

CIRCUIT-BREAKER SZ S0, FOR MOTOR PROTECTION, CLASS 10, A-RELEASE 10...16A, N-RELEASE 208A, SCREW CONNECTION, STANDARD SW. CAPACITY



|                                                           |                      |
|-----------------------------------------------------------|----------------------|
| product brand name                                        | SIRIUS               |
| Product designation                                       | 3RV2 circuit breaker |
| General technical data:                                   |                      |
| Size of the circuit-breaker                               | S0                   |
| Size of contactor can be combined company-specific        | S2                   |
| Product expansion                                         |                      |
| • 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                 |
| Protection class IP                                       |                      |
| • on the front                                            | IP20                 |
| • of the terminal                                         | IP20                 |
| Shock resistance                                          |                      |
| • acc. to IEC 60068-2-27                                  | 25g / 11 ms          |
| Mechanical service life (switching cycles)                |                      |
| • of the main contacts typical                            | 100 000              |
| • of auxiliary contacts typical                           | 100 000              |

|                                                    |                  |
|----------------------------------------------------|------------------|
| <b>Electrical endurance (switching cycles)</b>     |                  |
| • typical                                          | 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      |
| <b>Equipment marking acc. to DIN EN 81346-2</b>    | Q                |

#### Ambient conditions:

|                                                                |                |
|----------------------------------------------------------------|----------------|
| <b>Installation altitude at height above sea level maximum</b> | 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 %    |

#### Main circuit:

|                                                                                    |              |
|------------------------------------------------------------------------------------|--------------|
| <b>Number of poles for main current circuit</b>                                    | 3            |
| <b>Adjustable response value current of the current-dependent overload release</b> | 10 ... 16 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>                                               | 16 A         |
| <b>Operating current</b>                                                           |              |
| • at AC-3                                                                          |              |
| — at 400 V rated value                                                             | 16 A         |
| <b>Operating power</b>                                                             |              |
| • at AC-3                                                                          |              |
| — at 230 V rated value                                                             | 4 000 W      |
| — at 400 V rated value                                                             | 7 500 W      |
| — at 500 V rated value                                                             | 7 500 W      |
| — at 690 V rated value                                                             | 11 000 W     |
| <b>Operating frequency</b>                                                         |              |
| • at AC-3 maximum                                                                  | 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                                                   | 25 kA    |
| • at 500 V rated value                                                   | 5 kA     |
| • at 690 V rated value                                                   | 2 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                                             | 55 kA    |
| • at AC at 500 V rated value                                             | 10 kA    |
| • at AC at 690 V rated value                                             | 4 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    |
| <b>Response value current of the instantaneous short-circuit release</b> | 208 A    |

#### UL/CSA ratings:

|                                                                 |       |
|-----------------------------------------------------------------|-------|
| <b>Full-load current (FLA) for three-phase AC motor</b>         |       |
| • at 480 V rated value                                          | 16 A  |
| • at 600 V rated value                                          | 16 A  |
| • yielded mechanical performance [hp] for single-phase AC motor |       |
| — at 110/120 V rated value                                      | 1 hp  |
| — at 230 V rated value                                          | 2 hp  |
| • Yielded mechanical performance [hp] for three-phase AC motor  |       |
| — at 200/208 V rated value                                      | 3 hp  |
| — at 220/230 V rated value                                      | 5 hp  |
| — at 460/480 V rated value                                      | 10 hp |

#### Short-circuit protection

|                                                                                                |            |
|------------------------------------------------------------------------------------------------|------------|
| <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 63 A |
| • at 500 V                                                                                     | gL/gG 50 A |

- at 690 V

gL/gG 40 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>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                      |
| <ul style="list-style-type: none"> <li>• with side-by-side mounting <ul style="list-style-type: none"> <li>— forwards</li> <li>— Backwards</li> <li>— upwards</li> <li>— downwards</li> <li>— at the side</li> </ul> </li> <li>• for grounded parts <ul style="list-style-type: none"> <li>— forwards</li> <li>— Backwards</li> <li>— upwards</li> <li>— at the side</li> <li>— downwards</li> </ul> </li> <li>• for live parts <ul style="list-style-type: none"> <li>— forwards</li> <li>— Backwards</li> <li>— upwards</li> <li>— downwards</li> <li>— at the side</li> </ul> </li> </ul> | 0 mm<br>0 mm<br>50 mm<br>50 mm<br>0 mm<br><br>0 mm<br>0 mm<br>50 mm<br>30 mm<br>50 mm<br><br>0 mm<br>0 mm<br>50 mm<br>50 mm<br>30 mm |

#### Connections/ Terminals:

|                                                                                                                                                                                                                                                        |                                                                                                                                                                                               |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <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</li> <li>— finely stranded with core end processing</li> </ul> </li> <li>• at AWG conductors for main contacts</li> </ul> | 2x (1 ... 2,5 mm <sup>2</sup> ), 2x (2,5 ... 10 mm <sup>2</sup> )<br>2x (1 ... 2.5 mm <sup>2</sup> ), 2x (2.5 ... 6 mm <sup>2</sup> ), 1x 10 mm <sup>2</sup><br>2x (16 ... 12), 2x (14 ... 8) |
| <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 with high demand rate acc. to SN 31920</b>                                         | 50 000             |
| <b>Proportion of dangerous failures</b>                                                         |                    |
| <ul style="list-style-type: none"> <li>• with low demand rate acc. to SN 31920</li> </ul>       | 40 %               |
| <ul style="list-style-type: none"> <li>• with high demand rate acc. to SN 31920</li> </ul>      | 40 %               |
| <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 |
|-------------------|



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



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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=3RV20214AA10>

Cax online generator

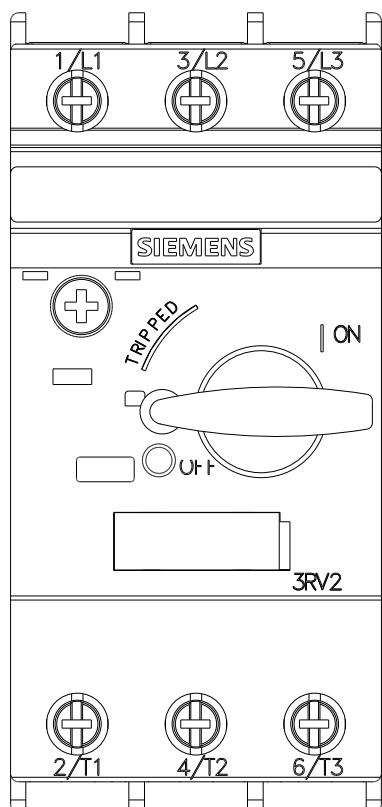
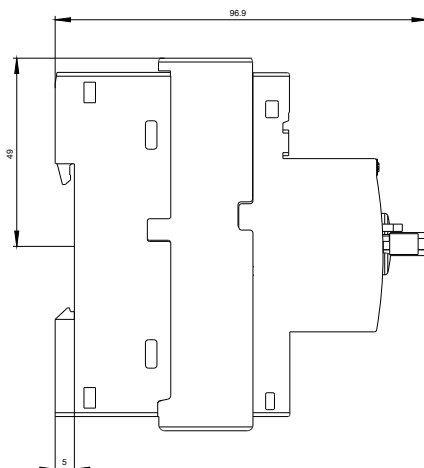
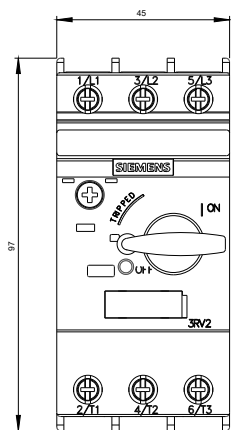
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV20214AA10>

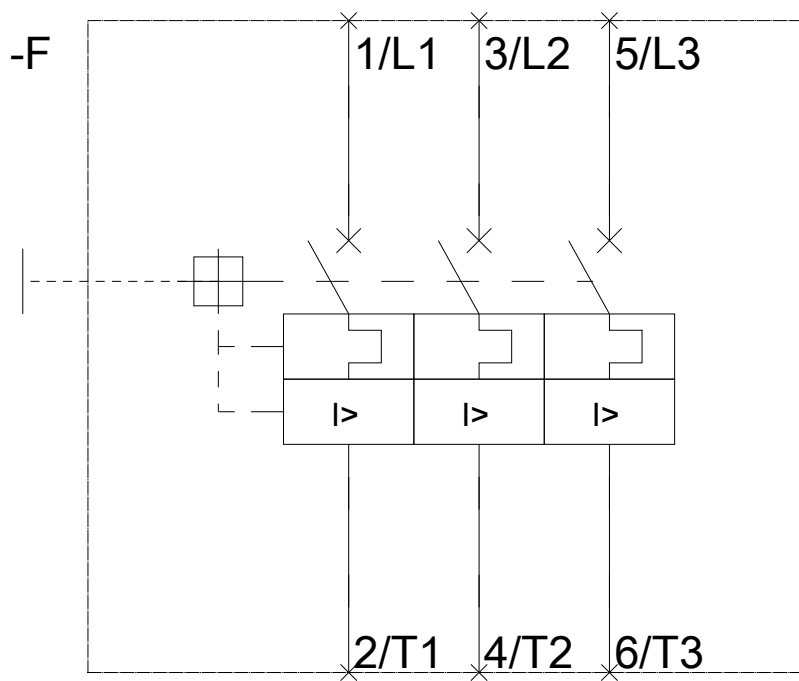
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

<https://support.industry.siemens.com/cs/ww/en/ps/3RV20214AA10>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RV20214AA10&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV20214AA10&lang=en)





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