

Siemens  
EcoTech



Circuit breaker size S0 for motor protection, CLASS 10 A-release 13...20 A N-release 260 A Spring-type terminal Standard switching capacity with transverse auxiliary switches 1 NO+1 NC



|                                                                                     |                      |
|-------------------------------------------------------------------------------------|----------------------|
| product brand name                                                                  | SIRIUS               |
| product designation                                                                 | Circuit breaker      |
| design of the product                                                               | For motor protection |
| product type designation                                                            | 3RV2                 |
| <b>General technical data</b>                                                       |                      |
| size of the circuit-breaker                                                         | S0                   |
| size of contactor can be combined company-specific                                  | S00, S0              |
| product extension auxiliary switch                                                  | Yes                  |
| power loss [W] for rated value of the current                                       |                      |
| • at AC in hot operating state                                                      | 10.5 W               |
| • at AC in hot operating state per pole                                             | 3.5 W                |
| insulation voltage with degree of pollution 3 at AC rated value                     | 690 V                |
| surge voltage resistance rated value                                                | 6 kV                 |
| shock resistance according to IEC 60068-2-27                                        | 25g / 11 ms          |
| mechanical service life (operating cycles)                                          |                      |
| • of the main contacts typical                                                      | 100 000              |
| • of auxiliary contacts typical                                                     | 100 000              |
| electrical endurance (operating cycles) typical                                     | 100 000              |
| reference code according to IEC 81346-2                                             | Q                    |
| Substance Prohibitance (Date)                                                       | 10/01/2009           |
| SVHC substance name                                                                 | Lead - 7439-92-1     |
| <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 | 13 ... 20 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>                                 | 20 A       |
| <b>operational current</b>                                             |            |
| • at AC-3 at 400 V rated value                                         | 20 A       |
| • at AC-3e at 400 V rated value                                        | 20 A       |
| <b>operating power</b>                                                 |            |
| • at AC-3                                                              |            |
| — at 230 V rated value                                                 | 5.5 kW     |
| — at 400 V rated value                                                 | 7.5 kW     |
| — at 500 V rated value                                                 | 11 kW      |
| — at 690 V rated value                                                 | 15 kW      |
| • at AC-3e                                                             |            |
| — at 230 V rated value                                                 | 5.5 kW     |
| — at 400 V rated value                                                 | 7.5 kW     |
| — at 500 V rated value                                                 | 11 kW      |
| — at 690 V rated value                                                 | 15 kW      |
| <b>operating frequency</b>                                             |            |
| • at AC-3 maximum                                                      | 15 1/h     |
| • at AC-3e maximum                                                     | 15 1/h     |
| <b>Auxiliary circuit</b>                                               |            |
| <b>design of the auxiliary switch</b>                                  | transverse |
| <b>number of NC contacts for auxiliary contacts</b>                    | 1          |
| <b>number of NO contacts for auxiliary contacts</b>                    | 1          |
| <b>number of CO contacts for auxiliary contacts</b>                    | 0          |
| <b>operational current of auxiliary contacts at AC-15</b>              |            |
| • at 24 V                                                              | 2 A        |
| • at 120 V                                                             | 0.5 A      |
| • at 125 V                                                             | 0.5 A      |
| • at 230 V                                                             | 0.5 A      |
| <b>operational current of auxiliary contacts at DC-13</b>              |            |
| • at 24 V                                                              | 1 A        |
| • at 60 V                                                              | 0.15 A     |
| <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                                           | 55 kA      |
| • at AC at 500 V rated value                                           | 10 kA      |
| • at AC at 690 V rated value                                           | 4 kA       |
| <b>operating short-circuit current breaking capacity (Ics) at AC</b>   |            |
| • at 240 V rated value                                                 | 100 kA     |
| • at 400 V rated value                                                 | 25 kA      |
| • at 500 V rated value                                                 | 5 kA       |
| • at 690 V rated value                                                 | 2 kA       |
| <b>response value current of instantaneous short-circuit trip unit</b> | 260 A      |
| <b>UL/CSA ratings</b>                                                  |            |
| <b>full-load current (FLA) for 3-phase AC motor</b>                    |            |
| • at 480 V rated value                                                 | 20 A       |
| • at 600 V rated value                                                 | 20 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                                             | 7.5 hp     |
| — at 220/230 V rated value                                             | 5 hp       |
| — at 460/480 V rated value                                             | 10 hp      |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                              |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>contact rating of auxiliary contacts according to UL</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | C300 / R300                                                                                                                                                                                  |
| <b>Short-circuit protection</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                              |
| <b>product function short circuit protection</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Yes                                                                                                                                                                                          |
| <b>design of the short-circuit trip</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | magnetic                                                                                                                                                                                     |
| <b>design of the fuse link</b> <ul style="list-style-type: none"> <li>for short-circuit protection of the auxiliary switch required</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Fuse gL/gG: 10 A, miniature circuit breaker C 6 A (short-circuit current $I_k < 400$ A)                                                                                                      |
| <b>design of the fuse link for IT network for short-circuit protection of the main circuit</b> <ul style="list-style-type: none"> <li>at 400 V</li> <li>at 500 V</li> <li>at 690 V</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | gL/gG 63 A<br>gL/gG 50 A<br>gL/gG 50 A                                                                                                                                                       |
| <b>Installation/ mounting/ dimensions</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                              |
| <b>mounting position</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | any                                                                                                                                                                                          |
| <b>fastening method</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715                                                                                                                     |
| <b>height</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 119 mm                                                                                                                                                                                       |
| <b>width</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 45 mm                                                                                                                                                                                        |
| <b>depth</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 97 mm                                                                                                                                                                                        |
| <b>required spacing</b> <ul style="list-style-type: none"> <li>with side-by-side mounting at the side</li> <li>for grounded parts at 400 V <ul style="list-style-type: none"> <li>downwards</li> <li>upwards</li> <li>at the side</li> </ul> </li> <li>for live parts at 400 V <ul style="list-style-type: none"> <li>downwards</li> <li>upwards</li> <li>at the side</li> </ul> </li> <li>for grounded parts at 500 V <ul style="list-style-type: none"> <li>downwards</li> <li>upwards</li> <li>at the side</li> </ul> </li> <li>for live parts at 500 V <ul style="list-style-type: none"> <li>downwards</li> <li>upwards</li> <li>at the side</li> </ul> </li> <li>for grounded parts at 690 V <ul style="list-style-type: none"> <li>downwards</li> <li>upwards</li> <li>backwards</li> <li>at the side</li> <li>forwards</li> </ul> </li> <li>for live parts at 690 V <ul style="list-style-type: none"> <li>downwards</li> <li>upwards</li> <li>backwards</li> <li>at the side</li> <li>forwards</li> </ul> </li> </ul> | 0 mm<br><br>30 mm<br>30 mm<br>9 mm<br><br>30 mm<br>30 mm<br>9 mm<br><br>30 mm<br>30 mm<br>9 mm<br><br>50 mm<br>50 mm<br>0 mm<br>30 mm<br>0 mm<br><br>50 mm<br>50 mm<br>0 mm<br>30 mm<br>0 mm |
| <b>Connections/ Terminals</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                              |
| <b>type of electrical connection</b> <ul style="list-style-type: none"> <li>for main current circuit</li> <li>for auxiliary and control circuit</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | spring-loaded terminals<br>spring-loaded terminals                                                                                                                                           |
| <b>arrangement of electrical connectors for main current circuit</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Top and bottom                                                                                                                                                                               |
| <b>type of connectable conductor cross-sections</b> <ul style="list-style-type: none"> <li>for main contacts <ul style="list-style-type: none"> <li>solid or stranded</li> <li>finely stranded with core end processing</li> <li>finely stranded without core end processing</li> </ul> </li> <li>for AWG cables for main contacts</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 2x (1 ... 10 mm <sup>2</sup> )<br>2x (1 ... 6 mm <sup>2</sup> )<br>2x (1 ... 6 mm <sup>2</sup> )<br>2x (18 ... 8)                                                                            |
| <b>type of connectable conductor cross-sections</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                              |

|                                                                                                                                                                                                                                                                                                               |                                                                                        |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• for auxiliary contacts <ul style="list-style-type: none"> <li>— solid or stranded</li> <li>— finely stranded with core end processing</li> <li>— finely stranded without core end processing</li> </ul> </li> <li>• for AWG cables for auxiliary contacts</li> </ul> | 2x (0.5 ... 2.5 mm²)<br>2x (0.5 ... 1.5 mm²)<br>2x (0.5 ... 1.5 mm²)<br>2x (20 ... 14) |
| <b>design of screwdriver shaft</b>                                                                                                                                                                                                                                                                            | Diameter 3 mm                                                                          |
| <b>size of the screwdriver tip</b>                                                                                                                                                                                                                                                                            | 3,0 x 0,5 mm                                                                           |
| <b>Safety related data</b>                                                                                                                                                                                                                                                                                    |                                                                                        |
| product function suitable for safety function                                                                                                                                                                                                                                                                 | Yes                                                                                    |
| <b>suitability for use</b> <ul style="list-style-type: none"> <li>• safety-related switching on</li> <li>• safety-related switching OFF</li> </ul>                                                                                                                                                            | No<br>Yes                                                                              |
| <b>service life maximum</b>                                                                                                                                                                                                                                                                                   | 10 a                                                                                   |
| <b>test wear-related service life necessary</b>                                                                                                                                                                                                                                                               | Yes                                                                                    |
| <b>proportion of dangerous failures</b> <ul style="list-style-type: none"> <li>• with low demand rate according to SN 31920</li> <li>• with high demand rate according to SN 31920</li> </ul>                                                                                                                 | 40 %<br>50 %                                                                           |
| <b>B10 value with high demand rate according to SN 31920</b>                                                                                                                                                                                                                                                  | 5 000                                                                                  |
| <b>failure rate [FIT] with low demand rate according to SN 31920</b>                                                                                                                                                                                                                                          | 50 FIT                                                                                 |
| <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> <ul style="list-style-type: none"> <li>• for proof test interval or service life according to IEC 61508</li> </ul>                                                                                                                                                                            | 10 a                                                                                   |
| <b>Electrical Safety</b>                                                                                                                                                                                                                                                                                      |                                                                                        |
| <b>protection class IP on the front according to IEC 60529</b>                                                                                                                                                                                                                                                | IP20                                                                                   |
| <b>touch protection on the front according to IEC 60529</b>                                                                                                                                                                                                                                                   | finger-safe, for vertical contact from the front                                       |
| <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 |
|-------------------|-------|
|-------------------|-------|



[Miscellaneous](#)

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



## Environment

[Environmental Confirmations](#)

## Further information

## Information on the packaging

<https://support.industry.siemens.com/cs/ww/en/view/109813875>

## Information- and Downloadcenter (Catalogs, Brochures,...)

<https://www.siemens.com/ic10>

## Industry Mall (Online ordering system)

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RV2021-4BA25>

## Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2021-4BA25>

## Service&amp;Support (Manuals, Certificates, Characteristics, FAQs,...)

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2021-4BA25>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RV2021-4BA25&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2021-4BA25&lang=en)
Characteristic: Tripping characteristics, I<sup>2</sup>t, Let-through current
<https://support.industry.siemens.com/cs/ww/en/ps/3RV2021-4BA25/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2021-4BA25&objecttype=14&gridview=view1>


