



Circuit breaker size S0 for motor protection, CLASS 10 A-release 27...32 A N-release 400 A screw terminal Standard switching capacity with transverse auxiliary switches 1 NO+1 NC

|   |                      |
|---|----------------------|
| product brand name  | SIRIUS               |
| product designation   | Circuit breaker      |
| design of the product   | For motor protection |
| product type designation  | 3RV2                 |
| <b>General technical data</b>   |                      |
| size of the circuit-breaker   | S0                   |
| size of contactor can be combined company-specific                                  | S00, S0              |
| product extension auxiliary switch  | Yes                  |
| power loss [W] for rated value of the current                                       |                      |
| • at AC in hot operating state  | 13.25 W              |
| • at AC in hot operating state per pole   | 4.4 W                |
| insulation voltage with degree of pollution 3 at AC rated value                     | 690 V                |
| surge voltage resistance rated value  | 6 kV                 |
| shock resistance according to IEC 60068-2-27  | 25g / 11 ms          |
| mechanical service life (operating cycles)  |                      |
| • of the main contacts typical  | 100 000              |
| • of auxiliary contacts typical   | 100 000              |
| electrical endurance (operating cycles) typical                                     | 100 000              |
| type of protection according to ATEX directive 2014/34/EU                           | Ex II (2) GD         |
| certificate of suitability according to ATEX directive 2014/34/EU                   | DMT 02 ATEX F 001    |
| reference code according to IEC 81346-2   | Q                    |
| Substance Prohibitance (Date)   | 10/01/2009           |
| SVHC substance name   | Blei - 7439-92-1     |
| <b>Ambient conditions</b>   |                      |
| installation altitude at height above sea level maximum                             | 2 000 m              |
| ambient temperature   |                      |
| • during operation  | -20 ... +60 °C       |
| • during storage  | -50 ... +80 °C       |
| • during transport  | -50 ... +80 °C       |
| relative humidity during operation  | 10 ... 95 %          |
| <b>Main circuit</b>   |                      |
| number of poles for main current circuit  | 3                    |
| adjustable current response value current of the current-dependent overload release | 27 ... 32 A          |
| operating voltage   |                      |
| • rated value   | 20 ... 690 V         |
| • at AC-3 rated value maximum   | 690 V                |
| • at AC-3e rated value maximum  | 690 V                |
| operating frequency rated value   | 50 ... 60 Hz         |
| operational current rated value   | 32 A                 |

|   |  |
|---|--|
| <b>operational current</b>  |  |
| <ul style="list-style-type: none"> <li>at AC-3 at 400 V rated value</li> <li>at AC-3e at 400 V rated value</li> </ul>   | 32 A<br>32 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> <li>at 500 V rated value</li> <li>at 690 V rated value</li> </ul> </li> <li>at AC-3e <ul style="list-style-type: none"> <li>at 230 V rated value</li> <li>at 400 V rated value</li> <li>at 500 V rated value</li> <li>at 690 V rated value</li> </ul> </li> </ul> | 7.5 kW<br>15 kW<br>18.5 kW<br>30 kW<br>7.5 kW<br>15 kW<br>18.5 kW<br>30 kW |
| <b>operating frequency</b>  |  |
| <ul style="list-style-type: none"> <li>at AC-3 maximum</li> <li>at AC-3e maximum</li> </ul>   | 15 1/h<br>15 1/h   |
| <b>Auxiliary circuit</b>  |  |
| <b>design of the auxiliary switch</b>   | transverse   |
| <b>number of NC contacts for auxiliary contacts</b>   |  |
| <ul style="list-style-type: none"> <li></li> </ul>  | 1  |
| number of NO contacts for auxiliary contacts  |  |
| <ul style="list-style-type: none"> <li></li> </ul>  | 1  |
| number of CO contacts for auxiliary contacts  | 0  |
| <b>operational current of auxiliary contacts at AC-15</b>   |  |
| <ul style="list-style-type: none"> <li>at 24 V</li> <li>at 120 V</li> <li>at 125 V</li> <li>at 230 V</li> </ul>   | 2 A<br>0.5 A<br>0.5 A<br>0.5 A   |
| <b>operational current of auxiliary contacts at DC-13</b>   |  |
| <ul style="list-style-type: none"> <li>at 24 V</li> <li>at 60 V</li> </ul>  | 1 A<br>0.15 A  |
| <b>Protective and monitoring functions</b>  |  |
| <b>product function</b>   |  |
| <ul style="list-style-type: none"> <li>ground fault detection</li> <li>phase failure detection</li> </ul>   | No<br>Yes  |
| <b>trip class</b>   | CLASS 10   |
| <b>design of the overload release</b>   | thermal  |
| <b>maximum short-circuit current breaking capacity (Icu)</b>  |  |
| <ul style="list-style-type: none"> <li>at AC at 240 V rated value</li> <li>at AC at 400 V rated value</li> <li>at AC at 500 V rated value</li> <li>at AC at 690 V rated value</li> </ul>  | 100 kA<br>55 kA<br>10 kA<br>4 kA   |
| <b>operating short-circuit current breaking capacity (Ics) at AC</b>  |  |
| <ul style="list-style-type: none"> <li>at 240 V rated value</li> <li>at 400 V rated value</li> <li>at 500 V rated value</li> <li>at 690 V rated value</li> </ul>  | 100 kA<br>25 kA<br>5 kA<br>2 kA  |
| response value current of instantaneous short-circuit trip unit   | 400 A  |
| <b>UL/CSA ratings</b>   |  |
| <b>full-load current (FLA) for 3-phase AC motor</b>   |  |
| <ul style="list-style-type: none"> <li>at 480 V rated value</li> <li>at 600 V rated value</li> </ul>  | 32 A<br>32 A   |
| <b>yielded mechanical performance [hp]</b>  |  |
| <ul style="list-style-type: none"> <li>for single-phase AC motor <ul style="list-style-type: none"> <li>at 110/120 V rated value</li> <li>at 230 V rated value</li> </ul> </li> <li>for 3-phase AC motor <ul style="list-style-type: none"> <li>at 200/208 V rated value</li> <li>at 220/230 V rated value</li> </ul> </li> </ul>   | 2 hp<br>5 hp<br>7.5 hp<br>10 hp  |

|   |  |   |
|---|--|---|
| — at 460/480 V rated value  | 20 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 $I_k < 400$ 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>  | gL/gG 63 A<br>gL/gG 63 A<br>gL/gG 63 A   |   |
| <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>fastening method</b>   | screw and snap-on mounting onto 35 mm DIN 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>   | 0 mm<br>30 mm<br>30 mm<br>9 mm<br>30 mm<br>30 mm<br>9 mm<br>30 mm<br>30 mm<br>9 mm<br>30 mm<br>30 mm<br>9 mm<br>50 mm<br>50 mm<br>0 mm<br>30 mm<br>0 mm<br>50 mm<br>50 mm<br>0 mm<br>30 mm<br>0 mm |   |
| <ul style="list-style-type: none"> <li>• with side-by-side mounting at the side</li> </ul>  |  |   |
| <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>— at the side</li> </ul> </li> </ul>  |  |   |
| <ul style="list-style-type: none"> <li>• for live parts at 400 V <ul style="list-style-type: none"> <li>— downwards</li> <li>— upwards</li> <li>— at the side</li> </ul> </li> </ul>  |  |   |
| <ul style="list-style-type: none"> <li>• for grounded parts at 500 V <ul style="list-style-type: none"> <li>— downwards</li> <li>— upwards</li> <li>— at the side</li> </ul> </li> </ul>  |  |   |
| <ul style="list-style-type: none"> <li>• for live parts at 500 V <ul style="list-style-type: none"> <li>— downwards</li> <li>— upwards</li> <li>— at the side</li> </ul> </li> </ul>  |  |   |
| <ul style="list-style-type: none"> <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> <li>— forwards</li> </ul> </li> </ul> |  |   |
| <ul style="list-style-type: none"> <li>• for live parts at 690 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> </ul>     |  |   |
| <b>Connections/ Terminals</b>   |  |   |
| <b>type of electrical connection</b>  |  | screw-type terminals<br>screw-type terminals  |
| <ul style="list-style-type: none"> <li>• for main current circuit</li> <li>• for auxiliary and control circuit</li> </ul>   |  |   |
| <b>arrangement of electrical connectors for main current circuit</b>  |  | Top and bottom  |
| <b>type of connectable conductor cross-sections</b>   |  | 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) |
| <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> </ul>                                  |  |   |
| <ul style="list-style-type: none"> <li>• for AWG cables for main contacts</li> </ul>  |  |   |
| <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>— solid or stranded</li> <li>— finely stranded with core end processing</li> </ul> </li> <li>for AWG cables 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>  | 2 ... 2.5 N·m<br>0.8 ... 1.2 N·m   |
| <b>design of screwdriver shaft</b>   | Diameter 5 to 6 mm   |
| <b>size of the screwdriver tip</b>   | Pozidriv size 2  |
| <b>design of the thread of the connection screw</b>  |  |
| <ul style="list-style-type: none"> <li>for main contacts</li> <li>of the auxiliary and control contacts</li> </ul>   | M4<br>M3   |

### Safety related data

|   |  |
|---|--|
| <b>proportion of dangerous failures</b>   |  |
| <ul style="list-style-type: none"> <li>with low demand rate according to SN 31920</li> <li>with high demand rate according to SN 31920</li> </ul> | 50 %<br>50 %                                     |
| <b>failure rate [FIT] with low demand rate according to SN 31920</b>  | 50 FIT   |
| <b>B10 value with high demand rate according to SN 31920</b>  | 5 000  |
| IEC 61508   |  |
| <b>T1 value for proof test interval or service life according to IEC 61508</b>  | 10 a   |
| Electrical Safety   |  |
| <b>protection class IP on the front according to IEC 60529</b>  | IP20   |
| <b>touch protection on the front according to IEC 60529</b>   | finger-safe, for vertical contact from the front |
| display version for switching status  | Handle   |

### Approvals Certificates

#### General Product Approval



[Confirmation](#)



[KC](#)

|                          |                                |                   |                   |
|--------------------------|--------------------------------|-------------------|-------------------|
| General Product Approval | For use in hazardous locations | Test Certificates | Marine / Shipping |
|--------------------------|--------------------------------|-------------------|-------------------|



[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)



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



[Confirmation](#)

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

[Miscellaneous](#)



[Confirmation](#)

[EPD Typ II/III \(with life cycle assessment\)](#)

### Further information

Information on the packaging  
<https://support.industry.siemens.com/cs/ww/en/view/109813875>  
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=3RV2021-4EA15>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2021-4EA15>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2021-4EA15>

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

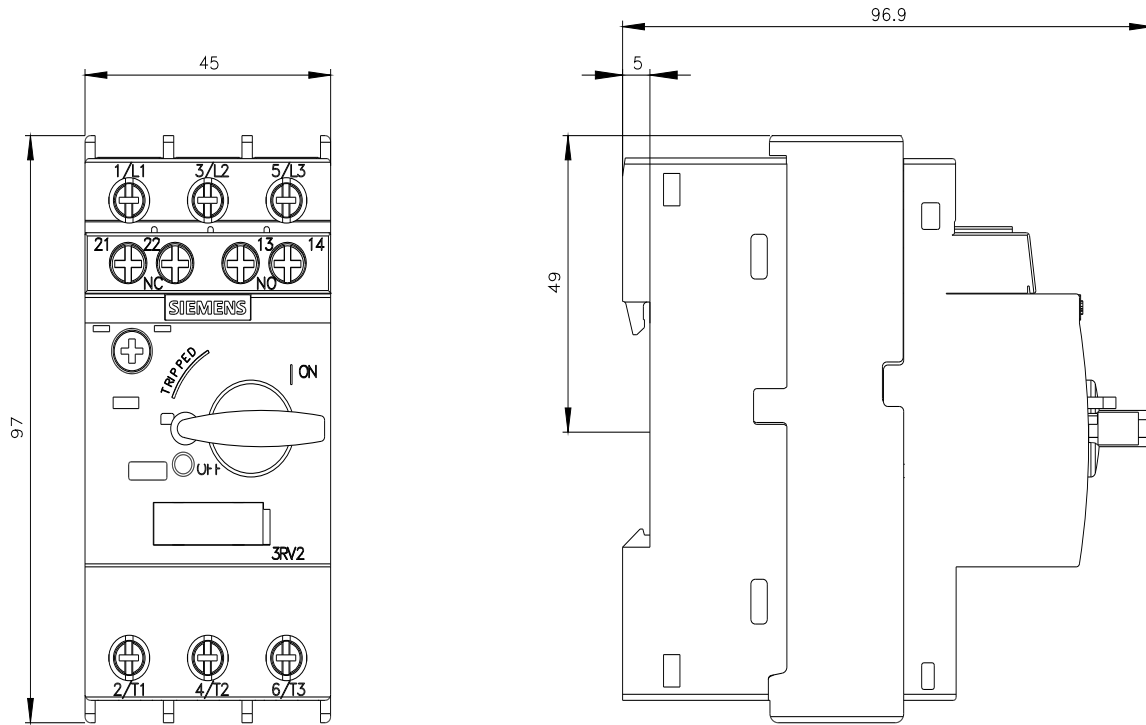
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RV2021-4EA15&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2021-4EA15&lang=en)

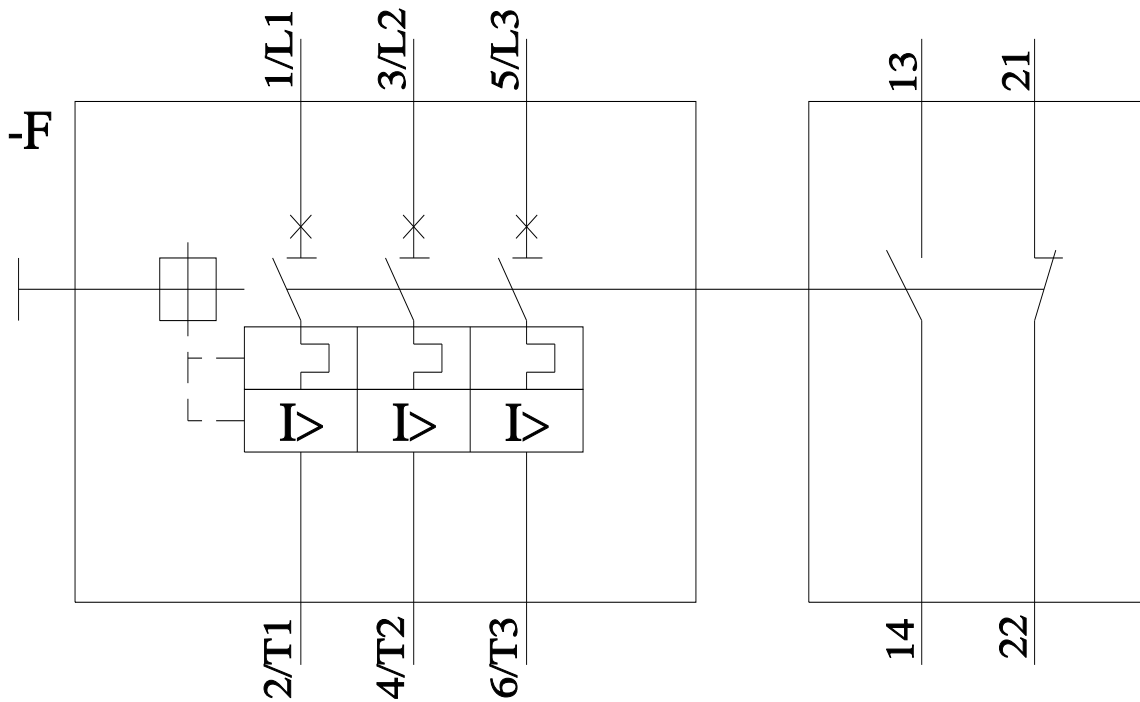
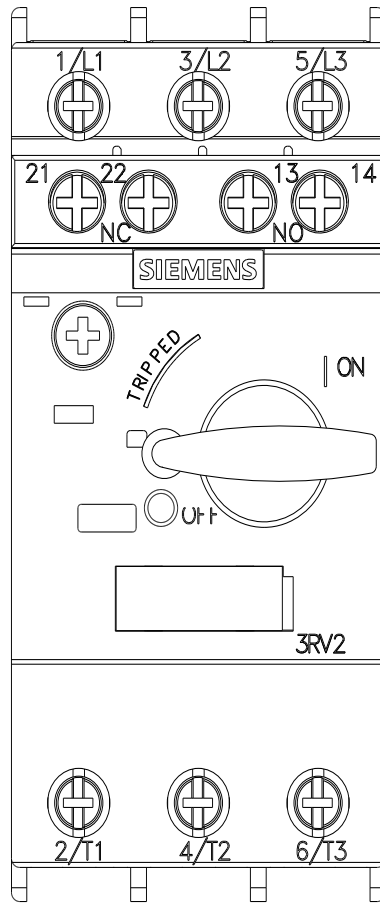
Characteristic: Tripping characteristics, I<sup>2</sup>t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2021-4EA15/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2021-4EA15&objecttype=14&gridview=view1>





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8/29/2023