

Circuit breaker size S2 for transformer protection A-release 32...40 A
N-release 820 A screw terminal Standard switching capacity



| | |
|--------------------------|----------------------------|
| Product brand name | SIRIUS |
| Product designation | Circuit breaker |
| Design of the product | For transformer protection |
| Product type designation | 3RV2 |

| General technical data | |
|---|-------|
| Size of the circuit-breaker | S2 |
| Size of contactor can be combined company-specific | S2 |
| Product extension | |
| • Auxiliary switch | Yes |
| Power loss [W] total typical | 15 W |
| Power loss [W] for rated value of the current | |
| • at AC in hot operating state per pole | 6.7 W |
| Insulation voltage with degree of pollution 3 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 |

| | |
|---|--|
| <ul style="list-style-type: none"> • in networks with grounded star point between main and auxiliary circuit | 400 V |
| Protection class IP | |
| <ul style="list-style-type: none"> • on the front | IP20 |
| <ul style="list-style-type: none"> • of the terminal | IP00 |
| Shock resistance | |
| <ul style="list-style-type: none"> • acc. to IEC 60068-2-27 | 25g / 11 ms Sinus |
| Mechanical service life (switching cycles) | |
| <ul style="list-style-type: none"> • of the main contacts typical | 50 000 |
| <ul style="list-style-type: none"> • of auxiliary contacts typical | 50 000 |
| Electrical endurance (switching cycles) | |
| <ul style="list-style-type: none"> • typical | 50 000 |
| Protection against electrical shock | finger-safe when touched vertically from front acc. to IEC 60529 |
| Reference code acc. to DIN EN 81346-2 | Q |

Ambient conditions

| | |
|--|----------------|
| Installation altitude at height above sea level | |
| <ul style="list-style-type: none"> • maximum | 2 000 m |
| Ambient temperature | |
| <ul style="list-style-type: none"> • during operation | -20 ... +60 °C |
| <ul style="list-style-type: none"> • during storage | -50 ... +80 °C |
| <ul style="list-style-type: none"> • 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 pick-up value current of the current-dependent overload release | 32 ... 40 A |
| Operating voltage | |
| <ul style="list-style-type: none"> • rated value | 690 V |
| <ul style="list-style-type: none"> • at AC-3 rated value maximum | 690 V |
| Operating frequency rated value | 50 ... 60 Hz |
| Operating current rated value | 40 A |
| Operating current | |
| <ul style="list-style-type: none"> • at AC-3 <ul style="list-style-type: none"> — at 400 V rated value | 40 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 | 11 000 W 18 500 W 22 000 W 37 000 W |
| 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 |

Protective and monitoring functions

Product function

- | | |
|---------------------------|-----|
| • Ground fault detection | No |
| • Phase failure detection | Yes |

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|------------|----------|
| Trip class | CLASS 10 |
|------------|----------|

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|--------------------------------|---------|
| Design of the overload release | thermal |
|--------------------------------|---------|

Operational short-circuit current breaking capacity (Ics) at AC

- | | |
|------------------------|-------|
| • at 240 V rated value | 100 A |
| • at 400 V rated value | 30 kA |
| • at 500 V rated value | 5 kA |
| • at 690 V rated value | 2 kA |

Maximum short-circuit current breaking capacity (Icu)

- | | |
|------------------------------|--------|
| • at AC at 240 V rated value | 100 kA |
| • at AC at 400 V rated value | 65 kA |
| • at AC at 500 V rated value | 10 kA |
| • at AC at 690 V rated value | 4 kA |

Response value current

- | | |
|--|-------|
| • of instantaneous short-circuit trip unit | 820 A |
|--|-------|

UL/CSA ratings

Full-load current (FLA) for three-phase AC motor

- | | |
|------------------------|------|
| • at 480 V rated value | 40 A |
| • at 600 V rated value | 40 A |

Yielded mechanical performance [hp]

- | | |
|-----------------------------|--------|
| • for single-phase AC motor | |
| — at 110/120 V rated value | 3 hp |
| — at 230 V rated value | 7.5 hp |
| • for three-phase AC motor | |
| — at 200/208 V rated value | 15 hp |
| — at 220/230 V rated value | 15 hp |
| — at 460/480 V rated value | 30 hp |
| — at 575/600 V rated value | 40 hp |

Short-circuit protection

| | |
|---|----------|
| Product function Short circuit protection | Yes |
| Design of the short-circuit trip | magnetic |

Installation/ mounting/ dimensions

| | |
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| Mounting position | any |
| Mounting type | screw and snap-on mounting onto 35 mm standard mounting rail according to DIN EN 60715 |
| Height | 140 mm |
| Width | 55 mm |
| Depth | 149 mm |
| Required spacing | |
| <ul style="list-style-type: none"> • with side-by-side mounting <ul style="list-style-type: none"> — forwards — Backwards — upwards — downwards — at the side • for grounded parts <ul style="list-style-type: none"> — forwards — Backwards — upwards — at the side — downwards • for live parts <ul style="list-style-type: none"> — forwards — Backwards — upwards — downwards — at the side | <ul style="list-style-type: none"> 0 mm 0 mm 50 mm 50 mm 0 mm 0 mm 0 mm 50 mm 10 mm 50 mm 0 mm 0 mm 50 mm 50 mm 10 mm |

| Connections/ Terminals | |
|--|--|
| Product function | |
| <ul style="list-style-type: none"> • removable terminal for auxiliary and control circuit | No |
| Type of electrical connection | |
| <ul style="list-style-type: none"> • for main current circuit | screw-type terminals |
| Arrangement of electrical connectors for main current circuit | Top and bottom |
| Type of connectable conductor cross-sections | |
| <ul style="list-style-type: none"> • for main contacts <ul style="list-style-type: none"> — single or multi-stranded — finely stranded with core end processing • at AWG conductors for main contacts | <ul style="list-style-type: none"> 2x (1 ... 25 mm²), 1x (1 ... 35 mm²) 2x (1 ... 16 mm²), 1x (1 ... 25 mm²) 2x (18 ... 3), 1x (18 ... 2) |
| Tightening torque | |
| <ul style="list-style-type: none"> • for main contacts with screw-type terminals | 3 ... 4.5 N·m |
| Design of screwdriver shaft | Diameter 5 to 6 mm |
| Size of the screwdriver tip | Pozidriv 2 |

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|--|--------------|
| Design of the thread of the connection screw • for main contacts | M6 |
| Safety related data | |
| B10 value • with high demand rate acc. to SN 31920 | 5 000 |
| Proportion of dangerous failures • with low demand rate acc. to SN 31920 • with high demand rate acc. to SN 31920 | 50 % 50 % |
| Failure rate [FIT] • with low demand rate acc. to SN 31920 | 50 FIT |
| T1 value for proof test interval or service life acc. to IEC 61508 | 10 y |
| Display version • for switching status | Handle |

Certificates/ approvals

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|---------------------------------|----------------------------------|
| General Product Approval | Declaration of Conformity |
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[KC](#)



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| Declaration of Conformity | Test Certificates | Marine / Shipping |
|----------------------------------|--------------------------|--------------------------|

[Miscellaneous](#)

[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)



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



[Confirmation](#)



Railway

[Vibration and Shock](#)

[Confirmation](#)

Further information

Information- and Downloadcenter (Catalogs, Brochures,...)

www.siemens.com/sirius/catalogs

Industry Mall (Online ordering system)

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RV2431-4UA10>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2431-4UA10>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2431-4UA10>

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

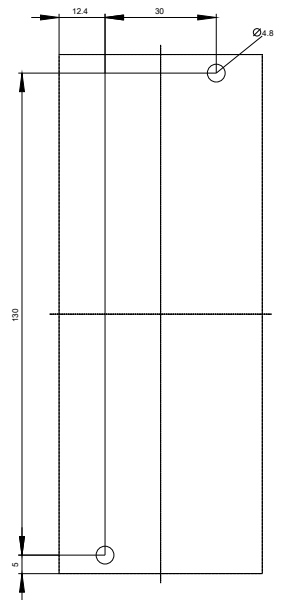
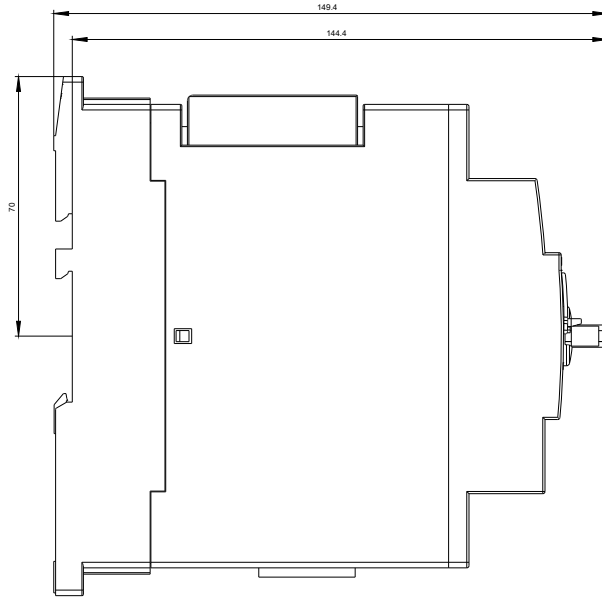
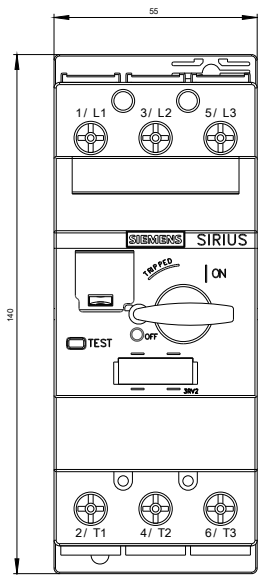
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2431-4UA10&lang=en

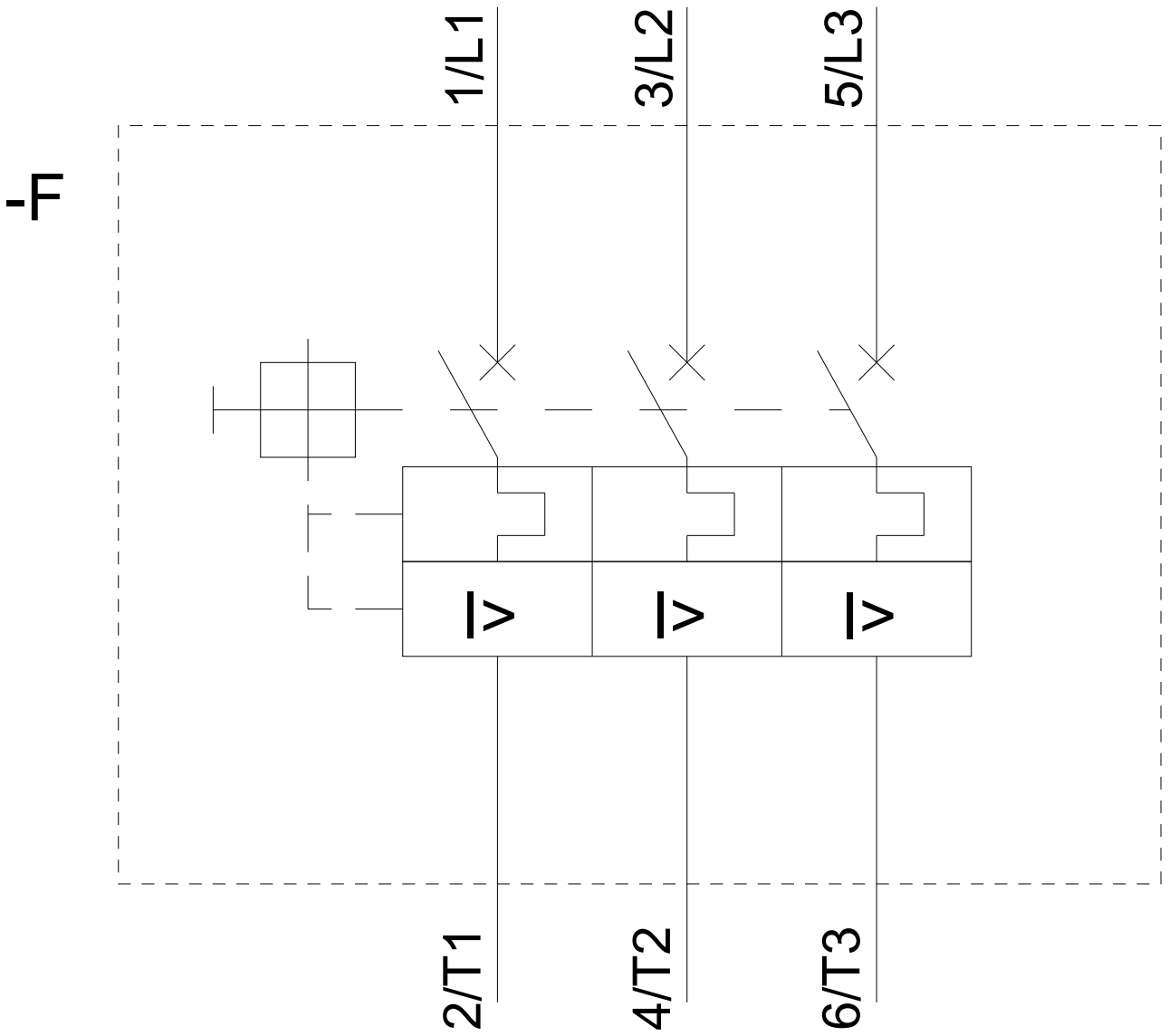
Characteristic: Tripping characteristics, I²t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2431-4UA10/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2431-4UA10&objecttype=14&gridview=view1>





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