

Siemens
EcoTech



Circuit breaker size S0 for motor protection, CLASS 10 A-release 4.5...6.3 A N-release 82 A Spring-type 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 | 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 | 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 |
| 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 |
| Substance Prohibitance (Date) | 10/01/2009 |
| SVHC substance name | Lead - 7439-92-1 |
| Weight | 0.407 kg |
| 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 % |
| Environmental footprint | |
| Environmental Product Declaration(EPD) | Yes |
| global warming potential [CO2 eq] total | 75.078 kg |
| global warming potential [CO2 eq] during manufacturing | 2.68 kg |
| global warming potential [CO2 eq] during sales | 0.143 kg |
| global warming potential [CO2 eq] during operation | 72.7 kg |
| global warming potential [CO2 eq] after end of life | -0.445 kg |
| Siemens Eco Profile (SEP) | Siemens EcoTech |

| Main circuit | |
|---|--|
| number of poles for main current circuit | 3 |
| adjustable current response value current of the current-dependent overload release | 4.5 ... 6.3 A |
| type of voltage for main current circuit | AC |
| operating voltage <ul style="list-style-type: none"> • rated value • at AC-3 rated value maximum • at AC-3e rated value maximum | 20 ... 690 V 690 V 690 V |
| operating frequency rated value | 50 ... 60 Hz |
| operational current rated value | 6.3 A |
| operational current <ul style="list-style-type: none"> • at AC-3 at 400 V rated value • at AC-3e at 400 V rated value | 6.3 A 6.3 A |
| operating power <ul style="list-style-type: none"> • at AC-3 <ul style="list-style-type: none"> — at 230 V rated value — at 400 V rated value — at 500 V rated value — at 690 V rated value • at AC-3e <ul style="list-style-type: none"> — at 230 V rated value — at 400 V rated value — at 500 V rated value — at 690 V rated value | 1.5 kW 2.2 kW 3 kW 4 kW 1.5 kW 2.2 kW 3 kW 4 kW |
| operating frequency <ul style="list-style-type: none"> • at AC-3 maximum • at AC-3e maximum | 15 1/h 15 1/h |
| Auxiliary circuit | |
| 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 |
| Protective and monitoring functions | |
| product function <ul style="list-style-type: none"> • ground fault detection • phase failure detection | No Yes |
| trip class | CLASS 10 |
| design of the overload release | thermal |
| maximum short-circuit current breaking capacity (Icu) <ul style="list-style-type: none"> • at AC at 240 V rated value • at AC at 400 V rated value • at AC at 500 V rated value • at AC at 690 V rated value | 100 kA 100 kA 100 kA 6 kA |
| operating short-circuit current breaking capacity (Ics) at AC <ul style="list-style-type: none"> • at 240 V rated value • at 400 V rated value • at 500 V rated value • at 690 V rated value | 100 kA 100 kA 100 kA 4 kA |
| response value current of instantaneous short-circuit trip unit | 82 A |
| UL/CSA ratings | |
| full-load current (FLA) for 3-phase AC motor <ul style="list-style-type: none"> • at 480 V rated value • at 600 V rated value | 6.3 A 6.3 A |
| yielded mechanical performance [hp] <ul style="list-style-type: none"> • for single-phase AC motor <ul style="list-style-type: none"> — at 110/120 V rated value — at 230 V rated value • for 3-phase AC motor <ul style="list-style-type: none"> — at 200/208 V rated value — at 220/230 V rated value | 0.25 hp 0.5 hp 1 hp 1.5 hp |

| | |
|--|--|
| — at 460/480 V rated value | 3 hp |
| — at 575/600 V rated value | 5 hp |
| Category Control Number (CCN) | E156943 (NKJH, NKJH7) |
| 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 DIN rail according to DIN EN 60715 |
| height | 119 mm |
| width | 45 mm |
| depth | 97 mm |
| required spacing | |
| • with side-by-side mounting at the side | 0 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 |
| — 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 | |
| type of electrical connection | |
| • for main current circuit | spring-loaded 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 ... 10 mm ²) |
| — finely stranded with core end processing | 2x (1 ... 6 mm ²) |
| — finely stranded without core end processing | 2x (1 ... 6 mm ²) |
| • for AWG cables for main contacts | 2x (18 ... 8) |
| design of screwdriver shaft | Diameter 3 mm |
| size of the screwdriver tip | 3,0 x 0,5 mm |
| Safety related data | |
| product function suitable for safety function | Yes |
| 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

General Product Approval



[KC](#)



| | | |
|---------------------------------|---------------------------------------|--------------------------|
| General Product Approval | For use in hazardous locations | Test Certificates |
|---------------------------------|---------------------------------------|--------------------------|



[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)

Maritime application



| | |
|--------------|----------------|
| other | Railway |
|--------------|----------------|

[Miscellaneous](#)



[Confirmation](#)



[Special Test Certificate](#)

[Confirmation](#)

Environment



Siemens EcoTech



[Environmental Confirmations](#)

Further information

Information on the packaging

<https://support.industry.siemens.com/cs/ww/en/view/109813875>

Information for data generation and storage

<https://support.industry.siemens.com/cs/ww/en/view/109995012>

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=3RV2021-1GA20>

Cax online generator

<https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2021-1GA20>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2021-1GA20>

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

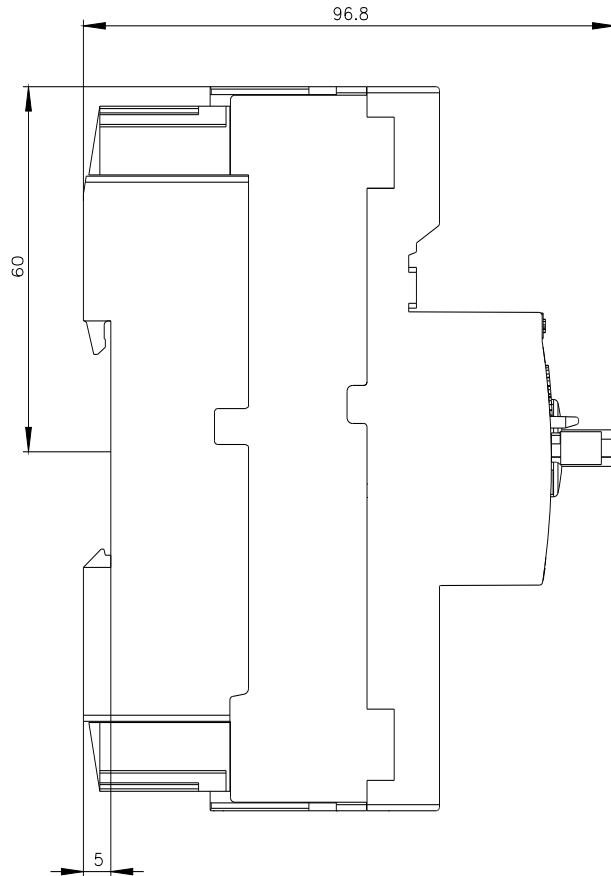
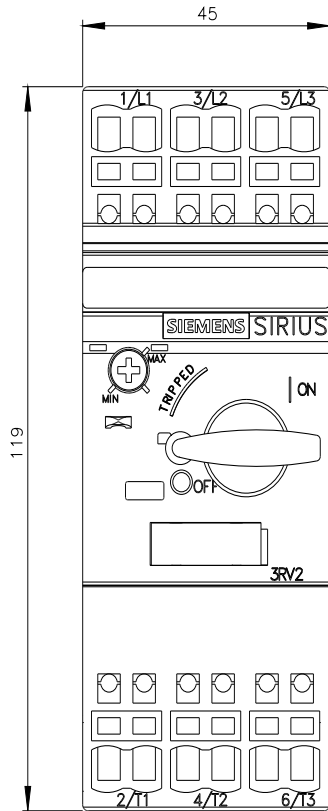
https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2021-1GA20&lang=en

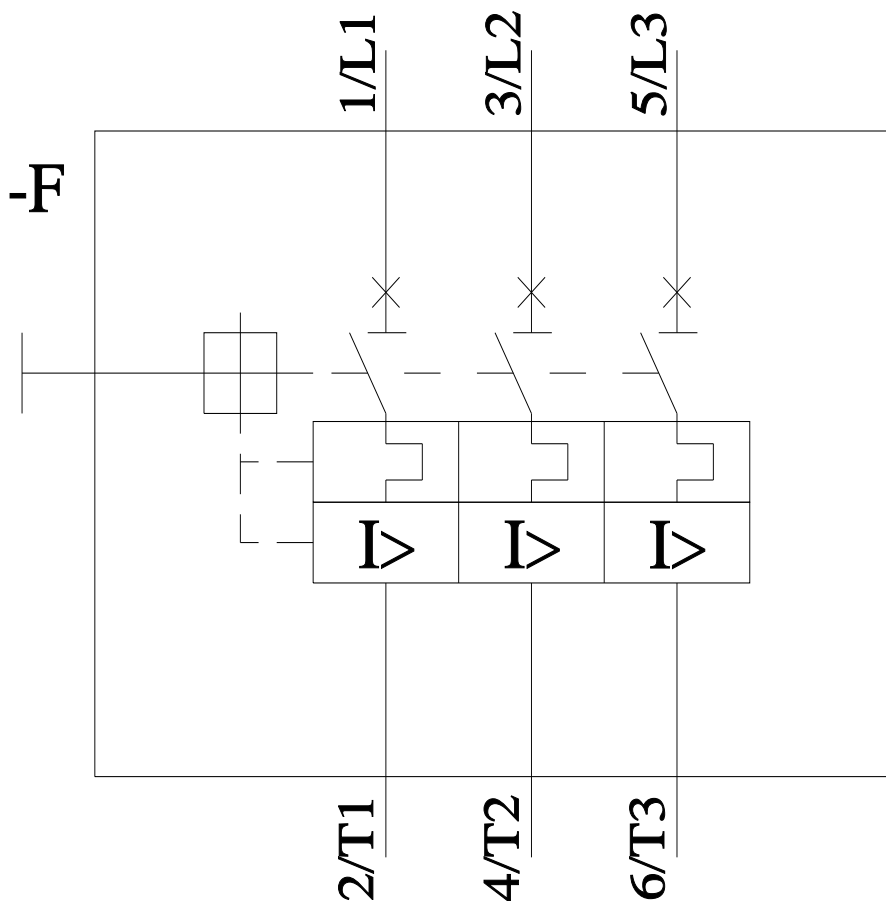
Characteristic: Tripping characteristics, I_t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2021-1GA20/char>

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

<https://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2021-1GA20&objecttype=14&gridview=view1>





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