

CIRCUIT BREAKER, SIZE S2, FOR MOTOR PROTECTION, CLASS 10, WITH OVERLOAD RELAY FUNCTION A-RELEASE 14...20A, N-RELEASE 260A, SCREW TERMINAL, STANDARD BREAKING CAPACITY



Figure similar

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

|                                                                           |       |
|---------------------------------------------------------------------------|-------|
| General technical data                                                    |       |
| Size of the circuit-breaker                                               | S2    |
| Size of contactor can be combined company-specific                        | S2    |
| Product extension                                                         |       |
| • Auxiliary switch                                                        | Yes   |
| Power loss [W] total typical                                              | 12 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                                 | IP00                                                             |
| <b>Mechanical service life (switching cycles)</b> |                                                                  |
| • of the main contacts typical                    | 50 000                                                           |
| • of auxiliary contacts typical                   | 50 000                                                           |
| <b>Electrical endurance (switching cycles)</b>    |                                                                  |
| • typical                                         | 50 000                                                           |
| <b>Protection against electrical shock</b>        | finger-safe when touched vertically from front acc. to IEC 60529 |
| Equipment marking acc. to DIN EN 81346-2          | Q                                                                |

#### Ambient conditions

|                                 |                |
|---------------------------------|----------------|
| <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 |

#### 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> | 14 ... 20 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>                                              | 20 A         |
| <b>Operating current</b>                                                          |              |
| • at AC-3                                                                         |              |
| — at 400 V rated value                                                            | 20 A         |
| <b>Operating power</b>                                                            |              |
| • at AC-3                                                                         |              |
| — at 230 V rated value                                                            | 5 500 W      |
| — at 400 V rated value                                                            | 7 500 W      |
| — at 500 V rated value                                                            | 11 000 W     |
| — at 690 V rated value                                                            | 15 000 W     |
| <b>Operating frequency</b>                                                        |              |
| • at AC-3 maximum                                                                 | 15 1/h       |

#### Auxiliary circuit

|                              |   |
|------------------------------|---|
| <b>Number of NC contacts</b> |   |
| • for auxiliary contacts     |   |
| — Note                       | 1 |
| <b>Number of NO contacts</b> |   |

- for auxiliary contacts

— Note

1

## 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 A    |
| • at 400 V rated value                                                 | 30 kA    |
| • at 500 V rated value                                                 | 6 kA     |
| • at 690 V rated value                                                 | 3 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                                           | 65 kA    |
| • at AC at 500 V rated value                                           | 12 kA    |
| • at AC at 690 V rated value                                           | 5 kA     |

## UL/CSA ratings

|                                                         |        |
|---------------------------------------------------------|--------|
| <b>Full-load current (FLA) for three-phase AC motor</b> |        |
| • at 480 V rated value                                  | 20 A   |
| • at 600 V rated value                                  | 20 A   |
| <b>Yielded mechanical performance [hp]</b>              |        |
| • for single-phase AC motor                             |        |
| — at 110/120 V rated value                              | 1.5 hp |
| — at 230 V rated value                                  | 3 hp   |
| • for three-phase AC motor                              |        |
| — at 200/208 V rated value                              | 7.5 hp |
| — at 220/230 V rated value                              | 7.5 hp |
| — at 460/480 V rated value                              | 15 hp  |
| — at 575/600 V rated value                              | 20 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 240 V                                                                                     | none required |
| • at 400 V                                                                                     | 100           |
| • at 500 V                                                                                     | 80            |
| • at 690 V                                                                                     | 63            |

| 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>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 140 mm                                                                                 |
| <b>Width</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 75 mm                                                                                  |
| <b>Depth</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 149 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 10 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 10 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> <li>• for auxiliary and control current circuit</li> </ul>                                                                                                                      | screw-type terminals<br>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 ... 25 mm²), 1x (1 ... 35 mm²)<br>2x (1 ... 16 mm²), 1x (1 ... 25 mm²)<br>2x (18 ... 3), 1x (18 ... 2) |
| <b>Tightening torque</b>                                                                                                                                                                                                                               |                                                                                                              |
| <ul style="list-style-type: none"> <li>• for main contacts with screw-type terminals</li> </ul>                                                                                                                                                        | 3 ... 4.5 N·m                                                                                                |

|                                                                           |                    |
|---------------------------------------------------------------------------|--------------------|
| • for auxiliary contacts with screw-type terminals                        | 0.8 ... 1.2 N·m    |
| <b>Design of screwdriver shaft</b>                                        | Diameter 5 to 6 mm |
| <b>Safety related data</b>                                                |                    |
| <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

| General Product Approval                                                                 | Declaration of Conformity                                                                 | Test Certificates                                                                               |
|------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| <br>CCC | <br>EAC | <br>EG-Konf. |
| <br>CSA |                                                                                           | <a href="#">Special Test Certificate</a>                                                        |
| <br>UL  |                                                                                           |                                                                                                 |

| Test Certificates                                  | Shipping Approval                                                                             |
|----------------------------------------------------|-----------------------------------------------------------------------------------------------|
| <a href="#">Type Test Certificates/Test Report</a> | <br>ABS    |
|                                                    | <br>LRS    |
|                                                    | <br>PRS    |
|                                                    | <br>RINA |
|                                                    | <br>RMRS |

| other                                       | Railway                             |
|---------------------------------------------|-------------------------------------|
| <a href="#">Environmental Confirmations</a> | <a href="#">Vibration and Shock</a> |
| <a href="#">Confirmation</a>                |                                     |
| <a href="#">Miscellaneous</a>               |                                     |

#### Further information

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

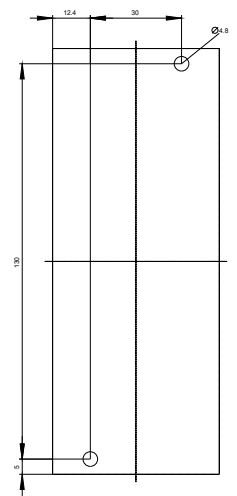
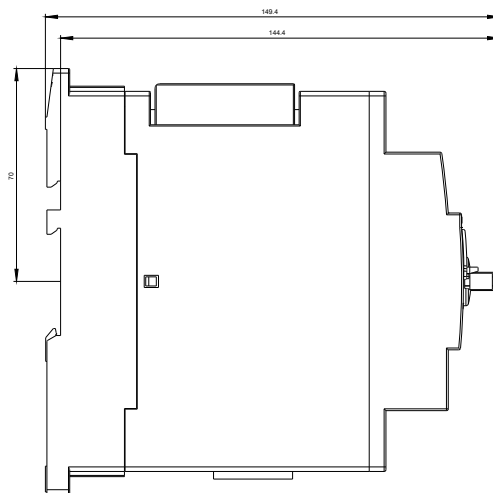
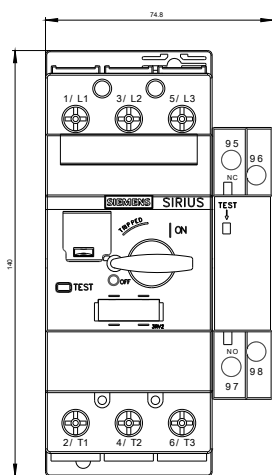
<http://www.siemens.com/industrial-controls/catalogs>

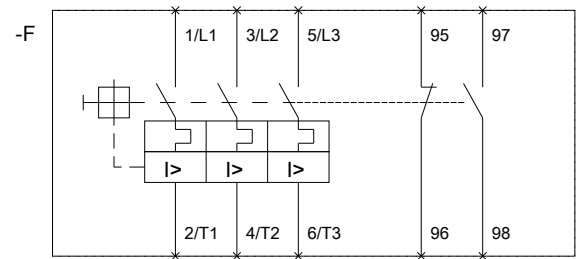
##### Industry Mall (Online ordering system)

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RV2131-4BA10>

##### Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2131-4BA10>





last modified:

06/19/2017