

CIRCUIT BREAKER, SIZE S2, FOR MOTOR PROTECTION, CLASS 10, A-RELEASE 35...45A, N-RELEASE 650A, SCREW TERMINAL, STANDARD BREAKING CAPACITY W. TRANSV. AUX. SWITCH 1NO+1NC



Figure similar

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

| General technical data  |       |
|---|-------|
| Size of the circuit-breaker   | S2    |
| Size of contactor can be combined company-specific                        | S2    |
| Product extension   |       |
| • Auxiliary switch  | Yes   |
| Power loss [W] total typical  | 17 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> | 35 ... 45 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>  | 45 A         |
| <b>Operating current</b>  |              |
| • at AC-3   |              |
| — at 400 V rated value  | 45 A         |
| <b>Operating power</b>  |              |
| • at AC-3   |              |
| — at 230 V rated value  | 11 000 W     |
| — at 400 V rated value  | 22 000 W     |
| — at 500 V rated value  | 30 000 W     |
| — at 690 V rated value  | 37 000 W     |
| <b>Operating frequency</b>  |              |
| • at AC-3 maximum   | 15 1/h       |

#### Auxiliary circuit

|                                       |            |
|---------------------------------------|------------|
| <b>Design of the auxiliary switch</b> | transverse |
| <b>Number of NC contacts</b>          |            |
| • for auxiliary contacts              | 1          |
| — Note                                | 1          |

|   |        |
|---|--------|
| <b>Number of NO contacts</b>                            |        |
| • for auxiliary contacts                                | 1      |
| — Note  | 1      |
| <b>Operating current of auxiliary contacts at AC-15</b> |        |
| • at 24 V   | 2 A    |
| • at 230 V  | 0.5 A  |
| <b>Operating current of auxiliary contacts at DC-13</b> |        |
| • at 24 V   | 1 A    |
| • at 60 V   | 0.15 A |
| • at 110 V  | 0 A    |
| • at 125 V  | 0 A    |
| • at 220 V  | 0 A    |

### 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   | 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   | 65 kA    |
| • at AC at 500 V rated value   | 10 kA    |
| • at AC at 690 V rated value   | 4 kA     |

### UL/CSA ratings

|   |       |
|---|-------|
| <b>Full-load current (FLA) for three-phase AC motor</b> |       |
| • at 480 V rated value                                  | 45 A  |
| • at 600 V rated value                                  | 45 A  |
| <b>Yielded mechanical performance [hp]</b>              |       |
| • for single-phase AC motor                             |       |
| — at 110/120 V rated value                              | 3 hp  |
| — at 230 V rated value                                  | 10 hp |
| • for three-phase AC motor                              |       |
| — at 200/208 V rated value                              | 15 hp |
| — at 220/230 V rated value                              | 15 hp |
| — at 460/480 V rated value                              | 40 hp |

|   |   |  |
|---|---|--|
| — at 575/600 V rated value  | 50 hp   |  |
| <b>Contact rating of auxiliary contacts according to UL</b>   | C300 / R300   |  |
| <b>Short-circuit protection</b>   |   |  |
| <b>Product function Short circuit protection</b>  | Yes   |  |
| <b>Design of the short-circuit trip</b>   | magnetic  |  |
| <b>Design of the fuse link</b>  | Fuse gL/gG: 10 A, miniature circuit breaker C 6 A (short-circuit current I <sub>k</sub> < 400 A)  |  |
| <ul style="list-style-type: none"> <li>• for short-circuit protection of the auxiliary switch required</li> </ul>   |   |  |
| <b>Design of the fuse link for IT network for short-circuit protection of the main circuit</b>  | <ul style="list-style-type: none"> <li>• at 240 V none required</li> <li>• at 400 V 125</li> <li>• at 500 V 100</li> <li>• at 690 V 80</li> </ul> |  |
| <ul style="list-style-type: none"> <li>• at 240 V</li> </ul>  |   |  |
| <ul style="list-style-type: none"> <li>• at 400 V</li> </ul>  |   |  |
| <ul style="list-style-type: none"> <li>• at 500 V</li> </ul>  |   |  |
| <ul style="list-style-type: none"> <li>• at 690 V</li> </ul>  |   |  |
| <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>   | 140 mm  |  |
| <b>Width</b>  | 55 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> </ul> |   |  |
| <ul style="list-style-type: none"> <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> </ul>        |   |  |
| <ul style="list-style-type: none"> <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>            |   |  |
| <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> <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 mm <sup>2</sup> ), 1x (1 ... 35 mm <sup>2</sup> )<br>2x (1 ... 16 mm <sup>2</sup> ), 1x (1 ... 25 mm <sup>2</sup> )<br>2x (18 ... 3), 1x (18 ... 2)                 |
| <b>Type of connectable conductor cross-sections</b>  |  |
| <ul style="list-style-type: none"> <li>for auxiliary 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 auxiliary contacts</li> </ul> | 2x (0,5 ... 1,5 mm <sup>2</sup> ), 2x (0,75 ... 2,5 mm <sup>2</sup> )<br>2x (0.5 ... 1.5 mm <sup>2</sup> ), 2x (0.75 ... 2.5 mm <sup>2</sup> )<br>2x (20 ... 16), 2x (18 ... 14) |
| <b>Tightening torque</b>   |  |
| <ul style="list-style-type: none"> <li>for main contacts with screw-type terminals</li> <li>for auxiliary contacts with screw-type terminals</li> </ul>  | 3 ... 4.5 N·m<br>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>  |              |
| <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   |  |   |   | Declaration of Conformity   | Test Certificates                             |
|--|--|---|---|---|---|
| <br>CCC | <br>CSA | <br>UL |  | <br>EG-Konf. | <a href="#">spezielle Prüfbescheinigungen</a> |

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

| other                             |                               |                          | Railway                              |
|-----------------------------------|-------------------------------|--------------------------|--------------------------------------|
| <a href="#">Umweltbestätigung</a> | <a href="#">Bestätigungen</a> | <a href="#">Sonstige</a> | <a href="#">Schwingen / Schocken</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=3RV2031-4VA15>

##### Cax online generator

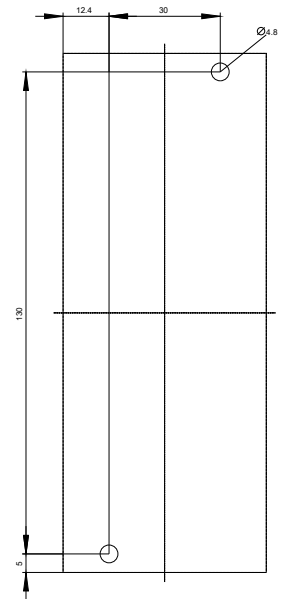
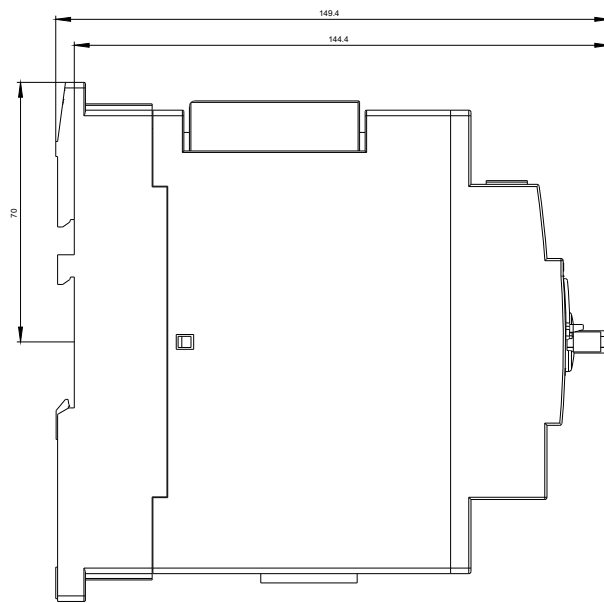
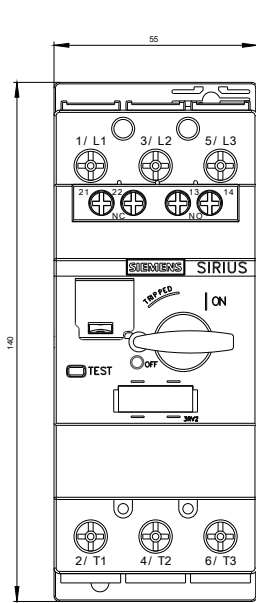
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2031-4VA15>

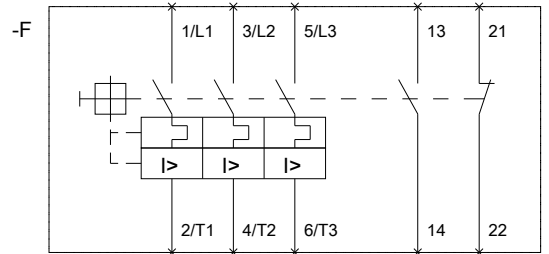
##### Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2031-4VA15>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RV2031-4VA15&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2031-4VA15&lang=en)





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