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## Data sheet 3RV2111-1AA10



circuit breaker frame size S00 for motor protection, Class 10 with overload relay function thermal release 1.1...1.6 A short-circuit release 21 A screw terminal standard switching capacity

| | |
|---|---|
| **product brand name** | SIRIUS |
| **product designation** | Circuit breaker |
| **design of the product** | For motor protection with overload relay function |
| **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** | S00 |
| **size of contactor can be combined company-specific** | S00, S0 |
| product function disconnector functionality | Yes |
| product extension auxiliary switch | Yes |
| **power loss [W] for rated value of the current** | |
| ● at AC in hot operating state | 7.25 W |
| ● at AC in hot operating state per pole | 2.4 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 | IP20 |
| **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 |
| **continuous current rated value** | 1.6 A |
| **Substance Prohibitance (day/month/year)** | 10/01/2009 |
| **Net Weight** | 385.58 g |
| **Ambient conditions** | |
| installation altitude at height above sea level maximum | 2 000 m |


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| **ambient temperature** | |
| ● during operation | -20 ... +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** | 1.1 ... 1.6 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 |
| ● at AC-3e rated value maximum | 690 V |
| **operating frequency rated value** | 50 ... 60 Hz |
| **operational current rated value** | 1.6 A |
| **operational current** | |
| ● at AC-3 at 400 V rated value | 1.6 A |
| ● at AC-3e at 400 V rated value | 1.6 A |
| **operating power** | |
| ● at AC-3 | |
| — at 230 V rated value | 0.3 kW |
| — at 400 V rated value | 0.55 kW |
| — at 500 V rated value | 0.8 kW |
| — at 690 V rated value | 1.1 kW |
| ● at AC-3e | |
| — at 230 V rated value | 0.3 kW |
| — at 400 V rated value | 0.55 kW |
| — at 500 V rated value | 0.8 kW |
| — at 690 V rated value | 1.1 kW |
| **operating frequency** | |
| ● at AC-3 maximum | 15 1/h |
| ● at AC-3e maximum | 15 1/h |
| **Auxiliary circuit** | |
| **design of the auxiliary switch** | laterally |
| **type of voltage for auxiliary and control circuit** | AC/DC |
| **number of NC contacts for auxiliary contacts** | 0 |
| **number of NO contacts for auxiliary contacts** | 0 |
| number of CO contacts for auxiliary contacts | 0 |
| **operational current of auxiliary contacts at AC-15** | |
| ● at 24 V | 1.5 A |
| ● at 230 V | 1.5 A |
| **operational current of auxiliary contacts at DC-13** | |
| ● at 24 V | 1 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 (Icu)** | |
| ● at AC at 240 V rated value | 100 kA |
| ● at AC at 400 V rated value | 100 kA |
| ● at AC at 500 V rated value | 100 kA |
| ● at AC at 690 V rated value | 100 kA |
| **operating short-circuit current breaking capacity (Ics) at AC** | |


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|---|---|
| ● at 240 V rated value | 100 kA |
| ● at 400 V rated value | 100 kA |
| ● at 500 V rated value | 100 kA |
| ● at 690 V rated value | 100 kA |
| response value current of instantaneous short-circuit trip unit | 21 A |
| **UL/CSA ratings** | |
| **full-load current (FLA) for 3-phase AC motor** | |
| ● at 480 V rated value | 1.6 A |
| ● at 600 V rated value | 1.6 A |
| **yielded mechanical performance [hp]** | |
| ● for single-phase AC motor | |
| — at 230 V rated value | 0.1 hp |
| ● for 3-phase AC motor | |
| — at 460/480 V rated value | 1 hp |
| — at 575/600 V rated value | 0.8 hp |
| **contact rating of auxiliary contacts according to UL** | C600 / R300 |
| **UL File Number (CCN)** | E47705 (NLRV, NLRV7) |
| **Short-circuit protection** | |
| **product function short circuit protection** | Yes |
| **design of the short-circuit trip** | magnetic |
| **design of the fuse link** | |
| ● for short-circuit protection of the auxiliary switch required | fuse gL/gG: 6 A, quick: 10 A |
| **design of the fuse link for IT network for short-circuit protection of the main circuit** | |
| ● at 500 V | gL/gG 20 A |
| ● at 690 V | gL/gG 16 A |
| **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** | 97 mm |
| **width** | 65 mm |
| **depth** | 97 mm |
| **required spacing** | |
| ● with side-by-side mounting | |
| — forwards | 0 mm |
| — backwards | 0 mm |
| — upwards | 50 mm |
| — downwards | 50 mm |
| — at the side | 0 mm |
| ● for grounded parts | |
| — forwards | 0 mm |
| — backwards | 0 mm |
| — upwards | 50 mm |
| — at the side | 30 mm |
| — downwards | 50 mm |
| ● for live parts | |
| — forwards | 0 mm |
| — backwards | 0 mm |
| — upwards | 50 mm |
| — downwards | 50 mm |
| — at the side | 30 mm |
| ● for grounded parts at 400 V | |
| — downwards | 30 mm |
| — upwards | 30 mm |
| — at the side | 9 mm |
| ● for live parts at 400 V | |
| — downwards | 30 mm |


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|---|---|
| — upwards | 30 mm |
| — at the side | 9 mm |
| ● for grounded parts at 500 V | |
| — downwards | 30 mm |
| — upwards | 30 mm |
| — at the side | 9 mm |
| ● for live parts at 500 V | |
| — downwards | 30 mm |
| — upwards | 30 mm |
| — at the side | 9 mm |
| ● for grounded parts at 690 V | |
| — downwards | 50 mm |
| — upwards | 50 mm |
| — backwards | 0 mm |
| — at the side | 30 mm |
| — forwards | 0 mm |
| ● for live parts at 690 V | |
| — downwards | 50 mm |
| — upwards | 50 mm |
| — backwards | 0 mm |
| — at the side | 30 mm |
| — forwards | 0 mm |
| **Connections/ Terminals** | |
| **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 (0,75 ... 2,5 mm²), 2x 4 mm² |
| — finely stranded with core end processing | 2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²) |
| ● for AWG cables for main contacts | 2x (18 ... 14), 2x 12 |
| **connectable conductor cross-section for main contacts** | |
| ● solid or stranded | 0.75 ... 4 mm² |
| ● finely stranded with core end processing | 0.5 ... 2.5 mm² |
| **connectable conductor cross-section for auxiliary contacts** | |
| ● solid or stranded | 0.5 ... 2.5 mm² |
| ● finely stranded with core end processing | 0.5 ... 2.5 mm² |
| **type of connectable conductor cross-sections** | |
| ● for auxiliary contacts | |
| — 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) |
| ● for AWG cables for auxiliary contacts | 2x (20 ... 16), 2x (18 ... 14) |
| **AWG number as coded connectable conductor cross section for main contacts** | 18 ... 12 |
| **AWG number as coded connectable conductor cross section for auxiliary contacts** | 20 ... 14 |
| **tightening torque** | |
| ● for main contacts with screw-type terminals | 0.8 ... 1.2 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 | M3 |
| ● of the auxiliary and control contacts | M3 |
| **Safety related data** | |
| **product function suitable for safety function** | Yes |


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|---|---|
| **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 |
| **overdimensioning according to ISO 13849-2 necessary** | Yes |
| IEC 61508 | |
| **safety device type according to IEC 61508-2** | Type A |
| **T1 value** | |
| **• 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** | |
| Environmental Product Declaration | |
| • global warming potential [CO2 eq] / during manufacturing | 1.98 kg |
| • global warming potential [CO2 eq] / during sales | 0.134 kg |
| • global warming potential [CO2 eq] / during operation | 72.7 kg |
| • global warming potential [CO2 eq] / after end of life | -0.116 kg |
| • global warming potential [CO2 eq] / total | 74.698 kg |

**Environment** | **General Product Approval**

Environmental Confirmations

**General Product Approval** | **Test Certificates**

Special Test Certificate

**Test Certificates** | **Maritime application**

Type Test Certificates/Test Report

**Maritime application** | **other** | **Railway**

Miscellaneous | Confirmation | Miscellaneous | Confirmation

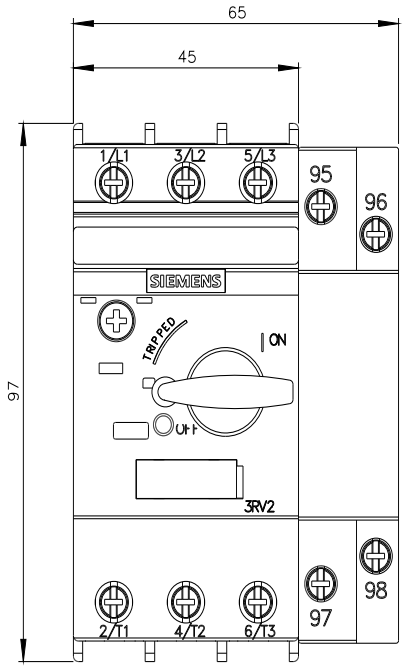
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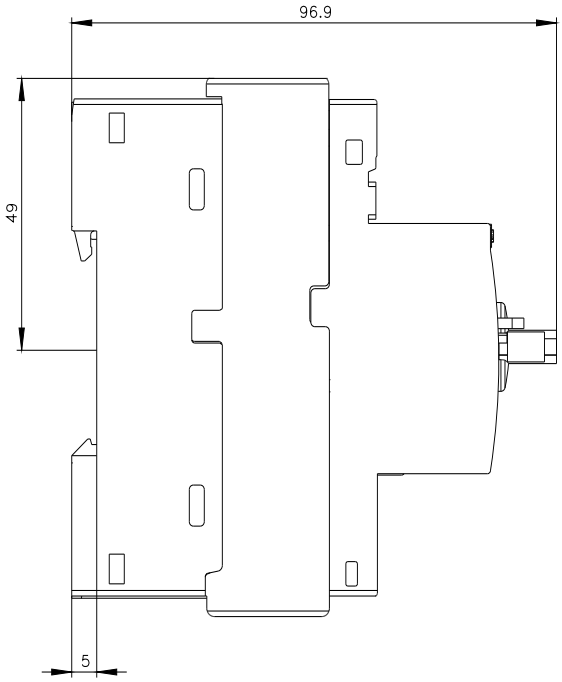

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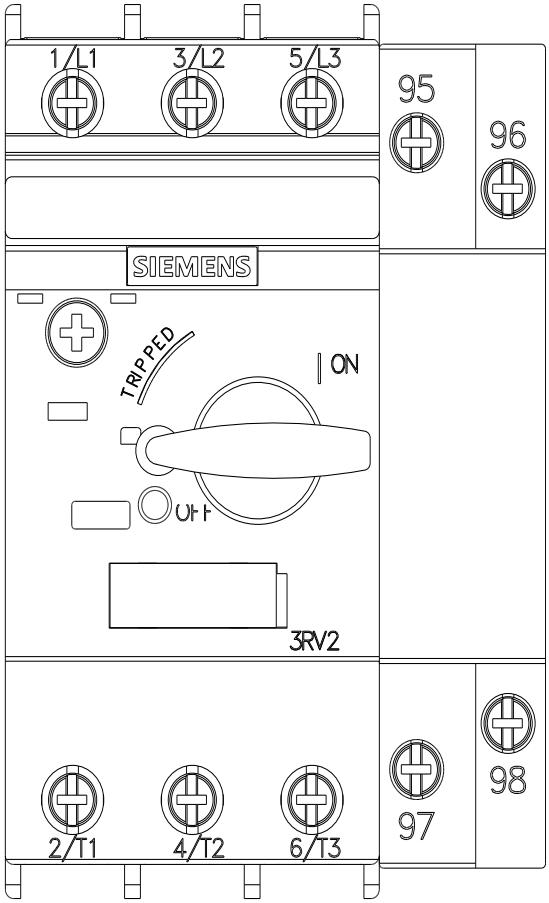
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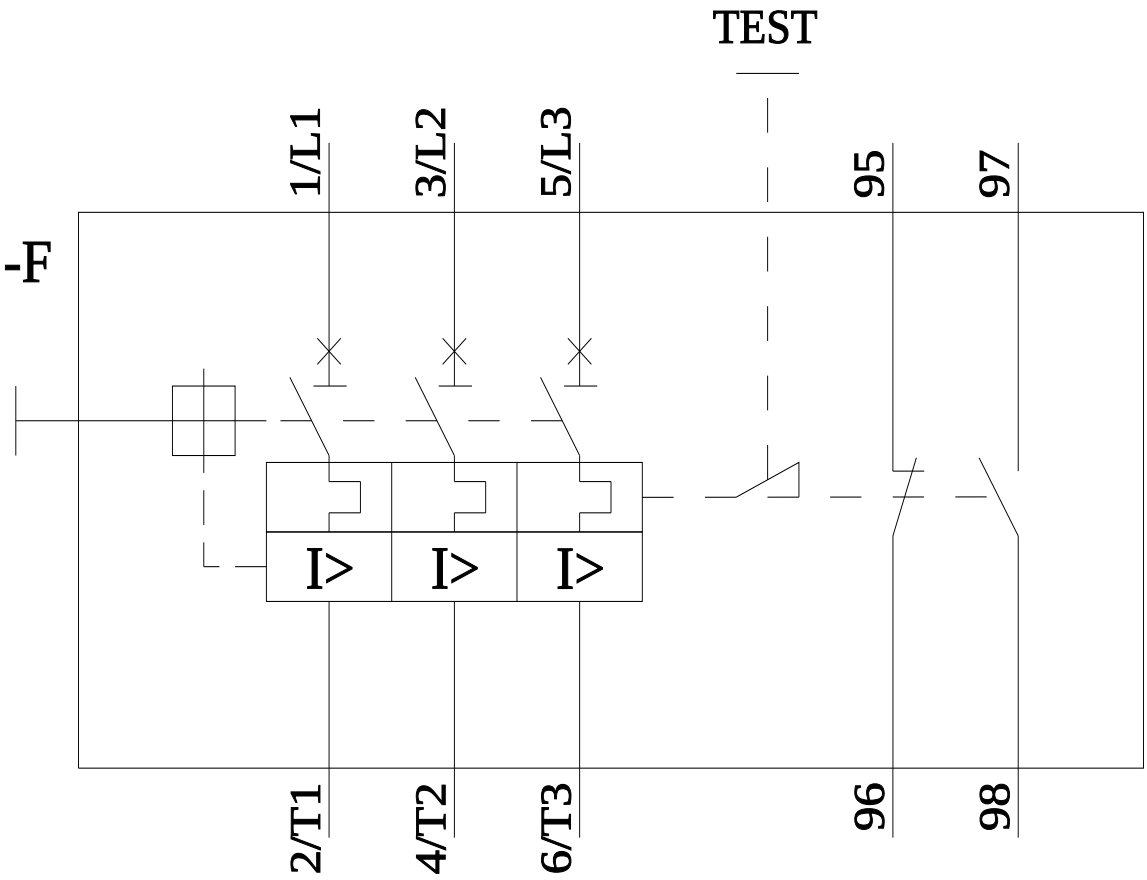




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