

CIRCUIT-BREAKER SZ S0, FOR MOTOR PROTECTION, CLASS 10, A-REL. 9..12.5A, N-REL. 163A, SCREW CONNECTION, STANDARD SW. CAPACITY STANDARD SW. CAPACITY



Figure similar

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

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

|                                                   |                  |
|---------------------------------------------------|------------------|
| <b>Protection class IP</b>                        |                  |
| • on the front                                    | IP20             |
| • of the terminal                                 | IP20             |
| <b>Shock resistance</b>                           |                  |
| • acc. to IEC 60068-2-27                          | 25g / 11 ms      |
| <b>Mechanical service life (switching cycles)</b> |                  |
| • 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 |
| Certificate of suitability relating to ATEX       | on request       |
| <b>Protection against electrical shock</b>        | finger-safe      |
| Equipment marking acc. to DIN EN 81346-2          | Q                |

#### Ambient conditions

|                                                        |                |
|--------------------------------------------------------|----------------|
| <b>Installation altitude at height above sea level</b> |                |
| • 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 |
| Relative humidity during operation                     | 10 ... 95 %    |

#### Main circuit

|                                                                                   |              |
|-----------------------------------------------------------------------------------|--------------|
| <b>Number of poles for main current circuit</b>                                   | 3            |
| <b>Adjustable pick-up value current of the current-dependent overload release</b> | 9 ... 12.5 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>                                              | 12.5 A       |
| <b>Operating current</b>                                                          |              |
| • at AC-3                                                                         |              |
| — at 400 V rated value                                                            | 12.5 A       |
| <b>Operating power</b>                                                            |              |
| • at AC-3                                                                         |              |
| — at 230 V rated value                                                            | 3 000 W      |
| — at 400 V rated value                                                            | 5 500 W      |
| — at 500 V rated value                                                            | 7 500 W      |
| — at 690 V rated value                                                            | 7 500 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>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>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    |
| <b>Response value current</b>                                          |          |
| • of instantaneous short-circuit trip unit                             | 163 A    |

#### UL/CSA ratings

|                                                         |        |
|---------------------------------------------------------|--------|
| <b>Full-load current (FLA) for three-phase AC motor</b> |        |
| • at 480 V rated value                                  | 12.5 A |
| • at 600 V rated value                                  | 12.5 A |
| <b>Yielded mechanical performance [hp]</b>              |        |
| • for single-phase AC motor                             |        |
| — at 110/120 V rated value                              | 0.5 hp |
| — at 230 V rated value                                  | 2 hp   |

- for three-phase AC motor
  - at 200/208 V rated value 3 hp
  - at 220/230 V rated value 3 hp
  - at 460/480 V rated value 7.5 hp
  - at 575/600 V rated value 10 hp

### Short-circuit protection

|                                                  |          |
|--------------------------------------------------|----------|
| <b>Product function Short circuit protection</b> | Yes      |
| <b>Design of the short-circuit trip</b>          | magnetic |

### Installation/ mounting/ dimensions

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                        |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| <b>Mounting position</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | any                                                                                    |
| <b>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> |                                                                                        |

### 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>Size of the screwdriver tip</b>                                                                                                                                                                                                                                                                         | Pozidriv 2                                                                                                                                                                                    |
| <b>Design of the thread of the connection screw</b> <ul style="list-style-type: none"> <li>• for main contacts</li> </ul>                                                                                                                                                                                  | M4                                                                                                                                                                                            |

| Safety related data                                                                                                                                                                 |              |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|
| <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       |

## Certificates/approvals

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



[KC](#)



| Declaration of Conformity | Test Certificates | Marine / Shipping |
|---------------------------|-------------------|-------------------|
|---------------------------|-------------------|-------------------|



EG-Konf.

[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)



ABS



BUREAU VERITAS



LRS

| Marine / Shipping | other |
|-------------------|-------|
|-------------------|-------|



PRS



RINA



RMRS



DNVGL.COM/AF

[Confirmation](#)



VDE

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

[Miscellaneous](#)

[Vibration and Shock](#)

## 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=3RV2021-1KA10>

Cax online generator

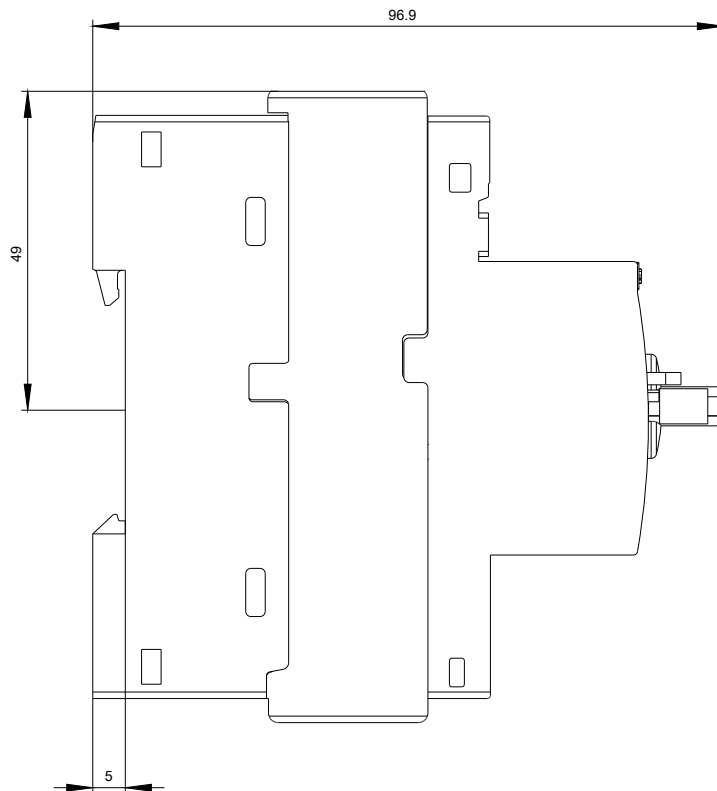
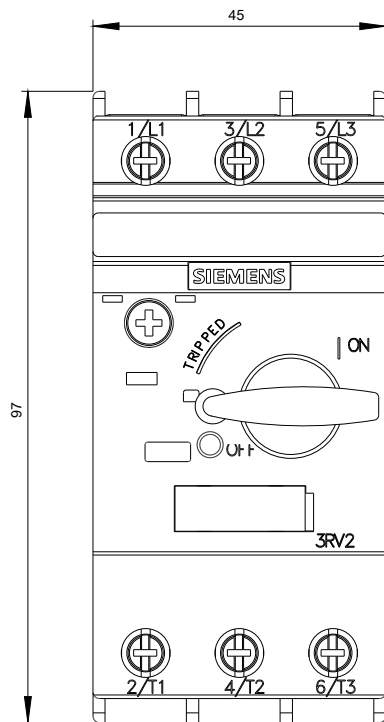
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2021-1KA10>

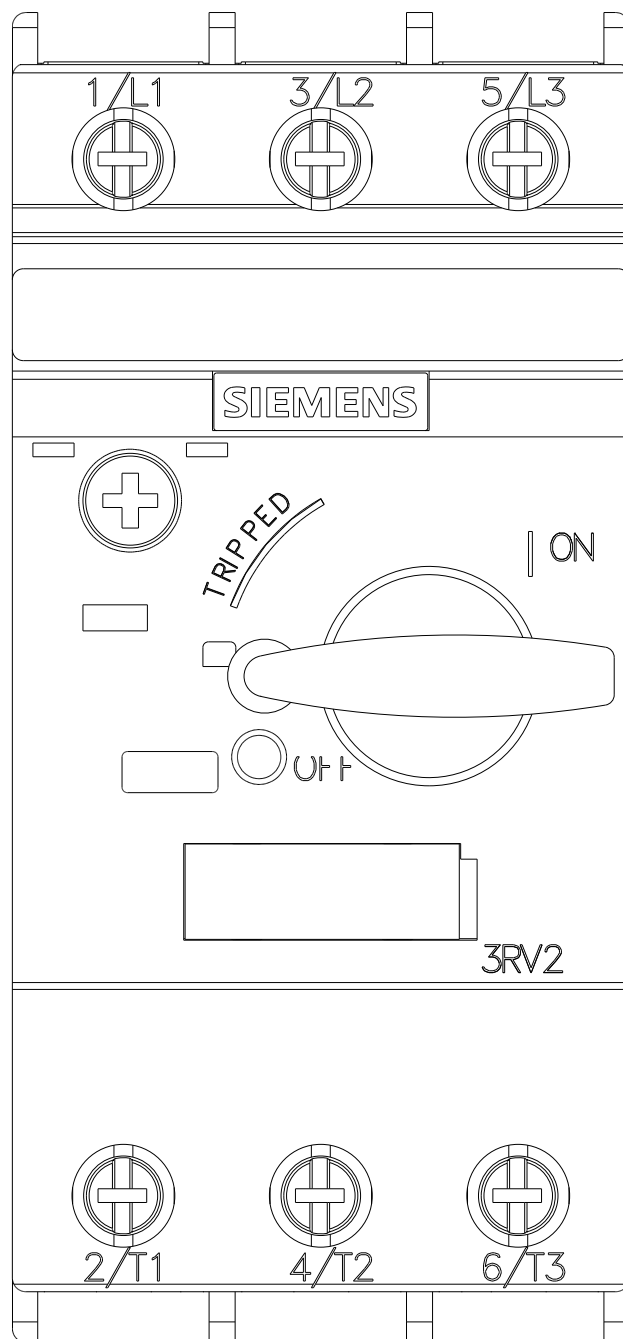
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

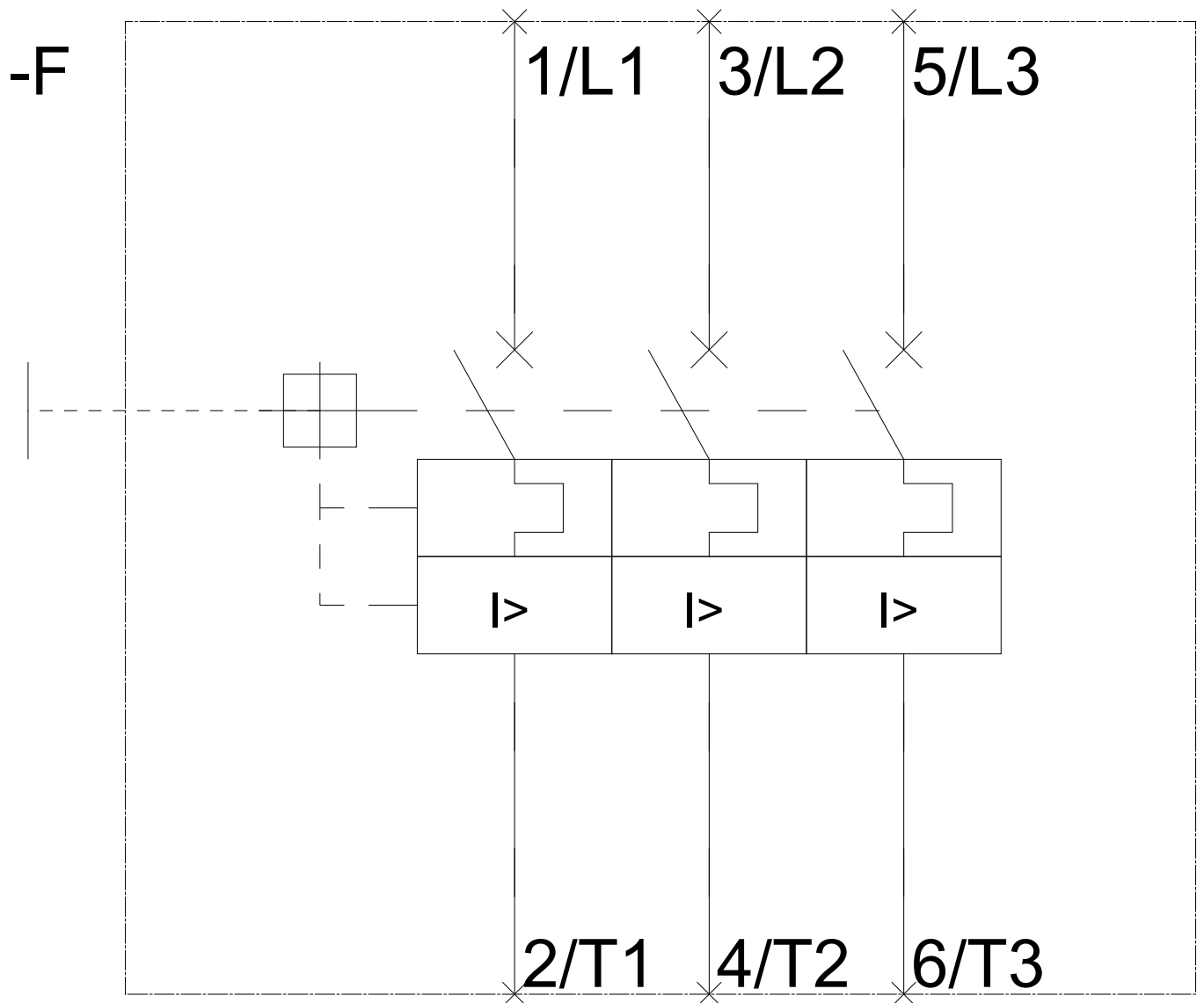
<https://support.industry.siemens.com/cs/ww/en/ps/3RV2021-1KA10>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RV2021-1KA10&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2021-1KA10&lang=en)







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