SIEMENS

Data sheet

3RV2021-1FA10



Circuit breaker size S0 for motor protection, CLASS 10 A-release 3.5...5 A N release 65 A screw terminal Standard switching capacity

| 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 | SO | | | |
| 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 | 7.25 W | | | |
| at AC in hot operating state per pole | 2.4 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 | | | |
| 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 acc. to IEC 81346-2 | Q | | | |
| Substance Prohibitance (Date) | 01.10.2009 | | | |
| 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 | | | |
| 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 | 3.5 5 A | | | |
| | | | | |

| ourrent dependent overland relates | |
|--|--|
| current-dependent overload release | |
| 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 5 A |
| operational current rated value operational current at AC-3 at 400 V rated value | 5A |
| • | 54 |
| operating power at AC-3 | 1.1 kW |
| at 230 V rated value at 400 V rated value | 1.5 kW |
| | |
| at 500 V rated value | 2.2 kW |
| at 690 V rated value | 4 kW 15 1/h |
| operating frequency at AC-3 maximum | 13 1/11 |
| Auxiliary circuit | 0 |
| number of NC contacts for auxiliary contacts | 0 |
| number of NO contacts for auxiliary contacts | 0 |
| number of CO 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 |
| breaking capacity operating short-circuit current (Ics) at AC | |
| • 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 | 4 kA |
| breaking capacity maximum short-circuit current (lcu) | |
| 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 | 6 kA |
| response value current of instantaneous short-circuit trip unit | 65 A |
| UL/CSA ratings | |
| full-load current (FLA) for 3-phase AC motor | |
| at 480 V rated value | 5 A |
| • at 600 V rated value | 5 A |
| yielded mechanical performance [hp] | |
| for single-phase AC motor | |
| — at 110/120 V rated value | 0.17 hp |
| — at 230 V rated value | 0.5 hp |
| for 3-phase AC motor | |
| — at 200/208 V rated value | 1 hp |
| — at 220/230 V rated value | 1 hp |
| — at 460/480 V rated value | 3 hp |
| — at 575/600 V rated value | 3 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 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 | 30 mm |
| — upwards | 30 mm |
| — at the side | 9 mm |
| for live parts at 400 V | |
| — downwards | 30 mm |
| — 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 |
| — upwards — backwards | 0 mm |
| — at the side | 30 mm |
| — at the side — forwards | 0 mm |
| | 0 mm |
| for live parts at 690 V | 50 mm |
| — downwards | 50 mm |
| — upwards | 50 mm |
| — backwards | 0 mm |
| — at the side | 30 mm |
| — forwards | 0 mm |
| Connections/ Terminals | |
| | N I |
| product component removable terminal for auxiliary and control circuit | No |
| product component removable terminal for auxiliary and control circuit type of electrical connection | No |
| and control circuit | |
| and control circuit type of electrical connection • for main current circuit | No screw-type terminals Top and bottom |
| and control circuit type of electrical connection | screw-type terminals |
| and control circuit type of electrical connection • for main current circuit arrangement of electrical connectors for main current | screw-type terminals |
| and control circuit type of electrical connection • for main current circuit arrangement of electrical connectors for main current circuit | screw-type terminals |
| and control circuit type of electrical connection • for main current circuit arrangement of electrical connectors for main current circuit type of connectable conductor cross-sections | screw-type terminals |
| and control circuit type of electrical connection • for main current circuit arrangement of electrical connectors for main current circuit type of connectable conductor cross-sections • for main contacts | screw-type terminals Top and bottom |
| and control circuit type of electrical connection • for main current circuit arrangement of electrical connectors for main current circuit type of connectable conductor cross-sections • for main contacts — solid or stranded | screw-type terminals Top and bottom 2x (1 2.5 mm²), 2x (2.5 10 mm²) |
| and control circuit type of electrical connection • for main current circuit arrangement of electrical connectors for main current circuit type of connectable conductor cross-sections • for main contacts — solid or stranded — finely stranded with core end processing | screw-type terminals Top and bottom 2x (1 2.5 mm²), 2x (2.5 10 mm²) 2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm² |
| and control circuit type of electrical connection • for main current circuit arrangement of electrical connectors for main current circuit type of connectable conductor cross-sections • for main contacts — solid or stranded — finely stranded with core end processing • at AWG cables for main contacts | screw-type terminals Top and bottom 2x (1 2.5 mm²), 2x (2.5 10 mm²) 2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm² |
| and control circuit type of electrical connection • for main current circuit arrangement of electrical connectors for main current circuit type of connectable conductor cross-sections • for main contacts — solid or stranded — finely stranded with core end processing • at AWG cables for main contacts tightening torque | screw-type terminals Top and bottom 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 2x (16 12), 2x (14 8) |
| and control circuit type of electrical connection • for main current circuit arrangement of electrical connectors for main current circuit type of connectable conductor cross-sections • for main contacts — solid or stranded — finely stranded with core end processing • at AWG cables for main contacts tightening torque • for main contacts with screw-type terminals | screw-type terminals Top and bottom 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 2x (16 12), 2x (14 8) 2 2.5 N·m |
| and control circuit type of electrical connection • for main current circuit arrangement of electrical connectors for main current circuit type of connectable conductor cross-sections • for main contacts — solid or stranded — finely stranded with core end processing • at AWG cables for main contacts tightening torque • for main contacts with screw-type terminals design of screwdriver shaft | screw-type terminals Top and bottom 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 2x (16 12), 2x (14 8) 2 2.5 N·m Diameter 5 to 6 mm |
| and control circuit type of electrical connection • for main current circuit arrangement of electrical connectors for main current circuit type of connectable conductor cross-sections • for main contacts — solid or stranded — finely stranded with core end processing • at AWG cables for main contacts tightening torque • for main contacts with screw-type terminals design of screwdriver shaft size of the screwdriver tip | screw-type terminals Top and bottom 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 2x (16 12), 2x (14 8) 2 2.5 N·m Diameter 5 to 6 mm |
| and control circuit type of electrical connection • for main current circuit arrangement of electrical connectors for main current circuit type of connectable conductor cross-sections • for main contacts — solid or stranded — finely stranded with core end processing • at AWG cables for main contacts tightening torque • for main contacts with screw-type terminals design of screwdriver shaft size of the screwdriver tip design of the thread of the connection screw | screw-type terminals Top and bottom 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 2x (16 12), 2x (14 8) 2 2.5 N·m Diameter 5 to 6 mm Pozidriv 2 |
| and control circuit type of electrical connection • for main current circuit arrangement of electrical connectors for main current circuit type of connectable conductor cross-sections • for main contacts — solid or stranded — finely stranded with core end processing • at AWG cables for main contacts tightening torque • for main contacts with screw-type terminals design of screwdriver shaft size of the screwdriver tip design of the thread of the connection screw • for main contacts | screw-type terminals Top and bottom 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 2x (16 12), 2x (14 8) 2 2.5 N·m Diameter 5 to 6 mm Pozidriv 2 |
| and control circuit type of electrical connection • for main current circuit arrangement of electrical connectors for main current circuit type of connectable conductor cross-sections • for main contacts — solid or stranded — finely stranded with core end processing • at AWG cables for main contacts tightening torque • for main contacts with screw-type terminals design of screwdriver shaft size of the screwdriver tip design of the thread of the connection screw • for main contacts Safety related data B10 value | screw-type terminals Top and bottom 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 2x (16 12), 2x (14 8) 2 2.5 N·m Diameter 5 to 6 mm Pozidriv 2 |
| and control circuit type of electrical connection • for main current circuit arrangement of electrical connectors for main current circuit type of connectable conductor cross-sections • for main contacts — solid or stranded — finely stranded with core end processing • at AWG cables for main contacts tightening torque • for main contacts with screw-type terminals design of screwdriver shaft size of the screwdriver tip design of the thread of the connection screw • for main contacts Safety related data B10 value • with high demand rate acc. to SN 31920 | screw-type terminals Top and bottom 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 2x (16 12), 2x (14 8) 2 2.5 N·m Diameter 5 to 6 mm Pozidriv 2 M4 |
| and control circuit type of electrical connection • for main current circuit arrangement of electrical connectors for main current circuit type of connectable conductor cross-sections • for main contacts — solid or stranded — finely stranded with core end processing • at AWG cables for main contacts tightening torque • for main contacts with screw-type terminals design of screwdriver shaft size of the screwdriver tip design of the thread of the connection screw • for main contacts Safety related data B10 value • with high demand rate acc. to SN 31920 proportion of dangerous failures | screw-type terminals Top and bottom 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 2x (16 12), 2x (14 8) 2 2.5 N·m Diameter 5 to 6 mm Pozidriv 2 M4 5 000 |
| and control circuit type of electrical connection • for main current circuit arrangement of electrical connectors for main current circuit type of connectable conductor cross-sections • for main contacts — solid or stranded — finely stranded with core end processing • at AWG cables for main contacts tightening torque • for main contacts with screw-type terminals design of screwdriver shaft size of the screwdriver tip design of the thread of the connection screw • for main contacts Safety related data B10 value • with high demand rate acc. to SN 31920 proportion of dangerous failures • with low demand rate acc. to SN 31920 | screw-type terminals Top and bottom 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 2x (16 12), 2x (14 8) 2 2.5 N·m Diameter 5 to 6 mm Pozidriv 2 M4 5 000 50 % |
| and control circuit type of electrical connection • for main current circuit arrangement of electrical connectors for main current circuit type of connectable conductor cross-sections • for main contacts — solid or stranded — finely stranded with core end processing • at AWG cables for main contacts tightening torque • for main contacts with screw-type terminals design of screwdriver shaft size of the screwdriver tip design of the thread of the connection screw • for main contacts Safety related data B10 value • with high demand rate acc. to SN 31920 • with low demand rate acc. to SN 31920 • with high demand rate acc. to SN 31920 | screw-type terminals Top and bottom 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 2x (16 12), 2x (14 8) 2 2.5 N·m Diameter 5 to 6 mm Pozidriv 2 M4 5 000 |
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| and control circuit type of electrical connection • for main current circuit arrangement of electrical connectors for main current circuit type of connectable conductor cross-sections • for main contacts - solid or stranded - finely stranded with core end processing • at AWG cables for main contacts tightening torque • for main contacts with screw-type terminals design of screwdriver shaft size of the screwdriver shaft size of the thread of the connection screw • for main contacts Safety related data B10 value • with high demand rate acc. to SN 31920 proportion of dangerous failures • with high demand rate acc. to SN 31920 failure rate [FIT] • with low demand rate acc. to SN 31920 T1 value for proof test interval or service life acc. to | screw-type terminals Top and bottom 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 2x (16 12), 2x (14 8) 2 2.5 N·m Diameter 5 to 6 mm Pozidriv 2 M4 5 000 50 % 50 FIT |
| and control circuit type of electrical connection • for main current circuit arrangement of electrical connectors for main current circuit type of connectable conductor cross-sections • for main contacts - solid or stranded - finely stranded with core end processing • at AWG cables for main contacts tightening torque • for main contacts with screw-type terminals design of screwdriver shaft size of the screwdriver tip design of the thread of the connection screw • for main contacts Safety related data B10 value • with high demand rate acc. to SN 31920 proportion of dangerous failures • with low demand rate acc. to SN 31920 failure rate [FIT] • with low demand rate acc. to SN 31920 T1 value for proof test interval or service life acc. to IEC 61508 | screw-type terminals Top and bottom 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 2x (16 12), 2x (14 8) 2 2.5 N·m Diameter 5 to 6 mm Pozidriv 2 M4 5 000 50 % 50 % 50 % |
| and control circuit type of electrical connection • for main current circuit arrangement of electrical connectors for main current circuit type of connectable conductor cross-sections • for main contacts - solid or stranded - finely stranded with core end processing • at AWG cables for main contacts tightening torque • for main contacts with screw-type terminals design of screwdriver shaft size of the screwdriver tip design of the thread of the connection screw • for main contacts Safety related data B10 value • with high demand rate acc. to SN 31920 proportion of dangerous failures • with low demand rate acc. to SN 31920 failure rate [FIT] • with low demand rate acc. to SN 31920 T1 value for proof test interval or service life acc. to lEC 61508 protection class IP on the front acc. to IEC 60529 | screw-type terminals Top and bottom 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 2x (16 12), 2x (14 8) 2 2.5 N·m Diameter 5 to 6 mm Pozidriv 2 M4 5 000 50 % 50 % 50 FIT 10 y IP20 |

| Certificates/ approval | s | | | | |
|--|----------------------|---------------------|---|-------------------------------|--|
| General Product Ap | proval | | | | |
| | | <u>Confirmation</u> | | <u>KC</u> | EHC |
| For use in hazardou | us locations | Declaration of Con | formity | Test Certificates | |
| | K ATEX | CE EG-Konf. | <u>UK Declaration of</u> <u>Conformity</u> | Special Test Certific- ate | <u>Type Test Certific-</u> ates/Test Report |
| Marine / Shipping | | | | | |
| ABS | BUREAU VERITAS | | Lloyds Register uis | PRS | RINA |
| Marine / Shipping | other | | Railway | | |
| RMRS | <u>Confirmation</u> | | Vibration and Shock | <u>Confirmation</u> | |
| Further information Information- and Do https://www.siemens. | wnloadcenter (Catalo | ogs, Brochures,) | | | |

https://www.siemens.com/ic10 Industry Mall (Online ordering system)

https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RV2021-1FA10

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2021-1FA10

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

https://support.industry.siemens.com/cs/ww/en/ps/3RV2021-1FA10

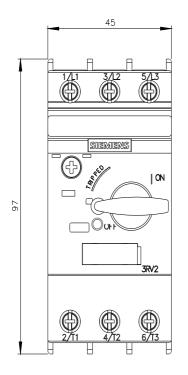
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)

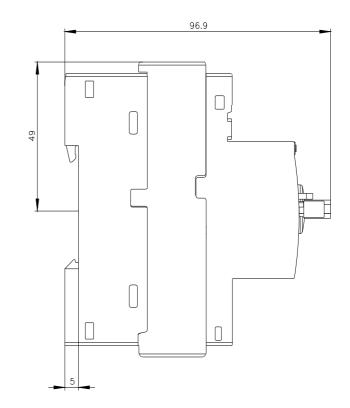
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2021-1FA10&lang=en

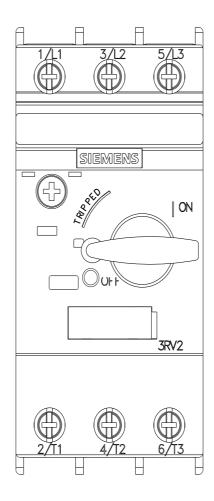
Characteristic: Tripping characteristics, I²t, Let-through current

https://support.industry.siemens.com/cs/ww/en/ps/3RV2021-1FA10/char

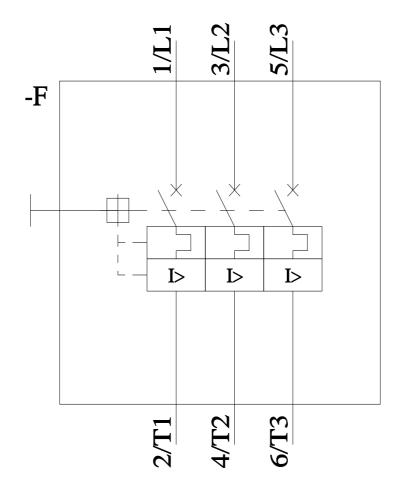
Further characteristics (e.g. electrical endurance, switching frequency) http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2021-1FA10&objecttype=14&gridview=view1







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