SIEMENS

## Data sheet 3RV2031-4DB15

Circuit breaker size S2 for motor protection, Class 20 A-release 18...25 A N-release 325 A Screw terminal Standard switching capacity with transverse auxiliary switches 1 NO+1 NC

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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** | |
| **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 |
| **maximum permissible voltage for safe isolation in networks with grounded star point** | |
| ● between main and auxiliary circuit | 400 V |
| ● between main and auxiliary circuit | 400 V |
| shock resistance acc. to IEC 60068-2-27 | 25g / 11 ms Sinus |
| **mechanical service life (switching cycles)** | |
| ● of the main contacts typical | 50 000 |
| ● of auxiliary contacts typical | 50 000 |
| electrical endurance (switching cycles) typical | 50 000 |
| **reference code acc. to IEC 81346-2** | Q |
| **Ambient conditions** | |
| installation altitude at height above sea level maximum | 2 000 m |
| ● ambient temperature during operation | -20 ... +60 °C |
| ● ambient temperature during storage | -50 ... +80 °C |
| ● ambient temperature 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** | 18 ... 25 A |
| ● operating voltage rated value | 690 V |
| ● operating voltage at AC-3 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 |
| operating power at AC-3 | |
| ● at 230 V rated value | 5 500 W |
| ● at 400 V rated value | 11 000 W |
| ● at 500 V rated value | 15 000 W |
| ● at 690 V rated value | 22 000 W |
| operating frequency at AC-3 maximum | 15 1/h |
| **Auxiliary circuit** | |
| **design of the auxiliary switch** | transverse |
| **number of NC contacts for auxiliary contacts** | 1 |
| **number of NO contacts for auxiliary contacts** | 1 |
| **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 20 |
| **design of the overload release** | thermal |
| **breaking capacity operating short-circuit current (Ics) 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 |
| **breaking capacity maximum short-circuit current (Icu)** | |
| ● 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 |
| response value current of instantaneous short-circuit trip unit | 325 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 |
| **contact rating of auxiliary contacts according to UL** | C300 / R300 |
| **Short-circuit protection** | |
| **product function short circuit protection** | Yes |
| **design of the short-circuit trip** | magnetic |
| **design of the fuse link** | |

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| ● for short-circuit protection of the auxiliary switch required | fuse gG: 10 A, miniature circuit breaker C 6 A (short-circuit current Ik < 400 A) |
| **design of the fuse link for IT network for short-circuit protection of the main circuit** | |
| ● at 240 V | none required |
| ● at 400 V | 100 |
| ● at 500 V | 80 |
| ● at 690 V | 63 |
| **Installation/ mounting/ dimensions** | |
| **mounting position** | any |
| **fastening method** | screw and snap-on mounting onto 35 mm standard mounting rail according to DIN EN 60715 |
| **height** | 140 mm |
| **width** | 55 mm |
| **depth** | 149 mm |
| **required spacing** | |
| ● 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** | |
| product function 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 mm²), 1x (1 ... 35 mm²) |
| — finely stranded with core end processing | 2x (1 ... 16 mm²), 1x (1 ... 25 mm²) |
| ● at AWG cables for main contacts | 2x (18 ... 3), 1x (18 ... 2) |
| **type of connectable conductor cross-sections** | |
| ● for auxiliary contacts | |

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|---|---|
| — solid or stranded | 2x (0,5 ... 1,5 mm²), 2x (0,75 ... 2,5 mm²) |
| — finely stranded with core end processing | 2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²) |
| ● at AWG cables for auxiliary contacts | 2x (20 ... 16), 2x (18 ... 14) |
| ● tightening torque for main contacts with screw-type terminals | 3 ... 4.5 N·m |
| ● tightening torque 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 2 |
| **design of the thread of the connection screw** | |
| ● for main contacts | M6 |
| ● of the auxiliary and control contacts | M3 |

## Safety related data

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| **B10 value** | |
| ● with high demand rate acc. to SN 31920 | 5 000 |
| **proportion of dangerous failures** | |
| ● with low demand rate acc. to SN 31920 | 50 % |
| ● with high demand rate acc. to SN 31920 | 50 % |
| **failure rate [FIT]** | |
| ● with low demand rate acc. to SN 31920 | 50 FIT |
| **T1 value for proof test interval or service life acc. to IEC 61508** | 10 y |
| **protection class IP on the front acc. to IEC 60529** | IP20 |
| **touch protection on the front acc. to IEC 60529** | finger-safe, for vertical contact from the front |
| display version for switching status | Handle |

## Certificates/ approvals

### General Product Approval

CSA CCC UL UL KC EAC

### Declaration of Conformity

EG-Konf.

Miscellaneous

### Test Certificates

Type Test Certificates/Test Report

Type Test Certificates/Test Report

Type Test Certificates/Test Report

Special Test Certificate

### Marine / Shipping

ABS BUREAU VERITAS LRS PRS RINA RMRS

### Marine / Shipping

DNV·GL

### other

Confirmation

VDE

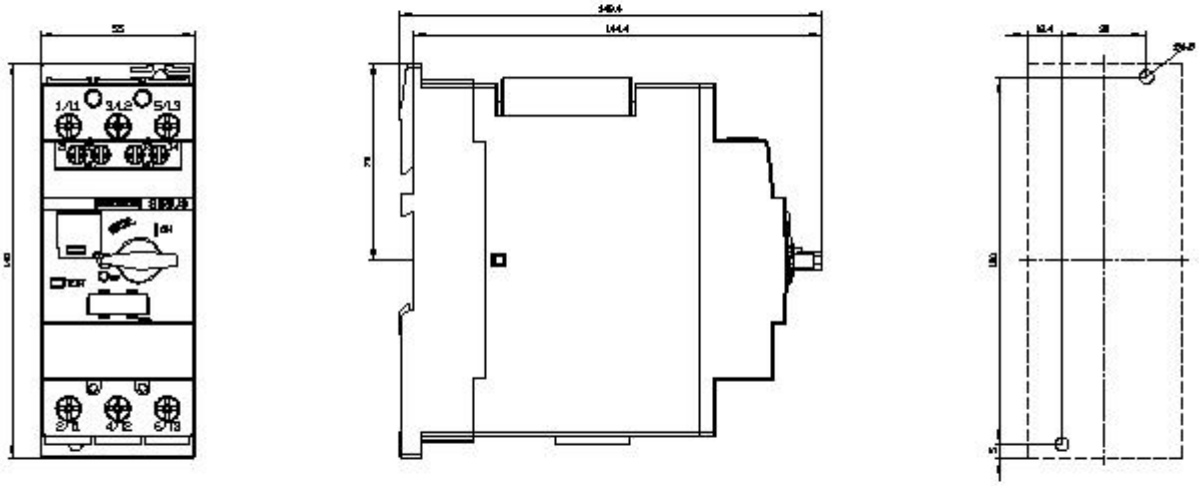
### Railway

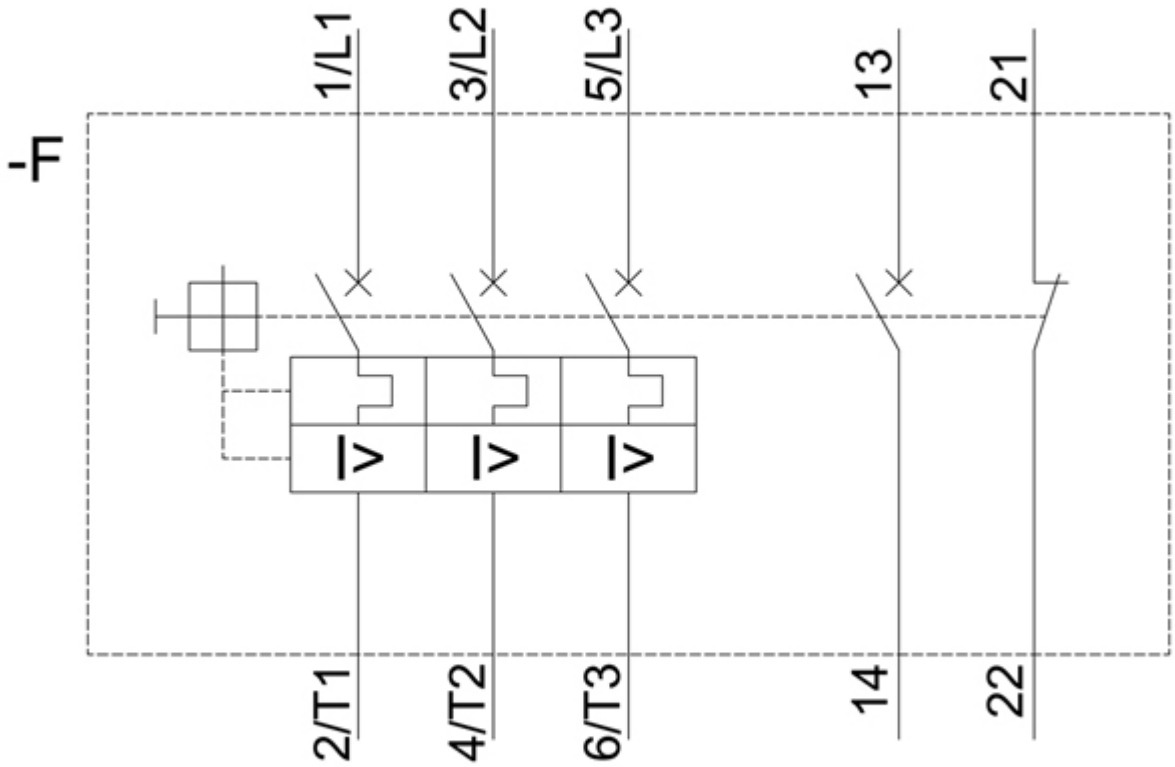
Vibration and Shock

Confirmation

## Further information

**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=3RV2031-4DB15
**Cax online generator**
http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2031-4DB15
**Service&Support (Manuals, Certificates, Characteristics, FAQs,...)**
https://support.industry.siemens.com/cs/ww/en/ps/3RV2031-4DB15
**Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)**
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2031-4DB15&lang=en
**Characteristic: Tripping characteristics, I²t, Let-through current**
https://support.industry.siemens.com/cs/ww/en/ps/3RV2031-4DB15/char
**Further characteristics (e.g. electrical endurance, switching frequency)**
http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2031-4DB15&objecttype=14&gridview=view1



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