



Circuit breaker size S0 for motor protection, CLASS 10 A-release 16...22 A N-release 286 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 | S0 |
| size of contactor can be combined company-specific | S00, S0 |
| product extension auxiliary switch | Yes |
| power loss [W] for rated value of the current | |
| • at AC in hot operating state | 10.5 W |
| • at AC in hot operating state per pole | 3.5 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 |
| mechanical service life (switching cycles) | |
| • of the main contacts typical | 100 000 |
| • of auxiliary contacts typical | 100 000 |
| electrical endurance (switching cycles) typical | 100 000 |
| type of protection according to ATEX directive 2014/34/EU | Ex II (2) GD |
| certificate of suitability according to ATEX directive 2014/34/EU | DMT 02 ATEX F 001 |
| reference code according to IEC 81346-2 | Q |
| Substance Prohibitance (Date) | 10/01/2009 |
| 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 | 16 ... 22 A |
| operating voltage | |
| • rated value | 20 ... 690 V |
| • at AC-3 rated value maximum | 690 V |
| • at AC-3e rated value maximum | 690 V |

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| operating frequency rated value | 50 ... 60 Hz |
| operational current rated value | 22 A |
| operational current | |
| • at AC-3 at 400 V rated value | 22 A |
| • at AC-3e at 400 V rated value | 22 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 | 11 kW |
| — at 690 V rated value | 18.5 kW |
| • at AC-3e | |
| — at 230 V rated value | 5.5 kW |
| — at 400 V rated value | 11 kW |
| — at 500 V rated value | 11 kW |
| — at 690 V rated value | 18.5 kW |
| operating frequency | |
| • at AC-3 maximum | 15 1/h |
| • at AC-3e 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 |
| number of CO contacts for auxiliary contacts | 0 |
| operational current of auxiliary contacts at AC-15 | |
| • at 24 V | 2 A |
| • at 120 V | 0.5 A |
| • at 125 V | 0.5 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 |
| Protective and monitoring functions | |
| product function | |
| • ground fault detection | No |
| • phase failure detection | Yes |
| trip class | CLASS 10 |
| design of the overload release | thermal |
| breaking capacity maximum short-circuit current (Icu) | |
| • at AC at 240 V rated value | 100 kA |
| • at AC at 400 V rated value | 55 kA |
| • at AC at 500 V rated value | 10 kA |
| • at AC at 690 V rated value | 4 kA |
| breaking capacity operating short-circuit current (Ics) at AC | |
| • at 240 V rated value | 100 kA |
| • at 400 V rated value | 25 kA |
| • at 500 V rated value | 5 kA |
| • at 690 V rated value | 2 kA |
| response value current of instantaneous short-circuit trip unit | 286 A |
| UL/CSA ratings | |
| full-load current (FLA) for 3-phase AC motor | |
| • at 480 V rated value | 22 A |
| • at 600 V rated value | 22 A |
| yielded mechanical performance [hp] | |
| • for single-phase AC motor | |
| — at 110/120 V rated value | 1.5 hp |
| — at 230 V rated value | 3 hp |
| • for 3-phase AC motor | |

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| — at 200/208 V rated value | 7.5 hp |
| — at 220/230 V rated value | 7.5 hp |
| — at 460/480 V rated value | 15 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 | Fuse gL/gG: 10 A, miniature circuit breaker C 6 A (short-circuit current I _k < 400 A) |
| • 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 | gL/gG 63 A gL/gG 50 A gL/gG 50 A |
| • at 400 V | |
| • at 500 V | |
| • at 690 V | |
| 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 | 97 mm |
| width | 45 mm |
| depth | 97 mm |
| required spacing | |
| • for grounded parts at 400 V | |
| — downwards | |
| — upwards | |
| — at the side | |
| • for live parts at 400 V | |
| — downwards | |
| — upwards | |
| — at the side | |
| • for grounded parts at 500 V | |
| — downwards | |
| — upwards | |
| — at the side | |
| • for live parts at 500 V | |
| — downwards | |
| — upwards | |
| — at the side | |
| • for grounded parts at 690 V | |
| — downwards | |
| — upwards | |
| — backwards | |
| — at the side | |
| — forwards | |
| • for live parts at 690 V | |
| — downwards | |
| — upwards | |
| — backwards | |
| — at the side | |
| — forwards | |
| Connections/ Terminals | |
| type of electrical connection | screw-type terminals screw-type terminals |
| • for main current circuit | |
| • for auxiliary and control circuit | |
| arrangement of electrical connectors for main current circuit | Top and bottom |
| type of connectable conductor cross-sections | 2x (1 ... 2.5 mm ²), 2x (2.5 ... 10 mm ²) 2x (1 ... 2.5 mm ²), 2x (2.5 ... 6 mm ²), 1x 10 mm ² |
| • for main contacts | |
| — solid or stranded | |
| — finely stranded with core end processing | |

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| <ul style="list-style-type: none"> at AWG cables for main contacts | 2x (16 ... 12), 2x (14 ... 8) |
| type of connectable conductor cross-sections <ul style="list-style-type: none"> for auxiliary contacts <ul style="list-style-type: none"> solid or stranded finely stranded with core end processing at AWG cables for auxiliary contacts | 2x (0.5 ... 1.5 mm ²), 2x (0.75 ... 2.5 mm ²) 2x (0.5 ... 1.5 mm ²), 2x (0.75 ... 2.5 mm ²) 2x (20 ... 16), 2x (18 ... 14) |
| tightening torque <ul style="list-style-type: none"> for main contacts with screw-type terminals for auxiliary contacts with screw-type terminals | 2 ... 2.5 N·m 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 <ul style="list-style-type: none"> for main contacts of the auxiliary and control contacts | M4 M3 |

Safety related data

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| B10 value <ul style="list-style-type: none"> with high demand rate according to SN 31920 | 5 000 |
| proportion of dangerous failures <ul style="list-style-type: none"> with low demand rate according to SN 31920 with high demand rate according to SN 31920 | 50 % 50 % |
| failure rate [FIT] <ul style="list-style-type: none"> with low demand rate according to SN 31920 | 50 FIT |
| T1 value for proof test interval or service life according to IEC 61508 | 10 y |
| 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 version for switching status | Handle |

Certificates/ approvals

General Product Approval



[Confirmation](#)



[KC](#)



| For use in hazardous locations | Declaration of Conformity | Test Certificates |
|--------------------------------|---------------------------|-------------------|
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[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)

Marine / Shipping



| Marine / Shipping | other | Railway |
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[Confirmation](#)



[Vibration and Shock](#)

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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=3RV2021-4CA15>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2021-4CA15>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2021-4CA15>

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2021-4CA15&lang=en

Characteristic: Tripping characteristics, I²t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2021-4CA15/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2021-4CA15&objecttype=14&gridview=view1>

last modified:

6/25/2022 