

Siemens  
EcoTech



Circuit breaker size S2 for motor protection, CLASS 10 A-release 42...52 A N-release 741 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                                                           |
| 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] for rated value of the current                   |                                                                |
| • at AC in hot operating state                                  | 24.5 W                                                         |
| • at AC in hot operating state per pole                         | 8.2 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 Sinus                                              |
| mechanical service life (operating cycles)                      |                                                                |
| • of the main contacts typical                                  | 50 000                                                         |
| • of auxiliary contacts typical                                 | 50 000                                                         |
| electrical endurance (operating cycles) typical                 | 50 000                                                         |
| reference code according to IEC 81346-2                         | Q                                                              |
| Substance Prohibitance (Date)                                   | 10/15/2014                                                     |
| SVHC substance name                                             | Lead - 7439-92-1<br>Lead titanium zirconium oxide - 12626-81-2 |
| Net Weight                                                      | 1.169 kg                                                       |
| Ambient conditions                                              |                                                                |
| 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 %                                                    |
| Environmental footprint                                         |                                                                |
| Environmental Product Declaration(EPD)                          | Yes                                                            |
| global warming potential [CO2 eq] total                         | 239.877 kg                                                     |
| global warming potential [CO2 eq] during manufacturing          | 12.8 kg                                                        |
| global warming potential [CO2 eq] during sales                  | 0.477 kg                                                       |
| global warming potential [CO2 eq] during operation              | 230 kg                                                         |

|                                                                                            |                 |
|--------------------------------------------------------------------------------------------|-----------------|
| global warming potential [CO2 eq] after end of life                                        | -3.4 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> | 42 ... 52 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>                                                     | 52 A            |
| <b>operational current</b>                                                                 |                 |
| • at AC-3 at 400 V rated value                                                             | 52 A            |
| • at AC-3e at 400 V rated value                                                            | 52 A            |
| <b>operating power</b>                                                                     |                 |
| • at AC-3                                                                                  |                 |
| — at 230 V rated value                                                                     | 15 kW           |
| — at 400 V rated value                                                                     | 22 kW           |
| — at 500 V rated value                                                                     | 30 kW           |
| — at 690 V rated value                                                                     | 45 kW           |
| • at AC-3e                                                                                 |                 |
| — at 230 V rated value                                                                     | 15 kW           |
| — at 400 V rated value                                                                     | 22 kW           |
| — at 500 V rated value                                                                     | 30 kW           |
| — at 690 V rated value                                                                     | 45 kW           |
| <b>operating frequency</b>                                                                 |                 |
| • at AC-3 maximum                                                                          | 15 1/h          |
| • at AC-3e maximum                                                                         | 15 1/h          |
| <b>Auxiliary circuit</b>                                                                   |                 |
| <b>design of the auxiliary switch</b>                                                      | transverse      |
| <b>type of voltage for auxiliary and control circuit</b>                                   | AC/DC           |
| <b>number of NC contacts for auxiliary contacts</b>                                        | 1               |
| <b>number of NO contacts for auxiliary contacts</b>                                        | 1               |
| number of CO contacts for auxiliary contacts                                               | 0               |
| <b>operational current of auxiliary contacts at AC-15</b>                                  |                 |
| • at 24 V                                                                                  | 2 A             |
| • at 230 V                                                                                 | 0.5 A           |
| <b>operational current of auxiliary contacts at DC-13</b>                                  |                 |
| • at 24 V                                                                                  | 1 A             |
| • at 60 V                                                                                  | 0.15 A          |
| • at 110 V                                                                                 | 0 A             |
| • at 125 V                                                                                 | 0 A             |
| • at 220 V                                                                                 | 0 A             |
| <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 (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                                                               | 8 kA            |
| • at AC at 690 V rated value                                                               | 4 kA            |
| <b>operating short-circuit current breaking capacity (Ics) at AC</b>                       |                 |
| • at 240 V rated value                                                                     | 100 kA          |
| • at 400 V rated value                                                                     | 30 kA           |

|                                                                                                |                                                                                      |
|------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| • at 500 V rated value                                                                         | 4 kA                                                                                 |
| • at 690 V rated value                                                                         | 2 kA                                                                                 |
| response value current of instantaneous short-circuit trip unit                                | 741 A                                                                                |
| <b>UL/CSA ratings</b>                                                                          |                                                                                      |
| <b>full-load current (FLA) for 3-phase AC motor</b>                                            |                                                                                      |
| • at 480 V rated value                                                                         | 52 A                                                                                 |
| • at 600 V rated value                                                                         | 52 A                                                                                 |
| <b>yielded mechanical performance [hp]</b>                                                     |                                                                                      |
| • for single-phase AC motor                                                                    |                                                                                      |
| — at 110/120 V rated value                                                                     | 5 hp                                                                                 |
| — at 230 V rated value                                                                         | 10 hp                                                                                |
| • for 3-phase AC motor                                                                         |                                                                                      |
| — at 200/208 V rated value                                                                     | 15 hp                                                                                |
| — at 220/230 V rated value                                                                     | 20 hp                                                                                |
| — at 460/480 V rated value                                                                     | 40 hp                                                                                |
| — at 575/600 V rated value                                                                     | 50 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>                                                                 |                                                                                      |
| • for short-circuit protection of the auxiliary switch required                                | fuse gG: 10 A, miniature circuit breaker C 6 A (short-circuit current $I_k < 400$ A) |
| <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                                                                                     | 160                                                                                  |
| • at 500 V                                                                                     | 125                                                                                  |
| • at 690 V                                                                                     | 100                                                                                  |
| <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>                                                                                  | 140 mm                                                                               |
| <b>width</b>                                                                                   | 55 mm                                                                                |
| <b>depth</b>                                                                                   | 149 mm                                                                               |
| <b>required spacing</b>                                                                        |                                                                                      |
| • with side-by-side mounting at the side                                                       | 0 mm                                                                                 |
| • for grounded parts at 400 V                                                                  |                                                                                      |
| — downwards                                                                                    | 50 mm                                                                                |
| — upwards                                                                                      | 50 mm                                                                                |
| — at the side                                                                                  | 10 mm                                                                                |
| • for live parts at 400 V                                                                      |                                                                                      |
| — downwards                                                                                    | 50 mm                                                                                |
| — upwards                                                                                      | 50 mm                                                                                |
| — at the side                                                                                  | 10 mm                                                                                |
| • for grounded parts at 500 V                                                                  |                                                                                      |
| — downwards                                                                                    | 50 mm                                                                                |
| — upwards                                                                                      | 50 mm                                                                                |
| — at the side                                                                                  | 10 mm                                                                                |
| • for live parts at 500 V                                                                      |                                                                                      |
| — downwards                                                                                    | 50 mm                                                                                |
| — upwards                                                                                      | 50 mm                                                                                |
| — at the side                                                                                  | 10 mm                                                                                |
| • for grounded parts at 690 V                                                                  |                                                                                      |
| — downwards                                                                                    | 50 mm                                                                                |
| — upwards                                                                                      | 50 mm                                                                                |
| — at the side                                                                                  | 10 mm                                                                                |
| • for live parts at 690 V                                                                      |                                                                                      |
| — downwards                                                                                    | 50 mm                                                                                |
| — upwards                                                                                      | 50 mm                                                                                |

|                                                                      |                                                                       |
|----------------------------------------------------------------------|-----------------------------------------------------------------------|
| — at the side                                                        | 10 mm                                                                 |
| <b>Connections/ Terminals</b>                                        |                                                                       |
| <b>type of electrical connection</b>                                 |                                                                       |
| • for main current circuit                                           | screw-type terminals                                                  |
| • for auxiliary and control 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                                                  |                                                                       |
| — solid or stranded                                                  | 2x (1 ... 35 mm <sup>2</sup> ), 1x (1 ... 50 mm <sup>2</sup> )        |
| — finely stranded with core end processing                           | 2x (1 ... 25 mm <sup>2</sup> ), 1x (1 ... 35 mm <sup>2</sup> )        |
| • for AWG cables for main contacts                                   | 2x (18 ... 2), 1x (18 ... 1)                                          |
| <b>type of connectable conductor cross-sections</b>                  |                                                                       |
| • for auxiliary contacts                                             |                                                                       |
| — solid or stranded                                                  | 2x (0.5 ... 1.5 mm <sup>2</sup> ), 2x (0.75 ... 2.5 mm <sup>2</sup> ) |
| — finely stranded with core end processing                           | 2x (0.5 ... 1.5 mm <sup>2</sup> ), 2x (0.75 ... 2.5 mm <sup>2</sup> ) |
| • for AWG cables for auxiliary contacts                              | 2x (20 ... 16), 2x (18 ... 14)                                        |
| <b>tightening torque</b>                                             |                                                                       |
| • for main contacts with screw-type terminals                        | 3 ... 4.5 N·m                                                         |
| • for auxiliary contacts with screw-type terminals                   | 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>                  |                                                                       |
| • for main contacts                                                  | M6                                                                    |
| • of the auxiliary and control contacts                              | M3                                                                    |
| <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>                                      |                                                                       |



KC



| General Product Approval | For use in hazardous locations | Test Certificates | Maritime application |
|--------------------------|--------------------------------|-------------------|----------------------|
|--------------------------|--------------------------------|-------------------|----------------------|



[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)



| Maritime application | other |
|----------------------|-------|
|----------------------|-------|



[Miscellaneous](#)

[Confirmation](#)

| other | 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=3RV2031-4WA15>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2031-4WA15>

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

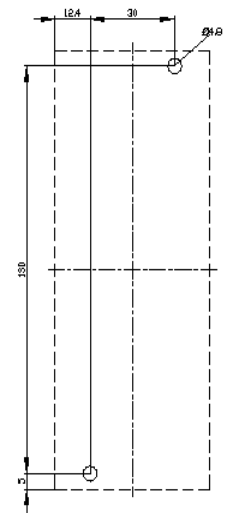
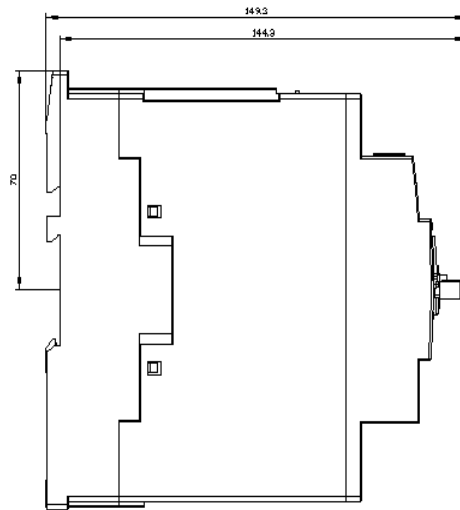
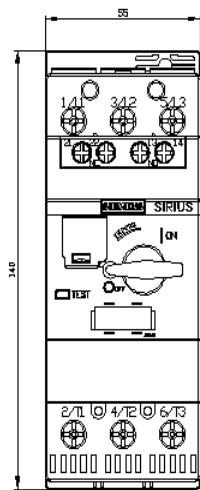
[https://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RV2031-4WA15&lang=en](https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2031-4WA15&lang=en)

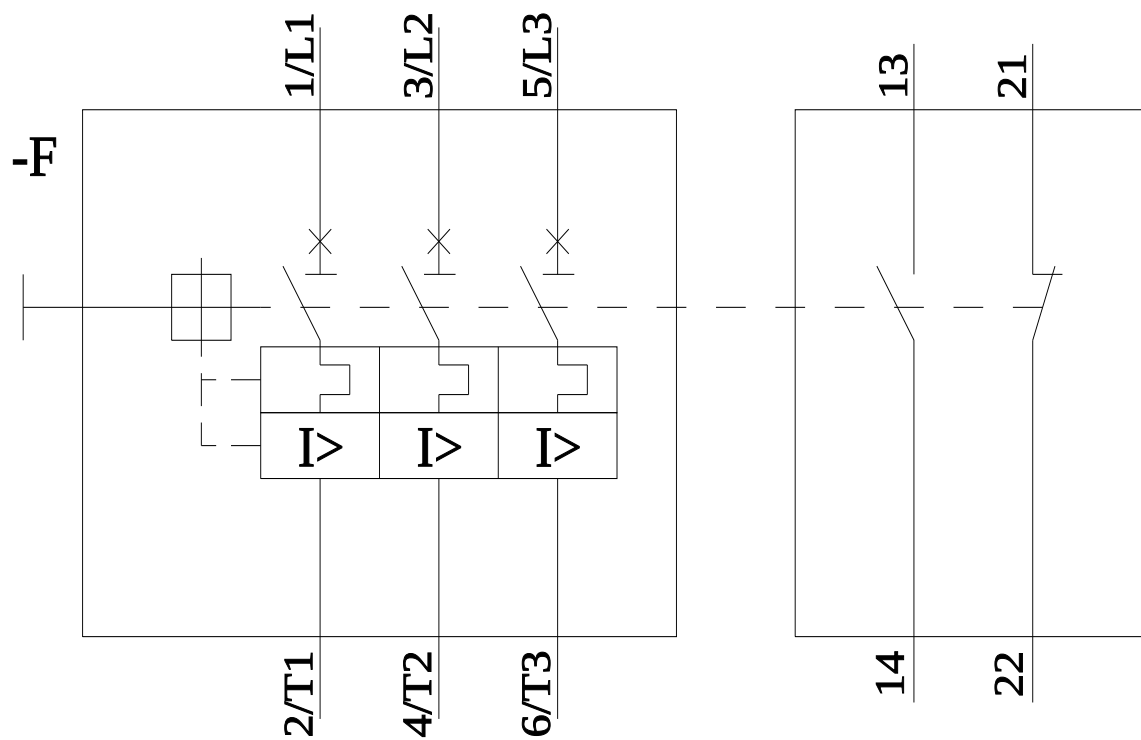
Cax online generator

<https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2031-4WA15>

Characteristic curves

[https://curves.simaris.siemens.com/curves/<mmp\\_prod\\_noCOMP='HAUPT'></mmp\\_prod\\_no>](https://curves.simaris.siemens.com/curves/<mmp_prod_noCOMP='HAUPT'></mmp_prod_no>)





last modified:

11/11/2025 