

Siemens  
EcoTech



circuit breaker frame size S0 for motor protection, Class 10 thermal overload release 13...20 A short-circuit release 260 A spring-loaded terminal standard switching capacity 30 kA at 600 V according to UL/CSA



|                                                                 |                      |
|-----------------------------------------------------------------|----------------------|
| 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                                  | 10.5 W               |
| • at AC in hot operating state per pole                         | 3.5 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              |
| reference code according to IEC 81346-2                         | Q                    |
| Substance Prohibitance (Date)                                   | 10/01/2009           |
| SVHC substance name                                             | Lead - 7439-92-1     |
| Weight                                                          | 0.412 kg             |
| <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>Environmental footprint</b>                                  |                      |
| Environmental Product Declaration (EPD)                         | Yes                  |
| global warming potential [CO2 eq] total                         | 75.078 kg            |
| global warming potential [CO2 eq] during manufacturing          | 2.68 kg              |
| global warming potential [CO2 eq] during sales                  | 0.143 kg             |
| global warming potential [CO2 eq] during operation              | 72.7 kg              |
| global warming potential [CO2 eq] after end of life             | -0.445 kg            |

| Siemens Eco Profile (SEP)                                                                      | Siemens EcoTech |
|------------------------------------------------------------------------------------------------|-----------------|
| <b>Main circuit</b>                                                                            |                 |
| <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>type of voltage for main current circuit</b>                                                | AC              |
| <b>operating voltage</b>                                                                       |                 |
| • rated value                                                                                  | 20 ... 690 V    |
| • at AC-3 rated value maximum                                                                  | 690 V           |
| • at AC-3e rated value maximum                                                                 | 690 V           |
| <b>operating frequency rated value</b>                                                         | 50 ... 60 Hz    |
| <b>operational current rated value</b>                                                         | 20 A            |
| <b>operational current</b>                                                                     |                 |
| • at AC-3 at 400 V rated value                                                                 | 20 A            |
| • at AC-3e at 400 V rated value                                                                | 20 A            |
| <b>operating power</b>                                                                         |                 |
| • at AC-3                                                                                      |                 |
| — at 690 V rated value                                                                         | 15 kW           |
| • at AC-3e                                                                                     |                 |
| — at 690 V rated value                                                                         | 15 kW           |
| <b>operating frequency</b>                                                                     |                 |
| • at AC-3 maximum                                                                              | 15 1/h          |
| • at AC-3e maximum                                                                             | 15 1/h          |
| <b>Auxiliary circuit</b>                                                                       |                 |
| <b>type of voltage for auxiliary and control circuit</b>                                       | AC/DC           |
| <b>number of NC contacts for auxiliary contacts</b>                                            | 0               |
| <b>number of NO contacts for auxiliary contacts</b>                                            | 0               |
| number of CO contacts 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>maximum short-circuit current breaking capacity (I<sub>cu</sub>)</b>                        |                 |
| • at AC at 690 V rated value                                                                   | 4 kA            |
| <b>operating short-circuit current breaking capacity (I<sub>cs</sub>) at AC</b>                |                 |
| • at 690 V rated value                                                                         | 2 kA            |
| response value current 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           |
| — at 575/600 V rated value                                                                     | 15 hp           |
| <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 for IT network for short-circuit protection of the main circuit</b> |                 |
| • at 400 V                                                                                     | gG 63 A         |
| • at 500 V                                                                                     | gG 50 A         |

|                                                                      |                                                                          |
|----------------------------------------------------------------------|--------------------------------------------------------------------------|
| • at 690 V                                                           | gG 50 A                                                                  |
| <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>                                                        | 119 mm                                                                   |
| <b>width</b>                                                         | 45 mm                                                                    |
| <b>depth</b>                                                         | 97 mm                                                                    |
| <b>required spacing</b>                                              |                                                                          |
| • with side-by-side mounting at the side                             | 0 mm                                                                     |
| • for grounded parts at 690 V                                        |                                                                          |
| — downwards                                                          | 50 mm                                                                    |
| — upwards                                                            | 50 mm                                                                    |
| — at the side                                                        | 30 mm                                                                    |
| • for live parts at 690 V                                            |                                                                          |
| — downwards                                                          | 50 mm                                                                    |
| — upwards                                                            | 50 mm                                                                    |
| — at the side                                                        | 30 mm                                                                    |
| <b>Connections/ Terminals</b>                                        |                                                                          |
| <b>type of electrical connection</b>                                 |                                                                          |
| • for main current circuit                                           | spring-loaded 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                                                  |                                                                          |
| — solid or stranded                                                  | 2x (1 ... 10 mm <sup>2</sup> )                                           |
| — finely stranded with core end processing                           | 2x (1 ... 6 mm <sup>2</sup> )                                            |
| — finely stranded without core end processing                        | 2x (1 ... 6 mm <sup>2</sup> )                                            |
| • for AWG cables for main contacts                                   | 2x (18 ... 8)                                                            |
| <b>design of screwdriver shaft</b>                                   | Diameter 3 mm                                                            |
| <b>size of the screwdriver tip</b>                                   | 3,0 x 0,5 mm                                                             |
| <b>Safety related data</b>                                           |                                                                          |
| product function suitable for safety function                        | Yes                                                                      |
| <b>suitability for use</b>                                           |                                                                          |
| • safety-related switching on                                        | No                                                                       |
| • safety-related switching OFF                                       | Yes                                                                      |
| <b>service life maximum</b>                                          | 10 a                                                                     |
| <b>test wear-related service life necessary</b>                      | Yes                                                                      |
| <b>proportion of dangerous failures</b>                              |                                                                          |
| • with low demand rate according to SN 31920                         | 40 %                                                                     |
| • with high demand rate according to SN 31920                        | 50 %                                                                     |
| <b>B10 value with high demand rate according to SN 31920</b>         | 5 000                                                                    |
| <b>failure rate [FIT] with low demand rate according to SN 31920</b> | 50 FIT                                                                   |
| <b>ISO 13849</b>                                                     |                                                                          |
| <b>device type according to ISO 13849-1</b>                          | 3                                                                        |
| <b>overdimensioning according to ISO 13849-2 necessary</b>           | Yes                                                                      |
| <b>IEC 61508</b>                                                     |                                                                          |
| <b>safety device type according to IEC 61508-2</b>                   | Type A                                                                   |
| <b>T1 value</b>                                                      |                                                                          |
| • for proof test interval or service life according to IEC 61508     | 10 a                                                                     |
| <b>Electrical Safety</b>                                             |                                                                          |
| <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                         |
| <b>Display</b>                                                       |                                                                          |
| display version for switching status                                 | Handle                                                                   |
| <b>Approvals Certificates</b>                                        |                                                                          |
| <b>General Product Approval</b>                                      |                                                                          |



Test Certificates

Maritime application

[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)



Maritime application

other



[Miscellaneous](#)



[Confirmation](#)



Railway

Environment

[Special Test Certificate](#)

[Confirmation](#)



Siemens EcoTech



[Environmental Confirmations](#)

Further information

Information on the packaging

<https://support.industry.siemens.com/cs/ww/en/view/109813875>

Information for data generation and storage

<https://support.industry.siemens.com/cs/ww/en/view/109995012>

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=3RV2023-4BA20>

Cax online generator

<https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2023-4BA20>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2023-4BA20>

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

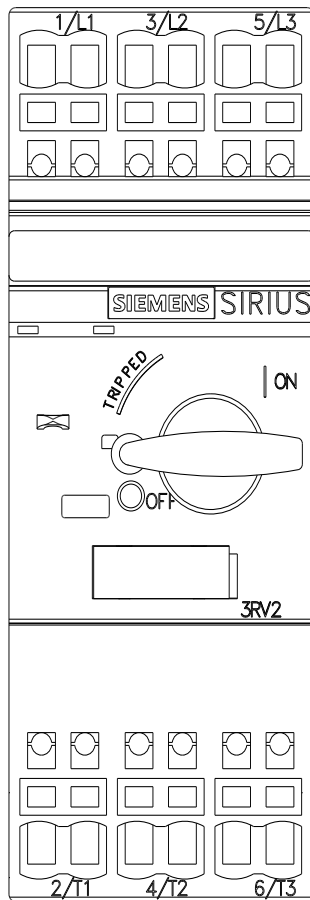
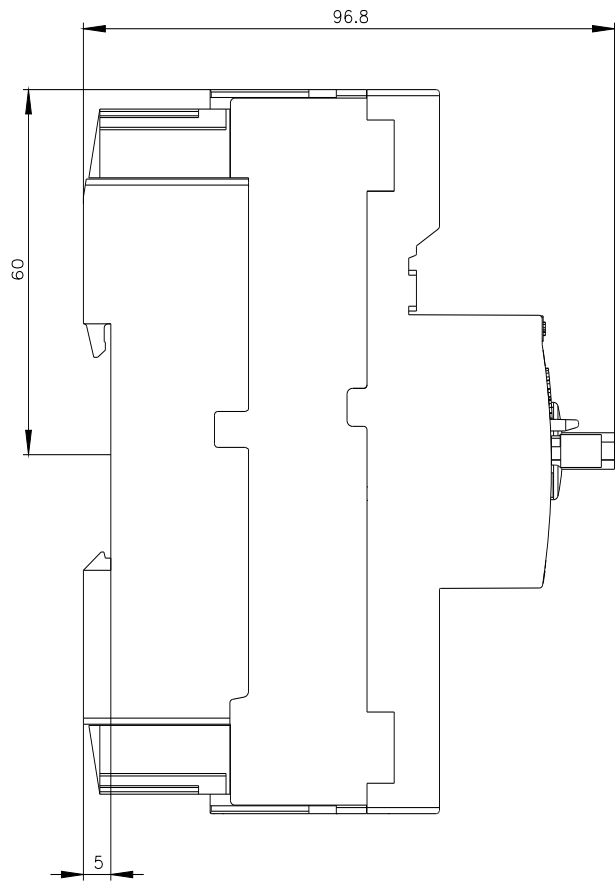
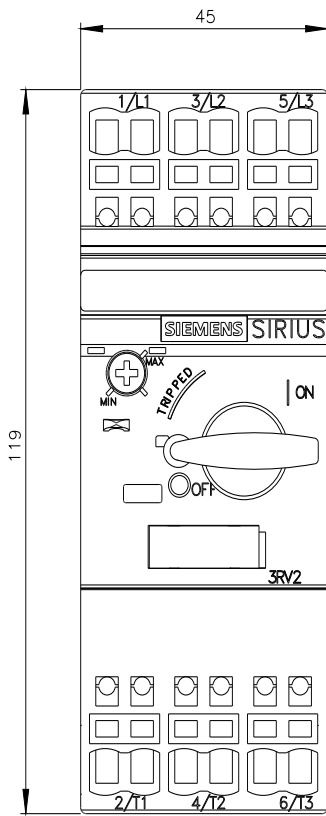
[https://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RV2023-4BA20&lang=en](https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2023-4BA20&lang=en)

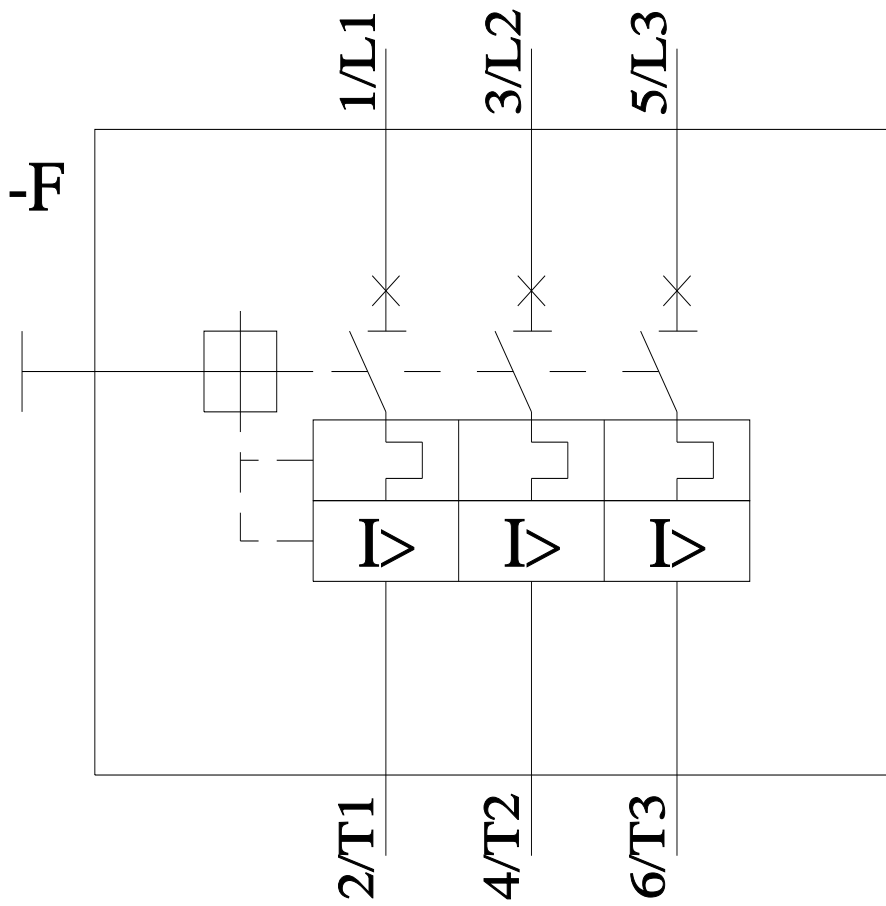
Characteristic: Tripping characteristics, I<sub>t</sub>, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2023-4BA20/char>

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

<https://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2023-4BA20&objecttype=14&gridview=view1>





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