

Circuit breaker size S2 for motor protection, CLASS 10 A-release 22...32 A N-release 416 A screw terminal Standard switching 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                                               | S2    |
| Size of contactor can be combined company-specific                        | S2    |
| Product extension                                                         |       |
| • Auxiliary switch                                                        | Yes   |
| Power loss [W] total typical                                              | 14 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>Shock resistance</b>                           |                                                                  |
| • acc. to IEC 60068-2-27                          | 25g / 11 ms Sinus                                                |
| <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                                                           |
| Certificate of suitability ATEX                   | Yes                                                              |
| <b>Protection against electrical shock</b>        | finger-safe when touched vertically from front acc. to IEC 60529 |
| <b>Reference code acc. to DIN EN 81346-2</b>      | 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> | 22 ... 32 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>                                              | 32 A         |
| <b>Operating current</b>                                                          |              |
| • at AC-3                                                                         |              |
| — at 400 V rated value                                                            | 32 A         |
| <b>Operating power</b>                                                            |              |
| • at AC-3                                                                         |              |
| — at 230 V rated value                                                            | 7 500 W      |
| — at 400 V rated value                                                            | 15 000 W     |
| — at 500 V rated value                                                            | 18 500 W     |
| — at 690 V rated value                                                            | 30 000 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                                                                         | 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          |
| <b>Response value current</b>                                                                  |               |
| • of instantaneous short-circuit trip unit                                                     | 416 A         |
| UL/CSA ratings                                                                                 |               |
| <b>Full-load current (FLA) for three-phase AC motor</b>                                        |               |
| • at 480 V rated value                                                                         | 32 A          |
| • at 600 V rated value                                                                         | 32 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                                                                         | 5 hp          |
| • for three-phase AC motor                                                                     |               |
| — at 200/208 V rated value                                                                     | 10 hp         |
| — at 220/230 V rated value                                                                     | 10 hp         |
| — at 460/480 V rated value                                                                     | 25 hp         |
| — at 575/600 V rated value                                                                     | 30 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                                                                                     | 125           |
| • at 500 V                                                                                     | 100           |
| • at 690 V                                                                                     | 80            |

| 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>• 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>10 mm<br>50 mm<br><br>0 mm<br>0 mm<br>50 mm<br>50 mm<br>10 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 ... 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>Tightening torque</b>                                                                                                                                                                                                                               |                                                                                                                                                                  |
| <ul style="list-style-type: none"> <li>• for main contacts with screw-type terminals</li> </ul>                                                                                                                                                        | 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><br>• for main contacts                                                     | M6           |
| <b>Safety related data</b>                                                                                                     |              |
| <b>B10 value</b><br>• with high demand rate acc. to SN 31920                                                                   | 5 000        |
| <b>Proportion of dangerous failures</b><br>• with low demand rate acc. to SN 31920<br>• with high demand rate acc. to SN 31920 | 50 %<br>50 % |
| <b>Failure rate [FIT]</b><br>• 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><br>• for switching status                                                                               | Handle       |
| <b>Certificates/approvals</b>                                                                                                  |              |

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



[KC](#)



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



IECEX



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[Type Test Certificates/Test Report](#)



ABS



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



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|-------|---------|
| 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=3RV2031-4EA10>

### Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2031-4EA10>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2031-4EA10>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RV2031-4EA10&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2031-4EA10&lang=en)

### Characteristic: Tripping characteristics, I<sub>t</sub>, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2031-4EA10/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2031-4EA10&objecttype=14&gridview=view1>



