

CIRCUIT-BREAKER SZ S00, FOR MOTOR PROTECTION, CLASS 10, A-RELEASE 5.5...8A, N-RELEASE 104A, SCREW CONNECTION, STANDARD SW. CAPACITY

|                          |                      |
|--------------------------|----------------------|
| product brandname        | SIRIUS               |
| Product designation      | Circuit breaker      |
| Design of the product    | For motor protection |
| Product type designation | 3RV2                 |

### General technical data

|                                                                                                                                                                                                                                                           |                    |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|
| Size of the circuit-breaker                                                                                                                                                                                                                               | S00                |
| Size of contactor can be combined company-specific                                                                                                                                                                                                        | S00, S0            |
| Product extension <ul style="list-style-type: none"> <li>Auxiliary switch</li> </ul>                                                                                                                                                                      | Yes                |
| Power loss [W] total typical                                                                                                                                                                                                                              | 7 W                |
| Insulation voltage with degree of pollution 3 rated value                                                                                                                                                                                                 | 690 V              |
| Surge voltage resistance rated value                                                                                                                                                                                                                      | 6 kV               |
| maximum permissible voltage for safe isolation <ul style="list-style-type: none"> <li>in networks with grounded star point between main and auxiliary circuit</li> <li>in networks with grounded star point between main and auxiliary circuit</li> </ul> | 400 V<br>400 V     |
| Protection class IP <ul style="list-style-type: none"> <li>on the front</li> <li>of the terminal</li> </ul>                                                                                                                                               | IP20<br>IP20       |
| Shock resistance <ul style="list-style-type: none"> <li>acc. to IEC 60068-2-27</li> </ul>                                                                                                                                                                 | 25g / 11 ms        |
| Mechanical service life (switching cycles) <ul style="list-style-type: none"> <li>of the main contacts typical</li> <li>of auxiliary contacts typical</li> </ul>                                                                                          | 100 000<br>100 000 |
| Electrical endurance (switching cycles) <ul style="list-style-type: none"> <li>typical</li> </ul>                                                                                                                                                         | 100 000            |
| Type of protection                                                                                                                                                                                                                                        | Increased safety   |
| Certificate of suitability relating to ATEX                                                                                                                                                                                                               | on request         |
| Protection against electrical shock                                                                                                                                                                                                                       | finger-safe        |
| Equipment marking acc. to DIN EN 81346-2                                                                                                                                                                                                                  | Q                  |

### Ambient conditions

|                                                         |         |
|---------------------------------------------------------|---------|
| Installation altitude at height above sea level maximum | 2 000 m |
|---------------------------------------------------------|---------|

|                                           |                |
|-------------------------------------------|----------------|
| <b>Ambient temperature</b>                |                |
| • during operation                        | -20 ... +60 °C |
| • during storage                          | -50 ... +80 °C |
| • during transport                        | -50 ... +80 °C |
| <b>Temperature compensation</b>           | -20 ... +60 °C |
| <b>Relative humidity during operation</b> | 10 ... 95 %    |

|                                                                                   |              |
|-----------------------------------------------------------------------------------|--------------|
| <b>Main circuit</b>                                                               |              |
| <b>Number of poles for main current circuit</b>                                   | 3            |
| <b>Adjustable pick-up value current of the current-dependent overload release</b> | 5.5 ... 8 A  |
| <b>Operating voltage</b>                                                          |              |
| • rated value                                                                     | 690 V        |
| • at AC-3 rated value maximum                                                     | 690 V        |
| <b>Operating frequency rated value</b>                                            | 50 ... 60 Hz |
| <b>Operating current rated value</b>                                              | 8 A          |
| <b>Operating current</b>                                                          |              |
| • at AC-3                                                                         |              |
| — at 400 V rated value                                                            | 8 A          |
| <b>Operating power</b>                                                            |              |
| • at AC-3                                                                         |              |
| — at 230 V rated value                                                            | 1 500 W      |
| — at 400 V rated value                                                            | 3 000 W      |
| — at 500 V rated value                                                            | 4 000 W      |
| — at 690 V rated value                                                            | 5 500 W      |
| <b>Operating frequency</b>                                                        |              |
| • at AC-3 maximum                                                                 | 15 1/h       |

|                              |   |
|------------------------------|---|
| <b>Auxiliary circuit</b>     |   |
| <b>Number of NC contacts</b> |   |
| • for auxiliary contacts     | 0 |
| <b>Number of NO contacts</b> |   |
| • for auxiliary contacts     | 0 |
| <b>Number of CO contacts</b> |   |
| • for auxiliary contacts     | 0 |

|                                                                        |          |
|------------------------------------------------------------------------|----------|
| <b>Protective and monitoring functions</b>                             |          |
| <b>Trip class</b>                                                      | CLASS 10 |
| <b>Design of the overload release</b>                                  | thermal  |
| <b>Operational short-circuit current breaking capacity (Ics) at AC</b> |          |
| • at 240 V rated value                                                 | 100 kA   |
| • at 400 V rated value                                                 | 100 kA   |
| • at 500 V rated value                                                 | 42 kA    |

|                                                              |        |
|--------------------------------------------------------------|--------|
| • at 690 V rated value                                       | 4 kA   |
| <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                                 | 42 kA  |
| • at AC at 690 V rated value                                 | 6 kA   |
| <b>Breaking capacity short-circuit current (Icn)</b>         |        |
| • at 1 current path at DC at 150 V rated value               | 10 kA  |
| • with 2 current paths in series at DC at 300 V rated value  | 10 kA  |
| • with 3 current paths in series at DC at 450 V rated value  | 10 kA  |

#### UL/CSA ratings

|                                                         |          |
|---------------------------------------------------------|----------|
| <b>Full-load current (FLA) for three-phase AC motor</b> |          |
| • at 480 V rated value                                  | 8 A      |
| • at 600 V rated value                                  | 8 A      |
| <b>Yielded mechanical performance [hp]</b>              |          |
| • for single-phase AC motor                             |          |
| — at 110/120 V rated value                              | 0.333 hp |
| — at 230 V rated value                                  | 1 hp     |
| • for three-phase AC motor                              |          |
| — at 200/208 V rated value                              | 2 hp     |
| — at 220/230 V rated value                              | 2 hp     |
| — at 460/480 V rated value                              | 5 hp     |
| — at 575/600 V rated value                              | 5 hp     |

#### Short-circuit protection

|                                                                                                |            |
|------------------------------------------------------------------------------------------------|------------|
| <b>Product function Short circuit protection</b>                                               | Yes        |
| <b>Design of the short-circuit trip</b>                                                        | magnetic   |
| <b>Design of the fuse link for IT network for short-circuit protection of the main circuit</b> |            |
| • at 400 V                                                                                     | gL/gG 50 A |
| • at 500 V                                                                                     | gL/gG 40 A |
| • at 690 V                                                                                     | gL/gG 35 A |

#### Installation/ mounting/ dimensions

|                          |                                                                                        |
|--------------------------|----------------------------------------------------------------------------------------|
| <b>Mounting position</b> | any                                                                                    |
| <b>Mounting type</b>     | screw and snap-on mounting onto 35 mm standard mounting rail according to DIN EN 60715 |
| <b>Height</b>            | 97 mm                                                                                  |
| <b>Width</b>             | 45 mm                                                                                  |
| <b>Depth</b>             | 96 mm                                                                                  |
| <b>Required spacing</b>  |                                                                                        |

|                              |       |
|------------------------------|-------|
| • with side-by-side mounting |       |
| — forwards                   | 0 mm  |
| — Backwards                  | 0 mm  |
| — upwards                    | 50 mm |
| — downwards                  | 50 mm |
| — at the side                | 0 mm  |
| • for grounded parts         |       |
| — forwards                   | 0 mm  |
| — Backwards                  | 0 mm  |
| — upwards                    | 50 mm |
| — at the side                | 30 mm |
| — downwards                  | 50 mm |
| • for live parts             |       |
| — forwards                   | 0 mm  |
| — Backwards                  | 0 mm  |
| — upwards                    | 50 mm |
| — downwards                  | 50 mm |
| — at the side                | 30 mm |

## Connections/Terminals

|                                                                      |                                                                       |
|----------------------------------------------------------------------|-----------------------------------------------------------------------|
| <b>Product function</b>                                              |                                                                       |
| • removable terminal for auxiliary and control circuit               | No                                                                    |
| <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                                                  |                                                                       |
| — single or multi-stranded                                           | 2x (0,75 ... 2,5 mm <sup>2</sup> ), 2x 4 mm <sup>2</sup>              |
| — finely stranded with core end processing                           | 2x (0.5 ... 1.5 mm <sup>2</sup> ), 2x (0.75 ... 2.5 mm <sup>2</sup> ) |
| • at AWG conductors for main contacts                                | 2x (18 ... 14), 2x 12                                                 |
| <b>Tightening torque</b>                                             |                                                                       |
| • for main contacts with screw-type terminals                        | 0.8 ... 1.2 N·m                                                       |
| <b>Design of screwdriver shaft</b>                                   | Diameter 5 to 6 mm                                                    |
| <b>Design of the thread of the connection screw</b>                  |                                                                       |
| • for main contacts                                                  | M3                                                                    |

## Safety related data

|                                          |       |
|------------------------------------------|-------|
| <b>B10 value</b>                         |       |
| • with high demand rate acc. to SN 31920 | 5 000 |
| <b>Proportion of dangerous failures</b>  |       |
| • with low demand rate acc. to SN 31920  | 50 %  |

|                                                                           |        |
|---------------------------------------------------------------------------|--------|
| • with high demand rate acc. to SN 31920                                  | 50 %   |
| <b>Failure rate [FIT]</b>                                                 |        |
| • with low demand rate acc. to SN 31920                                   | 50 FIT |
| <b>T1 value for proof test interval or service life acc. to IEC 61508</b> | 10 y   |
| <b>Display version</b>                                                    |        |
| • for switching status                                                    | Handle |

#### Certificates/approvals

|                                 |                                       |
|---------------------------------|---------------------------------------|
| <b>General Product Approval</b> | <b>For use in hazardous locations</b> |
|---------------------------------|---------------------------------------|



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|                                       |                                  |                          |                          |
|---------------------------------------|----------------------------------|--------------------------|--------------------------|
| <b>For use in hazardous locations</b> | <b>Declaration of Conformity</b> | <b>Test Certificates</b> | <b>Shipping Approval</b> |
|---------------------------------------|----------------------------------|--------------------------|--------------------------|



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|                          |              |
|--------------------------|--------------|
| <b>Shipping Approval</b> | <b>other</b> |
|--------------------------|--------------|



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|              |                |
|--------------|----------------|
| <b>other</b> | <b>Railway</b> |
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#### Further information

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

<http://www.siemens.com/industrial-controls/catalogs>

**Industry Mall (Online ordering system)**

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RV2011-1HA10>

**Cax online generator**

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2011-1HA10>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2011-1HA10>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RV2011-1HA10&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2011-1HA10&lang=en)

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