

Circuit breaker size S2 for motor protection, CLASS 10 A-release  
12...17 A N-release 260 A screw terminal Standard switching  
capacity



|                          |                      |
|--------------------------|----------------------|
| 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                                                                                               | S2     |
| Size of contactor can be combined company-specific                                                                        | S2     |
| Product extension                                                                                                         | Yes    |
| <ul style="list-style-type: none"> <li>Auxiliary switch</li> </ul>                                                        |        |
| Power loss [W] for rated value of the current                                                                             |        |
| <ul style="list-style-type: none"> <li>at AC in hot operating state</li> </ul>                                            | 14.5 W |
| <ul style="list-style-type: none"> <li>at AC in hot operating state per pole</li> </ul>                                   | 4.8 W  |
| Insulation voltage with degree of pollution 3 at AC rated value                                                           | 690 V  |
| Surge voltage resistance rated value                                                                                      | 6 kV   |
| maximum permissible voltage for safe isolation                                                                            |        |
| <ul style="list-style-type: none"> <li>in networks with grounded star point between main and auxiliary circuit</li> </ul> | 400 V  |

|                                                                                                                                                                             |                   |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|
| <ul style="list-style-type: none"> <li>• in networks with grounded star point between main and auxiliary circuit</li> </ul>                                                 | 400 V             |
| <b>Protection class IP</b> <ul style="list-style-type: none"> <li>• on the front</li> <li>• of the terminal</li> </ul>                                                      | IP20<br>IP00      |
| <b>Shock resistance</b> <ul style="list-style-type: none"> <li>• acc. to IEC 60068-2-27</li> </ul>                                                                          | 25g / 11 ms Sinus |
| <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> | 50 000<br>50 000  |
| <b>Electrical endurance (switching cycles)</b> <ul style="list-style-type: none"> <li>• typical</li> </ul>                                                                  | 50 000            |
| <b>Type of protection according to ATEX directive 2014/34/EU</b>                                                                                                            | Ex II (2) GD      |
| Certificate of suitability according to ATEX directive 2014/34/EU                                                                                                           | DMT 02 ATEX F 001 |
| <b>Reference code acc. to DIN EN 81346-2</b>                                                                                                                                | Q                 |

#### Ambient conditions

|                                                                                                                                                       |                                                    |
|-------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|
| <b>Installation altitude at height above sea level</b> <ul style="list-style-type: none"> <li>• maximum</li> </ul>                                    | 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                                     |
| 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>                                                                                                            | 12 ... 17 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>                                                                                                                                                         | 17 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>                               | 17 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> </ul> </li> </ul> | 4 000 W<br>7 500 W |

|                            |          |
|----------------------------|----------|
| — at 500 V rated value     | 7 500 W  |
| — at 690 V rated value     | 15 000 W |
| <b>Operating frequency</b> |          |
| • at AC-3 maximum          | 15 1/h   |

#### 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     |
| <b>Response value current</b>                                          |          |
| • of instantaneous short-circuit trip unit                             | 260 A    |

#### UL/CSA ratings

|                                                         |        |
|---------------------------------------------------------|--------|
| <b>Full-load current (FLA) for three-phase AC motor</b> |        |
| • at 480 V rated value                                  | 17 A   |
| • at 600 V rated value                                  | 17 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                              | 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                              | 15 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>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 55 mm                                                                                                                                                                        |
| <b>Depth</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 149 mm                                                                                                                                                                       |
| <b>Required spacing</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                              |
| <ul style="list-style-type: none"> <li>• for grounded parts at 400 V <ul style="list-style-type: none"> <li>— downwards</li> <li>— upwards</li> <li>— Backwards</li> <li>— at the side</li> <li>— forwards</li> </ul> </li> <li>• for live parts at 400 V <ul style="list-style-type: none"> <li>— downwards</li> <li>— upwards</li> <li>— Backwards</li> <li>— at the side</li> <li>— forwards</li> </ul> </li> <li>• for grounded parts at 500 V <ul style="list-style-type: none"> <li>— downwards</li> <li>— upwards</li> <li>— Backwards</li> <li>— at the side</li> <li>— forwards</li> </ul> </li> <li>• for live parts at 500 V <ul style="list-style-type: none"> <li>— downwards</li> <li>— upwards</li> <li>— Backwards</li> <li>— at the side</li> <li>— forwards</li> </ul> </li> <li>• for grounded parts at 690 V <ul style="list-style-type: none"> <li>— downwards</li> <li>— upwards</li> <li>— Backwards</li> <li>— at the side</li> </ul> </li> </ul> | 50 mm<br>50 mm<br>0 mm<br>10 mm<br>0 mm<br><br>50 mm<br>50 mm<br>0 mm<br>10 mm<br>0 mm<br><br>50 mm<br>50 mm<br>0 mm<br>10 mm<br>0 mm<br><br>50 mm<br>50 mm<br>0 mm<br>10 mm |

|                           |       |
|---------------------------|-------|
| — forwards                | 0 mm  |
| • for live parts at 690 V |       |
| — downwards               | 50 mm |
| — upwards                 | 50 mm |
| — Backwards               | 0 mm  |
| — at the side             | 10 mm |

## Connections/ Terminals

|                                                                      |                                      |
|----------------------------------------------------------------------|--------------------------------------|
| <b>Product function</b>                                              |                                      |
| • removable terminal for auxiliary and control circuit               | No                                   |
| <b>Type of electrical connection</b>                                 |                                      |
| • for main current circuit                                           | screw-type terminals                 |
| <b>Arrangement of electrical connectors for main current circuit</b> | Top and bottom                       |
| <b>Type of connectable conductor cross-sections</b>                  |                                      |
| • for main contacts                                                  |                                      |
| — single or multi-stranded                                           | 2x (1 ... 25 mm²), 1x (1 ... 35 mm²) |
| — finely stranded with core end processing                           | 2x (1 ... 16 mm²), 1x (1 ... 25 mm²) |
| • at AWG conductors for main contacts                                | 2x (18 ... 3), 1x (18 ... 2)         |
| <b>Tightening torque</b>                                             |                                      |
| • for main contacts with screw-type terminals                        | 3 ... 4.5 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>                  |                                      |
| • for main contacts                                                  | M6                                   |

## Safety related data

|                                                                           |        |
|---------------------------------------------------------------------------|--------|
| <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 | For use in hazardous locations |
|--------------------------|--------------------------------|



[KC](#)



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



IECEX



EG-Konf.

[Miscellaneous](#)

[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)



ABS

## Marine / Shipping



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

[Confirmation](#)



[Vibration and Shock](#)

[Confirmation](#)

## Further information

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

<https://www.siemens.com/ic10>

**Industry Mall (Online ordering system)**

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RV2031-4TA10>

**Cax online generator**

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2031-4TA10>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2031-4TA10>

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

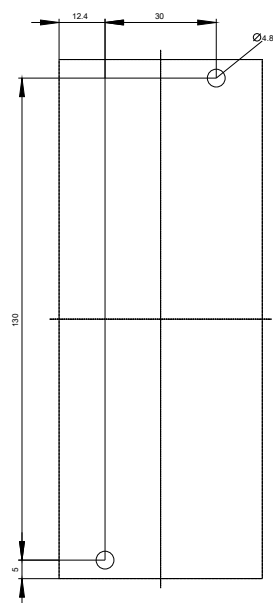
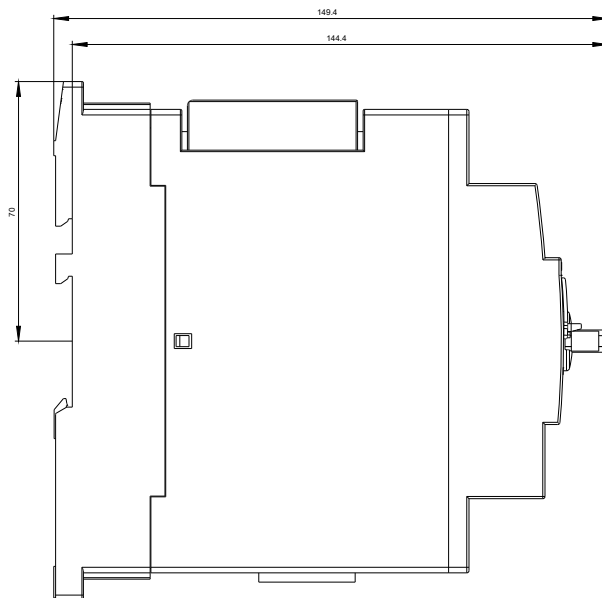
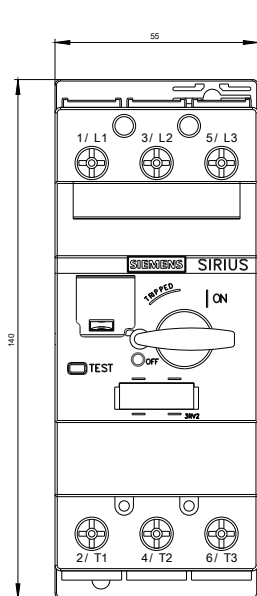
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RV2031-4TA10&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2031-4TA10&lang=en)

**Characteristic: Tripping characteristics, I<sup>2</sup>t, Let-through current**

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2031-4TA10/char>

**Further characteristics (e.g. electrical endurance, switching frequency)**

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2031-4TA10&objecttype=14&gridview=view1>





last modified:

03/05/2020