SIEMENS

Data sheet

3RV2021-4FA10



Circuit breaker size S0 for motor protection, CLASS 10 A-release 34...40 A N-release 480 A screw terminal Standard switching capacity

| 2/19 4/19 6/13 | |
|--|----------------------|
| 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 | 16.25 W |
| at AC in hot operating state per pole | 5.4 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 (operating cycles) | |
| of the main contacts typical | 100 000 |
| of auxiliary contacts typical | 100 000 |
| electrical endurance (operating 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 +40 °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 | 34 40 A |
| operating voltage | |
| rated value | 20 690 V |
| at AC-3 rated value maximum | 690 V |
| operating frequency rated value | 50 60 Hz |
| operational current rated value | 40 A |
| operational current | |

| at AC-3 at 400 V rated value | 40 A |
|---|---|
| operating power | |
| ● at AC-3 | |
| — at 230 V rated value | 11 kW |
| — at 400 V rated value | 18.5 kW |
| — at 500 V rated value | 22 kW |
| — at 690 V rated value | 39 kW |
| | 59 KVV |
| operating frequency | |
| • at AC-3 maximum | 15 1/h |
| Auxiliary circuit | |
| 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 |
| maximum short-circuit current breaking capacity (Icu) | |
| at AC at 240 V rated value | 100 kA |
| • at AC at 400 V rated value | 20 kA |
| | |
| • at AC at 500 V rated value | 6 kA |
| at AC at 690 V rated value | 3 kA |
| operating short-circuit current breaking capacity (Ics) at AC | |
| at 240 V rated value | 100 kA |
| at 400 V rated value | 10 kA |
| at 500 V rated value | 3 kA |
| at 690 V rated value | 2 kA |
| response value current of instantaneous short-circuit trip | 480 A |
| unit | |
| | |
| | |
| UL/CSA ratings | |
| UL/CSA ratings full-load current (FLA) for 3-phase AC motor | |
| UL/CSA ratings full-load current (FLA) for 3-phase AC motor • at 480 V rated value | 40 A |
| UL/CSA ratings full-load current (FLA) for 3-phase AC motor | 40 A 40 A |
| UL/CSA ratings full-load current (FLA) for 3-phase AC motor • at 480 V rated value | |
| UL/CSA ratings full-load current (FLA) for 3-phase AC motor • at 480 V rated value • at 600 V rated value | |
| UL/CSA ratings full-load current (FLA) for 3-phase AC motor • at 480 V rated value • at 600 V rated value yielded mechanical performance [hp] | |
| UL/CSA ratings full-load current (FLA) for 3-phase AC motor • at 480 V rated value • at 600 V rated value yielded mechanical performance [hp] • for single-phase AC motor — at 110/120 V rated value | 40 A 3 hp |
| UL/CSA ratings full-load current (FLA) for 3-phase AC motor • at 480 V rated value • at 600 V rated value yielded mechanical performance [hp] • for single-phase AC motor — at 110/120 V rated value — at 230 V rated value | 40 A |
| UL/CSA ratings full-load current (FLA) for 3-phase AC motor • at 480 V rated value • at 600 V rated value yielded mechanical performance [hp] • for single-phase AC motor — at 110/120 V rated value — at 230 V rated value • for 3-phase AC motor | 40 A 3 hp 7.5 hp |
| UL/CSA ratings full-load current (FLA) for 3-phase AC motor • at 480 V rated value • at 600 V rated value yielded mechanical performance [hp] • for single-phase AC motor — at 110/120 V rated value — at 230 V rated value • for 3-phase AC motor — at 200/208 V rated value | 40 A 3 hp 7.5 hp 10 hp |
| UL/CSA ratings full-load current (FLA) for 3-phase AC motor • at 480 V rated value • at 600 V rated value yielded mechanical performance [hp] • for single-phase AC motor — at 110/120 V rated value — at 230 V rated value • for 3-phase AC motor — at 200/208 V rated value — at 220/230 V rated value | 40 A 3 hp 7.5 hp 10 hp 10 hp |
| UL/CSA ratings full-load current (FLA) for 3-phase AC motor • at 480 V rated value • at 600 V rated value yielded mechanical performance [hp] • for single-phase AC motor — at 110/120 V rated value — at 230 V rated value • for 3-phase AC motor — at 200/208 V rated value — at 220/230 V rated value — at 460/480 V rated value | 40 A 3 hp 7.5 hp 10 hp |
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| UL/CSA ratings full-load current (FLA) for 3-phase AC motor • at 480 V rated value • at 600 V rated value yielded mechanical performance [hp] • for single-phase AC motor — at 110/120 V rated value — at 230 V rated value • for 3-phase AC motor — at 200/208 V rated value — at 220/230 V rated value — at 460/480 V rated value — at 460/480 V rated value Short-circuit protection design of the short-circuit trip design of the fuse link for IT network for short-circuit | 40 A 3 hp 7.5 hp 10 hp 10 hp 30 hp |
| UL/CSA ratings full-load current (FLA) for 3-phase AC motor • at 480 V rated value • at 600 V rated value yielded mechanical performance [hp] • for single-phase AC motor — at 110/120 V rated value — at 230 V rated value • for 3-phase AC motor — at 200/208 V rated value — at 220/230 V rated value — at 460/480 V rated value — at 460/480 V rated value Short-circuit protection design of the short-circuit trip | 40 A 3 hp 7.5 hp 10 hp 10 hp 30 hp |
| UL/CSA ratings full-load current (FLA) for 3-phase AC motor • at 480 V rated value • at 600 V rated value yielded mechanical performance [hp] • for single-phase AC motor — at 110/120 V rated value — at 230 V rated value • for 3-phase AC motor — at 200/208 V rated value — at 220/230 V rated value — at 460/480 V rated value — at 460/480 V rated value Short-circuit protection design of the short-circuit trip design of the fuse link for IT network for short-circuit | 40 A 3 hp 7.5 hp 10 hp 10 hp 30 hp |
| UL/CSA ratings full-load current (FLA) for 3-phase AC motor • at 480 V rated value • at 600 V rated value yielded mechanical performance [hp] • for single-phase AC motor — at 110/120 V rated value — at 230 V rated value • for 3-phase AC motor — at 200/208 V rated value — at 220/230 V rated value — at 460/480 V rated value — at 460/480 V rated value Short-circuit protection design of the short-circuit trip design of the fuse link for IT network for short-circuit protection of the main circuit | 40 A 3 hp 7.5 hp 10 hp 10 hp 30 hp Yes magnetic |
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| UL/CSA ratings full-load current (FLA) for 3-phase AC motor • at 480 V rated value • at 600 V rated value yielded mechanical performance [hp] • for single-phase AC motor — at 110/120 V rated value — at 230 V rated value • for 3-phase AC motor — at 200/208 V rated value — at 220/230 V rated value — at 460/480 V rated value Short-circuit protection design of the short-circuit protection design of the fuse link for IT network for short-circuit protection of the main circuit • at 400 V • at 500 V • at 690 V | 40 A 3 hp 7.5 hp 10 hp 10 hp 30 hp Yes magnetic gG 63 A gG 63 A |
| UL/CSA ratings full-load current (FLA) for 3-phase AC motor • at 480 V rated value • at 600 V rated value yielded mechanical performance [hp] • for single-phase AC motor — at 110/120 V rated value — at 230 V rated value • for 3-phase AC motor — at 200/208 V rated value — at 220/230 V rated value — at 460/480 V rated value — at 460/480 V rated value Short-circuit protection design of the short-circuit protection design of the fuse link for IT network for short-circuit protection of the main circuit • at 400 V • at 500 V • at 690 V Installation/ mounting/ dimensions | 40 A 3 hp 7.5 hp 10 hp 10 hp 30 hp Yes magnetic gG 63 A gG 63 A gG 63 A gG 63 A |
| UL/CSA ratings full-load current (FLA) for 3-phase AC motor • at 480 V rated value • at 600 V rated value • at 600 V rated value yielded mechanical performance [hp] • for single-phase AC motor - at 110/120 V rated value - at 230 V rated value • for 3-phase AC motor - at 200/208 V rated value - at 220/230 V rated value - at 460/480 V rated value - at 460/480 V rated value Short-circuit protection product function short circuit protection design of the short-circuit trip design of the fuse link for IT network for short-circuit protection of the main circuit • at 400 V • at 500 V • at 690 V | 40 A 3 hp 7.5 hp 10 hp 10 hp 30 hp Yes magnetic gG 63 A gG 63 A gG 63 A gG 63 A gG 63 A |
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| UL/CSA ratings full-load current (FLA) for 3-phase AC motor • at 480 V rated value • at 600 V rated value • at 600 V rated value yielded mechanical performance [hp] • for single-phase AC motor - at 230 V rated value • for 3-phase AC motor - at 200/208 V rated value • for 3-phase AC motor - at 200/208 V rated value - at 220/230 V rated value - at 460/480 V rated value Brort-circuit protection design of the short-circuit trip design of the fuse link for IT network for short-circuit protection of the main circuit • at 400 V • at 500 V • at 690 V Installation/ mounting/ dimensions mounting position fastening method | 40 A 3 hp 7.5 hp 10 hp 10 hp 30 hp Yes magnetic gG 63 A gG 63 A gG 63 A gG 63 A gG 63 A gG 63 A |
| UL/CSA ratings full-load current (FLA) for 3-phase AC motor • at 480 V rated value • at 600 V rated value • at 600 V rated value yielded mechanical performance [hp] • for single-phase AC motor - at 110/120 V rated value - at 230 V rated value • for 3-phase AC motor - at 200/208 V rated value - at 220/230 V rated value - at 460/480 V rated value Short-circuit protection product function short circuit protection design of the short-circuit trip design of the fuse link for IT network for short-circuit protection of the main circuit • at 400 V • at 690 V Installation/ mounting/ dimensions mounting position fastening method height | 40 A 3 hp 7.5 hp 10 hp 10 hp 30 hp Yes magnetic gG 63 A gG 63 A |
| UL/CSA ratings full-load current (FLA) for 3-phase AC motor • at 480 V rated value • at 600 V rated value • at 600 V rated value yielded mechanical performance [hp] • for single-phase AC motor - at 230 V rated value • for 3-phase AC motor - at 200/208 V rated value • for 3-phase AC motor - at 200/208 V rated value - at 220/230 V rated value - at 460/480 V rated value Brort-circuit protection design of the short-circuit trip design of the fuse link for IT network for short-circuit protection of the main circuit • at 400 V • at 500 V • at 690 V Installation/ mounting/ dimensions mounting position fastening method | 40 A 3 hp 7.5 hp 10 hp 10 hp 30 hp Yes magnetic gG 63 A gG 63 A gG 63 A gG 63 A gG 63 A gG 63 A |
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| UL/CSA ratings full-load current (FLA) for 3-phase AC motor • at 480 V rated value • at 600 V rated value • at 600 V rated value yielded mechanical performance [hp] • for single-phase AC motor - at 110/120 V rated value - at 230 V rated value • for 3-phase AC motor - at 200/208 V rated value - at 220/230 V rated value - at 460/480 V rated value Short-circuit protection product function short circuit protection design of the short-circuit trip design of the fuse link for IT network for short-circuit protection of the main circuit • at 400 V • at 500 V • at 690 V Installation/ mounting/ dimensions mounting position fastening method height width depth | 40 A 3 hp 7.5 hp 10 hp 10 hp 30 hp Yes magnetic gG 63 A gG 63 M |
| UL/CSA ratings full-load current (FLA) for 3-phase AC motor • at 480 V rated value • at 600 V rated value • at 600 V rated value yielded mechanical performance [hp] • for single-phase AC motor - at 110/120 V rated value - at 230 V rated value • for 3-phase AC motor - at 200/208 V rated value - at 220/230 V rated value - at 220/230 V rated value - at 460/480 V rated value - at 460/480 V rated value Short-circuit protection design of the short-circuit protection design of the fuse link for IT network for short-circuit protection of the main circuit • at 400 V • at 500 V • at 690 V Installation/ mounting/ dimensions mounting position fastening method height width depth required spacing • with side-by-side mounting at the side | 40 A 3 hp 7.5 hp 10 hp 10 hp 30 hp Yes magnetic gG 63 A gG 70 mm 45 mm 97 mm |
| UL/CSA ratings full-load current (FLA) for 3-phase AC motor • at 480 V rated value • at 600 V rated value • at 600 V rated value yielded mechanical performance [hp] • for single-phase AC motor - at 110/120 V rated value - at 230 V rated value • for 3-phase AC motor - at 200/208 V rated value - at 220/230 V rated value - at 220/230 V rated value - at 460/480 V rated value - at 460/480 V rated value Short-circuit protection product function short circuit protection design of the short-circuit trip design of the fuse link for IT network for short-circuit protection of the main circuit • at 400 V • at 690 V Installation/ mounting/ dimensions mounting position fastening method height width depth required spacing | 40 A 3 hp 7.5 hp 10 hp 10 hp 30 hp Yes magnetic gG 63 A gG 70 mm 45 mm 97 mm |

| — upwards — at the side | 30 mm | |
|---|--|-------------------------------------|
| | 9 mm | |
| for grounded parts at 500 V downwards | 30 mm | |
| | 30 mm | |
| — upwards — at the side | 9 mm | |
| • for live parts at 500 V | 3 1111 | |
| — downwards | 30 mm | |
| — upwards | 30 mm | |
| — at the side | 9 mm | |
| for grounded parts at 690 V | | |
| — downwards | 70 mm | |
| — upwards | 70 mm | |
| — backwards | 0 mm | |
| — at the side | 30 mm | |
| — forwards | 0 mm | |
| • for live parts at 690 V | | |
| — downwards | 70 mm | |
| — upwards | 70 mm | |
| — backwards | 0 mm | |
| — at the side | 30 mm | |
| — forwards | 0 mm | |
| Connections/ Terminals | | |
| type of electrical connection | | |
| for main current 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 2.5 mm²), 2x (2.5 10 mm²) | |
| finely stranded with core end processing | 2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm² | |
| at AWG cables for main contacts | 2x (16 12), 2x (14 8) | |
| tightening torque | | |
| for main contacts with screw-type terminals | 2 2.5 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 | M4 | |
| Safety related data | | |
| B10 value | | |
| with high demand rate according to SN 31920 | 5 000 | |
| proportion of dangerous failures | | |
| with low demand rate according to SN 31920 | 50 % | |
| with high demand rate according to SN 31920 | 50 % | |
| failure rate [FIT] | | |
| with low demand rate according to SN 31920 | 50 FIT | |
| T1 value for proof test interval or service life according to IEC 61508 | 10 a | |
| 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 | | For use in hazard- ous locations |

| | <u>Confirmation</u> | | <u>KC</u> | EHC | IECE× | | |
|--|---------------------|----------------------------|--|---|-------------------|--|--|
| For use in hazard- ous locations | Declaration of Conf | ormity | Test Certificates | | Marine / Shipping | | |
| K ATEX | UK CA | CE EG-Konf. | <u>Type Test Certific-</u> ates/Test Report | <u>Special Test Certific-</u> <u>ate</u> | ABS | | |
| Marine / Shipping | | | | | | | |
| B U R E A U VER I TAS | | Lloyd's Kegister urs | PRS | RINA | RMRS | | |
| other | | Railway | | | | | |
| <u>Confirmation</u> | VDE | <u>Confirmation</u> | Vibration and Shock | | | | |
| Further information | | | | | | | |
| Information on the packaging https://support.industry.siemens.com/cs/ww/en/view/109813875 Information- and Downloadcenter (Catalogs, Brochures,) | | | | | | | |

https://www.siemens.com/ic10

Cax online generator

Industry Mall (Online ordering system)

https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RV2021-4FA10

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2021-4FA10&lang=en

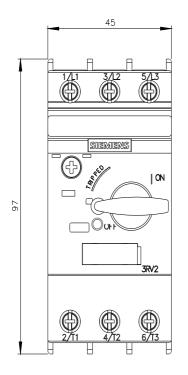
Service&Support (Manuals, Certificates, Characteristics, FAQs,...) https://support.industry.siemens.com/cs/ww/en/ps/3RV2021-4FA10

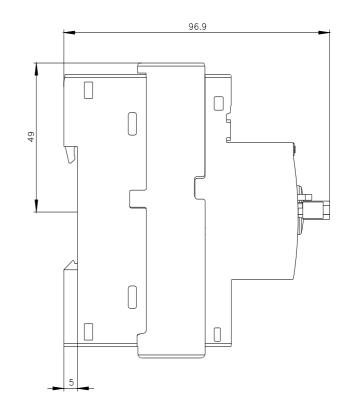
Characteristic: Tripping characteristics, I²t, Let-through current https://support.industry.siemens.com/cs/ww/en/ps/3RV2021-4FA10/char

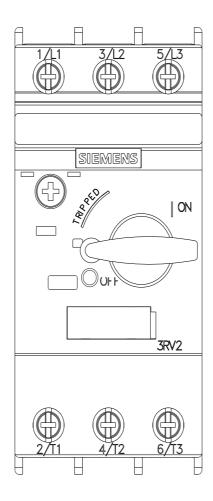
http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2021-4FA10

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

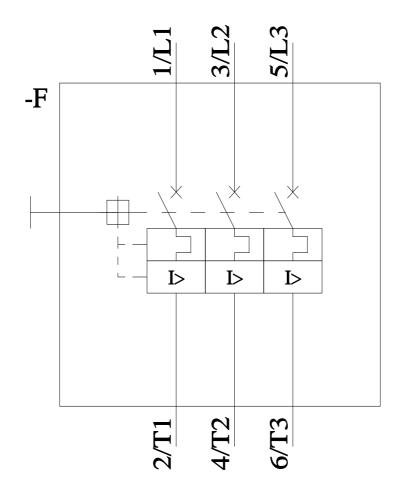
Further characteristics (e.g. electrical endurance, switching frequency) http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2021-4FA10&objecttype=14&gridview=view1







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