cable lug</li> </ul>                                                            | 4.5 ... 6 N·m                                                            |
| <b>outer diameter of the usable ring cable lug maximum</b>                                                                                          | 19 mm                                                                    |
| <b>tightening torque</b>                                                                                                                            |                                                                          |
| <ul style="list-style-type: none"> <li>• for main contacts with screw-type terminals</li> </ul>                                                     | 4.5 ... 6 N·m                                                            |
| 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> </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                                                                    |

|                                                                                                                                                                                                                                                                                                                                                                                        |                                                      |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|
| failure rate [FIT] with low demand rate according to SN 31920                                                                                                                                                                                                                                                                                                                          | 50 FIT                                               |
| ISO 13849                                                                                                                                                                                                                                                                                                                                                                              |                                                      |
| device type according to ISO 13849-1                                                                                                                                                                                                                                                                                                                                                   | 3                                                    |
| overdimensioning according to ISO 13849-2 necessary                                                                                                                                                                                                                                                                                                                                    | Yes                                                  |
| IEC 61508                                                                                                                                                                                                                                                                                                                                                                              |                                                      |
| 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                                                                                                                                                                                                                                                                                                                                                                 |                                                      |
| Environmental Product Declaration <ul style="list-style-type: none"> <li>global warming potential [CO2 eq] / during manufacturing</li> <li>global warming potential [CO2 eq] / during sales</li> <li>global warming potential [CO2 eq] / during operation</li> <li>global warming potential [CO2 eq] / after end of life</li> <li>global warming potential [CO2 eq] / total</li> </ul> | 18.5 kg<br>1.24 kg<br>265 kg<br>-1.5 kg<br>283.24 kg |
| Environment                                                                                                                                                                                                                                                                                                                                                                            | General Product Approval                             |



Siemens  
EcoTech



[Environmental Con-  
firmations](#)



#### General Product Approval

#### For use in hazardous locations



#### Test Certificates

#### Maritime application

[Type Test Certifi-  
cates/Test Report](#)

[Special Test Certifi-  
cate](#)



#### Maritime application

#### other



[Miscellaneous](#)



[Confirmation](#)



#### Railway

[Special Test Certifi-  
cate](#)

[Confirmation](#)

#### 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=3RV2042-4JA10>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2042-4JA10>

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

[https://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RV2042-4JA10&lang=en](https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2042-4JA10&lang=en)

Cax online generator

<https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2042-4JA10>

Characteristic curves

[https://curves.simaris.siemens.com/curves/<mmp\\_prod\\_noCOMP='HAUPT'></mmp\\_prod\\_no>](https://curves.simaris.siemens.com/curves/<mmp_prod_noCOMP='HAUPT'></mmp_prod_no>)



