



Circuit breaker size S0 for motor protection, CLASS 10 A-release 4.5...6.3 A N-release 82 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 | 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 |
| 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 | 4.5 ... 6.3 A |
| operating voltage | |
| • 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 | 6.3 A |

| | |
|---------------------------------|--------|
| operational current | |
| • at AC-3 at 400 V rated value | 6.3 A |
| • at AC-3e at 400 V rated value | 6.3 A |
| operating power | |
| • at AC-3 | |
| — at 230 V rated value | 1.5 kW |
| — at 400 V rated value | 2.2 kW |
| — at 500 V rated value | 3 kW |
| — at 690 V rated value | 4 kW |
| • at AC-3e | |
| — at 230 V rated value | 1.5 kW |
| — at 400 V rated value | 2.2 kW |
| — at 500 V rated value | 3 kW |
| — at 690 V rated value | 4 kW |
| operating frequency | |
| • at AC-3 maximum | 15 1/h |
| • at AC-3e 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 | 100 kA |
| • at AC at 500 V rated value | 100 kA |
| • at AC at 690 V rated value | 6 kA |
| operating short-circuit current breaking capacity (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 |
| response value current of instantaneous short-circuit trip unit | 82 A |

UL/CSA ratings

| | |
|---|---------|
| full-load current (FLA) for 3-phase AC motor | |
| • at 480 V rated value | 6.3 A |
| • at 600 V rated value | 6.3 A |
| yielded mechanical performance [hp] | |
| • for single-phase AC motor | |
| — at 110/120 V rated value | 0.25 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 | 1.5 hp |
| — at 460/480 V rated value | 3 hp |
| — at 575/600 V rated value | 5 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 DIN rail according to DIN EN 60715 |
| height | 97 mm |
| width | 45 mm |
| depth | 97 mm |

| | |
|--|---|
| required spacing | |
| <ul style="list-style-type: none"> ● with side-by-side mounting at the side ● for grounded parts at 400 V <ul style="list-style-type: none"> — downwards — upwards — at the side ● for live parts at 400 V <ul style="list-style-type: none"> — downwards — upwards — at the side ● for grounded parts at 500 V <ul style="list-style-type: none"> — downwards — upwards — at the side ● for live parts at 500 V <ul style="list-style-type: none"> — downwards — upwards — at the side ● for grounded parts at 690 V <ul style="list-style-type: none"> — downwards — upwards — backwards — at the side — forwards ● for live parts at 690 V <ul style="list-style-type: none"> — downwards — upwards — backwards — at the side — forwards | <p>0 mm</p> <p>30 mm</p> <p>30 mm</p> <p>9 mm</p> <p>30 mm</p> <p>30 mm</p> <p>9 mm</p> <p>30 mm</p> <p>30 mm</p> <p>9 mm</p> <p>50 mm</p> <p>50 mm</p> <p>0 mm</p> <p>30 mm</p> <p>0 mm</p> <p>50 mm</p> <p>50 mm</p> <p>0 mm</p> <p>30 mm</p> <p>0 mm</p> |

Connections/ Terminals

| | |
|---|---|
| type of electrical connection <ul style="list-style-type: none"> ● for main current circuit | screw-type terminals Top and bottom |
| arrangement of electrical connectors for main current circuit | |
| type of connectable conductor cross-sections <ul style="list-style-type: none"> ● for main contacts <ul style="list-style-type: none"> — solid or stranded — finely stranded with core end processing ● at AWG cables for main contacts | 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) |
| tightening torque <ul style="list-style-type: none"> ● 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 <ul style="list-style-type: none"> ● for main contacts | M4 |

Safety related data

| | |
|---|--|
| 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 a |
| protection class IP on the front according to IEC 60529 | IP20 |
| touch protection on the front according to IEC 60529 display version for switching status | finger-safe, for vertical contact from the front Handle |

Certificates/ approvals

| | |
|---------------------------------|--|
| General Product Approval | For use in hazard-ous locations |
|---------------------------------|--|

[Confirmation](#)



[KC](#)



| For use in hazardous locations | Declaration of Conformity | Test Certificates | Marine / Shipping |
|--------------------------------|---------------------------|-------------------|-------------------|
|--------------------------------|---------------------------|-------------------|-------------------|



[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)



| Marine / Shipping |
|-------------------|
|-------------------|



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

[Confirmation](#)



[Vibration and Shock](#)

[Confirmation](#)

| 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>

Industry Mall (Online ordering system)
<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RV2021-1GA10>

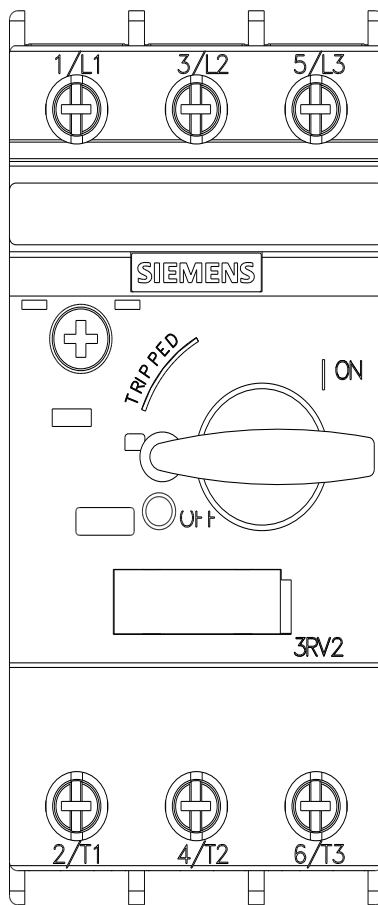
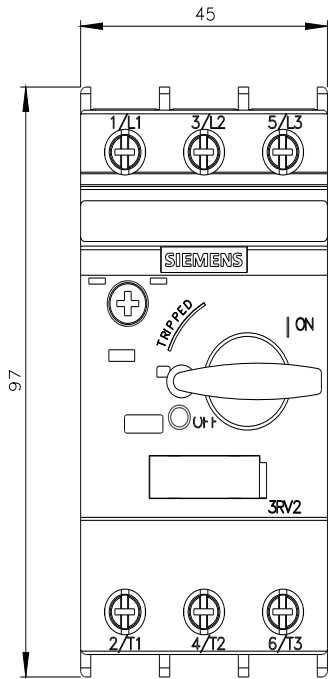
Cax online generator
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2021-1GA10>

Service&Support (Manuals, Certificates, Characteristics, FAQs,...)
<https://support.industry.siemens.com/cs/ww/en/ps/3RV2021-1GA10>

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2021-1GA10&lang=en

Characteristic: Tripping characteristics, I²t, Let-through current
<https://support.industry.siemens.com/cs/ww/en/ps/3RV2021-1GA10/char>

Further characteristics (e.g. electrical endurance, switching frequency)
<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2021-1GA10&objecttype=14&gridview=view1>





last modified:

11/21/2022 