



special type circuit breaker size S2 for motor protection, CLASS 10 A-release
35...45 A short-circuit release 650 A screw terminal standard switching capacity
ambient temperature -50 °C 250 switching cycles

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| product brand name | SIRIUS |
| product designation | Circuit breaker |
| design of the product | For motor protection |
| product type designation | 3RV2 |
| General technical data | |
| Product equipment of circuit breaker for motor protection complete unit with protection device | Yes |
| size of the circuit-breaker | S2 |
| size of contactor can be combined company-specific | S2 |
| product function disconnecter functionality | Yes |
| 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 |
| type of calculation of power loss current-dependent | quadratic |
| insulation voltage with degree of pollution 3 at AC rated value | 690 V |
| surge voltage resistance rated value | 6 kV |
| maximum permissible voltage for protective separation | |
| • in networks with ungrounded star point between main and auxiliary circuit | 400 V |
| • in networks with grounded star point between main and auxiliary circuit | 400 V |
| protection class IP | |
| • on the front according to IEC 60529 | IP20 |
| • on the front | IP20 |
| • of the terminal | IP00 |
| shock resistance according to IEC 60068-2-27 | 25 g / 11 ms Sinus |
| mechanical service life (operating cycles) | |
| • of the main contacts typical | 250 |
| • of auxiliary contacts typical | 250 |
| electrical endurance (operating cycles) typical | 250 |
| reference code according to IEC 81346-2 | Q |
| continuous current rated value | 45 A |
| Substance Prohibitance (day/month/year) | 10/15/2014 |
| SVHC substance name | Lead CAS-No. 7439-92-1 |
| Net Weight | 1.07 kg |
| Ambient conditions | |

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| installation altitude at height above sea level maximum | 2 000 m |
| ambient temperature | |
| • during operation | -50 ... +60 °C |
| • during storage | -50 ... +80 °C |
| • during transport | -50 ... +80 °C |
| temperature compensation | -20 ... +60 °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 | 35 ... 45 A |
| type of voltage for main current circuit | AC |
| operating voltage | |
| • rated value | 690 V |
| • rated value | 20 ... 690 V |
| • at AC-3 rated value maximum | 690 V |
| operating frequency rated value | 50 ... 60 Hz |
| operational current rated value | 45 A |
| operational current | |
| • at AC-3 at 400 V rated value | 45 A |
| operating power | |
| • at AC-3 | |
| — at 230 V rated value | 11 kW |
| — at 400 V rated value | 22 kW |
| — at 500 V rated value | 30 kW |
| — at 690 V rated value | 37 kW |
| operating frequency | |
| • at AC-3 maximum | 15 1/h |
| Auxiliary circuit | |
| design of the auxiliary switch | transverse |
| type of voltage for auxiliary and control circuit | AC/DC |
| number of NC contacts for auxiliary contacts | 1 |
| number of NO contacts for auxiliary contacts | 1 |
| number of CO contacts for auxiliary contacts | 0 |
| operational current of auxiliary contacts at AC-15 | |
| • at 24 V | 2 A |
| • at 230 V | 0.5 A |
| operational current of auxiliary contacts at DC-13 | |
| • 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 |
| Protective and monitoring functions | |
| product function | |
| • ground fault detection | No |
| • phase failure detection | Yes |
| trip class | CLASS 10 |
| design of the overload release | thermal |
| protection function thermal overload protection (ANSI 49) | Yes |
| maximum short-circuit current breaking capacity (I_{cu}) | |
| • at AC at 240 V rated value | 50 kA |
| • at AC at 400 V rated value | 50 kA |
| • at AC at 500 V rated value | 10 kA |
| • at AC at 690 V rated value | 4 kA |
| operating short-circuit current breaking capacity (I_{cs}) at AC | |
| • at 240 V rated value | 25 kA |
| • at 400 V rated value | 25 kA |
| • at 500 V rated value | 5 kA |

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| <ul style="list-style-type: none"> • at 690 V rated value | 2 kA |
| response value current of instantaneous short-circuit trip unit | 650 A |
| Short-circuit protection | |
| product function short circuit protection | Yes |
| design of the short-circuit trip | magnetic |
| design of the fuse link | fuse gG: 10 A, miniature circuit breaker C 6 A (short-circuit current I _k < 400 A) |
| <ul style="list-style-type: none"> • for short-circuit protection of the auxiliary switch required | |
| design of the fuse link for IT network for short-circuit protection of the main circuit | none required gG 125 A gG 100 A gG 80 A |
| <ul style="list-style-type: none"> • at 240 V | |
| <ul style="list-style-type: none"> • at 400 V | |
| <ul style="list-style-type: none"> • at 500 V | |
| <ul style="list-style-type: none"> • at 690 V | |
| Installation/ mounting/ dimensions | |
| mounting position | any |
| fastening method | screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715 |
| Mounting method of circuit breaker for Transformer protection, Generator protection and system protection optional standard bar mounting | Yes |
| height | 140 mm |
| width | 55 mm |
| depth | 149 mm |
| required spacing | |
| <ul style="list-style-type: none"> • with side-by-side mounting <ul style="list-style-type: none"> — forwards — backwards — upwards — downwards — at the side | |
| <ul style="list-style-type: none"> • for grounded parts <ul style="list-style-type: none"> — forwards — backwards — upwards — at the side — downwards | |
| <ul style="list-style-type: none"> • for live parts <ul style="list-style-type: none"> — forwards — backwards — upwards — downwards — at the side | |
| <ul style="list-style-type: none"> • for grounded parts at 400 V <ul style="list-style-type: none"> — downwards — upwards — at the side | |
| <ul style="list-style-type: none"> • for live parts at 400 V <ul style="list-style-type: none"> — downwards — upwards — at the side | |
| <ul style="list-style-type: none"> • for grounded parts at 500 V <ul style="list-style-type: none"> — downwards — upwards — at the side | |
| <ul style="list-style-type: none"> • for live parts at 500 V <ul style="list-style-type: none"> — downwards — upwards — at the side | |
| <ul style="list-style-type: none"> • for grounded parts at 690 V <ul style="list-style-type: none"> — downwards — upwards | |

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| — at the side | 10 mm |
| • for live parts at 690 V | |
| — downwards | 50 mm |
| — upwards | 50 mm |
| — at the side | 10 mm |

Connections/ Terminals

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|---|---|
| product component removable terminal for auxiliary and control circuit | No |
| type of electrical connection | |
| • for main current circuit | screw-type terminals |
| • for auxiliary and control 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) |
| connectable conductor cross-section for main contacts | |
| • solid or stranded | 1 ... 35 mm ² |
| • finely stranded with core end processing | 1 ... 25 mm ² |
| connectable conductor cross-section for auxiliary contacts | |
| • solid or stranded | 0.5 ... 2.5 mm ² |
| • finely stranded with core end processing | 0.5 ... 2.5 mm ² |
| type of connectable conductor cross-sections | |
| • for auxiliary contacts | |
| — solid or stranded | 2x (0.5 ... 1.5 mm ²), 2x (0.75 ... 2.5 mm ²) |
| — finely stranded with core end processing | 2x (0.5 ... 1.5 mm ²), 2x (0.75 ... 2.5 mm ²) |
| tightening torque | |
| • 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 |
| 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 |
| • of the auxiliary and control contacts | M3 |

IEC 61508

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| T1 value | |
| • for proof test interval or service life according to IEC 61508 | 10 a |

Electrical Safety

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| 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

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| display version for switching status | Handle |
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Approvals Certificates

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|-------------|--------------------------|
| Environment | General Product Approval |
|-------------|--------------------------|

[Environmental Con-
firmations](#)



General Product Approval



Test Certificates

[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)

Maritime application



Maritime application

other



Miscellaneous

other Railway

[Confirmation](#)

[Miscellaneous](#)



[Confirmation](#)

[Special Test Certificate](#)

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=3RV2031-4VA10-0BA0>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2031-4VA10-0BA0>

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

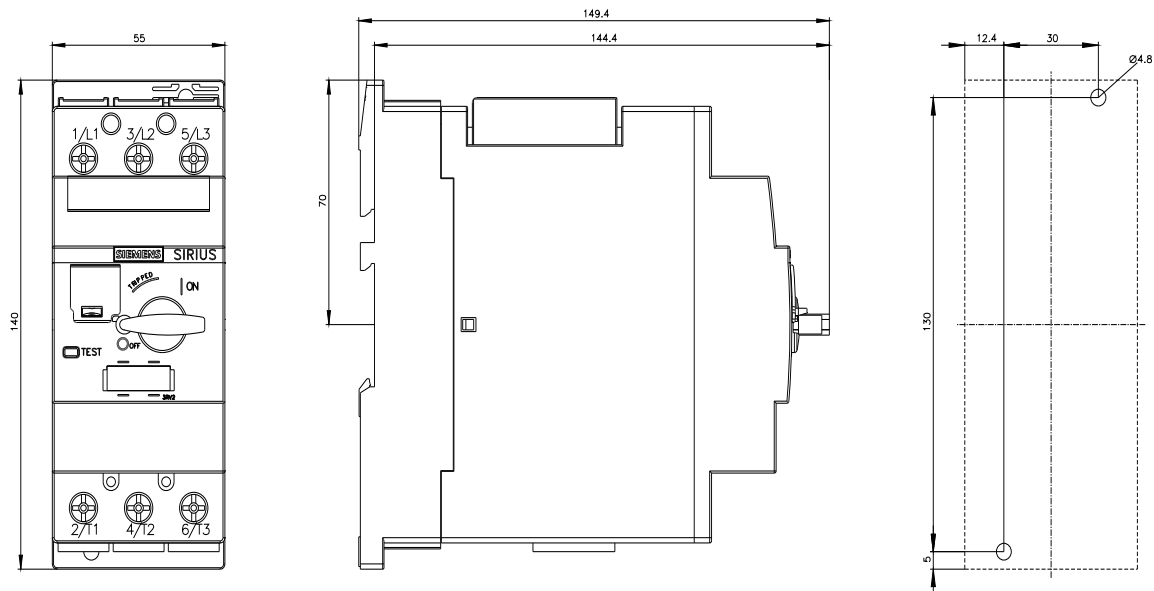
https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2031-4VA10-0BA0&lang=en

Cax online generator

<https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2031-4VA10-0BA0>

Characteristic curves

[https://curves.simaris.siemens.com/curves/<mmp_prod_noCOMP="HAUPT"></mmp_prod_no>](https://curves.simaris.siemens.com/curves/<mmp_prod_noCOMP=)





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