

CIRCUIT-BREAKER SZ S0, FOR MOTOR PROTECTION, CLASS 10, A-REL. 5.5...8A, N-REL. 104A SCREW CONNECTION, STANDARD SW. CAPACITY



Figure similar

|                       |                      |
|-----------------------|----------------------|
| product brand name    | SIRIUS               |
| Product designation   | 3RV2 circuit breaker |
| Design of the product | For motor protection |

|                                                                           |         |
|---------------------------------------------------------------------------|---------|
| General technical data                                                    |         |
| Size of the circuit-breaker                                               | S0      |
| Size of contactor can be combined company-specific                        | S00, S0 |
| Product extension                                                         |         |
| • Auxiliary switch                                                        | 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                            |         |
| • in networks with grounded star point between main and auxiliary circuit | 400 V   |
| • in networks with grounded star point between main and auxiliary circuit | 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       |
| <b>Shock resistance</b>                                                                                                   |                    |
| <ul style="list-style-type: none"> <li>• acc. to IEC 60068-2-27</li> </ul>                                                | 25g / 11 ms        |
| <b>Mechanical service life (switching cycles)</b>                                                                         |                    |
| <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 |
| <b>Electrical endurance (switching cycles)</b>                                                                            |                    |
| <ul style="list-style-type: none"> <li>• typical</li> </ul>                                                               | 100 000            |
| <b>Type of protection</b>                                                                                                 | Increased safety   |
| <b>Certificate of suitability relating to ATEX</b>                                                                        | on request         |
| <b>Protection against electrical shock</b>                                                                                | finger-safe        |
| Equipment marking acc. to DIN EN 81346-2                                                                                  | Q                  |

|                                                                                                                            |                                                    |
|----------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|
| <b>Ambient conditions</b>                                                                                                  |                                                    |
| <b>Installation altitude at height above sea level maximum</b>                                                             | 2 000 m                                            |
| <b>Ambient temperature</b>                                                                                                 |                                                    |
| <ul style="list-style-type: none"> <li>• during operation</li> <li>• during storage</li> <li>• during transport</li> </ul> | -20 ... +60 °C<br>-50 ... +80 °C<br>-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>                                                                                                                                                                                                              |                                          |
| <ul style="list-style-type: none"> <li>• rated value</li> <li>• at AC-3 rated value maximum</li> </ul>                                                                                                                                | 690 V<br>690 V                           |
| <b>Operating frequency rated value</b>                                                                                                                                                                                                | 50 ... 60 Hz                             |
| <b>Operating current rated value</b>                                                                                                                                                                                                  | 8 A                                      |
| <b>Operating current</b>                                                                                                                                                                                                              |                                          |
| <ul style="list-style-type: none"> <li>• at AC-3 <ul style="list-style-type: none"> <li>— at 400 V rated value</li> </ul> </li> </ul>                                                                                                 | 8 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> | 1 500 W<br>3 000 W<br>4 000 W<br>5 500 W |
| <b>Operating frequency</b>                                                                                                                                                                                                            |                                          |
| <ul style="list-style-type: none"> <li>• at AC-3 maximum</li> </ul>                                                                                                                                                                   | 15 1/h                                   |

| Auxiliary circuit                                                      |          |
|------------------------------------------------------------------------|----------|
| <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        |
| Protective and monitoring functions                                    |          |
| <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>Design of the short-circuit trip</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | magnetic                                                                               |
| <b>Installation/ mounting/ dimensions</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                        |
| <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>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                        |
| <ul style="list-style-type: none"> <li>• with side-by-side mounting <ul style="list-style-type: none"> <li>— forwards 0 mm</li> <li>— Backwards 0 mm</li> <li>— upwards 50 mm</li> <li>— downwards 50 mm</li> <li>— at the side 0 mm</li> </ul> </li> <li>• for grounded parts <ul style="list-style-type: none"> <li>— forwards 0 mm</li> <li>— Backwards 0 mm</li> <li>— upwards 50 mm</li> <li>— at the side 30 mm</li> <li>— downwards 50 mm</li> </ul> </li> <li>• for live parts <ul style="list-style-type: none"> <li>— forwards 0 mm</li> <li>— Backwards 0 mm</li> <li>— upwards 50 mm</li> <li>— downwards 50 mm</li> <li>— at the side 30 mm</li> </ul> </li> </ul> |                                                                                        |
| <b>Connections/Terminals</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                        |
| <b>Product function</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                        |
| <ul style="list-style-type: none"> <li>• removable terminal for auxiliary and control circuit</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | No                                                                                     |
| <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>— single or multi-stranded 2x (1 ... 2,5 mm<sup>2</sup>), 2x (2,5 ... 10 mm<sup>2</sup>)</li> <li>— finely stranded with core end processing 2x (1 ... 2.5 mm<sup>2</sup>), 2x (2.5 ... 6 mm<sup>2</sup>), 1x 10 mm<sup>2</sup></li> </ul> </li> <li>• at AWG conductors for main contacts 2x (16 ... 12), 2x (14 ... 8)</li> </ul>                                                                                                                                                                                                                                           |                                                                                        |
| <b>Tightening torque</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                        |
| <ul style="list-style-type: none"> <li>• for main contacts with screw-type terminals</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 2 ... 2.5 N·m                                                                          |

|                                                                                                                                                                                     |                    |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|
| <b>Design of screwdriver shaft</b>                                                                                                                                                  | Diameter 5 to 6 mm |
| <b>Design of the thread of the connection screw</b> <ul style="list-style-type: none"> <li>• for main contacts</li> </ul>                                                           | M4                 |
| <b>Safety related data</b>                                                                                                                                                          |                    |
| <b>B10 value</b> <ul style="list-style-type: none"> <li>• with high demand rate acc. to SN 31920</li> </ul>                                                                         | 5 000              |
| <b>Proportion of dangerous failures</b> <ul style="list-style-type: none"> <li>• with low demand rate acc. to SN 31920</li> <li>• with high demand rate acc. to SN 31920</li> </ul> | 50 %<br>50 %       |
| <b>Failure rate [FIT]</b> <ul style="list-style-type: none"> <li>• with low demand rate acc. to SN 31920</li> </ul>                                                                 | 50 FIT             |
| <b>T1 value for proof test interval or service life acc. to IEC 61508</b>                                                                                                           | 10 y               |
| <b>Display version</b> <ul style="list-style-type: none"> <li>• for switching status</li> </ul>                                                                                     | Handle             |
| <b>Certificates/approvals</b>                                                                                                                                                       |                    |

|                          |                                |
|--------------------------|--------------------------------|
| General Product Approval | For use in hazardous locations |
|--------------------------|--------------------------------|



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|                                |                           |                   |                   |
|--------------------------------|---------------------------|-------------------|-------------------|
| For use in hazardous locations | Declaration of Conformity | Test Certificates | Shipping Approval |
|--------------------------------|---------------------------|-------------------|-------------------|



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|                   |       |
|-------------------|-------|
| Shipping Approval | other |
|-------------------|-------|



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|       |         |
|-------|---------|
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|-------|---------|



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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=3RV2021-1HA10>

**Cax online generator**

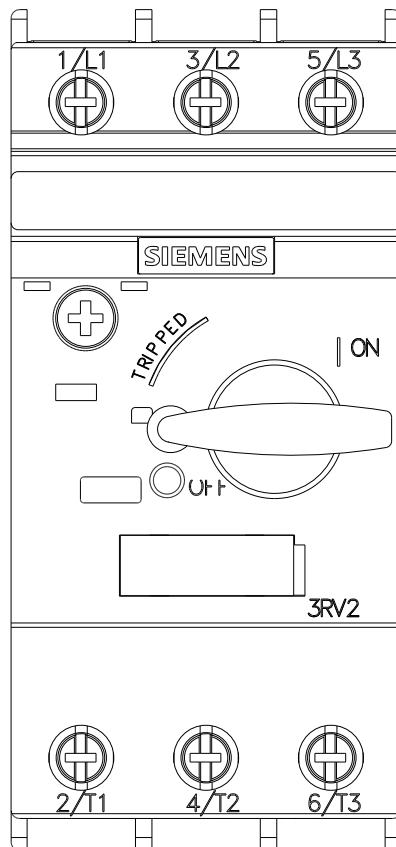
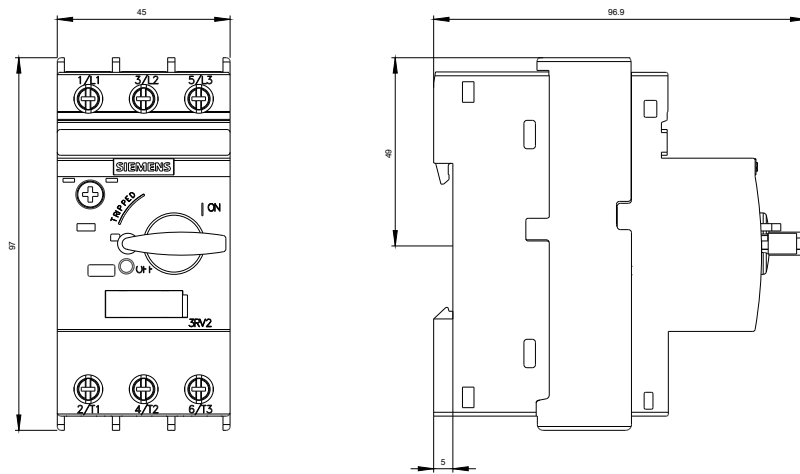
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2021-1HA10>

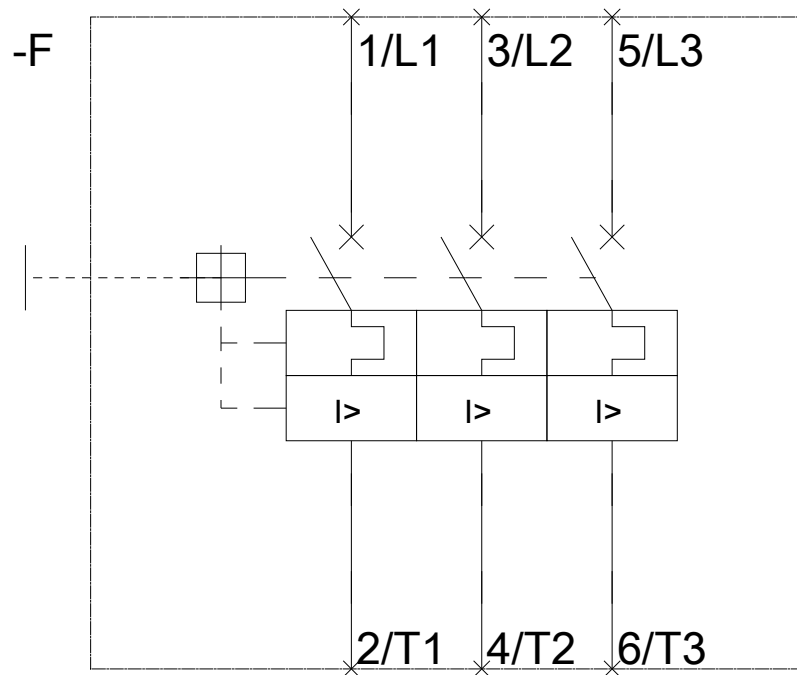
**Service&Support (Manuals, Certificates, Characteristics, FAQs,...)**

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2021-1HA10>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RV2021-1HA10&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2021-1HA10&lang=en)





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