

Circuit breaker size S0 for motor protection, CLASS 10 A-release  
13...20 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                                                                                                 | S0      |
| size of contactor can be combined company-specific                                                                          | S00, S0 |
| 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>                                            | 10.5 W  |
| <ul style="list-style-type: none"> <li>• at AC in hot operating state per pole</li> </ul>                                   | 3.5 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> </ul>                                                            | IP20              |
| <ul style="list-style-type: none"> <li>• of the terminal</li> </ul>                                                         | IP20              |
| <b>shock resistance</b>                                                                                                     |                   |
| <ul style="list-style-type: none"> <li>• acc. to IEC 60068-2-27</li> </ul>                                                  | 25g / 11 ms       |
| <b>mechanical service life (switching cycles)</b>                                                                           |                   |
| <ul style="list-style-type: none"> <li>• of the main contacts typical</li> </ul>                                            | 100 000           |
| <ul style="list-style-type: none"> <li>• of auxiliary contacts typical</li> </ul>                                           | 100 000           |
| <b>electrical endurance (switching cycles)</b>                                                                              |                   |
| <ul style="list-style-type: none"> <li>• typical</li> </ul>                                                                 | 100 000           |
| <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 IEC 81346-2</b>                                                                                   | Q                 |

#### Ambient conditions

|                                                                                                             |                |
|-------------------------------------------------------------------------------------------------------------|----------------|
| <ul style="list-style-type: none"> <li>• installation altitude at height above sea level maximum</li> </ul> | 2 000 m        |
| <b>ambient temperature</b>                                                                                  |                |
| <ul style="list-style-type: none"> <li>• during operation</li> </ul>                                        | -20 ... +60 °C |
| <ul style="list-style-type: none"> <li>• during storage</li> </ul>                                          | -50 ... +80 °C |
| <ul style="list-style-type: none"> <li>• during transport</li> </ul>                                        | -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 current response value current of the current-dependent overload release</b>                                                                            | 13 ... 20 A        |
| <b>operating voltage</b>                                                                                                                                              |                    |
| <ul style="list-style-type: none"> <li>• rated value</li> </ul>                                                                                                       | 690 V              |
| <ul style="list-style-type: none"> <li>• at AC-3 rated value maximum</li> </ul>                                                                                       | 690 V              |
| <b>operating frequency rated value</b>                                                                                                                                | 50 ... 60 Hz       |
| <b>operational current rated value</b>                                                                                                                                | 20 A               |
| <b>operational 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>                                 | 20 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> | 5 500 W<br>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   |
| <b>Auxiliary circuit</b>                                                 |          |
| <b>number of NC contacts for auxiliary contacts</b>                      | 0        |
| <b>number of NO contacts for auxiliary contacts</b>                      | 0        |
| <b>number of CO contacts</b>                                             |          |
| • for auxiliary contacts                                                 | 0        |
| <b>Protective and monitoring functions</b>                               |          |
| <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>breaking capacity operating short-circuit current (Ics)<br/>at AC</b> |          |
| • at 240 V rated value                                                   | 100 kA   |
| • at 400 V rated value                                                   | 25 kA    |
| • at 500 V rated value                                                   | 5 kA     |
| • at 690 V rated value                                                   | 2 kA     |
| <b>breaking capacity maximum short-circuit current (Icu)</b>             |          |
| • at AC at 240 V rated value                                             | 100 kA   |
| • at AC at 400 V rated value                                             | 55 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                               | 260 A    |
| <b>UL/CSA ratings</b>                                                    |          |
| <b>full-load current (FLA) for 3-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 3-phase AC motor                                                   |          |
| — at 200/208 V rated value                                               | 7.5 hp   |
| — at 220/230 V rated value                                               | 5 hp     |
| — at 460/480 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   |
| <b>design of the fuse link for IT network for short-circuit protection of the main circuit</b> |            |
| • at 400 V                                                                                     | gL/gG 63 A |
| • at 500 V                                                                                     | gL/gG 50 A |
| • at 690 V                                                                                     | gL/gG 50 A |

## Installation/ mounting/ dimensions

|                               |                                                                                        |
|-------------------------------|----------------------------------------------------------------------------------------|
| <b>mounting position</b>      | any                                                                                    |
| <b>fastening method</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>                  | 97 mm                                                                                  |
| <b>required spacing</b>       |                                                                                        |
| • for grounded parts at 400 V |                                                                                        |
| — downwards                   | 30 mm                                                                                  |
| — upwards                     | 30 mm                                                                                  |
| — at the side                 | 9 mm                                                                                   |
| • for live parts at 400 V     |                                                                                        |
| — downwards                   | 30 mm                                                                                  |
| — upwards                     | 30 mm                                                                                  |
| — at the side                 | 9 mm                                                                                   |
| • for grounded parts at 500 V |                                                                                        |
| — downwards                   | 30 mm                                                                                  |
| — upwards                     | 30 mm                                                                                  |
| — at the side                 | 9 mm                                                                                   |
| • for live parts at 500 V     |                                                                                        |
| — downwards                   | 30 mm                                                                                  |
| — upwards                     | 30 mm                                                                                  |
| — at the side                 | 9 mm                                                                                   |
| • for grounded parts at 690 V |                                                                                        |
| — downwards                   | 50 mm                                                                                  |
| — upwards                     | 50 mm                                                                                  |
| — backwards                   | 0 mm                                                                                   |
| — at the side                 | 30 mm                                                                                  |
| — forwards                    | 0 mm                                                                                   |
| • for live parts at 690 V     |                                                                                        |
| — downwards                   | 50 mm                                                                                  |
| — upwards                     | 50 mm                                                                                  |

|               |       |
|---------------|-------|
| — backwards   | 0 mm  |
| — at the side | 30 mm |
| — forwards    | 0 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>solid or stranded</li> <li>finely stranded with core end processing</li> </ul> </li> <li>at AWG cables 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 |
|--------------------------|--------------------------------|



CSA



CCC



UL

[KC](#)



ATEX

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



LRS



PRS



RINA



RMRS



DNVGL.COM/AF

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

[Confirmation](#)



VDE

[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=3RV2021-4BA10>

**Cax online generator**

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2021-4BA10>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2021-4BA10>

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

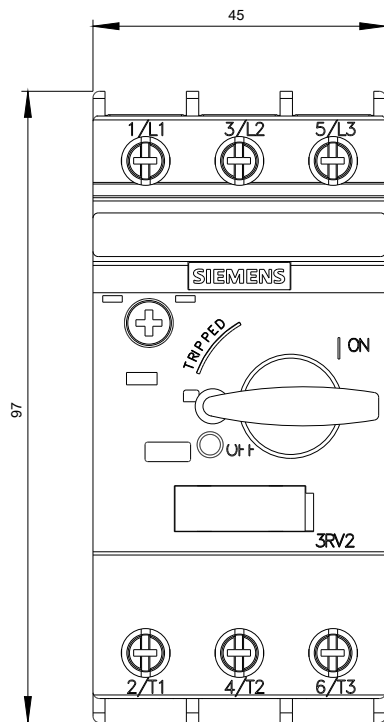
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RV2021-4BA10&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2021-4BA10&lang=en)

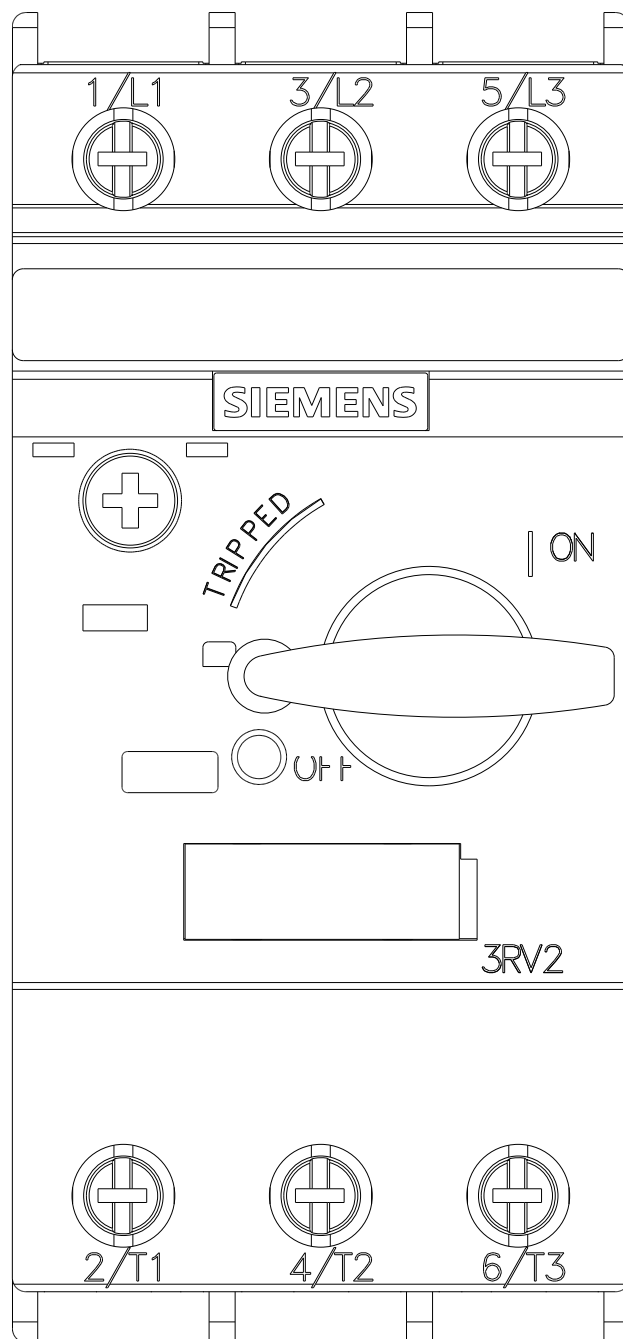
**Characteristic: Tripping characteristics, I<sup>2</sup>t, Let-through current**

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2021-4BA10/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2021-4BA10&objecttype=14&gridview=view1>







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