

Siemens
EcoTech



Circuit breaker size S2 for transformer protection A-release 18...25 A N-release 500 A screw terminal Standard switching capacity



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|---|----------------------------|
| product brand name | SIRIUS |
| product designation | Circuit breaker |
| design of the product | For transformer 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 | 14.5 W |
| • at AC in hot operating state per pole | 4.8 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 |
| 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 % |
| Main circuit | |
| number of poles for main current circuit | 3 |
| adjustable current response value current of the current-dependent overload release | 18 ... 25 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 |

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| operational current rated value | 25 A |
| operational current | |
| • at AC-3 at 400 V rated value | 25 A |
| • at AC-3e at 400 V rated value | 25 A |
| operating power | |
| • at AC-3 | |
| — at 230 V rated value | 5.5 kW |
| — at 400 V rated value | 11 kW |
| — at 500 V rated value | 15 kW |
| — at 690 V rated value | 22 kW |
| • at AC-3e | |
| — at 230 V rated value | 5.5 kW |
| — at 400 V rated value | 11 kW |
| — at 500 V rated value | 15 kW |
| — at 690 V rated value | 22 kW |
| operating frequency | |
| • at AC-3 maximum | 15 1/h |
| • at AC-3e maximum | 15 1/h |
| Auxiliary circuit | |
| number of NC contacts for auxiliary contacts | 0 |
| number of NO contacts for auxiliary contacts | 0 |
| Protective and monitoring functions | |
| product function | |
| • ground fault detection | No |
| • phase failure detection | Yes |
| trip class | CLASS 10 |
| design of the overload release | thermal |
| maximum short-circuit current breaking capacity (I_{cu}) | |
| • 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 | 12 kA |
| • at AC at 690 V rated value | 5 kA |
| operating short-circuit current breaking capacity (I_{cs}) at AC | |
| • at 240 V rated value | 100 kA |
| • at 400 V rated value | 30 kA |
| • at 500 V rated value | 6 kA |
| • at 690 V rated value | 3 kA |
| response value current of instantaneous short-circuit trip unit | 512 A |
| UL/CSA ratings | |
| full-load current (FLA) for 3-phase AC motor | |
| • at 480 V rated value | 25 A |
| • at 600 V rated value | 25 A |
| yielded mechanical performance [hp] | |
| • for single-phase AC motor | |
| — at 110/120 V rated value | 2 hp |
| — at 230 V rated value | 5 hp |
| • for 3-phase AC motor | |
| — at 200/208 V rated value | 7.5 hp |
| — at 220/230 V rated value | 10 hp |
| — at 460/480 V rated value | 20 hp |
| — at 575/600 V rated value | 25 hp |
| Short-circuit protection | |
| product function short circuit protection | Yes |
| design of the short-circuit trip | magnetic |
| Installation/ mounting/ dimensions | |
| mounting position | any |
| fastening method | screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715 |
| height | 140 mm |
| width | 55 mm |
| depth | 149 mm |

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| required spacing | |
| • 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 |
| — backwards | 0 mm |
| — at the side | 10 mm |
| — forwards | 0 mm |
| • for live parts at 690 V | |
| — downwards | 50 mm |
| — upwards | 50 mm |
| — backwards | 0 mm |
| — at the side | 10 mm |
| — forwards | 0 mm |
| Connections/ Terminals | |
| type of electrical connection | |
| • for main current circuit | screw-type terminals |
| arrangement of electrical connectors for main current circuit | Top and bottom |
| type of connectable conductor cross-sections | |
| • for main contacts | |
| — solid or stranded | 2x (1 ... 25 mm ²), 1x (1 ... 35 mm ²) |
| — finely stranded with core end processing | 2x (1 ... 16 mm ²), 1x (1 ... 25 mm ²) |
| • for AWG cables for main contacts | 2x (18 ... 3), 1x (18 ... 2) |
| tightening torque | |
| • for main contacts with screw-type terminals | 3 ... 4.5 N·m |
| design of screwdriver shaft | Diameter 5 to 6 mm |
| size of the screwdriver tip | Pozidriv size 2 |
| design of the thread of the connection screw | |
| • for main contacts | M6 |
| Safety related data | |
| product function suitable for safety function | Yes |
| suitability for use | |
| • safety-related switching on | No |
| • safety-related switching OFF | Yes |
| service life maximum | 10 a |
| test wear-related service life necessary | Yes |
| proportion of dangerous failures | |
| • with low demand rate according to SN 31920 | 40 % |
| • with high demand rate according to SN 31920 | 50 % |
| B10 value with high demand rate according to SN 31920 | 5 000 |
| failure rate [FIT] with low demand rate according to SN 31920 | 50 FIT |
| ISO 13849 | |
| device type according to ISO 13849-1 | 3 |

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| overdimensioning according to ISO 13849-2 necessary | Yes |
| IEC 61508 | |
| safety device type according to IEC 61508-2 | Type A |
| T1 value <ul style="list-style-type: none"> for proof test interval or service life according to IEC 61508 | 10 a |
| Electrical Safety | |
| protection class IP on the front according to IEC 60529 | IP20 |
| touch protection on the front according to IEC 60529 | finger-safe, for vertical contact from the front |
| Display | |
| display version for switching status | Handle |
| Approvals Certificates | |
| General Product Approval | |



[Confirmation](#)



[KC](#)

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|--------------------------|-------------------|-------------------|
| General Product Approval | Test Certificates | Marine / Shipping |
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[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)



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|-------------------|-------|
| Marine / Shipping | other |
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[Miscellaneous](#)

[Confirmation](#)



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

[Special Test Certificate](#)

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Siemens EcoTech



[Environmental Confirmations](#)

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=3RV2431-4DA10>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2431-4DA10>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2431-4DA10>

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2431-4DA10&lang=en

Characteristic: Tripping characteristics, I_t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2431-4DA10/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2431-4DA10&objecttype=14&gridview=view1>



